Automation & Control

Telemecanique

The essential guide

2006
New telemecanique.com portal

This site allows you to access all the Telemecanique products in just 2 clicks via comprehensive range data-sheets, with direct links to:
- Complete library: technical documents, catalogs, certificates, FAQs, brochures...
- Selection guides from the e-catalog
- Product discovery sites

You will also find illustrated overviews, news how to buy and get support. To live automation solutions every day!

Product page  OEM solutions  Application case histories  Service and support  E-Catalog

www.us.telemecanique.com

Access and benefits 24/7.
- Easy navigation
- Access to support and help on every page
- Google search engine
- Use pictorial or standard menu navigation
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<td>Variable speed drives</td>
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<th>AS-Interface cabling system</th>
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<td>The cabling system that meets your needs for industrial automation systems</td>
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<th>Machine safety</th>
<th>9</th>
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<tr>
<td>Safety solutions provide maximum protection in all the safety functions of your automation system</td>
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<th>Schneider US</th>
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Telemecanique, the Schneider Electric brand for Automation & Control

Used together or separately, Telemecanique products can provide complete functionalities for all of your industrial, building, infrastructure, and energy automation applications.

Known for its quality and innovation for over 80 years, Telemecanique offers a wide range of products in over 130 countries around the world.

- **TeSys** motor starters
- **Altivar** drives
- **Altistart** soft starters
- **Lexium** motors and servo-drives
- **Advantys** distributed I/O
- **Zelio** relays and **Twido** controllers
- **Modicon** PLCs
- **Unity** automation hardware and software solution (NEW !)
- **Magelis** operator terminals
- **Harmony** control and signalling units
- **Osiconcept** sensors
- **Preventa** safety solutions etc.
Simply Smart!
Leveraging ingenuity and intelligence for ease of use

Ingenuity
- Auto-adapts to its environment, “plug & play”
- Application functions, control, communication and diagnostics embedded in the products
- User-friendly operation either directly on the product or remotely

...for example Altivar 71
“Plug & drive” speed drive with functionality adapted specifically for pumps and fans, solutions with harmonics protection and PowerSuite software for pocket PCs, perfectly suited for building applications!

Openness
- Compliance with field bus, connection, and software standards
- Enabling decentralized or remote surveillance via the web with Transparent Ready products

...for example TeSysU
The first starter controller to integrate motor power and control functions, adaptable to a variety of standard buses, and permits you to transparently monitor applications via the web.

Flexibility
- Interchangeable modular functions, to better meet the requirements for extensions
- Software and accessories common to multiple product families

...for example Twido
Programmable controller with “compact” or “modular” versions to better meet your needs. Its flexibility enables you to add options like a display, communication bus, more memory.....

Simplicity
- Cost effective “optimum” offers that make selection easy for most typical applications
- Products that are easy to understand for users, electricians and automation specialists
- User-friendly intuitive programming,

...for example Zelio Logic
Easy programming directly on the smart module with either the Compact or Modular versions, or via PC using FBDs or Ladder Logic. Control of applications by simply sending an SMS...

Compactness
- High functionality in a minimum of space
- Freedom in implementation

...for example Magelis XBT GT
Besides the fact that it is the most compact semi-graphic display on the market, it offers a high degree of legibility, configurable keys, and multi-language management capabilities.
Telemecanique, innovative products for all Automation & Control functions.
Detection

A complete range of innovative and more simple to use sensors

Benefit from Telemecanique’s major innovation:

**Osiconcept®**

Offering simplicity through innovation

A worldwide detection first for improving productivity:
- product selection simplified
- product availability simplified
- installation and setting-up simplified
- maintenance simplified
- detection simplified using a single supplier.

Improved simplicity for improved productivity.

Osiconcept

Improve performance by making your selection and assembly less complicated and more intelligent.

Improve service expertise with an efficient product line offering simplified selection and improved selling potential.

Reduce maintenance time with products that are simpler and unequalled in flexibility.

Select the sensor according to your specific requirements

**“Universal” series:** Multi-purpose products providing multiple functions. Osiconcept products are included in this series.

**“Optimum” series:** Designed for essential and repetitive functions.

**“Application” series:** Offers functions specifically for specialist needs, thus providing the ideal solution for your more complex applications.
Contents

b Osiris™ Photo-electric sensors ....................... 1/2 to 1/11
Detection without contact of objects
whatever their shape or material
> Detection from a few millimeters to several tens of meters
> 3D adjustable fixing accessories
> Specific products for particular applications

b Osiprox™ Inductive proximity sensors ...... 1/12 to 1/22
Detection without contact of metal objects
> Sensor / object distance - 60 mm
> Generic cylindrical and flat form products
> Specific products for particular applications

b Osiprox Capacitive proximity sensors ............. 1/23

b Osiprox Ultrasonic sensors ...................... 1/24 to 1/33
Detection without contact of any object of any material
> Detection from a few millimeters up to 8 meters
> Extra large range to ensure finding the right product
> Specific products for particular applications

b Osiswitch™ Limit switches ....................... 1/34 to 1/39
Detection by contact of rigid objects
> Positive opening operation of electrical contacts
> Object speed - 1.5 m/s
> Specific products for particular applications

b Nautilus Sensors for pressure control ........... 1/40 to 1/41
Detection by contact with fluid
> Electronic pressure and vacuum switches
> Analog pressure sensors
> Electromechanical pressure and vacuum switches
### Osiris™ Photo-electric sensors

**Osiconcept™**

- **Background**
  - Programmable NO / NC
  - NO: object present → output ON
  - NC: no object present → output ON

- **Thru-beam accessory**

<table>
<thead>
<tr>
<th>Design 18 plastic</th>
<th>Design 18 metal</th>
<th>Miniature design</th>
<th>Compact design 50 x 50</th>
<th>Compact design</th>
<th>Photo / Virtu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usable sensing distance</td>
<td>Diffuse</td>
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<td>Diffuse</td>
<td>Diffuse</td>
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<tr>
<td></td>
<td>0.3 m</td>
<td>0.3 m</td>
<td>0.4 m</td>
<td>1.8 m</td>
<td>2 m</td>
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<tr>
<td></td>
<td>Diffuse with background sup.</td>
<td>Diffuse with background sup.</td>
<td>Diffuse with background sup.</td>
<td>Diffuse with background sup.</td>
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<tr>
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<td>30 m</td>
<td>48 m</td>
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<td>M18 x 1</td>
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<tr>
<td>Mounting (mm)</td>
<td>Case M (metal)</td>
<td>Case M (metal)</td>
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<td></td>
<td>P (plastic)</td>
<td>/ Dimensions (mm) X L x W x H x D</td>
<td>P (plastic)</td>
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**Sensors for DC applications**

- **(solid-state output: transistor)**

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<tr>
<th>Reflectors</th>
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**Multi-current/multi-voltage sensors for AC/DC applications**

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<th>Pre-cabled, PVR (2 m)</th>
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<th>Pre-cabled, PVR (2 m)</th>
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<td>T / R 3-wire</td>
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<tr>
<td>Switching capacity (mA)</td>
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<td>100 / –</td>
<td>100 / –</td>
<td>100 / –</td>
<td>100 / –</td>
<td>100 / –</td>
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<tr>
<td>Common characteristics</td>
<td>Supply voltage limits, min/max (V): including ripple 10 - 36 (except XUM 10 - 36)</td>
<td>/ Switching frequency (Hz): 250 / Overload and short-circuit protection (a): yes / LED output state indicator (06): yes / power on LED (06): yes</td>
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**Accessories**

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<th>Fitting support for M12 rod</th>
<th>Simple fixings</th>
<th>Suitable female plug-in connectors, including pre-wired versions</th>
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<tbody>
<tr>
<td>XUZC24</td>
<td>XUZC30</td>
<td>XUZC50</td>
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<td></td>
<td>Bracket with ball joint for sensors and reflec</td>
<td>Protective housing with ball Joint</td>
<td>M12 rod for ball joint</td>
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<td>for XUKBAPS001</td>
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For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telmechanique.com

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Osiris

Photo-electric sensors

Optimum

Sensors for DC applications (solid-state output; transistor)

<table>
<thead>
<tr>
<th>Connection</th>
<th>Pre-cabled, Prr. L ≥ 2 m</th>
<th>M12 connector</th>
<th>Pre-cabled, Prr. L ≥ 2 m</th>
<th>M12 connector</th>
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<tbody>
<tr>
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<td>XUB3APNL2</td>
<td>XUB3APNM12</td>
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</tr>
<tr>
<td></td>
<td>NC</td>
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<td></td>
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<td>XUB3APNM12</td>
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<tr>
<td></td>
<td>Thru-beam receiver</td>
<td>NO</td>
<td>XUB3APNL2R</td>
<td>XUB3APNL2R</td>
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<tr>
<td></td>
<td></td>
<td>XUB3APNM12R</td>
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</table>

Supply voltage limits, min/max (V) including ripple

- 10 - 30

Common characteristics for DC versions

- Switching frequency (Hz)
- Switching capacity, max (mA): 100
- Overload and short-circuit protection
- 500
- LED output state indicator (no)

Multi-current/multi-voltage sensors for AC/DC applications 10 - 30 V DC / 20 - 264 V AC including ripple on DC (relay output, 1 C/O, 3 A)

<table>
<thead>
<tr>
<th>Connection</th>
<th>Pre-cabled, Prr. L ≥ 2 m</th>
<th>M12 connector</th>
<th>Pre-cabled, Prr. L ≥ 2 m</th>
<th>M12 connector</th>
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<tbody>
<tr>
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<td>XUM3APNM12</td>
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<td>XUM3APNM12</td>
<td>XUM3APNM12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thru-beam receiver</td>
<td>NO</td>
<td>XUM3APNL2R</td>
<td>XUM3APNL2R</td>
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<tr>
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<td></td>
<td>XUM3APNM12R</td>
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</table>

Miniature design

<table>
<thead>
<tr>
<th>Compact design 50 x 50</th>
<th>Compact design 20 x 20</th>
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<tbody>
<tr>
<td>Pre-cabled, Prr. L ≥ 2 m</td>
<td>M12 connector</td>
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<td>XUX3AP15NM12</td>
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</tr>
<tr>
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<td>XUX3AP15NM12</td>
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</table>

Simple fixtures

<table>
<thead>
<tr>
<th>Fixing support for M12 mount</th>
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</thead>
<tbody>
<tr>
<td>Single bracket</td>
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<table>
<thead>
<tr>
<th>Suitable female plug-in connectors, including pre-wired versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12 / A Type (DC)</td>
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<td>XUX22350</td>
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</tbody>
</table>

For other versions, please consult with your local Schneider Electric Sales office or visit www.us.telemecanique.com.

For other versions, please consult with your local Schneider Electric Sales office or visit www.us.telemecanique.com.

3D fixings with ball joint

| Bracket with ball joint for sensor and reflector XUX2250 |
| Protective housing with ball joint XUX2250 |
| M12 nut for ball joint XUX22001 |

For more information, please visit www.SESensors.com.

(1) For versions with NPN output, replace "P" by "N". Example: XUB3APNL2 becomes XUB3APNL2.
(2) XUN model is not adjustable
(3) For versions with 0.6 m sensing distance, replace "R" by "G". Example: XUN4APANL12 becomes XUN4APANL12
### Osiris

#### Photo-electric sensors, fiber optic

**Amplifier**

- **Teach**
  - **Setting-up assistance LEDs**
  - **Max / usable sensing distance**
  - **Output state indicator** (3-wire PNP, programmable NO / NC)

**Fiber optic light guides (length 2 m)**

- **Plastic fiber optic light guides (length 2 m)**
- **Long distance fibers**
- **Flexible fibers for reciprocal movement**

#### Accessories

- **Suitable female pre-wired plug-in connectors for use with amplifier XUD = M8**
  - 90° Elbow, Fig. 1: XUS2CS151
  - Straight, Fig. 2: XUS2CS141

- **For thrp-beam system plastic fiber optics**
  - Lenses (Ø 5.4)
  - Focusing distance (pair) XUFZ01
  - With 90° mirror (pair) XUFZ02

- **For all system plastic fiber optics**
  - Fiber (Ø 1.5)
  - For trimming to length (included with all fiber optics) XUFZ01
  - Protective metal tubing ( Ø 1.5 x 0.7)

- **For M4 thread**
  - XUFZ010
  - For M6 thread XUFZ016

#### Sensors for DC applications (solid-state output: transistor)

<table>
<thead>
<tr>
<th>System</th>
<th>Optimum</th>
<th>Universal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max / usable sensing distance (mm)</td>
<td>For plastic fibers</td>
<td>Depending on fiber</td>
</tr>
<tr>
<td>Mounting (mm)</td>
<td>Ø 4 x 10 x 65</td>
<td>Ø 4 x 10 x 65</td>
</tr>
<tr>
<td>Dimensions (mm) H x W x D</td>
<td>40 x 10 x 65</td>
<td>40 x 10 x 65</td>
</tr>
<tr>
<td>Casing (P) (plastic)</td>
<td>P</td>
<td>P</td>
</tr>
<tr>
<td>Sensitivity adjustment</td>
<td>Using teach mode</td>
<td>Using teach mode</td>
</tr>
<tr>
<td>Setting-up assistance LEDs</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Temperature range (°C)</td>
<td>-10 to 55</td>
<td>-10 to 55</td>
</tr>
<tr>
<td>Degree of protection (conforming to IEC 60529)</td>
<td>IP65 with Ø 1 fiber / IP64 with Ø 0.5 fiber</td>
<td>IP65 with Ø 1 fiber / IP64 with Ø 0.5 fiber</td>
</tr>
</tbody>
</table>

**References**

- 3-wire PNP programmable NO / NC
- 3-wire NPN programmable NO / NC
- 3-wire PNP, programmable NO / NC
- 3-wire NPN programmable NO / NC

<table>
<thead>
<tr>
<th>System</th>
<th>Sensing distance (mm)</th>
<th>Fiber cross-section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber Ø (mm)</td>
<td>Ø 1.0</td>
<td>Ø 1.0</td>
</tr>
<tr>
<td>Sheath Ø</td>
<td>Ø 2.0</td>
<td>Ø 2.0</td>
</tr>
<tr>
<td>Temperature range (°C)</td>
<td>-25 to +60</td>
<td>-25 to +60</td>
</tr>
</tbody>
</table>

**Mounting**

- (1) Suitable for use with XUFZ01 and XUFZ02
  - M3 / M2.6 (1)
  - M3 / L = 90 mm
  - M6 / L = 15 mm

- (2) With XUFZ04 fixing clamp with lens

- (3) Depending on length and lens fixing clamps

**Accessories**

- **Suitable female pre-wired plug-in connectors for use with amplifier XUD = M8**
  - 90° Elbow, Fig. 1: XUS2CS151
  - Straight, Fig. 2: XUS2CS141
### Osiris Photo-electric sensors - Application

#### Packaging series

**Contrast sensors - color mark**

- **Diffuse**
  - Usable sensing distance: 0.009 m
  - Mounting: direct: cts. 40 x 40 with touch mode button
  - Sensitivity adjustment potentiometer: P / m
  - Temperature range (°C): -10 to +55
  - Dimensions (Ø x L): 50 x 15 x 50

- **Diffuse with touch mode (4)**
  - Usable sensing distance: 0.012 m
  - Mounting: direct: 21 x 28, M5 screw with touch mode button
  - Sensitivity adjustment potentiometer: P / m
  - Temperature range (°C): -10 to +55
  - Dimensions (Ø x L): 50 x 31 x 54

- **Diffuse with touch mode, analog output**
  - Usable sensing distance: 0.012 m
  - Mounting: direct: cts. 40 x 40 with touch mode button
  - Sensitivity adjustment potentiometer: P / m
  - Temperature range (°C): -10 to +55
  - Dimensions (Ø x L): 50 x 31 x 54

**Luminance sensors**

- **Diffuse**
  - Usable sensing distance: 0.009 m
  - Mounting: direct: cts. 40 x 40 with touch mode button
  - Sensitivity adjustment potentiometer: P / m
  - Temperature range (°C): -10 to +55
  - Dimensions (Ø x L): 50 x 31 x 54

- **Diffuse with touch mode**
  - Usable sensing distance: 0.012 m
  - Mounting: direct: 21 x 28, M5 screw with touch mode button
  - Sensitivity adjustment potentiometer: P / m
  - Temperature range (°C): -10 to +55
  - Dimensions (Ø x L): 50 x 31 x 54

#### Sensors for DC applications (solid-state output transistor)

<table>
<thead>
<tr>
<th>Connection</th>
<th>Transmitter / Receiver</th>
<th>3-wire PNP</th>
<th>NO function</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12 connector</td>
<td>XUR1K15SM12</td>
<td>XUR1K25SM12</td>
<td>--</td>
</tr>
<tr>
<td>M12 connector</td>
<td>XUR1K35SM12</td>
<td>XUR1K35SM12</td>
<td>--</td>
</tr>
<tr>
<td>M12 connector</td>
<td>XUR1K45SM12</td>
<td>XUR1K45SM12</td>
<td>--</td>
</tr>
</tbody>
</table>

**Usable sensing distance**

- 0.009 m
- 0.012 m
- 0.015 m

**Mounting (mm)**

- Direct: cts. 40 x 40
- Direct: 21 x 28, M5 screw

**Sensitivity adjustment potentiometer**

- P / m

**Temperature range (°C)**

- -10 to +55

**Dimensions (Ø x L):**

- 50 x 31 x 54

**Overload and short-circuit-protection (LED output state indicator (m))**

<table>
<thead>
<tr>
<th>Function</th>
<th>XURF01KSM12</th>
<th>XURF01KSM12</th>
<th>--</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-wire PNP</td>
<td>NO function</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>3-wire PNP</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

**Material handling series**

- **Products handling series**
  - Forked with integral amplifier for indexing
  - Analog output:
  - Position control
  - Very long sensing distance or accurate sensing
  - High excess gain for resistances accumulated dirt

**Packaging series (continued)**

<table>
<thead>
<tr>
<th>Detection of transparent materials</th>
<th>Optical frame for detection of passage of objects</th>
<th>Objects on conveyor</th>
</tr>
</thead>
<tbody>
<tr>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

**Sensors for DC applications (solid-state output transistor)**

<table>
<thead>
<tr>
<th>Connection</th>
<th>Transmitter / Receiver</th>
<th>3-wire PNP</th>
<th>NO function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-cabled, PVC (2 m)</td>
<td>XU2PM12</td>
<td>XU2PM12</td>
<td>--</td>
</tr>
<tr>
<td>Pre-cabled, PVC (2 m)</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Pre-cabled, PVC (2 m)</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Pre-cabled, PVR (2 m)</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Screw terminals</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

**Materials handling series**

- **Products handling series**
  - Forked with integral amplifier for indexing
  - Analog output:
  - Position control
  - Very long sensing distance or accurate sensing
  - High excess gain for resistances accumulated dirt

**Fiber optic light guides for use with full color sensor XURC4...**

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
### Photo-electric sensors - Application

**High performance series**

#### Sensors for DC applications (solid-state output: transistor)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensing distance</th>
<th>Temperature range</th>
<th>Dimensions</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>XUYF953002COS</td>
<td>2 - 120 mm</td>
<td>0 to + 60°C</td>
<td>40 x 42 x 130</td>
<td>M8 connector</td>
</tr>
<tr>
<td>XUYFANEP4002</td>
<td>2 - 120 mm</td>
<td>0 to + 60°C</td>
<td>42 x 35 x 57</td>
<td>M8 connector</td>
</tr>
<tr>
<td>XUYFALNEP4002</td>
<td>2 - 120 mm</td>
<td>0 to + 60°C</td>
<td>44 x 35 x 57</td>
<td>M8 connector</td>
</tr>
</tbody>
</table>

#### Sensors with plastic fiber optics

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensing distance</th>
<th>Temperature range</th>
<th>Dimensions</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>XUYF954120COS</td>
<td>2 - 120 mm</td>
<td>0 to + 60°C</td>
<td>120 x 150 x 77</td>
<td>M8 connector</td>
</tr>
<tr>
<td>XUYFANEP40120</td>
<td>2 - 120 mm</td>
<td>0 to + 60°C</td>
<td>120 x 150 x 77</td>
<td>M8 connector</td>
</tr>
<tr>
<td>XUYFALNEP40120</td>
<td>2 - 120 mm</td>
<td>0 to + 60°C</td>
<td>120 x 150 x 77</td>
<td>M8 connector</td>
</tr>
</tbody>
</table>

#### Sensors with glass fiber optics

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensing distance</th>
<th>Temperature range</th>
<th>Dimensions</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>XUYF954002COS</td>
<td>2 - 120 mm</td>
<td>0 to + 60°C</td>
<td>5 x 5 x 60</td>
<td>M8 connector</td>
</tr>
<tr>
<td>XUYFANEP40005</td>
<td>5 - 42 mm</td>
<td>0 to + 35°C</td>
<td>5 x 42 x 35</td>
<td>M8 connector</td>
</tr>
<tr>
<td>XUYFALNEP40005</td>
<td>5 - 42 mm</td>
<td>0 to + 44°C</td>
<td>5 x 42 x 35</td>
<td>M8 connector</td>
</tr>
</tbody>
</table>

#### Glass fiber optics

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensing distance</th>
<th>Temperature range</th>
<th>Dimensions</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>XUYF40A</td>
<td>100 x 1000 mm</td>
<td>0 to + 60°C</td>
<td>10 x 10 x 100</td>
<td>M8 connector</td>
</tr>
<tr>
<td>XUYFPCO08S</td>
<td>200 x 2000 mm</td>
<td>0 to + 60°C</td>
<td>20 x 20 x 200</td>
<td>M8 connector</td>
</tr>
<tr>
<td>XUYFPCO04S</td>
<td>800 x 8000 mm</td>
<td>0 to + 60°C</td>
<td>80 x 80 x 800</td>
<td>M8 connector</td>
</tr>
</tbody>
</table>

#### Accessories

- **Suitable female pre-wired plug-in connectors**
- **For plastic fiber optics**
- **For fiber optics**

Further details are available on page 7.
Inductive proximity sensors

**Osiprox™**

**Osiconcept™**

A single product that automatically adapts to all installation environments.

Accurate position detection using teach mode.

### Nominal sensing distance Sn

- **Form E**: 5 mm
- **Form C**: 5 mm
- **Form D**: 5 mm

### Flying lead (L = 0.15 m) with end mounted remote control incorporating M12 connector

(1) Also available with M12 connector on 152 mm (6”) pigtail. Substitute M12 for M8 in part number.

### Overload and short-circuit protection

- 2-wire AC/DC NO
- 2-wire AC/DC NC
- 3-wire PNP NO
- 3-wire PNP NC

### Usable sensing distance S (mm) flush mountable / non flush mountable

- 0 - 8 / 0 - 12
- 0 - 12 / 0 - 20
- 0 - 20 / 0 - 40
- 0 - 40 / 0 - 80

### Suitsable female plug-in connectors, including pre-wired versions

For Osiconcept XS6 remote control

<table>
<thead>
<tr>
<th>Pre-cabled</th>
<th>Pre-wired, straight</th>
</tr>
</thead>
<tbody>
<tr>
<td>XS621B01U20</td>
<td>XS621B1U20</td>
</tr>
</tbody>
</table>

### Sensors for DC applications

<table>
<thead>
<tr>
<th>Dimensions (mm) D x L x W x H x D</th>
<th>Pre-cabled, Prr (2 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 x 26 x 6 x 15 x 10</td>
<td>XS681A116M8</td>
</tr>
<tr>
<td>20 x 26 x 6 x 10 x 15</td>
<td>XS681A116M8</td>
</tr>
<tr>
<td>20 x 26 x 6 x 10 x 20</td>
<td>XS681A116M8</td>
</tr>
<tr>
<td>20 x 26 x 6 x 20 x 30</td>
<td>XS681A116M8</td>
</tr>
</tbody>
</table>

### Connection M8 connector (1)

<table>
<thead>
<tr>
<th>3-wire</th>
<th>PNP</th>
<th>Form E</th>
<th>Form C</th>
<th>Form D</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>XS681A116M8</td>
<td>Form E</td>
<td>Form C</td>
<td>Form D</td>
</tr>
</tbody>
</table>

### Supply voltage limits, min/max (V) including ripple

- 10 - 36
- 10 - 36
- 10 - 36
- 10 - 36

### Switching frequency (Hz)

- 2500
- 2500
- 2500
- 2500

### Voltage drop, closed state (V) at 1 nominal

- 0.5
- 0.5
- 0.5
- 0.5

### Overload and short-circuit protection (a)

- 100
- 100
- 100
- 100

### LED output state indicator (b)

- 100
- 100
- 100
- 100

### Current sink, max (mA)

- 100
- 100
- 100
- 100

### Suitable female plug-in connectors, including pre-wired versions

For Osiprox XS6 remote control

<table>
<thead>
<tr>
<th>Pre-cabled, Prr (2 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>XS621B01U20</td>
</tr>
</tbody>
</table>

### Accessories

- For flat sensors, forms E, C, and D

<table>
<thead>
<tr>
<th>Form E</th>
<th>Form C</th>
<th>Form D</th>
</tr>
</thead>
<tbody>
<tr>
<td>XS621B0112</td>
<td>XS621B0112</td>
<td>XS621B0112</td>
</tr>
<tr>
<td>XS621B0112</td>
<td>XS621B0112</td>
<td>XS621B0112</td>
</tr>
<tr>
<td>XS621B0112</td>
<td>XS621B0112</td>
<td>XS621B0112</td>
</tr>
</tbody>
</table>

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com

For Osiconcept XS6

<table>
<thead>
<tr>
<th>Pre-wired, straight</th>
</tr>
</thead>
<tbody>
<tr>
<td>XS621B01U20</td>
</tr>
</tbody>
</table>

For Osiprox XS6

<table>
<thead>
<tr>
<th>Pre-wired, straight</th>
</tr>
</thead>
<tbody>
<tr>
<td>XS621B01U20</td>
</tr>
</tbody>
</table>
### Inductive proximity sensors

**Osipro**

**Optimum**

#### Sensors for DC applications

**Connection**

- **Pre-cabled, Prf (2 m)**
- **Dimensions (mm) D x L x W x H (m)***
  - **8 x 22 x 8 x 6**: Form J
  - **15 x 32 x 6 x 10**: Form F
  - **26 x 26 x 13**: Form E
  - **40 x 40 x 15**: Form C

**Sensors for DC applications**

**Connection**

- **Pre-cabled, Prf (2 m)**
- **Dimensions (mm) D x L x W x H (m)***
  - **8 x 22 x 8 x 6**: Form J
  - **15 x 32 x 6 x 10**: Form F
  - **26 x 26 x 13**: Form E
  - **40 x 40 x 15**: Form C

**Accessories**

**Fixing**

- **For flat sensors, forms C, E and D**

**Osipro**

**Suitable female plug-in connectors, including pre-wired versions**

- **pre-wired, 90°**
- **pre-wired, straight**

---

*For other versions, please consult your local Schneider Electric/Square D sales office:* [Visit www.us.telemecanique.com](http://www.us.telemecanique.com)
### Inductive proximity sensors - Application

#### Plastic cylindrical

<table>
<thead>
<tr>
<th>MB</th>
<th>M12</th>
<th>M18</th>
<th>M30</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 mm</td>
<td>4 mm</td>
<td>6 mm</td>
<td>15 mm</td>
</tr>
</tbody>
</table>

- **Nominal sensing distance Sn**:
  - MB: 2.5 mm
  - M12: 4 mm
  - M18: 6 mm
  - M30: 15 mm

- **Operating area (mm)**:
  - MB: 0 - 2
  - M12: 0 - 3.2
  - M18: 0 - 6.4
  - M30: 0 - 12

- **Suitability for flush mounting (metal environment)**: non flush mountable

- **Case (M) (P) (plastic)**: P

- **Temperature range (°C)**: -25 to +70

- **Degree of protection (conforming to IEC 60529)**: IP67 pre-cabled: IP68 with connector: IP67

#### Miniature cylindrical (assembly)

<table>
<thead>
<tr>
<th>Ø 4</th>
<th>M5</th>
<th>Ø 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mm</td>
<td>1 mm</td>
<td>1.5 mm</td>
</tr>
</tbody>
</table>

- **Nominal sensing distance Sn**:
  - Ø 4: 1 mm
  - M5: 1 mm
  - Ø 6.5: 1.5 mm

- **Operating area (mm)**:
  - Ø 4: 0 - 2
  - M5: 0 - 0.8
  - Ø 6.5: 0 - 1.2

- **Suitability for flush mounting (metal environment)**: flush mountable

- **Case (M) (P) (plastic)**: M

- **Temperature range (°C)**: -25 to +70

- **Degree of protection (conforming to IEC 60529)**: IP67

#### Rectangular Form C

<table>
<thead>
<tr>
<th>Ø 4</th>
<th>M5</th>
<th>Ø 6.5</th>
<th>Form C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mm</td>
<td>1 mm</td>
<td>1.5 mm</td>
<td>15 mm</td>
</tr>
</tbody>
</table>

- **Nominal sensing distance Sn**:
  - Ø 4: 1 mm
  - M5: 1 mm
  - Ø 6.5: 1.5 mm

- **Operating area (mm)**:
  - Ø 4: 0 - 2
  - M5: 0 - 0.8
  - Ø 6.5: 0 - 1.2

- **Suitability for flush mounting (metal environment)**: flush mountable

- **Case (M) (P) (plastic)**: M

- **Temperature range (°C)**: -25 to +70

- **Degree of protection (conforming to IEC 60529)**: IP67

### Sensors for DC applications

- **Connection**
  - Pre-cabled, Pvr (2 m)
  - Pre-cabled, Pvr (2 m)

- **Screw terminals**
  - (3)

### Multi-current/multi-voltage sensors for AC/DC applications

- **Connection**
  - Pre-cabled, Pvr (2 m)

- **Screw terminals**
  - (3)

### Accessories

- **Fixing clamp with indexing pin for cylindrical sensors**
  - M4: X5ZB114
  - M5: X5ZB112
  - M6: X5ZB110
  - M8: X5ZB108

- **Fixing clamp with indexing pin for M12 sensors**
  - M12: X5ZB105
  - M18: X5ZB111
  - M30: X5ZB118

- **Flush**
  - M8: XSZB108
  - M12: XSZB109
  - M18: XSZB130

- **Non flush**
  - M8: XSZB130
  - M12: XSZB131
  - M18: XSZB132

- **Screw terminals**
  - (3)

- **(2) Stainless steel sensors, Sn = 0.8 mm**

- **(3) Sensors supplied without cable gland. Suitable cable gland: 13P**

### Table of Contents

- **Osiprox**
- **Inductive proximity sensors - Application**
  - **Plastic cylindrical**
  - **Miniature cylindrical**
  - **Rectangular Form C**
- **Sensors for DC applications**
- **Multi-current/multi-voltage sensors for AC/DC applications**
- **Accessories**
Osiprox

Inductive proximity sensors - Application

Rotation control

Ferrous/non-ferrous with fixed sensing distance

Sensors for AC applications

Connection

4-wire PNP/NPN NO/NC programmable Pre-cabled, P+R (2 m)

3-wire PNP NC function size version XS4AV11373 XS4AV11373

Fast version

0 - 10 V output plastic

4 - 20 mA output metal, flush mountable plastic, non-flush mountable

Supply voltage limits, min/max (V) including ripple

Switching capacity, max (mA) short-circuit protection (A) LED output state indicator (H) Power on LED (L/T)

Linearity error

Voltage drop, closed state (V) at I nominal

Switching frequency (Hz)

Operating frequency (Hz)

Multi-current/multi-voltage sensors for AC/DC applications

Connection

4-wire PNP/NPN NO/NC programmable Pre-cabled, P+R (2 m)

3-wire PNP NC function size version XS4AV11710 XS4AV11710

Fast version

0 - 10 V output plastic

4 - 20 mA output metal, flush mountable plastic, non-flush mountable

Supply voltage limits, min/max (V) 50-60 Hz

Switching capacity, max (mA) LED output state indicator (H) Power on LED (L/T)

Residual current, open state (mA)

Voltage drop, closed state (V) at I nominal

Switching frequency (Hz)

For flat sensors, forms E, C and D

Fixing clamp with indexing pin for cylindrical sensors

Suitable female plug-in connectors, including pre-wired versions

Length 2 m without LED

Pre-wired, 90°

Pre-wired, straight

For other versions, please consult with your local Schneider Electric Sensor Sales office: visit www.us.telemecanique.com

Courtesy of Steven Engineering, Inc. ● 230 Ryan Way, South San Francisco, CA 94080-6370 ● General Inquiries: (800) 670-4183 ● www.stevenengineering.com
## Inductive proximity sensors - Technology

### Extended range - Short case

<table>
<thead>
<tr>
<th>Sn</th>
<th>Nominal sensing distance</th>
<th>Operating zone (mm)</th>
<th>Suitability for flush mounting (metal environment)</th>
<th>Case M (metal)</th>
<th>Temperature range (°C)</th>
<th>Degree of protection (conforming to IEC 60529)</th>
<th>Dimensions (mm)</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 mm</td>
<td>3.0 mm</td>
<td>0 - 2</td>
<td>Flush mountable</td>
<td>M</td>
<td>-25 to + 50</td>
<td>IP67 (with connector: IP67)</td>
<td>M8 x 32</td>
<td><a href="#">Fixing clamps</a></td>
</tr>
<tr>
<td>5.0 mm</td>
<td>4.0 mm</td>
<td>0 - 3.2</td>
<td>Non flush mountable</td>
<td>M</td>
<td>-25 to + 50</td>
<td>IP67 (with connector: IP67)</td>
<td>M12 x 33</td>
<td></td>
</tr>
<tr>
<td>10.0 mm</td>
<td>5.0 mm</td>
<td>0 - 8</td>
<td>-</td>
<td>M</td>
<td>-25 to + 50</td>
<td>IP67 (with connector: IP67)</td>
<td>M30 x 45.6</td>
<td></td>
</tr>
<tr>
<td>20.0 mm</td>
<td>10.0 mm</td>
<td>0 - 16</td>
<td>-</td>
<td>M</td>
<td>-25 to + 50</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### Complimentary outputs - Short case

#### NO + NC

<table>
<thead>
<tr>
<th>Sn</th>
<th>Nominal sensing distance</th>
<th>Operating zone (mm)</th>
<th>Suitability for flush mounting or non flush mountable</th>
<th>Case M or P depending on model</th>
<th>Temperature range (°C)</th>
<th>Degree of protection (conforming to IEC 60529)</th>
<th>Dimensions (mm)</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 mm</td>
<td>1.5 mm</td>
<td>0 - 2</td>
<td>Flush mountable (P or N plastic)</td>
<td>M or P depending on model</td>
<td>-25 to + 80</td>
<td>IP67 (with connector: IP67)</td>
<td>M8 x 32</td>
<td><a href="#">Fixing clamps</a></td>
</tr>
<tr>
<td>2.0 mm</td>
<td>2.0 mm</td>
<td>0 - 4</td>
<td>Non flush mountable</td>
<td>M or P depending on model</td>
<td>-25 to + 70</td>
<td>IP68 (with connector: IP67)</td>
<td>M12 x 33</td>
<td></td>
</tr>
<tr>
<td>4.0 mm</td>
<td>4.0 mm</td>
<td>0 - 8</td>
<td>-</td>
<td>M or P depending on model</td>
<td>-25 to + 70</td>
<td>IP68 (with connector: IP67)</td>
<td>M30 x 45.6</td>
<td></td>
</tr>
<tr>
<td>8.0 mm</td>
<td>8.0 mm</td>
<td>0 - 16</td>
<td>-</td>
<td>M or P depending on model</td>
<td>-25 to + 70</td>
<td>-</td>
<td>-</td>
<td></td>
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</tbody>
</table>

### PNP + NPN outputs

#### NO/NC programmable

<table>
<thead>
<tr>
<th>Sn</th>
<th>Nominal sensing distance</th>
<th>Operating zone (mm)</th>
<th>Suitability for flush mounting (metal environment)</th>
<th>Case M (metal)</th>
<th>Temperature range (°C)</th>
<th>Degree of protection (conforming to IEC 60529)</th>
<th>Dimensions (mm)</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 mm</td>
<td>0.5 mm</td>
<td>0 - 2</td>
<td>Flush mountable</td>
<td>M</td>
<td>-25 to + 50</td>
<td>IP67 (with connector: IP67)</td>
<td>M8 x 32</td>
<td><a href="#">Fixing clamps</a></td>
</tr>
<tr>
<td>2.0 mm</td>
<td>2.0 mm</td>
<td>0 - 4</td>
<td>Non flush mountable</td>
<td>M</td>
<td>-25 to + 50</td>
<td>IP67 (with connector: IP67)</td>
<td>M12 x 33</td>
<td></td>
</tr>
<tr>
<td>5.0 mm</td>
<td>5.0 mm</td>
<td>0 - 8</td>
<td>-</td>
<td>M</td>
<td>-25 to + 50</td>
<td>IP67 (with connector: IP67)</td>
<td>M30 x 45.6</td>
<td></td>
</tr>
<tr>
<td>10.0 mm</td>
<td>10.0 mm</td>
<td>0 - 16</td>
<td>-</td>
<td>M</td>
<td>-25 to + 50</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### Sensors for DC applications

#### 3-wire PNP + NPN

<table>
<thead>
<tr>
<th>Pre-cabled, Pvr (2 m)</th>
<th>NO function</th>
<th>NC function</th>
<th>PNP function</th>
<th>NPN function</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8 connector</td>
<td>M8 connector</td>
<td>M8 connector</td>
<td>X5S1N02PA349</td>
<td>X5S1N02PA349</td>
</tr>
<tr>
<td>M12 connector</td>
<td>M12 connector</td>
<td>M12 connector</td>
<td>X5S1N02PA349</td>
<td>X5S1N02PA349</td>
</tr>
</tbody>
</table>

#### 4-wire PNP + NPN

<table>
<thead>
<tr>
<th>Pre-cabled, Pvr (2 m)</th>
<th>NO + NC function</th>
<th>NC function</th>
<th>PNP function</th>
<th>NPN function</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8 connector</td>
<td>M8 connector</td>
<td>M8 connector</td>
<td>X5S1N02PA349</td>
<td>X5S1N02PA349</td>
</tr>
<tr>
<td>M12 connector</td>
<td>M12 connector</td>
<td>M12 connector</td>
<td>X5S1N02PA349</td>
<td>X5S1N02PA349</td>
</tr>
</tbody>
</table>

#### 3-wire NPN/PNP

<table>
<thead>
<tr>
<th>Pre-cabled, Pvr (2 m)</th>
<th>NO + NC function</th>
<th>NC function</th>
<th>PNP function</th>
<th>NPN function</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8 connector</td>
<td>M8 connector</td>
<td>M8 connector</td>
<td>X5S1N02PA349</td>
<td>X5S1N02PA349</td>
</tr>
<tr>
<td>M12 connector</td>
<td>M12 connector</td>
<td>M12 connector</td>
<td>X5S1N02PA349</td>
<td>X5S1N02PA349</td>
</tr>
</tbody>
</table>

### Supply voltage limits (if applicable)

<table>
<thead>
<tr>
<th>Voltage range (V)</th>
<th>Switching capacity (mA)</th>
<th>Switching frequency (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 - 38</td>
<td>200</td>
<td>2500/1000/500</td>
</tr>
<tr>
<td>10 - 38</td>
<td>200</td>
<td>2500/1000/500</td>
</tr>
</tbody>
</table>

### Fixing clamps

- **M8**: X5S2B108
- **M12**: X5S2B112
- **N8**: X5S2B118
- **N12**: X5S2B130

---

**Accessories**

For more information, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
Osiprox

Inductive proximity sensors - Technology
Multi-voltage with short-circuit protection

<table>
<thead>
<tr>
<th>Nominal sensing distance Sn</th>
<th>M12</th>
<th>M18</th>
<th>M30</th>
</tr>
</thead>
<tbody>
<tr>
<td>flush mountable</td>
<td>2 mm</td>
<td>5 mm</td>
<td>10 mm</td>
</tr>
<tr>
<td>non flush mountable</td>
<td>4 mm</td>
<td>8 mm</td>
<td>15 mm</td>
</tr>
<tr>
<td>Operating zone (mm)</td>
<td>flush mountable</td>
<td>0 - 1.6</td>
<td>0 - 4</td>
</tr>
<tr>
<td>non flush mountable</td>
<td>0 - 3.2</td>
<td>0 - 6.4</td>
<td>0 - 12</td>
</tr>
<tr>
<td>Suitability for flush mounting (metal environment)</td>
<td>Flush mountable or non flush mountable depending on model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case M (metal) P (plastic)</td>
<td>M</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Temperature range (°C)</td>
<td>-25 to +70</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Degree of protection (conforming to IEC 60529)</td>
<td>IP68 (with connector: IP67)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Dimensions (mm) Ø x L</td>
<td>M12 x 50</td>
<td>M18 x 60</td>
<td>M30 x 60</td>
</tr>
</tbody>
</table>

Multi-current/multi-voltage sensors for AC/DC applications

<table>
<thead>
<tr>
<th>Connection</th>
<th>2-wire AC/DC</th>
<th>NO function</th>
<th>flush mountable</th>
<th>Pre-cabled, PVR (2 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>flush mountable</td>
<td>XS1M12MA250</td>
<td>XS1M18MA250</td>
<td>XS1M30MA250</td>
<td></td>
</tr>
<tr>
<td>non flush mountable</td>
<td>XS2M12MA250</td>
<td>XS2M18MA250</td>
<td>XS2M30MA250</td>
<td></td>
</tr>
<tr>
<td>NC function</td>
<td>flush mountable</td>
<td>XS1M12MB250</td>
<td>XS1M18MB250</td>
<td>XS1M30MB250</td>
</tr>
<tr>
<td>non flush mountable</td>
<td>XS2M12MB250</td>
<td>XS2M18MB250</td>
<td>XS2M30MB250</td>
<td></td>
</tr>
<tr>
<td>Connection</td>
<td>2-wire AC/DC</td>
<td>NO function</td>
<td>flush mountable</td>
<td>Pre-cabled, PVR (2 m)</td>
</tr>
<tr>
<td>flush mountable</td>
<td>XS1M12MA250K</td>
<td>XS1M18MA250K</td>
<td>XS1M30MA250K</td>
<td></td>
</tr>
<tr>
<td>non flush mountable</td>
<td>XS2M12MA250K</td>
<td>XS2M18MA250K</td>
<td>XS2M30MA250K</td>
<td></td>
</tr>
<tr>
<td>NC function</td>
<td>flush mountable</td>
<td>XS1M12MB250K</td>
<td>XS1M18MB250K</td>
<td>XS1M30MB250K</td>
</tr>
<tr>
<td>non flush mountable</td>
<td>XS2M12MB250K</td>
<td>XS2M18MB250K</td>
<td>XS2M30MB250K</td>
<td></td>
</tr>
</tbody>
</table>

Supply voltage limits, min/max (VAC) 50-60 Hz including ripple 20 - 264
Switching capacity, max (mA) 200 / 200 AC, 5 - 300 DC
LED output state indicator (Ø) / Power on LED (Ø) Ø / Ø
Residual current, open state (mA) 1.5
Voltage drop, closed state (V) at I nominal 5.5
Switching frequency (Hz) 25 AC, 4000 DC / 25 AC, 2000 DC / 25 AC, 2000 DC (1)

(1) 25 AC, 1000 DC for non flush mountable Ø 30 mm

Accessories

Fixing clamps with indexing pin for cylindrical sensors

<table>
<thead>
<tr>
<th>Fixing clamp with indexing pin for cylindrical sensors</th>
<th>Suitable female plug-in connectors, including pre-wired versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12 XSZB112</td>
<td>length 2 m without LED pre-wired, 90°</td>
</tr>
<tr>
<td>M18 XSZB118</td>
<td>U20 (or K) XSZCK101Y</td>
</tr>
<tr>
<td>M30 XSZB130</td>
<td>XSZCK111Y</td>
</tr>
</tbody>
</table>

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
Capacity proximity sensors
Detection of insulating materials (flush mountable)
or conductive materials (non flush materials)

<table>
<thead>
<tr>
<th>Suitability for flush mtg. (metal environment)</th>
<th>M12</th>
<th>M18</th>
<th>M30</th>
<th>Ø 32</th>
<th>40 x 40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal sensing distance Sn flush mountable</td>
<td>2.0 mm</td>
<td>5 mm</td>
<td>10 mm</td>
<td>15 mm</td>
<td>15 mm</td>
</tr>
<tr>
<td>non flush mountable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating zone (mm) flush mountable</td>
<td>0 - 1.44</td>
<td>0 - 3.6</td>
<td>0 - 7.2</td>
<td>0 - 10.8</td>
<td>0 - 10.8</td>
</tr>
<tr>
<td>non flush mountable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case M (metal) P (plastic) flush mountable</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>P</td>
</tr>
<tr>
<td>non flush mountable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature range (°C)</td>
<td>- 25 to + 70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of protection (conforming to IEC 60529)</td>
<td>IP67</td>
<td>IP63</td>
<td>IP67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions (mm) Ø x L</td>
<td>M12 x 60</td>
<td>M18 x 60</td>
<td>M30 x 60</td>
<td>M32 x 80</td>
<td>40 x 40 x 117</td>
</tr>
</tbody>
</table>

Sensors for DC applications

Connection
3-wire PNP NO function flush mountable XT1M12PA372 XT1M18PA372 XT1M30PA372 – –
non flush mountable – XT4P18PA372 XT4P30PA372 – –
NC function flush mountable XT1M12PB372 XT1M18PB372 XT1M30PB372 – –
non flush mountable – – – –
NPN NO function flush mountable XT1M12NA372 XT1M18NA372 XT1M30NA372 – –
non flush mountable – XT4P18NA372 XT4P30NA372 – –

Connection
3-wire PNP NO + NC functions flush mountable – – – – –
NPN NO + NC functions flush mountable – – – – –
Connection
2-wire AC NO function flush mountable – – XT1M18FA262 XT1M30FA262 XT1L32FA262 –
non flush mountable – XT4P18FA262 XT4P30FA262 XT4L32FA262 –
NC function flush mountable – – XT1M18FB262 XT1M30FB262 XT1L32FB262 –
non flush mountable – – – – XT4P30FB262 XT4L32FB262 –
Multi-current / multi-voltage for AC applications

Connection
2-wire AC NO or NC programmable flush mountable – – 20 - 264 20 - 264 90 - 250 20 - 264
non flush mountable – – 300 300 250 350
LED output state indicator (Ø) / Power on LED (Ø)
Residual current, open state (mA) – 1.5 @ 120 V 1.5 @ 120 V 7 1.5 @ 120 V
Voltage drop, closed state (V) at I nominal – 5.5 5.5 9 5.5
Switching frequency (Hz) – 25 25 10 25
For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com

Accessories
Fixing clamps
Fixing clamp with indexing pin for cylindrical sensors

| Fixing clamp with indexing pin for cylindrical sensors | M8 | XSZB108 | M12 | XSZB112 | M18 | XSZB118 | Ø 32 | XSZB32 |

Suitable female plug-in connectors, including pre-wired versions

<table>
<thead>
<tr>
<th>Suitable female plug-in connectors, including pre-wired versions</th>
<th>length 2 m without LED</th>
<th>pre-wired, 90°</th>
<th>pre-wired, straight</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8</td>
<td>XS2CS151</td>
<td>XS2CD114Y</td>
<td>XS2CD104Y</td>
</tr>
<tr>
<td>M12</td>
<td>XS2CS151</td>
<td>XS2CD114Y</td>
<td>XS2CD104Y</td>
</tr>
</tbody>
</table>

(1) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.
## Virtu™ Series
### Ultrasonic Sensors
#### Dual Mount & 18 mm

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>18 mm Barrel Style (1)</th>
<th>Dual Mount Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Style</td>
<td>Dual Mount Style</td>
<td></td>
</tr>
<tr>
<td>Housing Material</td>
<td>PBT</td>
<td>VALOX®</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>12-24 VDC</td>
<td>12-24 VDC</td>
</tr>
<tr>
<td>Range Window</td>
<td>508 mm Teachable</td>
<td></td>
</tr>
<tr>
<td>NPN Sinking</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>PNP Sourcing</td>
<td>NO</td>
<td></td>
</tr>
</tbody>
</table>

(*) All possible sensor configurations are not listed here
(1) VM18 are not available in cable style

PB100 In-line accessory pushbutton for teaching window limits (for Virtu™ series sensors)

### Virtu™ Analog

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>18 mm Barrel Style (1)</th>
<th>Dual Mount Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Style</td>
<td>Dual Mount Style</td>
<td></td>
</tr>
<tr>
<td>Housing Material</td>
<td>PBT</td>
<td>VALOX®</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>15-24 VDC</td>
<td>15-24 VDC</td>
</tr>
<tr>
<td>Range Window</td>
<td>508 mm Teachable</td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td>Cable</td>
<td>Quick Disconnect</td>
</tr>
<tr>
<td>Auto Slope</td>
<td>VM18-VA-Q</td>
<td>VM1-VA-Q</td>
</tr>
<tr>
<td>Inverse Slope</td>
<td>VM18-VI-Q</td>
<td>VM1-VI-Q</td>
</tr>
<tr>
<td>Direct Slope</td>
<td>VM18-VD-Q</td>
<td>VM1-VD-Q</td>
</tr>
<tr>
<td>Current</td>
<td>Auto Slope</td>
<td>VM18-CA-Q</td>
</tr>
<tr>
<td>inverse Slope</td>
<td>VM18-CI-Q</td>
<td>VM1-CI-Q</td>
</tr>
<tr>
<td>Direct Slope</td>
<td>VM18-CD-Q</td>
<td>VM1-CD-Q</td>
</tr>
</tbody>
</table>

(*) All possible sensor configurations are not listed here
(1) VM18 are not available in cable style

### Accessories

<table>
<thead>
<tr>
<th>Straight</th>
<th>Connection type</th>
<th>Length</th>
<th>90°</th>
<th>Connection type</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>XSCD101Y</td>
<td>M12 connector</td>
<td>2 m</td>
<td></td>
<td>XSCD111Y</td>
<td>M12 connector</td>
</tr>
</tbody>
</table>

PB100 In-line accessory push-button for teaching window limits (for Virtu™ series sensors)
### SM300 Series

#### Ultrasonic Sensors

**Dual Mount & 18 mm**

<table>
<thead>
<tr>
<th>Model Number*</th>
<th>12 mm ULTEM®</th>
<th>Flat-profile ULTEM®</th>
<th>12 mm ULTEM®</th>
<th>Flat-profile ULTEM®</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Characteristics</strong></td>
<td>12 mm ULTEM®</td>
<td>12 mm ULTEM®</td>
<td>12 mm ULTEM®</td>
<td>12 mm ULTEM®</td>
</tr>
<tr>
<td>Housing Style/Material</td>
<td>12 mm ULTEM®</td>
<td>12 mm ULTEM®</td>
<td>12 mm ULTEM®</td>
<td>12 mm ULTEM®</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>12-24 VDC</td>
<td>12-24 VDC</td>
<td>12-24 VDC</td>
<td>12-24 VDC</td>
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#### SM302 Dual-level Sensing

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<td>12-24 VDC</td>
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(*) All possible sensor configurations are not listed here

### Accessories for SM300 and SM302 series

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<th>Length</th>
<th>90°</th>
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<td>2 m</td>
<td>XSCD111Y</td>
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<tr>
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<td>2 m</td>
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Additional cable lengths are available
# SM600 Series

## Ultrasonic Sensors

### 18 mm & Flat-profile

#### Model Number*

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<td>CDV 42-21</td>
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### Accessories for SM600 series

#### Straight Connection type | Length | 90° | Connection type | Length
--- | --- | --- | --- | ---
XSCD101Y | M12 connector | 2 m | XSCD111Y | M12 connector | 2 m

Additional cable lengths are available

(*) All possible sensor configurations are not listed here

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For other versions, please consult with your local Schneider Electric/Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
## SM600 Series

### Ultrasonic Sensors

#### 18 mm & Flat-profile (continued)

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(*) All possible sensor configurations are not listed here

### Accessories for SM600 series

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<td>2 m</td>
<td>XSCD111Y</td>
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Additional cable lengths are available
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<th>Connection Type</th>
<th>Range Window</th>
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(*) All possible sensor configurations are not listed here

### Accessories for SM602 Series

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<th>90° Connection type</th>
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<td>XSCD101Y</td>
<td>M12 connector</td>
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<td>XSCD111Y M12 connector</td>
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For other versions, please consult with your local Schneider Electric/Square D sales office. Visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
## Model Number*

<table>
<thead>
<tr>
<th>Housing Style/Material</th>
<th>18 mm ULTEM®</th>
<th>Stainless Steel</th>
<th>Flat-profile ULTEM®</th>
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<td>SM602A-416-10</td>
<td></td>
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<td>SM652A-416-10</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>SM602A-532-00</td>
<td></td>
<td></td>
<td>SM652A-532-00</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>SM602A-532-10</td>
<td></td>
<td></td>
<td>SM652A-532-10</td>
<td></td>
</tr>
<tr>
<td>127 mm</td>
<td></td>
<td>SM602A-432-00</td>
<td>SM602A-432-00S</td>
<td>SM602A-432-00FP</td>
<td>SM652A-432-00</td>
<td>SM652A-432-00S</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SM602A-432-10</td>
<td></td>
<td></td>
<td>SM652A-432-10</td>
<td></td>
</tr>
<tr>
<td>76.2 mm</td>
<td>127 mm</td>
<td>SM602A-532-00</td>
<td></td>
<td></td>
<td>SM652A-532-00</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SM602A-532-10</td>
<td></td>
<td></td>
<td>SM652A-532-10</td>
<td></td>
</tr>
<tr>
<td>102 mm</td>
<td>152 mm</td>
<td>SM602A-632-20</td>
<td></td>
<td></td>
<td>SM652A-632-20</td>
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</tr>
</tbody>
</table>

(*) All possible sensor configurations are not listed here

## Accessories for SM602 Series

<table>
<thead>
<tr>
<th>Straight</th>
<th>Connection type</th>
<th>Length</th>
<th>90°</th>
<th>Connection type</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>XSCD101Y</td>
<td>M12 connector</td>
<td>2 m</td>
<td></td>
<td>XSCD111Y</td>
<td>M12 connector</td>
</tr>
</tbody>
</table>

Additional cable lengths are available
SM606 Series

Ultrasonic Sensors

Analog

Model Number*

<table>
<thead>
<tr>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Style/Material</td>
</tr>
<tr>
<td>Connection Type</td>
</tr>
<tr>
<td>Supply Voltage</td>
</tr>
<tr>
<td>Range</td>
</tr>
<tr>
<td>102 mm</td>
</tr>
<tr>
<td>Inv. 0-10V 2.5ms cycle</td>
</tr>
<tr>
<td>Dir. 0-10 V 2.5 ms cycle</td>
</tr>
<tr>
<td>Inv. 0-10V 1.5 ms cycle</td>
</tr>
<tr>
<td>Inv. 0-10V 2.5 ms cycle(1)</td>
</tr>
</tbody>
</table>

152 mm | 117 mm |
| Inv. 0-10V 2.5ms cycle | SM606A-674-00 | SM606A-674-00S | SM606A-674-00FP | SM656A-674-00 | SM656A-674-00S | SM656A-674-00FP |
| Dir. 0-10 V 2.5 ms cycle | SM606A-674-01 | SM606A-674-01S | SM606A-674-01FP | SM656A-674-01 | SM656A-674-01S | SM656A-674-01FP |
| Inv. 0-10V 1.5 ms cycle | SM606A-674-02 | SM606A-674-02S | SM606A-674-02FP | SM656A-674-02 | SM656A-674-02S | SM656A-674-02FP |
| Inv. 0-10V 2.5 ms cycle(1) | SM606A-674-03 | SM606A-674-03S | SM606A-674-03FP | SM656A-674-03 | SM656A-674-03S | SM656A-674-03FP |
| Dir. 0-10V 1.5 ms cycle | SM606A-674-04 | SM606A-674-04S | SM606A-674-04FP | SM656A-674-04 | SM656A-674-04S | SM656A-674-04FP |

Characteristics

Housing Style/Material 18 mm ULTEM® Stainless Steel Flat-profile ULTEM® 18 mm ULTEM® Stainless Steel Flat-profile ULTEM®
Supply Voltage CDV 42-21 CDV 42-21
Range Window 38.1 mm 12.7 mm
51 mm 3 mm
6 mm
13 mm

SM606S

All the above 0-10 V version sensors are available with a 4-20 mA output in the flat profile housing only. To order, replace the number "0" in the reference by "1." Example: For pre-cabled versions: SM606A-444-00FP becomes SM606A-444-10FP. For connector versions: SM656A-444-00FP becomes SM656A-444-10FP.

Sensing distances: refer to www.SESensors.com

Accessories for SM606 Series

<table>
<thead>
<tr>
<th>Straight</th>
<th>Connection type</th>
<th>Length</th>
<th>90°</th>
<th>Connection type</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>XSCD101Y</td>
<td>M12 connector</td>
<td>2 m</td>
<td></td>
<td>XSCD111Y</td>
<td>M12 connector</td>
</tr>
<tr>
<td>Other cable lengths are available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SM607 Small Target Sensing

Model Number*

<table>
<thead>
<tr>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Style/Material</td>
</tr>
<tr>
<td>Connection Type</td>
</tr>
<tr>
<td>Supply Voltage</td>
</tr>
<tr>
<td>Range</td>
</tr>
<tr>
<td>36.1 mm</td>
</tr>
<tr>
<td>Straight label edge NO</td>
</tr>
<tr>
<td>Circular label edge NO</td>
</tr>
<tr>
<td>51 mm</td>
</tr>
<tr>
<td>6 mm</td>
</tr>
<tr>
<td>SM607A-204-00</td>
</tr>
<tr>
<td>13 mm</td>
</tr>
<tr>
<td>SM607A-208-00</td>
</tr>
</tbody>
</table>

(1) Loss of echo on signal hold
(*) All possible sensor configurations are not listed here

Accessories for SM607 Series

<table>
<thead>
<tr>
<th>Straight</th>
<th>Connection type</th>
<th>Length</th>
<th>90°</th>
<th>Connection type</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>XSCD101Y</td>
<td>M12 connector</td>
<td>2 m</td>
<td></td>
<td>XSCD111Y</td>
<td>M12 connector</td>
</tr>
<tr>
<td>Additional cable lengths are available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Accessories for SM900 Series

<table>
<thead>
<tr>
<th>Straight</th>
<th>Connection type</th>
<th>Length</th>
<th>90°</th>
<th>Connection type</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>XSCD101Y</td>
<td>M12 connector</td>
<td>2 m</td>
<td></td>
<td>XSCD111Y</td>
<td>M12 connector</td>
</tr>
</tbody>
</table>

Additional cable lengths are available
## SM902 Series

### Ultrasonic Sensors

#### Dual-level Sensors

- **30 mm ULTEM® (1 & 2 m)**
- **30 mm Stainless (1 & 2 m)**
- **30 mm ULTEM® (8 m)**

### Model Number*

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Model Number</th>
<th>Model Number</th>
<th>Model Number</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Housing Style/Material</strong></td>
<td><strong>30 mm ULTEM®</strong></td>
<td><strong>30 mm Stainless</strong></td>
<td><strong>30 mm ULTEM®</strong></td>
<td><strong>30 mm Stainless</strong></td>
</tr>
<tr>
<td><strong>Connection Type</strong></td>
<td><strong>3 m Cable</strong></td>
<td><strong>M12 Connector</strong></td>
<td><strong>M12 Connector</strong></td>
<td><strong>M12 Connector</strong></td>
</tr>
<tr>
<td><strong>Supply Voltage</strong></td>
<td>12-24 VDC</td>
<td>12-24 VDC</td>
<td>12-24 VDC</td>
<td>12-24 VDC</td>
</tr>
<tr>
<td><strong>Sensing Range</strong></td>
<td>51 m - 1 m</td>
<td>120 mm - 2 m</td>
<td>120 mm - 1 m</td>
<td>203 mm - 8 m</td>
</tr>
<tr>
<td>Pump-out latch w/ Loss of Echo Hold</td>
<td>SM902A-100000</td>
<td>SM902A-100000S</td>
<td>SM952A-100000</td>
<td>SM952A-100000S</td>
</tr>
<tr>
<td>Pump-in latch w/ Loss of Echo Hold</td>
<td>SM902A-110000</td>
<td>SM902A-110000S</td>
<td>SM952A-110000</td>
<td>SM952A-110000S</td>
</tr>
<tr>
<td>Dual Setpoint (NPN)</td>
<td>SM902A-124000</td>
<td>SM902A-124000S</td>
<td>SM952A-124000</td>
<td>SM952A-124000S</td>
</tr>
<tr>
<td>Pump-in latch, w/ alarm (NPN)</td>
<td>SM902A-144100</td>
<td>SM902A-144100S</td>
<td>SM952A-144100</td>
<td>SM952A-144100S</td>
</tr>
<tr>
<td>Pump-out latch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>w/ Loss of Echo Hold</td>
<td>SM902A-400000</td>
<td>SM902A-400000S</td>
<td>SM952A-400000</td>
<td>SM952A-400000S</td>
</tr>
<tr>
<td>w/ Loss of Echo Hold</td>
<td>SM902A-410000LE</td>
<td>SM902A-410000LES</td>
<td>SM952A-410000LE</td>
<td>SM952A-410000LES</td>
</tr>
<tr>
<td>Dual Setpoint (NPN)</td>
<td>SM902A-424000</td>
<td>SM902A-424000S</td>
<td>SM952A-424000</td>
<td>SM952A-424000S</td>
</tr>
<tr>
<td>Pump-in latch, w/ alarm (NPN)</td>
<td>SM902A-444000</td>
<td>SM902A-444000S</td>
<td>SM952A-444000</td>
<td>SM952A-444000S</td>
</tr>
<tr>
<td>Pump-out latch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>w/ alarm (PNP)</td>
<td>SM902A-456000</td>
<td>SM902A-456000S</td>
<td>SM952A-456000</td>
<td>SM952A-456000S</td>
</tr>
<tr>
<td>Pump-out latch Stainless Steel Transducer</td>
<td>SM902A-700000STS</td>
<td>SM952A-700000STS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump-in latch Stainless Steel Transducer</td>
<td>SM902A-710000STS</td>
<td>SM902A-710000STS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dual Setpoint (NPN) Stainless Steel Transducer</td>
<td>SM902A-724000STS</td>
<td>SM902A-724000STS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump-in latch</td>
<td>SM902A-810000</td>
<td>SM952A-810000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dual Setpoint (NPN)</td>
<td>SM902A-824000</td>
<td>SM952A-824000</td>
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</tr>
</tbody>
</table>

(*) All possible sensor configurations are not listed here

### Accessories for SM902 Series

<table>
<thead>
<tr>
<th>Straight</th>
<th>Connection type</th>
<th>Length</th>
<th>90°</th>
<th>Connection type</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>XSCD101Y</td>
<td>M12 connector</td>
<td>2 m</td>
<td></td>
<td>XSCD111Y</td>
<td>M12 connector</td>
</tr>
</tbody>
</table>

Additional cable lengths are available.
## Ultrasonic Sensors

### SM906 Series

**30 mm ULTEM® (1 & 2 m)**

**30 mm Stainless (1 & 2 m)**

**30 mm ULTEM® (8 m)**

### Model Number*

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>30 mm ULTEM*</th>
<th>30 mm Stainless</th>
<th>30 mm ULTEM*</th>
<th>30 mm Stainless</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Style/Material</td>
<td>3 m Cable</td>
<td>M12 Connector</td>
<td>12-24 VDC</td>
<td>12-24 VDC</td>
</tr>
<tr>
<td>Connection Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Voltage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensing Range</td>
<td>51 mm - 1 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inverse 0-10V</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min output state on loss of echo</td>
<td>SM906A-100000</td>
<td>SM906A-102000S</td>
<td>SM906A-100000</td>
<td>SM906A-102000S</td>
</tr>
<tr>
<td>Hold on loss of echo min. power up</td>
<td>SM906A-102000</td>
<td>SM906A-102000S</td>
<td>SM906A-102000</td>
<td>SM906A-102000S</td>
</tr>
<tr>
<td>Hold on loss of echo max. power up</td>
<td>SM906A-103000</td>
<td>SM906A-103000S</td>
<td>SM906A-103000</td>
<td>SM906A-103000S</td>
</tr>
<tr>
<td><strong>Direct 0-10V</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max output state on loss of echo</td>
<td>SM906A-110000</td>
<td>SM906A-110000S</td>
<td>SM906A-110000</td>
<td>SM906A-110000S</td>
</tr>
<tr>
<td>Min output state on loss of echo</td>
<td>SM906A-120000</td>
<td>SM906A-120000S</td>
<td>SM906A-120000</td>
<td>SM906A-120000S</td>
</tr>
<tr>
<td>Hold on loss of echo min. power up</td>
<td>SM906A-122000</td>
<td>SM906A-122000S</td>
<td>SM906A-122000</td>
<td>SM906A-122000S</td>
</tr>
<tr>
<td>Hold on loss of echo max. power up</td>
<td>SM906A-130000</td>
<td>SM906A-130000S</td>
<td>SM906A-130000</td>
<td>SM906A-130000S</td>
</tr>
<tr>
<td><strong>Inverse 4-20 mA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hold on loss of echo min. power up</td>
<td>SM906A-402000</td>
<td>SM906A-402000S</td>
<td>SM906A-402000</td>
<td>SM906A-402000S</td>
</tr>
<tr>
<td>Hold on loss of echo max. power up</td>
<td>SM906A-403000</td>
<td>SM906A-403000S</td>
<td>SM906A-403000</td>
<td>SM906A-403000S</td>
</tr>
<tr>
<td><strong>Direct 4-20 mA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hold on loss of echo min. power up</td>
<td>SM906A-422000</td>
<td>SM906A-422000S</td>
<td>SM906A-422000</td>
<td>SM906A-422000S</td>
</tr>
<tr>
<td>Hold on loss of echo max. power up</td>
<td>SM906A-432000</td>
<td>SM906A-432000S</td>
<td>SM906A-432000</td>
<td>SM906A-432000S</td>
</tr>
<tr>
<td><strong>120 mm - 2 m</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inverse 0-10V</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min output state on loss of echo</td>
<td>SM906A-800000</td>
<td>SM906A-800000</td>
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<td></td>
</tr>
<tr>
<td>Hold on loss of echo min. power up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hold on loss of echo max. power up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inverse 4-20 mA</strong></td>
<td></td>
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</tr>
<tr>
<td>Min output state on loss of echo</td>
<td>SM906A-820000</td>
<td>SM906A-820000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hold on loss of echo min. power up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hold on loss of echo max. power up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>203 mm - 8 m</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inverse 0-10V</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Min output state on loss of echo</td>
<td>SM906A-832000</td>
<td>SM906A-832000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hold on loss of echo min. power up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hold on loss of echo max. power up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(*) All possible sensor configurations are not listed here

### Accessories for SM900 Series

<table>
<thead>
<tr>
<th>Straight</th>
<th>Connection type</th>
<th>Length</th>
<th>90°</th>
<th>Connection type</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>XSCD101Y</td>
<td>M12 connector</td>
<td>2 m</td>
<td>XSCD111Y</td>
<td>M12 connector</td>
<td>2 m</td>
</tr>
</tbody>
</table>

Additional cable lengths are available

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
Limit switches
Universal, complete switches

Osiswitch™
Osiconcept®
Offering simplicity through innovation

Miniature type XCMD metal, pre-cabled

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Metal end plunger</th>
<th>Steel roller plunger</th>
<th>Plastic roller lever</th>
<th>Variable length plastic roller lever</th>
<th>M12 head metal end plunger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuation speed (in m/s)</td>
<td>0.5</td>
<td>0.5</td>
<td>1.5</td>
<td>1.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Switches conforming to standard IEC 60947-5-1 section 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of protection conforming to IEC 60529</td>
<td>IP66 and IP67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated operational characteristics</td>
<td>AC 15; B 300 (Ue = 240 V, le = 1.5 A) / DC 13; R 300 (Ue = 250 V, le = 0.1 A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable entry</td>
<td>Pre-cabled, adjustable direction, length = 1 m (2 m and 5 m lengths available)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting holes dia. or head mounting dia.</td>
<td>20 mm</td>
<td>20 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body dimensions W x D x H</td>
<td>30 x 16 x 50 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete switch (2-pole N.C. + N.O. snap action)</td>
<td>XCMD2110L1</td>
<td>XCMD2102L1</td>
<td>XCMD2115L1</td>
<td>XCMD2145L1</td>
<td>XCMD21F0L1</td>
</tr>
<tr>
<td>(2-pole N.C. + N.O. break before make, slow break)</td>
<td>XCMD2510L1</td>
<td>XCMD2502L1</td>
<td>XCMD2515L1</td>
<td>XCMD2545L1</td>
<td>XCMD25F0L1</td>
</tr>
<tr>
<td>Positive opening operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Compact type XCKD metal and XCKP plastic conforming to standard EN 50047

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Metal end plunger</th>
<th>Steel roller plunger</th>
<th>Plastic roller lever, horizontal actuation</th>
<th>M18 head metal end plunger</th>
<th>M18 head steel roller plunger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuation speed (in m/s)</td>
<td>0.5</td>
<td>0.5</td>
<td>1</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Switches conforming to standard IEC 60947-5-1 section 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of protection conforming to IEC 60529</td>
<td>IP66 and IP67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated operational characteristics</td>
<td>AC 15; A 300 (Ue = 240 V, le = 3 A) / DC 13; Q 300 (Ue = 250 V, le = 0.27 A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable entry</td>
<td>1 tapped entry for 1/2 in. NPT cable gland</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting holes dia. or head mounting dia.</td>
<td>20 mm</td>
<td>20 mm</td>
<td>20 mm</td>
<td>20 mm or M18 x 1</td>
<td>20 mm or M18 x 1</td>
</tr>
<tr>
<td>Body dimensions W x D x H</td>
<td>31 x 30 x 65 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal switches</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete switch (2-pole N.C. + N.O. snap action)</td>
<td>XCKD2110N12</td>
<td>XCKD2102N12</td>
<td>XCKD2121N12</td>
<td>XCKD21H0N12</td>
<td>XCKD21H2N12</td>
</tr>
<tr>
<td>Plastic, double insulated switches</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete switch (2-pole N.C. + N.O. snap action)</td>
<td>XCKP2110N12</td>
<td>XCKP2102N12</td>
<td>XCKP2121N12</td>
<td>XCKP21H0N12</td>
<td>XCKP21H2N12</td>
</tr>
<tr>
<td>Positive opening operation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Compact XCKT, plastic, 2 cable entries

<table>
<thead>
<tr>
<th>M12 head steel roller plunger</th>
<th>Cat whisker</th>
<th>Metal end plunger</th>
<th>Metal roller plunger</th>
<th>Plastic roller lever</th>
<th>Plastic roller lever, horizontal actuation</th>
<th>Cat whisker</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>1</td>
<td>0.5</td>
<td>0.5</td>
<td>1.5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>🌠</td>
<td></td>
<td>🌠</td>
<td>🌠</td>
<td>🌠</td>
<td>🌠</td>
<td></td>
</tr>
</tbody>
</table>

- IP66 and IP67
- AC 15; A 300 (Ue = 240 V, le = 3 A) / DC 13; Q 300 (Ue = 250 V, le = 0.27 A)
- 2 tapped entries for 1/2 in. NPT cable gland
- 20 or 40 mm
- 58 x 30 x 51 mm

<table>
<thead>
<tr>
<th>M12</th>
<th>20 mm</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>XCMD21F2L1</th>
<th>XCMD2106L1</th>
<th>XCKT210N12</th>
<th>XCKT2102N12</th>
<th>XCKT2118N12</th>
<th>XCKT2121N12</th>
<th>XCKT2106N12</th>
</tr>
</thead>
<tbody>
<tr>
<td>XCMD25F2L1</td>
<td>XCMD2506L1</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### XCPR and XCDR with manual reset

<table>
<thead>
<tr>
<th>Plastic roller lever</th>
<th>Variable length plastic roller lever</th>
<th>Plastic roller lever Ø 50 mm</th>
<th>Cat whisker</th>
<th>Metal end plunger</th>
<th>Steel roller lever</th>
<th>Plastic roller lever, horizontal actuation</th>
<th>Plastic roller lever vertical actuation</th>
<th>Plastic roller lever</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1</td>
<td>0.5</td>
<td>0.5</td>
<td>1</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>🌠</td>
<td>🌠</td>
<td>🌠</td>
<td>🌠</td>
<td>🌠</td>
<td>🌠</td>
<td>🌠</td>
<td>🌠</td>
<td>🌠</td>
</tr>
</tbody>
</table>

- IP66 and IP67
- AC 15; A 300 (Ue = 240 V, le = 3 A) / DC 13; Q 300 (Ue = 250 V, le = 0.27 A)
- 1 tapped entry for 1/2 in. NPT cable gland
- 20 mm
- 31 x 30 x 95 mm

<table>
<thead>
<tr>
<th>XCDK2118N12</th>
<th>XCDK2145N12</th>
<th>XCDK2139N12</th>
<th>XCDK2106N12</th>
<th>XCDR2110N12</th>
<th>XCDR2102N12</th>
<th>XCDR2121N12</th>
<th>XCDR2127N12</th>
<th>XCDR2118N12</th>
</tr>
</thead>
<tbody>
<tr>
<td>XCDK2518N12</td>
<td>XCDK2545N12</td>
<td>XCDK2539N12</td>
<td>XCDK2506N12</td>
<td>XCDR2510N12</td>
<td>XCDR2502N12</td>
<td>XCDR2521N12</td>
<td>XCDR2527N12</td>
<td>XCDR2518N12</td>
</tr>
<tr>
<td>XCP2118N12</td>
<td>XCP2145N12</td>
<td>XCP2139N12</td>
<td>XCP2106N12</td>
<td>XCP2110N12</td>
<td>XCP2102N12</td>
<td>XCP2121N12</td>
<td>XCP2127N12</td>
<td>XCP2118N12</td>
</tr>
<tr>
<td>XCP2518N12</td>
<td>XCP2545N12</td>
<td>XCP2539N12</td>
<td>XCP2506N12</td>
<td>XCP2510N12</td>
<td>XCP2502N12</td>
<td>XCP2521N12</td>
<td>XCP2527N12</td>
<td>XCP2518N12</td>
</tr>
</tbody>
</table>
**Limit switches**

For customized assembly of miniature

### Heads - common to miniature and compact bodies

#### Metal plungers and multi-directional heads

<table>
<thead>
<tr>
<th>Description</th>
<th>Metal end plunger</th>
<th>Metal end plunger with elastomer boot</th>
<th>Steel roller plunger</th>
<th>Retractable steel roller lever plunger</th>
<th>Plastic roller lever, horizontal actuation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ZCE10</td>
<td>ZCE11</td>
<td>ZCE02</td>
<td>ZCE24 [2]</td>
<td>ZCE21</td>
</tr>
</tbody>
</table>

#### Metal rotary heads and levers

<table>
<thead>
<tr>
<th>Description</th>
<th>Rotary head without lever, spring return, for actuation from LH or RH side</th>
<th>Plastic roller lever, track: 24/31 mm (ZCMD)</th>
<th>Steel roller lever, track: 24/31 mm (ZCMD)</th>
<th>Plastic roller lever, track: 24/31 mm (ZCMD)</th>
<th>Steel roller lever, track: 16/39 mm (ZCMD)</th>
</tr>
</thead>
</table>

### Bodies, metal

#### Miniature

<table>
<thead>
<tr>
<th>Type of contact</th>
<th>Description</th>
<th>ZCMD21</th>
<th>ZCMD39</th>
<th>ZCMD25</th>
<th>ZCMD37</th>
<th>ZCMD21C12</th>
<th>ZCMD21M12</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 pole N.C. + N.O. Snap action</td>
<td>3 pole N.C. + N.O. Snap action</td>
<td>2 pole N.C. + N.O. Slow break</td>
<td>3 pole N.C. + N.O. Slow break</td>
<td>1 single pole Snap action M12 5-pin connector</td>
<td>1 single pole Snap action M12 4-pin connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZCMD21</td>
<td>ZCMD39</td>
<td>ZCMD25</td>
<td>ZCMD37</td>
<td>ZCMD21C12</td>
<td>ZCMD21M12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Cable connection for miniature bodies

<table>
<thead>
<tr>
<th>Specific pre-cabled connection components</th>
<th>Option: pre-wired M12 connector, L = 2 m 5-pin</th>
<th>4-pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1 = 1 m</td>
<td>ZCMC21L1</td>
<td>ZCMC39L1</td>
</tr>
<tr>
<td>L2 = 2 m</td>
<td>ZCMC21L2</td>
<td>ZCMC39L2</td>
</tr>
<tr>
<td>L3 = 5 m</td>
<td>ZCMC21L5</td>
<td>ZCMC39L5</td>
</tr>
</tbody>
</table>

© Positive opening operation
### Osiswitch

#### Plastic roller lever, vertical actuation
- M12 head metal plunger
- M18 head metal plunger
- M12 head steel roller plunger
- M18 head steel roller plunger
- Spring lever
- Spring lever with plastic tip
- Cat whisker

<table>
<thead>
<tr>
<th>Code</th>
<th>Plastic Roller Lever, Track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCE27</td>
<td>Plastic roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)</td>
</tr>
<tr>
<td>ZCEF0</td>
<td>Steel roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)</td>
</tr>
<tr>
<td>ZCEH0</td>
<td>Ceramic roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)</td>
</tr>
<tr>
<td>ZCEF2</td>
<td>Ceramic roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)</td>
</tr>
<tr>
<td>ZCEH2</td>
<td>Ceramic roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)</td>
</tr>
<tr>
<td>ZCE08</td>
<td>Metal spring lever, Ø 50 mm</td>
</tr>
<tr>
<td>ZCE07</td>
<td>Adjustable plastic roller lever, Ø 50 mm</td>
</tr>
</tbody>
</table>

#### Compact

<table>
<thead>
<tr>
<th>Type of Contact</th>
<th>Metal Body</th>
<th>Plastic Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pole N.C. + N.O.</td>
<td>ZCD21</td>
<td>ZCP21</td>
</tr>
<tr>
<td>3-pole N.C. + N.O.</td>
<td>ZCD39</td>
<td>ZCP39</td>
</tr>
<tr>
<td>3-pole N.C. + N.O. + N.O.</td>
<td>ZCD25</td>
<td>ZCP25</td>
</tr>
<tr>
<td>3-pole N.C. + N.O. + N.O.</td>
<td>ZCD37</td>
<td>ZCP37</td>
</tr>
<tr>
<td>5-pin connector</td>
<td>ZCD21M12</td>
<td>ZCP21M12</td>
</tr>
<tr>
<td>Snap action</td>
<td>ZCD21M12</td>
<td>ZCP21M12</td>
</tr>
<tr>
<td>Slow break</td>
<td>ZCD21M12</td>
<td>ZCP21M12</td>
</tr>
<tr>
<td>4-pin connector (3)</td>
<td>ZCD21M12</td>
<td>ZCP21M12</td>
</tr>
<tr>
<td>Snap action</td>
<td>ZCD21M12</td>
<td>ZCP21M12</td>
</tr>
<tr>
<td>Slow break</td>
<td>ZCD21M12</td>
<td>ZCP21M12</td>
</tr>
</tbody>
</table>

#### Connection of compact bodies

<table>
<thead>
<tr>
<th>Removable Cable Gland (3)</th>
<th>Description</th>
<th>Metal</th>
<th>Plastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option: pre-wired M12 connector, L = 2 m 5-pin</td>
<td>For ISO M16 cable gland</td>
<td>ZCDEP16</td>
<td>ZCPEP16</td>
</tr>
<tr>
<td></td>
<td>For ISO M20 cable gland</td>
<td>ZCDEP20</td>
<td>ZCPEP20</td>
</tr>
<tr>
<td></td>
<td>For Pg 11 cable gland</td>
<td>ZCDEG11</td>
<td>ZCPEG11</td>
</tr>
<tr>
<td></td>
<td>For Pg 13.5 cable gland</td>
<td>ZCDEG13</td>
<td>ZCPEG13</td>
</tr>
<tr>
<td></td>
<td>For 1/2&quot; NPT cable gland</td>
<td>ZCDEH12</td>
<td>ZCPEH12</td>
</tr>
<tr>
<td></td>
<td>For PF 1/2 (G12) cable gland</td>
<td>ZCDEF12</td>
<td>ZCPEF12</td>
</tr>
<tr>
<td>4-pin</td>
<td>XSZCD1501Y</td>
<td>XSZCD101Y</td>
<td></td>
</tr>
</tbody>
</table>
Osiswitch

Limit switches
Classic - XCKJ, complete switches

XCKJ, XCKM

<table>
<thead>
<tr>
<th>Type of Operator</th>
<th>Metal End Plunger</th>
<th>Steel Roller Plunger</th>
<th>Plastic Roller Lever</th>
<th>Variable Length Plastic Roller Lever</th>
<th>Polyamide, Ø 6 mm Rod Lever</th>
<th>L = 200 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuation Speed (in m/s)</td>
<td>0.5</td>
<td>1</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

Degree of protection conforming to IEC 60529
IP66

Rated operational characteristics
AC 15; A 300 (Ue = 240 V, le = 3 A) / DC 13; Q 300 (Ue = 250 V, le = 0.27 A)

Cable entry (1)
1 tapped entry for 1/2 in. NPT cable gland

Mounting holes (mm)
30 x 60

Body dimensions (mm) W x D x H
40 x 44 x 77

Complete switch (2-pole N.C. + N.O. snap action)
- XCKJ161
- XCKJ167
- XCKJ10511
- XCKJ10541
- XCKJ10559

(2-pole N.C. + N.O. break before make, slow break)
- XCKJ561
- XCKJ567
- XCKJ50511
- XCKJ50541
- XCKJ50559

Customized assembly of Classic XCKJ switches
body/contact sub-assemblies

Type XCKJ metal, body only

<table>
<thead>
<tr>
<th>Type of Contact</th>
<th>2-pole N.C. + N.O. Snap Action</th>
<th>2-pole N.C. + N.O. Slow Break</th>
<th>3-pole N.C. + N.C. + N.O. Snap Action</th>
<th>3-pole N.C. + N.C. + N.O. Slow Break</th>
<th>2-pole N.C. + N.O. Snap Action</th>
</tr>
</thead>
</table>

Cable entry
1 tapped entry for ISO M20 X 1.5 cable gland

Body with contact block
- XCKJ1
- XCKJ5
- XCKJD39
- XCKJD37
- XCKJ1D

Contact block only
- XE2SP2151
- XE2NP2151
- XE3SP2141
- XE3NP2141
- XE2SP2151

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
Customized assembly of Classic XCKJ switches
-operating heads, complete or for customer assembly

**Plunger or multi-directional heads**
- with reinforced steel roller end plunger
- with metal end plunger
- with thermoplastic roller lever plunger, 1 direct. or actuation
- with steel roller lever plunger, 1 direct of actuation
- with steel roller end plunger
- with steel ball bearing end plunger

**Catalog number**
- ZCKE67
- ZCKE61
- ZCKE21
- ZCKE23
- ZCKE62
- ZCKE66

- Catalog number
- ZCKE63
- ZCKE64
- ZCKE08
- ZCKE06

**Separate rotary heads and levers**
- spring return for actuation from left AND right
- lever with thermoplastic roller (1)
- lever with steel roller
- variable length lever with thermoplastic
- variable length lever with steel roller (1)
- rod, Ø 6 mm thermoplastic L = 200 mm (1)
- spring-metal rod lever (2)

**Catalog number**
- ZCKE05
- ZCKY11
- ZCKY13
- ZCKY41
- ZCKY43
- ZCKY59
- ZCKY91

- Catalog number
- ZCKE09
- ZCKY71
- ZCKY61

(1) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.
(2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
# Nautilus

**Sensors for pressure control**

**Electronic sensors XMLE**

Electrical connection by M12 connector

## Setting range

<table>
<thead>
<tr>
<th>(psi) (1)</th>
<th>-14.5 to 0</th>
<th>0 to 145</th>
<th>0 to 1450</th>
<th>0 to 3625</th>
<th>0 to 8702</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluids controlled</td>
<td>Hydraulic oils, air, fresh water, sea water, corrosive fluids from -13 to +176 °C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient air temperature</td>
<td>-15 to +80 °C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of protection (conforming to IEC 60529)</td>
<td>IP65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage limits</td>
<td>24 VDC (17–33 VDC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions (mm) Ø x L</td>
<td>Ø 40 x 90 (not including connector)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid connection (1)</td>
<td>1/4&quot; NPT male</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical connection (2)</td>
<td>DIN 43650 connector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of output (3)</td>
<td>Transmitter 4–20 mA, 2 wire</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure switch</td>
<td>PNP or NPN, normally closed (N.C.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analog output 4–20 mA</td>
<td>XMLE0100U1C2 XMLE1000U1C2 XMLE2500U1C2 XMLE6000U1C2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NPN output</td>
<td>XMLE0100U1C3 XMLE1000U1C3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Other fluid connections, please consult us.
(2) Other types of connection, please consult us.
(3) Other types of output; 0–5 V, 0–10 V, etc., please consult us.

## Suitable female plug-in connectors

<table>
<thead>
<tr>
<th>Pre-wired connectors L = 5 m (without LED)</th>
<th>Other Connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>elbowed</strong></td>
<td><strong>straight</strong></td>
</tr>
<tr>
<td>M12</td>
<td>XMCP1241L5 XMCP1141L5</td>
</tr>
<tr>
<td>screw terminal</td>
<td>XMCC12FCM40B</td>
</tr>
<tr>
<td>Snap-C</td>
<td>XMCC12FDM40V</td>
</tr>
<tr>
<td>DIN 43650A</td>
<td>XMCC43FCP40B</td>
</tr>
</tbody>
</table>
### Sensors for pressure control

**Electronic sensors XMLF**

#### Nautilus

**Sensors for pressure control**  
**Electronic sensors XMLF**

<table>
<thead>
<tr>
<th>Setting range (psi)</th>
<th>lower limit (PB) : vacuum switches</th>
<th>upper limit (PH) : pressure switches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-1.16 to -14.5</td>
<td>1.16 to 14.5</td>
</tr>
<tr>
<td></td>
<td>2.90 to 36</td>
<td>11.6 to 145</td>
</tr>
<tr>
<td></td>
<td>46 to 580</td>
<td></td>
</tr>
</tbody>
</table>

Ambient air temperature  
-25 to +80 °C

Degree of protection (conforming to IEC 60529)  
IP67

Voltage limits (V)  
24 VDC (17 to 33 VDC)

Dimensions (mm) H x W x D  
113 x 46 x 58

Fluid connection  
1/4” NPT female

Electrical connection  
M12 connector

#### Configurable with digital display, connection by M12 connector

<table>
<thead>
<tr>
<th>Analog and solid-state output 200 mA</th>
<th>4 to 20 mA</th>
<th>XMLF01D2026</th>
<th>XMLF001D2026</th>
<th>XMLF002D2026</th>
<th>XMLF010D2026</th>
<th>XMLF040D2026</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 10 V</td>
<td>XMLF01D2126</td>
<td>XMLF001D2126</td>
<td>XMLF002D2126</td>
<td>XMLF010D2126</td>
<td>XMLF040D2126</td>
<td></td>
</tr>
<tr>
<td>Dual stage pressure switches, solid-state output 200 mA</td>
<td>XMLF01D2036</td>
<td>XMLF001D2036</td>
<td>XMLF002D2036</td>
<td>XMLF010D2036</td>
<td>XMLF040D2036</td>
<td></td>
</tr>
<tr>
<td>Analog sensors 4 to 20 mA</td>
<td>XMLF01D2016</td>
<td>XMLF001D2016</td>
<td>XMLF002D2016</td>
<td>XMLF010D2016</td>
<td>XMLF040D2016</td>
<td></td>
</tr>
<tr>
<td>0 to 10 V</td>
<td>XMLF01D2116</td>
<td>XMLF001D2116</td>
<td>XMLF002D2116</td>
<td>XMLF010D2116</td>
<td>XMLF040D2116</td>
<td></td>
</tr>
</tbody>
</table>

#### Permissible differential (psi) (pressure switches)

<table>
<thead>
<tr>
<th>Min at low setting</th>
<th>0.44</th>
<th>0.44</th>
<th>1.09</th>
<th>4.4</th>
<th>17.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min at high setting</td>
<td>0.44</td>
<td>0.44</td>
<td>1.09</td>
<td>4.4</td>
<td>17.4</td>
</tr>
<tr>
<td>Max at high setting</td>
<td>13.8</td>
<td>13.8</td>
<td>34.5</td>
<td>138</td>
<td>551</td>
</tr>
</tbody>
</table>

(1) Also available in 120 VAC version with 2.5 A relay output and SAE 7/8-16 UN connector.
A wide range of Human/Machine interfaces to meet your needs!

Harmony
Optimize the creation of your dialog solutions!

Telemecanique, the world leader for control and signalling components, offers you its ranges of: push buttons, switches and pilot lights, beacons and indicator banks (including audible units) and components for hoisting applications.

- **Simplicity**: the clip together components ensure simple and secure assembly.
- **Ingenuity**: LED technology for all signalling functions.
- **Flexibility**: of modular construction, the products evolve with the automation system.
- **Robustness**: mechanical performance much higher than standard requirements.
- **Compactness**: the overall dimensions are the smallest on the market.

Magelis®
HMI at the touch of a finger and the blink of an eye.

In order to improve the performance of your production equipment, Telemecanique offers you a complete range of hardware and software specifically for Human/Machine dialogue.

- **Compact**, the range of Magelis display units, terminals and industrial PCs is characterised by its ease of implementation.
- **Ingenious**, the software range simplifies the design of your HMI (Human/Machine Interface) applications.

The new Magelis range, comprising display units, terminals, graphic terminals with keypad or touchscreen and i PC industrial PCs, offers improved robustness for ensuring availability of your installation.

- **Take advantage** of these new Telemecanique offers that are open to the new information and communication technologies.
To benefit from perfect interoperability select Telemecanique software.

Control and signalling units

- Common operators, push buttons Ø 22 mm
  - XB4, XB5 ................................................................. 2/2
- Common operators, push buttons Ø 30 mm
  - Class 9001 .............................................................. 2/3 to 2/5
- Compact pilot lights Ø 8, 12 and 17.5 mm
  - XVL/9001 O ............................................................ 2/6 to 2/7
- Push buttons, switches and pilot lights Ø 16 mm
  - with plastic bezel, XB6 ........................................... 2/8 to 2/11
- Push buttons, switches and pilot lights Ø 22 mm
  - with metal bezel, XB4 .............................................. 2/12 to 2/15
- Push buttons, switches and pilot lights Ø 22 mm
  - with plastic bezel, XB5 .............................................. 2/16 to 2/19
- Push buttons, switches and pilot lights Ø 30 mm
  - with metal or plastic bezel, Class 9001 K/SK ............. 2/20 to 2/23
- Empty enclosures Ø 22 and 30 mm for user assembly
  - XA/9001 KY ............................................................. 2/24
- Cam switches
  - Series K ................................................................. 2/25
- Beacons and indicator banks “Universal”
  - XVB / XVP .............................................................. 2/26
- Beacons and indicator banks “Optimum”
  - XVDLS / XVE .......................................................... 2/27
- Beacons and indicator banks accessories
  - XV ................................................................. 2/28 to 2/29
- Pendant control stations
  - XAC, 9001 BW/SKYP ............................................. 2/30 to 2/33
- Control stations, standard and heavy duty ............... 2/34
- Foot switches .......................................................... 2/35

Human/Machine Interfaces

- Display units
  - Magelis® XBTN .......................................................... 2/36
- Terminals
  - Magelis XBTR, XBTF and XBTG ................................ 2/37 to 2/41
- Industrial PCs
  - Magelis Smart i PC, Compact i PC, Modular i PC ....... 2/42 to 2/44
- Software
  - XBLT, Vijeo Designer™, Vijeo Citect ....................... 2/45 to 2/46
- Embedded Web servers and gateways
  - FactoryCast ............................................................. 2/47
## Harmony® XB4, XB5

### Push buttons, Ø 22 mm

**Common operators, complete with contact blocks**

<table>
<thead>
<tr>
<th>BLACK start push buttons</th>
<th>RED stop push buttons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operator Style</strong></td>
<td><strong>Operator Style</strong></td>
</tr>
<tr>
<td>XB4 Die Cast</td>
<td>XB4 Die Cast</td>
</tr>
<tr>
<td>Chrome</td>
<td>Chrome</td>
</tr>
<tr>
<td>XB5 Doubled</td>
<td>XB5 Double</td>
</tr>
<tr>
<td>Insulated</td>
<td>Insulated</td>
</tr>
<tr>
<td><strong>Contact Block</strong></td>
<td><strong>Contact Block</strong></td>
</tr>
<tr>
<td>1 N.O.</td>
<td>1 N.O.</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td><strong>Catalog number</strong></td>
</tr>
<tr>
<td>XB4BA21</td>
<td>XB4BL42</td>
</tr>
<tr>
<td>ZBY2303</td>
<td>ZBY2304</td>
</tr>
<tr>
<td><strong>Legend Plate</strong></td>
<td><strong>Legend Plate</strong></td>
</tr>
<tr>
<td>ZBY2303</td>
<td>ZBY2304</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BLACK Off-On selector switch</th>
<th>Hand-Off-Auto selector switch</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operator Style</strong></td>
<td><strong>Operator Style</strong></td>
</tr>
<tr>
<td>XB4 Die Cast</td>
<td>XB4 Die Cast</td>
</tr>
<tr>
<td>Chrome</td>
<td>Chrome</td>
</tr>
<tr>
<td>XB5 Doubled</td>
<td>XB5 Double</td>
</tr>
<tr>
<td><strong>Contact Block</strong></td>
<td><strong>Contact Block</strong></td>
</tr>
<tr>
<td>1 N.O.</td>
<td>2 N.O.</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td><strong>Catalog number</strong></td>
</tr>
<tr>
<td>XB4BD21</td>
<td>XB4BD33</td>
</tr>
<tr>
<td>ZBY2367</td>
<td>ZBY2387</td>
</tr>
<tr>
<td><strong>Legend Plate</strong></td>
<td><strong>Legend Plate</strong></td>
</tr>
<tr>
<td>ZBY2367</td>
<td>ZBY2387</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RED 120 VAC LED On pilot light</th>
<th>GREEN 120 VAC LED Off pilot light</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operator Style</strong></td>
<td><strong>Operator Style</strong></td>
</tr>
<tr>
<td>XB4 Die Cast</td>
<td>XB4 Die Cast</td>
</tr>
<tr>
<td>Chrome</td>
<td>Chrome</td>
</tr>
<tr>
<td>XB5 Doubled</td>
<td>XB5 Double</td>
</tr>
<tr>
<td><strong>Light Module</strong></td>
<td><strong>Light Module</strong></td>
</tr>
<tr>
<td>120 VAC Red LED</td>
<td>120 VAC Green LED</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td><strong>Catalog number</strong></td>
</tr>
<tr>
<td>XB4BVG4</td>
<td>XB4BVG3</td>
</tr>
<tr>
<td>ZBY2311</td>
<td>ZBY2312</td>
</tr>
<tr>
<td><strong>Legend Plate</strong></td>
<td><strong>Legend Plate</strong></td>
</tr>
<tr>
<td>ZBY2311</td>
<td>ZBY2312</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RED 40 mm mushroom emergency stop (push-pull)</th>
<th>RED 40 mm mushroom emergency stop (turn-to-release)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operator Style</strong></td>
<td><strong>Operator Style</strong></td>
</tr>
<tr>
<td>XB4 Die Cast</td>
<td>XB4 Die Cast</td>
</tr>
<tr>
<td>Chrome</td>
<td>Chrome</td>
</tr>
<tr>
<td>XB5 Doubled</td>
<td>XB5 Double</td>
</tr>
<tr>
<td><strong>Contact Block</strong></td>
<td><strong>Contact Block</strong></td>
</tr>
<tr>
<td>1 N.C.</td>
<td>1 N.C.</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td><strong>Catalog number</strong></td>
</tr>
<tr>
<td>XB4BA21</td>
<td>XB4BL42</td>
</tr>
<tr>
<td>ZBY2303</td>
<td>ZBY2304</td>
</tr>
<tr>
<td><strong>Legend Plate</strong></td>
<td><strong>Legend Plate</strong></td>
</tr>
<tr>
<td>ZBY2303</td>
<td>ZBY2304</td>
</tr>
</tbody>
</table>
### Push buttons, Ø 30 mm
Common operators, complete with contact blocks

#### BLACK start push buttons
- **Operator Style**: 30 mm Industrial (metal)
- **Contact Block**
- **Catalog number**: KR1BH13
- **Legend Plate**: KN201

#### RED stop push buttons
- **Operator Style**: 30 mm Industrial (metal)
- **Contact Block**
- **Catalog number**: KR1RH13
- **Legend Plate**: KN202

#### BLACK Off-On selector switch
- **Operator Style**: 30 mm Industrial (metal)
- **Contact Block**
- **Catalog number**: KS11BH13
- **Legend Plate**: KN244

#### Black Hand-Off-Auto selector switch
- **Operator Style**: 30 mm Industrial (metal)
- **Contact Block**
- **Catalog number**: KS43BH13
- **Legend Plate**: KN260

#### RED 120 VAC On pilot light
- **Operator Style**: 30 mm Industrial (metal)
- **Contact Block**
- **Catalog number**: KP1R31
- **Legend Plate**: KN203

#### GREEN 120 VAC Off pilot light
- **Operator Style**: 30 mm Industrial (metal)
- **Contact Block**
- **Catalog number**: KP1G31
- **Legend Plate**: KN204

#### RED 120 VAC On push-to-test pilot light
- **Operator Style**: 30 mm Industrial (metal)
- **Contact Block**
- **Catalog number**: KT1R31
- **Legend Plate**: KN203

#### Green 120 VAC Off push-to-test pilot light
- **Operator Style**: 30 mm Industrial (metal)
- **Contact Block**
- **Catalog number**: KT1G31
- **Legend Plate**: KN204
Harmony
Class 9001
Type KX

Push buttons, Ø 30 mm
Square multifunction operators

Single Illuminated and Non-Illuminated Push Buttons

<table>
<thead>
<tr>
<th>Description</th>
<th>Button color</th>
<th>Legend marking</th>
<th>Contacts</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Illuminated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Start</td>
<td>Green</td>
<td>Start</td>
<td>Q I O Q I O Q O</td>
<td>KXRA101</td>
</tr>
<tr>
<td>Red Stop</td>
<td>Red</td>
<td>Stop</td>
<td>Q I O Q O Q O</td>
<td>KXRA102</td>
</tr>
<tr>
<td>Green Start</td>
<td>Green</td>
<td>Start</td>
<td>Q I O Q I O Q O</td>
<td>KXRA133</td>
</tr>
<tr>
<td>Red Stop</td>
<td>Red</td>
<td>Stop</td>
<td>Q I O Q O Q O</td>
<td>KXRA134</td>
</tr>
<tr>
<td>Red Mushroom Emergency Stop</td>
<td>Red Mushroom</td>
<td>Emergency Stop</td>
<td>Q I O Q O Q O</td>
<td>KXRN105</td>
</tr>
<tr>
<td>Red Mushroom Emergency Stop</td>
<td>Red Mushroom</td>
<td>Emergency Stop</td>
<td>Q I O Q O Q O</td>
<td>KXRN135</td>
</tr>
<tr>
<td>Illuminated 110–120 V, 50–60 Hz, Transformer</td>
<td>Green Start</td>
<td>Start</td>
<td>Q I O Q I O Q O</td>
<td>KXRB103</td>
</tr>
<tr>
<td>Red Stop</td>
<td>Red</td>
<td>Stop</td>
<td>Q I O Q O Q O</td>
<td>KXRB104</td>
</tr>
<tr>
<td>Red Mushroom Emergency Stop</td>
<td>Red Mushroom</td>
<td>Emergency Stop</td>
<td>Q I O Q O Q O</td>
<td>KXRP106</td>
</tr>
</tbody>
</table>

Dual Push Buttons

<table>
<thead>
<tr>
<th>Top Button (#1)</th>
<th>Bottom Button (#2)</th>
<th>Contacts</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start (Green-Mom.)</td>
<td>Stop (Red-Mom.)</td>
<td>Q I O Q O Q O</td>
<td>KXRC111</td>
</tr>
<tr>
<td>Start (Green-Mom.)</td>
<td>Stop (Red-Mom.)</td>
<td>Q I O Q O Q O</td>
<td>KXRC106</td>
</tr>
<tr>
<td>Up (Green-Mom.) (1)</td>
<td>Down (Green-Mom.) (1)</td>
<td>Q I O Q O Q O</td>
<td>KXRD112</td>
</tr>
<tr>
<td>Open (Green-Mom.) (1)</td>
<td>Close (Green-Mom.) (1)</td>
<td>Q I O Q O Q O</td>
<td>KXRD113</td>
</tr>
<tr>
<td>Forward (Green-Mom.) (1)</td>
<td>Reverse (Green-Mom.) (1)</td>
<td>Q I O Q O Q O</td>
<td>KXRD114</td>
</tr>
<tr>
<td>Up (Green-Mom.) (1)</td>
<td>Down (Green-Mom.) (1)</td>
<td>Q I O Q O Q O</td>
<td>KXRD140</td>
</tr>
<tr>
<td>Open (Green-Mom.) (1)</td>
<td>Close (Green-Mom.) (1)</td>
<td>Q I O Q O Q O</td>
<td>KXRD141</td>
</tr>
<tr>
<td>Forward (Green-Mom.) (1)</td>
<td>Reverse (Green-Mom.) (1)</td>
<td>Q I O Q O Q O</td>
<td>KXRD142</td>
</tr>
<tr>
<td>Start (Green-Maint.) (1)</td>
<td>Stop (Red-Maint.) (1)</td>
<td>Q I O Q O Q O</td>
<td>KXRE115</td>
</tr>
<tr>
<td>Reset (Green-Maint.) (1)</td>
<td>Stop (Red-Maint.) (1)</td>
<td>Q I O Q O Q O</td>
<td>KXRF116</td>
</tr>
</tbody>
</table>

Dual Push Button With One Pilot Light

<table>
<thead>
<tr>
<th>Description</th>
<th>Top Button (#1)</th>
<th>Middle Lens (#2)</th>
<th>Bottom Button (#3)</th>
<th>Contacts</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot Light at 110–120 V, 50–60 Hz, Transformer</td>
<td>Start (Green-Mom.)</td>
<td>On (Red)</td>
<td>Stop (Red-Mom.)</td>
<td>Q I O Q O Q O</td>
<td>KXRG117</td>
</tr>
<tr>
<td></td>
<td>Start (Green-Mom.)</td>
<td>On (Red)</td>
<td>Stop (Red-Mom.)</td>
<td>Q I O Q O Q O</td>
<td>KXRG107</td>
</tr>
<tr>
<td></td>
<td>Blank (Green-Mom.)</td>
<td>Blank (Red)</td>
<td>Blank (Green-Mom.)</td>
<td>Q I O Q O Q O</td>
<td>KXRH118</td>
</tr>
<tr>
<td></td>
<td>Start (Green-Maint.)</td>
<td>On (Red)</td>
<td>Stop (Red-Maint.)</td>
<td>Q I O Q O Q O</td>
<td>KXRJ119</td>
</tr>
<tr>
<td></td>
<td>Reset (Green-Maint.)</td>
<td>On (Red)</td>
<td>Stop (Red-Maint.)</td>
<td>Q I O Q O Q O</td>
<td>KXRK120</td>
</tr>
</tbody>
</table>

Dual Push Button With Dual Pilot Lights

<table>
<thead>
<tr>
<th>Description</th>
<th>Top Button (#1)</th>
<th>Left Lens (#2)</th>
<th>Right Lens (#3)</th>
<th>Bottom Button (#4)</th>
<th>Contacts</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot Lights at 110–120 V, 50–60 Hz, Transformer</td>
<td>Start (Green-Mom.)</td>
<td>On (Red)</td>
<td>Off (Green)</td>
<td>Stop (Red-Mom.)</td>
<td>Q I O Q O Q O</td>
<td>KXRL121</td>
</tr>
<tr>
<td></td>
<td>No. 1 (White-Mom.)</td>
<td>1White</td>
<td>2 Blue</td>
<td>No. 2 (Blue-Mom.)</td>
<td>Q I O Q O Q O</td>
<td>KXRL132</td>
</tr>
<tr>
<td></td>
<td>Start (Green-Mom.)</td>
<td>On (Red)</td>
<td>Off (Green)</td>
<td>Stop (Red-Mom.)</td>
<td>Q I O Q O Q O</td>
<td>KXRJ138</td>
</tr>
<tr>
<td></td>
<td>Blank (Green-Mom.)</td>
<td>Blank (Red)</td>
<td>Blank (Red)</td>
<td>Blank (Green-Mom.)</td>
<td>Q I O Q O Q O</td>
<td>KXRM122</td>
</tr>
</tbody>
</table>
## Selector Switches

### Non-Illuminated

<table>
<thead>
<tr>
<th>Description</th>
<th>Positions</th>
<th>Legend</th>
<th>Knob</th>
<th>Contacts</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Maint. Off-On</td>
<td>Black</td>
<td>1 0 0</td>
<td>KXSA125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Maint. Off-On</td>
<td>Black</td>
<td>0 1 1</td>
<td>KXSA139</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Maint. Hand-Off-Auto.</td>
<td>Black</td>
<td>0 0 1</td>
<td>KXSD126</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Maint. Hand-Off-Auto.</td>
<td>Black</td>
<td>0 1 1</td>
<td>KXSD127</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Illuminated 110–120 V, 50–60 Hz, Transformer

<table>
<thead>
<tr>
<th>Description</th>
<th>Positions</th>
<th>Legend</th>
<th>Knob</th>
<th>Contacts</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Maint. Off-On</td>
<td>Black</td>
<td>1 0 0</td>
<td>KXSJ128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Maint. Hand-Off-Auto.</td>
<td>Black</td>
<td>0 0 1</td>
<td>KXSM129</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Maint. Hand-Off-Auto.</td>
<td>Black</td>
<td>0 0 1</td>
<td>KXSM130</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Single Pilot Light

<table>
<thead>
<tr>
<th>Description</th>
<th>Lens Color</th>
<th>Legend Marking</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>110–120 V, 50–60 Hz, Transformer</td>
<td>Red</td>
<td>On</td>
<td>KXPA107</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>Off</td>
<td>KXPA108</td>
</tr>
<tr>
<td></td>
<td>Red</td>
<td>On</td>
<td>KXTA109</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>Off</td>
<td>KXTA110</td>
</tr>
</tbody>
</table>

## Dual Push-to-test Pilot Light

(Pushing Button #1 Tests Pilot Light #2–Pushing Button #4 Tests Pilot Light #3)

<table>
<thead>
<tr>
<th>Description</th>
<th>Top Button (#1)</th>
<th>Left Lens (#2)</th>
<th>Right Lens (#3)</th>
<th>Bottom Button (#4)</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot Lights at 110–120 V, 50–60 Hz, Transformer</td>
<td>Green</td>
<td>Red</td>
<td>Red</td>
<td>Green</td>
<td>KXTC123</td>
</tr>
<tr>
<td></td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
<td></td>
</tr>
</tbody>
</table>

## Dual Pilot Light

<table>
<thead>
<tr>
<th>Description</th>
<th>Left Lens (#1)</th>
<th>Right Lens (#2)</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>110–120 V, 50–60 Hz, Transformer</td>
<td>Red</td>
<td>Green</td>
<td>KXPB124</td>
</tr>
<tr>
<td></td>
<td>On</td>
<td>Off</td>
<td></td>
</tr>
</tbody>
</table>

## Four-Field Pilot Light

<table>
<thead>
<tr>
<th>Description</th>
<th>Top Button (#1)</th>
<th>Left Lens (#2)</th>
<th>Right Lens (#3)</th>
<th>Bottom Button (#4)</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>at 110–120 V, 50–60 Hz, Transformer</td>
<td>White</td>
<td>Blue</td>
<td>Green</td>
<td>Red</td>
<td>KXPC131</td>
</tr>
<tr>
<td></td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
<td></td>
</tr>
<tr>
<td>Remote Test (1) 120 VAC Resistor</td>
<td>White</td>
<td>Blue</td>
<td>Green</td>
<td>Red</td>
<td>KXTE150</td>
</tr>
<tr>
<td></td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
<td>Blank</td>
<td>(1)</td>
</tr>
</tbody>
</table>

(1) If all four lamps are illuminated at the same time continuously—do NOT operate above 120 VAC.
## Compact pilot lights

### Ø 8, 12 and 17.5 mm

### XVL Type O

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Number (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 VDC (25 mA)</td>
<td>1</td>
</tr>
<tr>
<td>12 VDC (18 mA)</td>
<td>2</td>
</tr>
<tr>
<td>24 VDC (18 mA)</td>
<td>3</td>
</tr>
<tr>
<td>48 V (10 mA)</td>
<td>4</td>
</tr>
</tbody>
</table>

### LED Pilot Lights

<table>
<thead>
<tr>
<th>Type of Head</th>
<th>With Black Bezel</th>
<th>With Integral Lens Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protruding LED, 8 mm</td>
<td>Covered LED, 8 mm</td>
<td>Covered LED, 12 mm</td>
</tr>
<tr>
<td>Degree of Protection IP 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting (mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panel cut-out 8.2 mm</td>
<td>8.2 mm</td>
<td>8.2 mm</td>
</tr>
<tr>
<td>Degree of protection IP 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting centers 12.5 x 12.5 mm</td>
<td>12.2 mm</td>
<td></td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth (below head) 32</td>
<td>34</td>
<td>45</td>
</tr>
<tr>
<td>Connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tags 2.8 x 0.5</td>
<td>Screw clamp connectors</td>
<td></td>
</tr>
<tr>
<td>Catalog Number (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>XVL Ap3 (1)</td>
<td>XVL A2p3 (1)</td>
</tr>
<tr>
<td>Red</td>
<td>XVL Ap4 (1)</td>
<td>XVL A2p4 (1)</td>
</tr>
<tr>
<td>Yellow</td>
<td>XVL Ap5 (1)</td>
<td>XVL A2p5 (1)</td>
</tr>
<tr>
<td>Tightening Key</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 8 mm pilot lights For 12 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog Number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XVL X08</td>
<td>XVL X12</td>
<td></td>
</tr>
</tbody>
</table>

(1) Basic catalog number, to be completed by replacing p with the number 1, 2, 3 or 4 indicating the required voltage. See voltage table above.
### 9001 Type O Incandescent pilot lights

<table>
<thead>
<tr>
<th>Degree of protection</th>
<th>NEMA &amp; UL Type 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting (mm)</td>
<td>Panel cut-out</td>
</tr>
<tr>
<td>Overall dimensions (mm)</td>
<td>21 x 47</td>
</tr>
<tr>
<td>Connection</td>
<td>5 x 0.5 mm Quick connect</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voltage AC/DC</th>
<th>Color</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 VAC/DC 170 mA</td>
<td>Red</td>
<td>9001OR12</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>9001OG12</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>9001OA12</td>
</tr>
<tr>
<td>24 VAC/DC 73 mA</td>
<td>Red</td>
<td>9001OR24</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>9001OG24</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>9001OA24</td>
</tr>
<tr>
<td></td>
<td>Yellow</td>
<td>9001OY24</td>
</tr>
<tr>
<td>120 VAC/DC 25 mA</td>
<td>Red</td>
<td>9001OR120</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>9001OG120</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>9001OA120</td>
</tr>
<tr>
<td></td>
<td>Yellow</td>
<td>9001OY120</td>
</tr>
</tbody>
</table>
# Harmony XB6

**Push buttons, switches and pilot lights Ø 16 mm with plastic bezel**

Contact functions and light functions with integral LED

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Letter (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12–24 V AC/DC (15 mA)</td>
<td>B</td>
</tr>
<tr>
<td>48–120 V AC (25 mA)</td>
<td>G</td>
</tr>
<tr>
<td>230–240 V AC (25 mA)</td>
<td>M</td>
</tr>
</tbody>
</table>

## Illuminated push buttons

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Shape of head</th>
<th>Degree of protection</th>
<th>Mounting (mm)</th>
<th>Dimensions (mm)</th>
<th>Connection (3)</th>
<th>Type of push</th>
<th>Catalog number</th>
<th>Complete products</th>
<th>Products for user assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.O.</td>
<td>N.C.</td>
<td>IP 65 / Nema 4, 4X, 13</td>
<td>panel cut-out</td>
<td>24 x 18</td>
<td>Tags for 2.8 x 0.5 Faston connectors or for soldering</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: For products with a square head, replace the letter D in the catalog number by the letter C (XB6DW1B1B becomes XB6CW1B1B).*

*Note: For products with a circular head, replace the letter D in the catalog number by the letter A (XB6DW1B1B becomes XB6AW1B1B).*

*Note: For products with a rectangular head, replace the letter D in the catalog number by the letter D (XB6DW1B1B becomes XB6DW1B1B).*

## Pilot lights

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Shape of head</th>
<th>Smooth lens cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.O.</td>
<td>N.C. + N.O.</td>
<td>rectangular (2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Complete products</th>
<th>Products for user assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>white</td>
<td>XB6D11BB</td>
<td>ZB6E1B(1) ZB6Z1B ZB6DW1</td>
</tr>
<tr>
<td>green</td>
<td>XB6D31BB</td>
<td>ZB6E3B(1) ZB6Z3B ZB6DW3</td>
</tr>
<tr>
<td>red</td>
<td>XB6D41BB</td>
<td>ZB6E4B(1) ZB6Z4B ZB6DW4</td>
</tr>
<tr>
<td>yellow</td>
<td>XB6D51BB</td>
<td>ZB6E5B(1) ZB6Z5B ZB6DW5</td>
</tr>
</tbody>
</table>

*Note: Basic catalog number, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.*

*Note: Alternative connection: 1 x 0.5 pins for printed circuit boards.*
### Contact functions

#### Push buttons

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Shape of head</th>
<th>Flush push</th>
</tr>
</thead>
<tbody>
<tr>
<td>Push buttons</td>
<td>Flush push</td>
<td>rectangular (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Degree of protection</th>
<th>Panel cut-out</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP 65 / Nema 4, 4X, 13</td>
<td>Ø 16.2 ± 0.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mounting (mm)</th>
<th>Dimensions (mm)</th>
<th>Connection (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel cut-out</td>
<td>24 x 18 with rectangular head, 18 x 18 with square or circular head</td>
<td>24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Complete products</th>
<th>Products for user assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>white N.O.</td>
<td>XB6DA11B</td>
<td>ZB621B ZB6DA1</td>
</tr>
<tr>
<td>black N.O.</td>
<td>XB6DA15B</td>
<td>ZB625B ZB6DA1</td>
</tr>
<tr>
<td>green N.O.</td>
<td>XB6DA25B</td>
<td>ZB625B ZB6DA2</td>
</tr>
<tr>
<td>red N.O.</td>
<td>XB6DA31B</td>
<td>ZB625B ZB6DA3</td>
</tr>
</tbody>
</table>

(1) For products with a square head, replace the letter D in the catalog number by the letter C (XB6DA11B becomes XB6CA11B).

For products with a circular head, replace the letter D in the catalog number by the letter A (XB6DA11B becomes XB6AA11B).

(2) Alternative connection: 1 x 0.5 pins for printed circuit boards.

#### Ø 30 mushroom head Emergency stop push buttons (3)

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Shape of head</th>
<th>Trigger action (EN 418)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Push buttons</td>
<td>Ø 30 mushroom head Emergency stop push buttons</td>
<td>cylindrical</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of push</th>
<th>Complete products</th>
<th>Products for user assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key release, Ronis 200</td>
<td>Key release, Ronis 200</td>
<td>Products for user assembly</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Complete products</th>
<th>Products for user assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>red 2 N.C. + 1 N.O.</td>
<td>XB6AS9340B</td>
<td>ZB66E2B ZB625B ZB6AS934</td>
</tr>
</tbody>
</table>

# Harmony XB6

**Push buttons, switches and pilot lights**

Ø 16 mm with plastic bezel

**Contact functions and light functions with integral LED**

---

## Selector switches and key switches

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Black handle</th>
<th>Shape of head</th>
<th>Degree of protection</th>
<th>Mounting (mm)</th>
<th>Dimensions (mm)</th>
<th>Connection (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black handle</td>
<td>rectangular (2)</td>
<td>panel cut-out</td>
<td>IP 65 / Nema 4, 4X, 13</td>
<td>24 x 18 with rectangular head, 18 x 18 with square or circular head</td>
<td>24 x 18 x 50 with rectangular head, 18 x 18 x 50 with square or circular head</td>
<td>Tags for 2.8 x 0.5 Faston connectors or br soldering</td>
</tr>
</tbody>
</table>

## Type of operator

<table>
<thead>
<tr>
<th>Number and type of positions</th>
<th>Complete products</th>
<th>Products for user assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 positions stay put (60°)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 positions stay put (60°, 60°)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Catalog number

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>N/O</th>
<th>N/C + N/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>XB6DD221B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XB6DD225B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XB6DD235B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Type of operator

<table>
<thead>
<tr>
<th>Number and type of positions</th>
<th>Complete products</th>
<th>Products for user assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 positions stay put (60°)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 positions stay put (60°, 60°)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Catalog number

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>N/O</th>
<th>N/C + N/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>XB6DDG55B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XB6DGH55B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Type of operator

<table>
<thead>
<tr>
<th>Number and type of positions</th>
<th>Complete products</th>
<th>Products for user assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 positions stay put (70°)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 positions stay put (70°, 70°)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Catalog number

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>N/C + N/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>XB6DDG55B</td>
<td></td>
</tr>
<tr>
<td>XB6DGH55B</td>
<td></td>
</tr>
</tbody>
</table>

---

## Illuminated selector switches

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Products for assembly</th>
<th>Colored handle</th>
</tr>
</thead>
</table>

## Catalog number

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>N/C + N/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZB6YK1</td>
<td></td>
</tr>
<tr>
<td>ZB6YK3</td>
<td></td>
</tr>
</tbody>
</table>

---

(1): Basic catalog number, to be completed by the letter B, G or M indicating the required voltage. See voltage table above.

(2) For products with a square head, replace the letter D in the catalog number by the letter C (XB6DD221B becomes XB6CD221B).

For products with a circular head, replace the letter D in the catalog number by the letter A (XB6DD221B becomes XB6AD221B).

(3) Alternative connection: 1 x 0.5 pins for printed circuit boards.
### Sub-assemblies & accessories for Ø 16 mm plastic bezel control and signalling units

#### Sub-assemblies

<table>
<thead>
<tr>
<th>Sub-assemblies</th>
<th>Bodies for push buttons and selector switches</th>
<th>Bodies for pilot lights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated operational characteristics, AC-15: Ue = 240 V and le = 1.5 A or Ue = 120 V and le = 3 A&lt;br&gt;Positive operation of contacts conforming to IEC/EN 60947-5-1: N.C. contacts with positive opening operation, positive opening force 20 N</td>
<td></td>
<td>Consumption&lt;br&gt;15 mA 12–24 VAC/DC&lt;br&gt;25 mA 48–120 VAC&lt;br&gt;25 mA 230–240 VAC</td>
</tr>
<tr>
<td>Positive operation of contacts conforming to IEC/EN 60947-5-1: N.C. contacts with positive opening operation, positive opening force 20 N</td>
<td></td>
<td>Pilot light&lt;br&gt;bodies&lt;br&gt;12–24 V&lt;br&gt;48 –120 V&lt;br&gt;230 –240 V</td>
</tr>
<tr>
<td>Type of fixing collar: Contacts&lt;br&gt;Pilot light bodies</td>
<td>Fixing collar + contacts</td>
<td>N.O.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6Z1B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6E1B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6Z2B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6E2B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6Z3B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6E3B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6Z4B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6E4B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6Z5B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6E5B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6Z6B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6E6B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6Z7B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6E7B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6Z8B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6E8B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6Z9B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6E9B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZB6ZAB</td>
</tr>
</tbody>
</table>
Harmony XB4

Push buttons, switches and pilot lights
Ø 22 mm with metal bezel

Contact functions

### Push buttons, spring return

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Plated circular bezel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 65 / Nema 4X, 13 (IP 66 for booted push buttons)</td>
</tr>
<tr>
<td>Mounting (mm) panel cut-out</td>
<td>Ø 22.5 (22.4 mm recommended)</td>
</tr>
<tr>
<td>Mounting centers</td>
<td>30 (horizontal) x 40 (vertical)</td>
</tr>
<tr>
<td>Depth (mm) below head</td>
<td>43</td>
</tr>
<tr>
<td>Connection (1) Screw clamp terminals</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of push</th>
<th>Flush</th>
<th>Flush, booted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmarked</td>
<td>Products</td>
<td>For user assembly</td>
</tr>
<tr>
<td>Catalog number</td>
<td>black N.O.</td>
<td>XB4BA21</td>
</tr>
<tr>
<td></td>
<td>green N.O.</td>
<td>XB4BA31</td>
</tr>
<tr>
<td></td>
<td>red N.C.</td>
<td>XB4BA42</td>
</tr>
<tr>
<td></td>
<td>yellow N.O.</td>
<td>XB4BA51</td>
</tr>
<tr>
<td></td>
<td>blue N.O.</td>
<td>XB4BA61</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of push</th>
<th>Flush</th>
<th>Flush, booted</th>
</tr>
</thead>
<tbody>
<tr>
<td>With international marking</td>
<td>Products</td>
<td>Complete</td>
</tr>
<tr>
<td>Catalog number</td>
<td>green N.O.</td>
<td>XB4BA3311</td>
</tr>
<tr>
<td></td>
<td>red N.C.</td>
<td>XB4BA4322</td>
</tr>
<tr>
<td></td>
<td>while N.O.</td>
<td>XB4BA3341</td>
</tr>
<tr>
<td></td>
<td>black N.O.</td>
<td>XB4BA3351</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of push</th>
<th>Projecting</th>
<th>Mushroom head, Ø 40 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmarked</td>
<td>Products</td>
<td>Complete</td>
</tr>
<tr>
<td>Catalog number</td>
<td>black N.O.</td>
<td>XB4BC21</td>
</tr>
<tr>
<td></td>
<td>red N.C.</td>
<td>XB4BL42</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of push</th>
<th>Double-headed push buttons</th>
<th>Double-headed push buttons, booted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 40</td>
<td>IP 66</td>
</tr>
<tr>
<td>With international marking</td>
<td>Products</td>
<td>Complete</td>
</tr>
<tr>
<td>Catalog number</td>
<td>green / red N.C. + N.O.</td>
<td>XB4BL845</td>
</tr>
</tbody>
</table>

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

### Ø 40 mm mushroom head Emergency stop push buttons

<table>
<thead>
<tr>
<th>Type of push</th>
<th>Push-pull (N.C.)</th>
<th>Latching</th>
<th>Trigger action (EN 418)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmarked</td>
<td>Products</td>
<td>Complete</td>
<td>For user assembly</td>
</tr>
<tr>
<td>Catalog number</td>
<td>red N.C. or N.C. + N.O.</td>
<td>XB4BT42</td>
<td>ZB4BZ102</td>
</tr>
</tbody>
</table>

(2) The mushroom head Emergency stop push buttons conform to standard IEC/EN 60947-5-5 and Machinery Directive 98/37/EC.

Trigger action mushroom head Emergency stop push buttons conform to standard EN 418.
# Contact functions

## Selector switches and key switches

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Plated circular bezel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 66 / Nema 4X, 13</td>
</tr>
<tr>
<td>Mounting (mm)</td>
<td>panel cut-out</td>
</tr>
<tr>
<td></td>
<td>Ø 22.5 (22.4 mm + 0.4 mm recommended)</td>
</tr>
<tr>
<td>Mounting centers</td>
<td>30 (horizontal) x 40 (vertical)</td>
</tr>
<tr>
<td>Depth (mm)</td>
<td>below head</td>
</tr>
<tr>
<td>Connection (1)</td>
<td>Screw clamp terminals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Products</th>
<th>Complete</th>
<th>For user assembly</th>
<th>Complete</th>
<th>For user assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number and type of positions</td>
<td>2 positions stay put</td>
<td>2 positions stay put</td>
<td>2 positions spring return to left</td>
<td>2 positions spring return to left</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>white</td>
<td>XB4BD1</td>
<td>ZB4BZ101</td>
<td>ZB4BD2</td>
<td>ZB4BZ101</td>
</tr>
<tr>
<td>Number and type of positions</td>
<td>3 positions stay put</td>
<td>3 positions stay put</td>
<td>3 positions spring return to center</td>
<td>3 positions spring return to center</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>black</td>
<td>XB4BD3</td>
<td>ZB4BZ103</td>
<td>ZB4BD3</td>
<td>ZB4BZ103</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Products</th>
<th>Complete</th>
<th>For user assembly</th>
<th>Complete</th>
<th>For user assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number and type of positions (2)</td>
<td>2 positions stay put</td>
<td>2 positions stay put</td>
<td>2 positions spring return to left</td>
<td>2 positions spring return to left</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>black</td>
<td>XB4BG2</td>
<td>ZB4BZ101</td>
<td>ZB4BG2</td>
<td>ZB4BZ101</td>
</tr>
<tr>
<td>Number and type of positions</td>
<td>2 positions spring return to left</td>
<td>2 positions spring return to left</td>
<td>3 positions stay put</td>
<td>3 positions stay put</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>black</td>
<td>XB4BG6</td>
<td>ZB4BZ101</td>
<td>ZB4BG6</td>
<td>ZB4BZ101</td>
</tr>
<tr>
<td>Catalog number</td>
<td>black</td>
<td>XB4BG6</td>
<td>ZB4BZ101</td>
<td>ZB4BG6</td>
<td>ZB4BZ101</td>
</tr>
</tbody>
</table>

## Separate components

### Electrical blocks

#### Single contact blocks

<table>
<thead>
<tr>
<th>Rated operational characteristics</th>
<th>AC-15, 240 V - 3 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive operation of contacts conforming to IEC/EN 60947-5-1</td>
<td>All functions incorporating a N.C. contact are positive opening operation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number (5)*</th>
<th>N.O.</th>
<th>N.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZBE101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBE102</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).
(2) The symbol ▲ indicates key withdrawal position.

* sold in lots of 10
Harmony XB4

Push buttons, switches and pilot lights
Ø 22 mm with metal bezel

Light functions

### Pilot lights

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Circular bezel</th>
<th>Smooth lens cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 66 / Nema 4X, 13</td>
<td></td>
</tr>
<tr>
<td>Mounting (mm)</td>
<td>panel cut-out Ø 22.5 (22.4 recommended)</td>
<td></td>
</tr>
<tr>
<td>Mounting centers</td>
<td>30 (horizontal) x 40 (vertical)</td>
<td></td>
</tr>
<tr>
<td>Depth</td>
<td>below head 43</td>
<td></td>
</tr>
<tr>
<td>Connection (1)</td>
<td>Screw clamp terminals</td>
<td></td>
</tr>
<tr>
<td>Light source</td>
<td>Pilot lights</td>
<td></td>
</tr>
</tbody>
</table>

#### Products

- **Supply voltage**: 24 VAC/DC 48–120 VAC 230–240 VAC
- **Catalog number**: XB4BV1 XB4BV3 XB4BV5 XB4BV7 XB4BV9 ZB4BV1 ZB4BV3 ZB4BV5 ZB4BV7 ZB4BV9

### Illuminated push buttons and selector switches

#### Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Flush push, spring return, illuminated push buttons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light source</td>
<td>Integral LED</td>
</tr>
</tbody>
</table>

#### Products

- **Supply voltage**: 24 VAC/DC 48–120 VAC 230–240 VAC
- **Catalog number**: XB4BW11B5 XB4BW11G5 XB4BW11M5 XB4BW12B5 XB4BW12G5 XB4BW12M5 XB4BW13B5 XB4BW13G5 XB4BW13M5

### Double-headed push buttons with LED pilot light

Degree of protection: IP 40

#### Products

- **Supply voltage**: 24 VAC/DC 48–120 VAC 230–240 VAC
- **Catalog number**: XB4BW1B5 XB4BW3B5 XB4BW5B5 XB4BW7B5

### Illuminated selector switches

Degree of protection: IP 65

#### Products

- **Supply voltage**: 24 VAC/DC 48–120 VAC 230–240 VAC
- **Catalog number**: XB4BK12B5 XB4BK12G5 XB4BK12M5

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For other versions, please consult with your Schneider Electric/Square D sales office: visit www.us.telemecanique.com

Courtesy of Steven Engineering, Inc. ● 230 Ryan Way, South San Francisco, CA 94080-6370 ● General Inquiries: (800) 670-4183 ● www.stevenengineering.com
## Separate components and accessories

### Electrical blocks

<table>
<thead>
<tr>
<th></th>
<th>Single contact blocks</th>
<th>Light blocks with integral LED</th>
<th>Light block, direct supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated operational characteristics</td>
<td>AC-15, 240 V - 3 A</td>
<td>Consumption 18 mA 24 V/DC</td>
<td>For BA 9s bulb (not included)</td>
</tr>
<tr>
<td>Positive operation of contacts</td>
<td>N.C. contacts with positive opening operation</td>
<td>Consumption 14 mA 120 V AC</td>
<td>To combine with heads for integral LED (250 V max–2.4 W max.)</td>
</tr>
</tbody>
</table>

### Diecast metal enclosures

<table>
<thead>
<tr>
<th></th>
<th>1 vertical row</th>
<th>2 vertical rows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cut-outs</td>
<td>1</td>
<td>2  3  4</td>
</tr>
<tr>
<td>Front face dimensions</td>
<td>XAPM1201</td>
<td>-   -  XAPM1202</td>
</tr>
<tr>
<td>Catalog number</td>
<td></td>
<td>XAPM2204</td>
</tr>
<tr>
<td>80 x 80 mm</td>
<td>80 x 130 mm</td>
<td>-   -  XAPM2204</td>
</tr>
<tr>
<td>80 x 175 mm</td>
<td>-</td>
<td>XAPM3204</td>
</tr>
</tbody>
</table>

### Accessories

#### Legend holders, 30 x 40 mm, for 8 x 27 mm legends

<table>
<thead>
<tr>
<th>Marking</th>
<th>Background color</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>white or red</td>
<td>ZBY2101</td>
</tr>
<tr>
<td>International</td>
<td>0 (red background)</td>
<td>ZBY2391</td>
</tr>
<tr>
<td>English</td>
<td>OFF</td>
<td>ZBY2312</td>
</tr>
<tr>
<td>French</td>
<td>ARRET (red b/gr nd)</td>
<td>ZBY2104</td>
</tr>
<tr>
<td>German</td>
<td>AUS</td>
<td>ZBY2204</td>
</tr>
<tr>
<td>Spanish</td>
<td>PARADA (red b/gr nd)</td>
<td>ZBY2404</td>
</tr>
</tbody>
</table>

#### Legend holders, 30 x 50 mm, for 18 x 27 mm legends

<table>
<thead>
<tr>
<th>Background color</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>black or red</td>
<td>ZBY9101</td>
</tr>
<tr>
<td>white or yellow</td>
<td>ZBY1401</td>
</tr>
</tbody>
</table>

#### Ø 60 mm legend for mushroom head emergency stop push button

<table>
<thead>
<tr>
<th>Background color</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>yellow</td>
<td>ZBY6101</td>
</tr>
</tbody>
</table>

* Alternatives connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

* sold in lots of
Harmony XB5

Push buttons, switches and pilot lights Ø 22 mm with plastic bezel

Contact functions

Push buttons, spring return

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Circular bezel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 66 / Nema 4X, 13 (IP 66 for booted push buttons)</td>
</tr>
<tr>
<td>Mounting (mm)</td>
<td>panel cut-out Ø 22.5 (22.4 mm recommended)</td>
</tr>
<tr>
<td>Mounting centers</td>
<td>30 (horizontal) x 40 (vertical)</td>
</tr>
<tr>
<td>Depth (mm)</td>
<td>below head 43</td>
</tr>
<tr>
<td>Connection (1)</td>
<td>Screw clamp terminals</td>
</tr>
</tbody>
</table>

Type of push | Flush | Flush, booted |
---|---|---|
Unmarked Products | Complete | For user assembly |
Catalog number | black N.O. XB5AA21 ZB5AZ101 ZB5AA2 | XB5AP21 ZB5AZ101 ZB6P2 |
| green N.O. XB5AA31 ZB5AZ101 ZB5AA3 | XB5AP31 ZB5AZ101 ZB5AP3 |
| red N.C. XB5AA42 ZB5AZ102 ZB5AA4 | XB5AP42 ZB5AZ102 ZB5AP4 |
| yellow N.O. XB5AA51 ZB5AZ101 ZB5AA5 | XB5AP51 ZB5AZ101 ZB5AP5 |
| blue N.O. XB5AA61 ZB5AZ101 ZB5AA6 | XB5AP61 ZB5AZ101 ZB5AP6 |

Type of push | Push | Mushroom head Ø 40 mm |
---|---|---|
With international marking Products | Complete | For user assembly |
Catalog number | green N.O. XB5AA3311 ZB5AZ101 ZB5AA3311 | – – – |
| red N.C. XB5AA4322 ZB5AZ102 ZB5AA4322 | – – – |
| white N.O. XB5AA3341 ZB5AZ101 ZB5A334 | – – – |
| black N.O. XB5AA3351 ZB5AZ101 ZB5AA335 | – – – |

Type of push | Double-headed push buttons | Double-headed push buttons, booted |
---|---|---|
Degree of protection | IP 40 | IP 66 |
With international marking Products | Complete | For user assembly |
Catalog number | green / N.C. + N.O. XB5AL845 ZB5AZ105 ZB5AL8434 | XB5AL945 ZB5AZ105 ZB5AL9434 |

Type of push | Latching | Trigger action (EN 418) |
---|---|---|
Catalog number | red N.C. or N.C. + N.O. XB5AT42 ZB5AZ102 ZB5AT4 | XB5AT845 ZB5AZ105 ZB5AT84 |
| red N.C. or N.C. + N.O. XB5AS42 ZB5AZ102 ZB5AS54 | XB5AS8445 ZB5AZ105 ZB5AS844 |
| red N.C. or N.C. + N.O. XB5AS142 ZB5AZ102 ZB5AS14 | XB5AS9445 ZB5AZ105 ZB5AS944 |

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

(2) The mushroom head Emergency stop push buttons conform to standard IEC/EN 60947-5-5 and Machinery Directive 98/37/EC.

Trigger action mushroom head Emergency stop push buttons conform to standard EN 418.

For other versions, please consult with your Schneider Electric/Square D sales office: visit www.us.telemecanique.com
## Selector switches and key switches

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Circular bezel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 66 / Nema 4X, 13</td>
</tr>
<tr>
<td>Mounting (mm)</td>
<td>panel cut-out</td>
</tr>
<tr>
<td></td>
<td>Ø 22.5 (22.4 ± 0.4 recommended)</td>
</tr>
<tr>
<td>Depth (mm)</td>
<td>below head</td>
</tr>
<tr>
<td>Connection (1)</td>
<td>Screw clamp terminals</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number and type of positions</td>
<td>Complete</td>
</tr>
<tr>
<td>Catalog number</td>
<td>2 positions</td>
</tr>
<tr>
<td>black N.O.</td>
<td>stay put</td>
</tr>
<tr>
<td>Catalog number</td>
<td>3 positions</td>
</tr>
<tr>
<td>black N.O. + N.O.</td>
<td>stay put</td>
</tr>
</tbody>
</table>

### Type of operator

- **Key, no 455**

<table>
<thead>
<tr>
<th>Number and type of positions (2)</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>2 positions</td>
</tr>
<tr>
<td>black N.O.</td>
<td>stay put</td>
</tr>
</tbody>
</table>

(2) The symbol indicates key withdrawal position.

## Electrical blocks

### Single contact blocks

- 24 VAC/DC
- 48–120 VAC
- 230–240 VAC
- 250 V max–2.4 W max.

### Light blooks with integral LED

- To combine with heads for integral LED
- For BA 9s bulb (not included)
- 290 V max–2.4 W max.

### Accessories

#### Legend holders, 30 x 40 mm, for 8 x 27 mm legends

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Marking</th>
<th>Background color : black or red</th>
<th>N.O.</th>
<th>ZBE101</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZBY2101</td>
<td>Blank</td>
<td>white</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBE102</td>
<td>Blank</td>
<td>green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2103</td>
<td>Blank</td>
<td>black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2105</td>
<td>Blank</td>
<td>yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2107</td>
<td>Blank</td>
<td>blue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2108</td>
<td>Blank</td>
<td>red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2109</td>
<td>Blank</td>
<td>yellow</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Marking</th>
<th>Background color : black or red</th>
<th>N.C.</th>
<th>ZBE102</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZBY2110</td>
<td>Blank</td>
<td>white</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2112</td>
<td>Blank</td>
<td>green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2114</td>
<td>Blank</td>
<td>black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2116</td>
<td>Blank</td>
<td>yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2118</td>
<td>Blank</td>
<td>blue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2120</td>
<td>Blank</td>
<td>red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2122</td>
<td>Blank</td>
<td>yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY2124</td>
<td>Blank</td>
<td>blue</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Legend holders, 30 x 50 mm, for 18 x 27 mm legends

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Marking</th>
<th>Background color : black or red</th>
<th>N.O.</th>
<th>ZBE101</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZBY6101</td>
<td>Blank</td>
<td>white</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZBY6102</td>
<td>Blank</td>
<td>yellow</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Ø 60 mm legend for mushroom head Emergency stop push button

- Background color: yellow
- Marking: Blank

### Electrical blocks

#### Catalog number

- ZB5A9090
- ZB5A9091

#### Body/fixing collar

- for electrical block (contact or light)
- for head

#### Fixing nut

- for tightening fixing nut ZB5A901

#### Bezel tool

- anti-rotation

(1) Alternative connections: plug-in connector, Faston connectors (6.35 and 2 x 2.8).

* sold in lots of

For other versions, please consult with your Schneider Electric/Square D sales office: visit www.us.telemecanique.com
Harmony
XB5
Push buttons, switches and pilot lights
Ø 22 mm with plastic bezel

Light functions

### Pilot lights

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Circular bezel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 66 / Nema 4X, 13</td>
</tr>
<tr>
<td>Mounting (mm)</td>
<td>panel cut-out Ø 22.5 (22.4 recommended)</td>
</tr>
<tr>
<td>Mounting centers</td>
<td>30 (horizontal) x 40 (vertical)</td>
</tr>
<tr>
<td>Depth below head</td>
<td>43</td>
</tr>
</tbody>
</table>

#### Products

<table>
<thead>
<tr>
<th>Light source</th>
<th>Direct supply for BA 9s bulb (not included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integral LED</td>
<td>Screw clamp terminals</td>
</tr>
</tbody>
</table>

#### Supply voltage

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>24VAC/DC</th>
<th>48–120VAC</th>
<th>230–240VAC</th>
<th>250 V max–2.4 W max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>white</td>
<td>XB5AVB1</td>
<td>XB5AVG1</td>
<td>XB5AVM1</td>
<td>XB5AV6</td>
</tr>
<tr>
<td>green</td>
<td>XB5AVB3</td>
<td>XB5AVG3</td>
<td>XB5AVM3</td>
<td>XB5AV6</td>
</tr>
<tr>
<td>red</td>
<td>XB5AVB4</td>
<td>XB5AVG4</td>
<td>XB5AVM4</td>
<td>XB5AV6</td>
</tr>
<tr>
<td>yellow</td>
<td>XB5AVB5</td>
<td>XB5AVG5</td>
<td>XB5AVM5</td>
<td>XB5AV6</td>
</tr>
<tr>
<td>blue</td>
<td>XB5AVB6</td>
<td>XB5AVG6</td>
<td>XB5AVM6</td>
<td>XB5AV6</td>
</tr>
</tbody>
</table>

### Illuminated push buttons and selector switches

#### Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Push buttons, spring return, illuminated push buttons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light source</td>
<td>Integral LED</td>
</tr>
</tbody>
</table>

#### Products

<table>
<thead>
<tr>
<th>Light source</th>
<th>Direct supply for BA 9s bulb (not included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integral LED</td>
<td>Screw clamp terminals</td>
</tr>
</tbody>
</table>

#### Supply voltage

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>24VAC/DC</th>
<th>48–120VAC</th>
<th>230–240VAC</th>
<th>250 V max–2.4 W max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>white</td>
<td>XB5AW1B5</td>
<td>XB5AW1G5</td>
<td>XB5AW1M5</td>
<td>XB5AW065</td>
</tr>
<tr>
<td>green</td>
<td>XB5AW3B5</td>
<td>XB5AW3G5</td>
<td>XB5AW3M5</td>
<td>XB5AW065</td>
</tr>
<tr>
<td>red</td>
<td>XB5AW34B5</td>
<td>XB5AW34G5</td>
<td>XB5AW34M5</td>
<td>XB5AW065</td>
</tr>
<tr>
<td>yellow</td>
<td>XB5AW35B5</td>
<td>XB5AW35G5</td>
<td>XB5AW35M5</td>
<td>XB5AW065</td>
</tr>
<tr>
<td>blue</td>
<td>XB5AW36B5</td>
<td>XB5AW36G5</td>
<td>XB5AW36M5</td>
<td>XB5AW065</td>
</tr>
</tbody>
</table>

#### Illuminated selector switches

<table>
<thead>
<tr>
<th>Type</th>
<th>Double-headed push buttons with LED pilot light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light source</td>
<td>Integral LED</td>
</tr>
</tbody>
</table>

#### Products

<table>
<thead>
<tr>
<th>Light source</th>
<th>Direct supply for BA 9s bulb (not included)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integral LED</td>
<td>Screw clamp terminals</td>
</tr>
</tbody>
</table>

#### Supply voltage

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>24VAC/DC</th>
<th>48–120VAC</th>
<th>230–240VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>green</td>
<td>XB5A84B5</td>
<td>XB5A84G5</td>
<td>XB5A84M5</td>
</tr>
<tr>
<td>red</td>
<td>XB5A12B5</td>
<td>XB5A12G5</td>
<td>XB5A12M5</td>
</tr>
<tr>
<td>yellow</td>
<td>XB5A125B5</td>
<td>XB5A125G5</td>
<td>XB5A125M5</td>
</tr>
</tbody>
</table>

(1) Alternative connections: plug-in connector, Fasotn connectors (6.35 and 2 x 2.8).
Separate components and accessories: see previous page.
Control stations
For XB5 push buttons, switches and pilot lights
Ø 22 mm with plastic bezel

(1):

<table>
<thead>
<tr>
<th>Number of cut-outs</th>
<th>Number (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

---

Complete stations with 1 push button, selector switch or key switch
(light grey RAL 7035 base with dark grey RAL 7016 lid)

Degree of protection
IP 65 / Nema 4X and 13

Dimensions (mm) W x H x D
68 x 68 x 113 max. (with key release Ø 40 mushroom head push button)

Fixing (mm)
2 x Ø 4.3 on 54 mm centers

Function
Marking
Number and type of push button/selector switch/key switch

1 flush green pb
1 flush red pb
1 projecting red pb

1 Start or Stop function
On spring return push
On legend holder and legend below head
1 2 position start/stop selector switch or key switch

Black handle
Key n°455 (key withdrawal LH pos.)

Catalog number
N.O.
XALD102
XALD103

N.C.
–
XALD112
XALD115

(1) Empty enclosures:
Basic catalog number: XALK0p, replace the p by the number of cut-outs required (see cut-out table above)

---

Emergency stop (2)
(light grey RAL 7035 base with yellow RAL 1012 lid)

Number and type of mushroom head push button
1 red Ø 40 head, turn to release
1 red Ø 40 head, key release

Latching mechanism
Trigger action (EN 418)
Latchng

Catalog number
N.C.
–
XALK174
XALK184

N.C. + N.C.
–
XALK174F
XALK184F

N.C. + N.O.
–
XALK174E
XALK184E

N.C. + N.C. + N.O.
–
XALK174G
XALK184G

(2) The mushroom head Emergency stop push buttons conform to standard IEC/EN 60947-5-5 and Machinery Directive 98/37/EC.

---

Complete stations with 2 and 3 push buttons or 2 push buttons + 1 pilot light
(light grey RAL 7035 base with dark grey RAL 7016 lid)

Dimensions (mm) W x H x D
2-way control stations: 68 x 106 x 62; 3-way control stations: 68 x 136 x 87

Fixing (mm)
2-way control stations: 2 x Ø 4.3 on 54 x 68 centers; 3-way control stations: 2 x Ø 4.3 on 54 x 98 centers

Function
Marking
Number and type of push button/pilot light

1 flush green pb
1 flush red pb
1 red pilot light with integral LED (1)

Start-Stop functions
On spring return push

1 flush green push button
1 flush red push button
1 red pilot light with integral LED (1)

Catalog number
N.O. + N.C.
XALD213
XALD215

N.O. + N.O.
–
XALD222

N.O. + N.C. + N.O.
–
XALD324
XALD328

2-way control stations: 68 x 106 x 62; 3-way control stations: 68 x 136 x 87

2-way control stations: 2 x Ø 4.3 on 54 x 68 centers; 3-way control stations: 2 x Ø 4.3 on 54 x 98 centers

---

Accessories
Standard contact blocks

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.O. contact</td>
<td>ZENL1111</td>
</tr>
<tr>
<td>N.C. contact</td>
<td>ZENL1121</td>
</tr>
<tr>
<td>24 VAC/DC</td>
<td>ZALVB4</td>
</tr>
<tr>
<td>230 VAC</td>
<td>ZALVM4</td>
</tr>
</tbody>
</table>

---

For other versions, please consult with your Schneider Electric/Square D sales office: visit www.us.telemecanique.com

For Courtesy of Steven Engineering, Inc. ● 230 Ryan Way, South San Francisco, CA 94080-6370 ● General Inquiries: (800) 670-4183 ● www.stevenengineering.com
### Harmony
#### Class 9001
##### K/SK

**Control and signalling units Ø 30 mm with metal ring nut**

**Non-illuminated complete operators**

#### Push buttons, spring return

<table>
<thead>
<tr>
<th>Type of push</th>
<th>Full guard</th>
<th>No guard</th>
<th>Extended guard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color of push</td>
<td>Multi-color (set of 7 clip-in colored caps)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 66 / NEMA &amp; UL Type 1, 2, 3, 3R, 4, 6, 12 and 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>panel cut-out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth below head (mm)</td>
<td>30.5 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>N.O. + N.C.</th>
<th>N.O.</th>
<th>N.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9001KR1UHS</td>
<td>9001KR3UHS</td>
<td>9001KR2UHS</td>
<td></td>
</tr>
</tbody>
</table>

#### Mushroom head Emergency stop push buttons

<table>
<thead>
<tr>
<th>Type of push</th>
<th>Spring return, red</th>
<th>35 mm mushroom head</th>
<th>57 mm mushroom head</th>
<th>Push-pull, red</th>
<th>40 mm mushroom head</th>
<th>35 mm mushroom head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 66 / NEMA &amp; UL Type 1, 2, 3, 3R, 4, 6, 12 and 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>panel cut-out</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth below head (mm)</td>
<td>30.5 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>N.O. + N.C.</th>
<th>N.O.</th>
<th>N.C.</th>
</tr>
</thead>
</table>

#### Selector switches and key switches

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Long black handle</th>
<th>Key, no E10</th>
</tr>
</thead>
<tbody>
<tr>
<td>positions (1)</td>
<td>3 - spring return</td>
<td>2 - maintained</td>
</tr>
<tr>
<td>Number and type</td>
<td>2 - spring return</td>
<td>3 - maintained</td>
</tr>
<tr>
<td>of positions</td>
<td>2 - maintained</td>
<td></td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 66 / NEMA &amp; UL Type 1, 2, 3, 3R, 4, 6, 12 and 13</td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>panel cut-out</td>
<td></td>
</tr>
<tr>
<td>Depth below head (mm)</td>
<td>30.5 mm</td>
<td></td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>N.O.</th>
<th>N.O. + N.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9001KS11FBH5</td>
<td></td>
<td>9001KS34FBH5</td>
</tr>
<tr>
<td>9001KS33FBH1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9001KS43FBH1</td>
<td></td>
<td>9001KS11K1H1</td>
</tr>
</tbody>
</table>

(1) The symbol ◄ indicates key withdrawal position.
### Pilot lights

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Smooth lens cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 66 / NEMA &amp; UL Type 1, 2, 3, 3R, 4, 6, 12 and 13</td>
</tr>
<tr>
<td>Mounting</td>
<td>panel cut-out</td>
</tr>
<tr>
<td>Depth below head (mm)</td>
<td>46</td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals</td>
</tr>
<tr>
<td>Type of light block</td>
<td>With high luminosity LED (included)</td>
</tr>
<tr>
<td>Transformer type</td>
<td>Incandescent BA 9s bulb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>green</th>
<th>red</th>
<th>amber</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9001KP35LGG9</td>
<td>9001KP35LRR9</td>
<td>9001KP35LYA9</td>
</tr>
<tr>
<td></td>
<td>9001KP38LGG9</td>
<td>9001KP38LRR9</td>
<td>9001KP38LYA9</td>
</tr>
<tr>
<td></td>
<td>9001KP1G9</td>
<td>9001KP1R9</td>
<td>9001KP1A9</td>
</tr>
</tbody>
</table>

### Illuminated push buttons, spring return

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Spring return full guard No guard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 66 / NEMA &amp; UL Type 1, 2, 3, 3R, 4, 6, 12 and 13</td>
</tr>
<tr>
<td>Mounting</td>
<td>panel cut-out</td>
</tr>
<tr>
<td>Depth below head (mm)</td>
<td>71</td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals</td>
</tr>
<tr>
<td>Type of light block</td>
<td>With high luminosity LED (included)</td>
</tr>
<tr>
<td>Transformer type</td>
<td>Incandescent BA 9s bulb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>green</th>
<th>red</th>
<th>amber</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N.O. + N.C.</td>
<td>N.O. + N.C.</td>
<td>N.O. + N.C.</td>
</tr>
<tr>
<td></td>
<td>9001K3L35LGGH13</td>
<td>9001K3L35LRRH13</td>
<td>9001K3L35LYAH13</td>
</tr>
<tr>
<td></td>
<td>9001K3L38LGGH13</td>
<td>9001K3L38LRRH13</td>
<td>9001K3L38LYAH13</td>
</tr>
<tr>
<td></td>
<td>9001K2L1RH13</td>
<td>9001K2L1GH13</td>
<td>9001K2L1AH13</td>
</tr>
</tbody>
</table>

### Illuminated 41 mm mushroom head push buttons, high luminosity LED

| Degree of protection       | IP 66 / NEMA & UL Type 1, 2, 3, 3R, 4, 6, 12 and 13 |
| Mounting (mm)              | panel cut-out                     |
| Depth below head (mm)      | 71                                |
| Connection                 | Screw clamp terminals             |
| Type of light block        | With high luminosity LED (included) |
| Transformer type           | Incandescent BA 9s bulb           |

<table>
<thead>
<tr>
<th>Type of head</th>
<th>2 position, push-pull</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>red N.O. + N.C.</td>
</tr>
<tr>
<td></td>
<td>9001KRP35LRR25</td>
</tr>
<tr>
<td></td>
<td>9001KRP38LRR25</td>
</tr>
<tr>
<td></td>
<td>9001KRP1RH25</td>
</tr>
</tbody>
</table>

| Type of head               | 3 position, push-pull (pull: spring return, center: maintained, push: spring return) |
| Catalog number             | red N.O. + N.C. late break         |
|                            | 9001KRP35LRRH25                    |
|                            | 9001KRP38LRRH25                    |
|                            | 9001KRP1RH25                       |
Harmony
Class 9001
K/SK

Control and signalling units Ø 30 mm
with plastic ring nut
Complete operators and pilot lights

Push buttons, spring return

<table>
<thead>
<tr>
<th>Type of push</th>
<th>Full guard</th>
<th>No guard</th>
<th>Extended guard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color of push</td>
<td>Multi-color (set of 7 clip-in colored caps)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 66 / NEMA &amp; UL Type 1, 2, 3, 3R, 4, 4X, 12 and 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>panel cut-out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth below head (mm)</td>
<td>30.5 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>Universal 7 color—black, red, green, yellow, orange, blue &amp; white</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Selector switches

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Long black handle</th>
<th>2 - maintained</th>
<th>2 - spring return</th>
<th>3 - maintained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number and type of positions</td>
<td>3 - spring return</td>
<td>2 - maintained</td>
<td>2 - spring return</td>
<td>3 - maintained</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 66 / NEMA &amp; UL Type 1, 2, 3, 3R, 4, 4X, 12 and 13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>panel cut-out</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth below head (mm)</td>
<td>30.5 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>N.O.</td>
<td>N.O. + N.C.</td>
<td>N.O.</td>
<td>N.O. + N.C.</td>
</tr>
<tr>
<td></td>
<td>9001SKS11FBH5</td>
<td>9001SKS34FBH5</td>
<td>9001SKS11FBH5</td>
<td>9001SKS34FBH5</td>
</tr>
</tbody>
</table>

Pilot lights

<table>
<thead>
<tr>
<th>Type of head</th>
<th>Smooth lens cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 66 / NEMA &amp; UL Type 1, 2, 3, 3R, 4, 4X, 12 and 13</td>
</tr>
<tr>
<td>Mounting</td>
<td>panel cut-out</td>
</tr>
<tr>
<td>Depth below head (mm)</td>
<td>30.5 mm</td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals</td>
</tr>
<tr>
<td>Type of light block with high luminosity LED (included)</td>
<td>Incandescent BA 9s bulb</td>
</tr>
<tr>
<td>Transformer type</td>
<td>24 VAC/DC</td>
</tr>
<tr>
<td>Catalog number</td>
<td>green</td>
</tr>
<tr>
<td></td>
<td>9001SKP35LGG9</td>
</tr>
<tr>
<td></td>
<td>9001SKP38LGG9</td>
</tr>
<tr>
<td></td>
<td>9001SKP1G9</td>
</tr>
</tbody>
</table>
## Contact blocks with protected terminals

<table>
<thead>
<tr>
<th>Type of contact</th>
<th>Single and dual contact blocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact rating</td>
<td>NEMA &amp; UL Type A600/Q600, AC continuous carrying—10 A</td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals</td>
</tr>
<tr>
<td>Catalog number</td>
<td>N.O. + N.C.</td>
</tr>
<tr>
<td></td>
<td>9001KA1</td>
</tr>
<tr>
<td></td>
<td>N.O.</td>
</tr>
<tr>
<td></td>
<td>9001KA2</td>
</tr>
<tr>
<td></td>
<td>N.C.</td>
</tr>
<tr>
<td></td>
<td>9001KA3</td>
</tr>
<tr>
<td></td>
<td>N.O. (early close) + N.C.</td>
</tr>
<tr>
<td></td>
<td>9001KA4</td>
</tr>
<tr>
<td></td>
<td>N.C., late break</td>
</tr>
<tr>
<td></td>
<td>9001KA5</td>
</tr>
<tr>
<td></td>
<td>N.O., early close</td>
</tr>
<tr>
<td></td>
<td>9001KA6</td>
</tr>
</tbody>
</table>

## Legends

<table>
<thead>
<tr>
<th>Type</th>
<th>Color of legend</th>
<th>Aluminum, size 44 x 43 mm black background</th>
<th>Plastic, size 57 x 57 mm white background</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marking</td>
<td>Blank</td>
<td>9001KN200</td>
<td>9001KN100WP</td>
</tr>
<tr>
<td></td>
<td>START</td>
<td>9001KN201</td>
<td>9001KN101WP</td>
</tr>
<tr>
<td></td>
<td>STOP (red background)</td>
<td>9001KN202</td>
<td>9001KN102WP</td>
</tr>
<tr>
<td></td>
<td>ON</td>
<td>9001KN203</td>
<td>9001KN103WP</td>
</tr>
<tr>
<td></td>
<td>FORWARD</td>
<td>9001KN206</td>
<td>9001KN106WP</td>
</tr>
<tr>
<td></td>
<td>REVERSE</td>
<td>9001KN207</td>
<td>9001KN107WP</td>
</tr>
<tr>
<td></td>
<td>CLOSE</td>
<td>9001KN208</td>
<td>9001KN108WP</td>
</tr>
<tr>
<td></td>
<td>OPEN</td>
<td>9001KN209</td>
<td>9001KN109WP</td>
</tr>
<tr>
<td></td>
<td>DOWN</td>
<td>9001KN210</td>
<td>9001KN110WP</td>
</tr>
<tr>
<td></td>
<td>UP</td>
<td>9001KN211</td>
<td>9001KN111WP</td>
</tr>
<tr>
<td></td>
<td>HIGH</td>
<td>9001KN214</td>
<td>9001KN114WP</td>
</tr>
<tr>
<td></td>
<td>LOW</td>
<td>9001KN215</td>
<td>9001KN115WP</td>
</tr>
<tr>
<td></td>
<td>RESET</td>
<td>9001KN223</td>
<td>9001KN123WP</td>
</tr>
<tr>
<td></td>
<td>OFF-ON</td>
<td>9001KN234</td>
<td>9001KN144WP</td>
</tr>
<tr>
<td></td>
<td>ON-OFF</td>
<td>9001KN245</td>
<td>9001KN145WP</td>
</tr>
<tr>
<td></td>
<td>HAND-OFF-AUTO</td>
<td>9001KN260</td>
<td>9001KN160WP</td>
</tr>
</tbody>
</table>

## Accessories

<table>
<thead>
<tr>
<th>Type</th>
<th>Ring nut wrench</th>
<th>Blanking plug</th>
<th>Emergency stop round yellow legend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>for 9001K/SK</td>
<td>Chrome plated for 30 mm knockout</td>
<td>60 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>9001K95</td>
<td>9001K52</td>
<td>9001KN9330</td>
</tr>
</tbody>
</table>
Empty enclosures, Ø 22 mm & 30 mm for user assembly

XAL 22 mm (plastic, for use with XB5 devices)

<table>
<thead>
<tr>
<th>Empty Enclosures (1)</th>
<th>IP 66 / NEMA &amp; UL Type 4, 12 and 13</th>
<th>Type Number of Holes</th>
<th>Dimensions (H x W x D)</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light gray base “RAL 7035” Dark gray lid “RAL 7016”</td>
<td>1</td>
<td>68 x 68 x 53</td>
<td>XALD01</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>106 x 68 x 53</td>
<td>XALD02</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>136 x 68 x 53</td>
<td>XALD03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>166 x 68 x 53</td>
<td>XALD04</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>196 x 68 x 53</td>
<td>XALD05</td>
<td></td>
</tr>
<tr>
<td>Light gray base “RAL 7035” Yellow lid “RAL 1012”</td>
<td>1</td>
<td>68 x 68 x 53</td>
<td>XALK01</td>
<td></td>
</tr>
</tbody>
</table>

(1) For customer assembly using XB5 operators, 22 mm starting on page 2/16.

XAP 22 mm (metallic, for use with XB4 devices)

<table>
<thead>
<tr>
<th>Empty enclosures (2)</th>
<th>IP65 / NEMA &amp; UL Type 4, 13</th>
<th>Mounting 40 mm centerline spacing of holes</th>
<th>Type Usable Depth</th>
<th>Dimensions (H x W)</th>
<th># of 22 mm knock-outs</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Die Cast 49 mm</td>
<td>80 x 80</td>
<td>1</td>
<td>XAPG19201</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc 74.5 mm</td>
<td>130 x 80</td>
<td>2</td>
<td>XAPG29202</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gray RAL 7032</td>
<td>175 x 80</td>
<td>3</td>
<td>XAPG39203</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>80 x 80</td>
<td>1</td>
<td>XAPG19501</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>130 x 80</td>
<td>2</td>
<td>XAPG29502</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>175 x 80</td>
<td>3</td>
<td>XAPG39503</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>220 x 80</td>
<td>4</td>
<td>XAPG49504</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>310 x 85</td>
<td>5</td>
<td>XAPG59505</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(2) For customer assembly using XB4 operators, 22 mm starting on page 2/12.

KY 30 mm (metallic, for use with Type K and SK devices)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of 30 mm cut-outs</th>
<th>NEMA ratings</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Die Cast</td>
<td>1</td>
<td>1, 3, 4, 6, 12, 13</td>
<td>9001KY1</td>
</tr>
<tr>
<td>Aluminum</td>
<td>2</td>
<td>1, 3, 4, 6, 12, 13</td>
<td>9001KY2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1, 3, 4, 6, 12, 13</td>
<td>9001KY3</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1, 3, 4, 6, 12, 13</td>
<td>9001KY4</td>
</tr>
<tr>
<td>Stainless steel</td>
<td>1</td>
<td>1, 3, 4, 4X</td>
<td>9001KYSS1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1, 3, 4, 4X</td>
<td>9001KYSS2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1, 3, 4, 4X</td>
<td>9001KYSS3</td>
</tr>
</tbody>
</table>

(3) For customer assembly using Type K and SK devices, 30 mm starting on page 2/20.
Cam switches K2 series

<table>
<thead>
<tr>
<th>Function</th>
<th>Switches</th>
<th>ON-OFF switches</th>
<th>Stepping switches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>front face</td>
<td>45° switching angle</td>
<td>90° switching angle</td>
</tr>
<tr>
<td>Conventional thermal current (Ith)</td>
<td>IP 65 (1)</td>
<td>IP 65 (1)</td>
<td>IP 65 (1)</td>
</tr>
<tr>
<td>Rated insulation voltage (UI)</td>
<td>20 A</td>
<td>20 A</td>
<td>20 A</td>
</tr>
<tr>
<td>(UI) conforming to IEC60947-1</td>
<td>690 V</td>
<td>690 V</td>
<td>690 V</td>
</tr>
<tr>
<td>Number of positions</td>
<td>2</td>
<td>2</td>
<td>2 + &quot;0&quot; position</td>
</tr>
<tr>
<td>Number of poles</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Dimensions of front plate (mm)</td>
<td>45 x 45</td>
<td>45 x 45</td>
<td>45 x 45</td>
</tr>
<tr>
<td>Front mounting method</td>
<td>Multifixing plate, 45 x 45 mm</td>
<td>Plastic mounting plate for Ø 22 mm hole</td>
<td>K2B002ALH, K2B1002HLH, K2D012QLH</td>
</tr>
<tr>
<td></td>
<td>K2B002ACH</td>
<td>K2B1002CH</td>
<td>K2D012GCH</td>
</tr>
</tbody>
</table>

Cam switches K2 series

<table>
<thead>
<tr>
<th>Function</th>
<th>Changeover switches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>front face</td>
</tr>
<tr>
<td>Conventional thermal current (Ith)</td>
<td>20 A</td>
</tr>
<tr>
<td>Rated insulation voltage (UI)</td>
<td>690 V</td>
</tr>
<tr>
<td>(UI) conforming to IEC60947-1</td>
<td></td>
</tr>
<tr>
<td>Number of positions</td>
<td>2</td>
</tr>
<tr>
<td>Number of poles</td>
<td>2</td>
</tr>
<tr>
<td>Dimensions of front plate (mm)</td>
<td>45 x 45</td>
</tr>
<tr>
<td>Front mounting method</td>
<td>Multifixing plate, 45 x 45 mm</td>
</tr>
<tr>
<td></td>
<td>Plastic mounting plate for Ø 22 mm hole</td>
</tr>
<tr>
<td></td>
<td>K2D002UCH</td>
</tr>
</tbody>
</table>

(1) With seal KZ73 for switch with Multifixing plate; with seal KZ65 for Ø 22 mm hole mounting switches. Seal to be ordered separately.
### Beams and indicator banks

#### Universal range

**Harmony XVB / XVP**

**Universal - For signalling from 35 to 50 m**

#### Ø 70 mm

<table>
<thead>
<tr>
<th>Illuminated beacons XVB L</th>
<th>Steady light signalling</th>
<th>Flashing light signalling</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Light source</strong></td>
<td>Incandescent BA 15d bulb, 10 W max. (not included)</td>
<td>Protected BA 15d LED (included)</td>
</tr>
<tr>
<td><strong>Degree of protection</strong></td>
<td>IP 66</td>
<td></td>
</tr>
<tr>
<td><strong>Beacon catalog number (2)</strong></td>
<td>XVBL3p</td>
<td>XVBL1Bp</td>
</tr>
<tr>
<td>12–250 VAC/DC</td>
<td>XVLBL1Bp</td>
<td>XVBL6Bp</td>
</tr>
<tr>
<td>24 VAC/DC</td>
<td>XVLBL0Bp</td>
<td></td>
</tr>
<tr>
<td>120 VAC</td>
<td>XVLBL0Gp</td>
<td></td>
</tr>
<tr>
<td>230 VAC</td>
<td>XVLBL0Mp</td>
<td></td>
</tr>
</tbody>
</table>

**Ø 70 mm**

<table>
<thead>
<tr>
<th>Indicator banks XVB C comprising 2 to 5 signalling units (3)</th>
<th>Base units</th>
<th>Steady light signalling</th>
<th>Flashing light signalling</th>
<th>&quot;Flash&quot; light signalling</th>
<th>Audible units (90 db at 1 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Light source</strong></td>
<td></td>
<td>Incandescent BA 15d bulb, 10 W max. (not included)</td>
<td>Integral protected LED</td>
<td>&quot;Flash&quot; discharge tube 5 J (1)</td>
<td></td>
</tr>
<tr>
<td><strong>Degree of protection</strong></td>
<td></td>
<td>IP 66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Base unit catalog number</strong></td>
<td></td>
<td>XVBC21 (4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with cover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>without cover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lens unit catalog number (2)</strong></td>
<td></td>
<td>XVBC07 (5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12–230 VAC/DC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 VAC/DC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120 VAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>230 VAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Audible unit catalog number</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12–48 VAC/DC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120–230 VAC/DC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unidirectional</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>XVBC6B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(4) For connection on AS-Interface, order base unit XVBC21A (side cable entry) or XVBC21B (bottom cable entry with M12 connector on flying lead).

(5) For indicator banks with "flash" discharge tube unit.

**Ø 50 mm**

<table>
<thead>
<tr>
<th>Indicator banks XVP C comprising 2 to 5 signalling units (3), black clamping ring (6)</th>
<th>Base unit</th>
<th>Steady or flashing light signalling</th>
<th>&quot;Flash&quot; light signalling</th>
<th>Audible units (55–85 dB at 1 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Light source</strong></td>
<td></td>
<td>Incandescent BA 15d bulb, 7 W max. (not included)</td>
<td>&quot;Flash&quot; discharge tube 0.3 J</td>
<td>&quot;Flash&quot; discharge tube 0.6 J</td>
</tr>
<tr>
<td><strong>Degree of protection</strong></td>
<td></td>
<td>IP 65</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Base unit with cover</strong></td>
<td></td>
<td>XVPC21</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Catalog number (2)</strong></td>
<td></td>
<td>XVPC3p</td>
<td></td>
<td></td>
</tr>
<tr>
<td>250 V max.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 VAC (flash) - 24 VDC (buzzer)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120 VAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>230 VAC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) To order a lens unit with a 10 J discharge tube, replace the number 6 by 8 in the catalog number (example: XVBL6Bp becomes XVBL8Bp).

(2) To obtain the complete catalog number, replace the p by the number designating the color as follows: 3 = green, 4 = red, 5 = orange, 6 = blue, 7 = clear, 8 = yellow.

(3) An indicator bank comprises: 1 base unit + 1 to 5 signalling units maximum.

(6) To order products with a cream clamping ring, add the letter W to the end of the catalog number (example: base unit + green lens unit: XVPC21W + XVPC33W etc.).

For other versions, please consult with your Schneider Electric/Square D sales office: visit www.us.telemecanique.com
**Ø 45 mm**

**Miniature Illuminated beacons XVDLS**

<table>
<thead>
<tr>
<th>Light source</th>
<th>Steady light signalling</th>
<th>“Flash” light signalling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incandescent BA 15d bulb, 5 W max. (not included)</td>
<td>“Flash” discharge tube, 0.5 J</td>
<td></td>
</tr>
</tbody>
</table>

**Degree of protection**

<table>
<thead>
<tr>
<th>Beacon catalog number</th>
<th>IP 40</th>
</tr>
</thead>
<tbody>
<tr>
<td>24–230 VAC/DC</td>
<td>XVDLS3p</td>
</tr>
<tr>
<td>24 VAC/DC</td>
<td>–</td>
</tr>
<tr>
<td>120 VAC</td>
<td>–</td>
</tr>
<tr>
<td>230 VAC</td>
<td>–</td>
</tr>
</tbody>
</table>

(4) To obtain the complete catalog number, replace the p by the number designating the color as follows: 3 = green, 4 = red, 5 = orange, 6 = blue, 7 = clear, 8 = yellow.

**Ø 70 mm**

**Illuminated beacons XVE L**

<table>
<thead>
<tr>
<th>Light source</th>
<th>Steady light signalling</th>
<th>“Flash” light signalling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incandescent BA 15d bulb, 5 W max. (not included)</td>
<td>Integral LED</td>
<td></td>
</tr>
<tr>
<td>LED discharge tube, 1 J</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Degree of protection**

<table>
<thead>
<tr>
<th>Beacon catalog number</th>
<th>IP 42/ IP 54 (with sealing kit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24–240 VAC/DC</td>
<td>XVEL3p</td>
</tr>
<tr>
<td>24 VAC/DC</td>
<td>–</td>
</tr>
<tr>
<td>120 VAC</td>
<td>–</td>
</tr>
<tr>
<td>230 VAC</td>
<td>–</td>
</tr>
</tbody>
</table>

(5) To obtain the complete catalog number, replace the p by the number designating the color as follows: 3 = green, 4 = red, 5 = orange, 6 = blue, 7 = clear.

**Ø 70 mm**

**Indicator banks XVE C comprising 2 to 5 signalling units (5)**

<table>
<thead>
<tr>
<th>Light source</th>
<th>Base units</th>
<th>Steady light signalling</th>
<th>Flashing light signalling</th>
<th>“Flash” light signalling</th>
<th>Audible units (85 db at 1 m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>Incandescent BA 15d bulb, 5 W max. (not included)</td>
<td>Integral LED</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>–</td>
<td>Integral LED</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>–</td>
<td>“Flash” discharge tube, 1 J</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Degree of protection**

<table>
<thead>
<tr>
<th>Base unit catalog number</th>
<th>IP 42/ IP 54 (with sealing kit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP 42</td>
<td>XVEC21</td>
</tr>
<tr>
<td>IP 54</td>
<td>XVEC21P</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lens unit catalog number</th>
<th>XVEC3p</th>
</tr>
</thead>
<tbody>
<tr>
<td>24–230 VAC/DC</td>
<td>–</td>
</tr>
<tr>
<td>24 VAC/DC</td>
<td>–</td>
</tr>
<tr>
<td>120 VAC</td>
<td>–</td>
</tr>
<tr>
<td>230 VAC</td>
<td>–</td>
</tr>
</tbody>
</table>

(6) An indicator bank comprises: 1 base unit + 1 to 5 signalling units.

**Rotating mirror beacon XVR and Sirens XVS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Rotating mirror beacon</th>
<th>Sirens, 106 db</th>
</tr>
</thead>
<tbody>
<tr>
<td>Halogen bulb</td>
<td>Incandescent bulb</td>
<td>1 tone</td>
</tr>
<tr>
<td>70 W H1 (included)</td>
<td>25 W BA 15d (included)</td>
<td>2 tone</td>
</tr>
</tbody>
</table>

**Degree of protection**

<table>
<thead>
<tr>
<th>Diameter</th>
<th>IP 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø 165 mm</td>
<td></td>
</tr>
<tr>
<td>Ø 92 mm</td>
<td>IP 40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>XVRB1p</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VAC/DC</td>
<td>XVRB1p</td>
</tr>
<tr>
<td>120 VAC</td>
<td>XVRB1p</td>
</tr>
</tbody>
</table>

(3) To obtain the complete catalog number, replace the p by the number designating the color as follows: 3 = green, 4 = red, 5 = orange, 6 = blue, 8 = yellow.
Harmony XV  
Beacons and indicator banks, accessories  
For XVB, XVP, XVDLS, XVE, and XVR

<table>
<thead>
<tr>
<th>Bulbs and LEDs</th>
<th>Beacons and indicator banks XVB / XVP (1)</th>
<th>Rotating mirror beacon XVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light source</td>
<td>Incandescent BA 15d base 7 W</td>
<td>Incandescent BA 15d base 25 W</td>
</tr>
<tr>
<td></td>
<td>Incandescent BA 15d base 10 W (not XVP)</td>
<td>LED (2) BA 15d base</td>
</tr>
<tr>
<td>Catalog number</td>
<td>12 V</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DL1BEJ</td>
<td>DL1BLJ</td>
</tr>
<tr>
<td></td>
<td>24 V</td>
<td>DL1BEB</td>
</tr>
<tr>
<td></td>
<td>48 V</td>
<td>DL1BEE</td>
</tr>
<tr>
<td></td>
<td>120 V</td>
<td>DL1BEF</td>
</tr>
<tr>
<td></td>
<td>230 V</td>
<td>DL1BEM</td>
</tr>
</tbody>
</table>

(1) Indicator banks XVP can be fitted with 5 W incandescent bulbs: see beacons XVDLS / XVE.

<table>
<thead>
<tr>
<th>Bulbs and LEDs</th>
<th>Beacons XVDLS / XVE</th>
<th>Indicator banks XVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light source</td>
<td>Incandescent BA 15d base 5 W</td>
<td>LED (3) BA 15d base 5 W</td>
</tr>
<tr>
<td>Catalog number</td>
<td>24 V</td>
<td>DL1EDBS</td>
</tr>
<tr>
<td></td>
<td>120 V</td>
<td>DL1EDG</td>
</tr>
<tr>
<td></td>
<td>230 V</td>
<td>DL1EDGS</td>
</tr>
</tbody>
</table>

(2) To obtain the complete catalog number, replace the p by the number designating the color as follows: 1 = white, 3 = green, 4 = red, 5 = orange, 6 = blue, 8 = yellow.

(3) To obtain the complete catalog number, replace the p by the number designating the color as follows: 1 = white, 3 = green, 4 = red, 6 = blue, 8 = orange.
### Mounting accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Beacons and indicator banks</th>
<th>Indicator banks</th>
<th>Rotating mirror beacon</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>XVB / XVE</td>
<td>XVP</td>
<td>XVR</td>
</tr>
<tr>
<td>Diameter (mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support tubes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 mm</td>
<td>Ø 25</td>
<td>Ø 25</td>
<td>–</td>
</tr>
<tr>
<td>100 mm</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>112 mm</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>120 mm</td>
<td>XVEZ13</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>140 mm</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>250 mm</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>260 mm</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>400 mm</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>410 mm</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>420 mm</td>
<td>XVBZ02</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>620 mm</td>
<td>–</td>
<td>XVBZ02 (4)</td>
<td>–</td>
</tr>
<tr>
<td>Fixing plates, black</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for vertical support</td>
<td>XVBC12</td>
<td>XVPC12 (4)</td>
<td>XVR012</td>
</tr>
<tr>
<td>for horizontal support</td>
<td>XVBZ01</td>
<td>–</td>
<td>XVR013</td>
</tr>
</tbody>
</table>

(4) To order an aluminum support tube with integral cream fixing base, add the letter W to the end of the catalog number (example: XVPC02W).
**XAC Pendant control stations for control circuits**

**Ready to use**

### Type XAC A “Pistol grip”

<table>
<thead>
<tr>
<th>Specification</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 65 / Nema 4, 4X</td>
</tr>
<tr>
<td>Rated operational characteristics</td>
<td>AC 15 (240 V 3 A), DC 13</td>
</tr>
<tr>
<td>Conventional thermal current</td>
<td>Ithe 10 A</td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals, 1 x 2.5 mm² or 2 x 1.5 mm²</td>
</tr>
</tbody>
</table>

**For control of**

- **single-speed motors**
  - Dimensions (mm) W x H x D: 52 x 295 x 71 (x 85 with ZA2BS44)
  - Number of operators: 2
  - Emergency stop: without
  - Catalog number: XACA201

- **2-speed motors**
  - Dimensions (mm) W x H x D: 52 x 295 x 71 (x 85 with ZA2BS44)
  - Number of operators: 2
  - Emergency stop: without
  - Catalog number: XACA207

### Type XAC A

**For control of single-speed motors**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (mm) W x H x D</td>
<td>80 x 314 x 70 (x 90 with ZA2BS44)</td>
</tr>
<tr>
<td>Number of operators</td>
<td>mechanically interlocked</td>
</tr>
<tr>
<td>Number of operators</td>
<td>2</td>
</tr>
<tr>
<td>Emergency stop</td>
<td>without</td>
</tr>
<tr>
<td>Catalog number</td>
<td>XACA271</td>
</tr>
</tbody>
</table>

For control of 2-speed motors

- Dimensions (mm) W x H x D: 80 x 440 x 70 (x 90 with ZA2BS54)
- Number of operators: 4
- Emergency stop: without
- Catalog number: XACA471

### For control of single-speed motors

<table>
<thead>
<tr>
<th>Specification</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (mm) W x H x D</td>
<td>80 x 500 x 70 (x 90 with ZA2BS54)</td>
</tr>
<tr>
<td>Number of operators</td>
<td>mechanically interlocked</td>
</tr>
<tr>
<td>Number of operators</td>
<td>6</td>
</tr>
<tr>
<td>Emergency stop</td>
<td>without</td>
</tr>
<tr>
<td>Catalog number</td>
<td>XACA671</td>
</tr>
</tbody>
</table>

For control of 2-speed motors

- Dimensions (mm) W x H x D: 80 x 560 x 70
- Number of operators: 8
- Emergency stop: without
- Catalog number: XACA871
Empty enclosures type XAC A

<table>
<thead>
<tr>
<th>Number of holes</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>XACA02</td>
<td>XACA03</td>
<td>XACA04</td>
<td>XACA05</td>
<td>XACA06</td>
<td>XACA08</td>
<td>XACA12</td>
</tr>
</tbody>
</table>

Separate components (for mounting in enclosures XAC A)

- **Booted operators**
  - White: ZA2BS41
  - Black: ZA2BS42
- **Mushroom head, latching**
  - Turn to release 30 mm: ZA2BS44
  - 40 mm: ZA2BS54
- **Mushroom head, latching, trigger action**
  - Turn to release 30 mm: ZA2BS64
  - 40 mm: ZA2BS64
- **Mushroom head, latching**
  - Key release 30 mm: ZA2BS74
  - 40 mm: ZA2BS74
- **Selector switch**
  - 2 pos. maintained: ZA2BD2
  - 3 pos. maintained: ZA2BD3
- **Key switch**
  - Key no. 455
    - 2 pos. maintained: ZA2BG4
    - 3 pos. maintained: ZA2BG5
- **Blanking plug**
  - With seal and mounting nut: ZB2SZ3
- **Pilot light heads**
  - White: ZA2BV01
  - Green: ZA2BV03
  - Red: ZA2BV04
  - Yellow: ZA2BV05
- **Pilot light bodies 250 V max.**
  - Direct supply: ZB2BV00
  - Direct supply, through resistor: ZB2BV00
- **Contact blocks**
  - Single-speed N.O.: ZB2BE101
  - Single-speed N.C.: ZB2BE102
- **Contacts blocks for XAC A941p**
  - (1) simultaneous
  - (2) staggered
- **Contact blocks (for mounting in enclosure base)**
  - N.O.: XACS101
  - N.C. + N.O.: XACS105
- **Protective guard (for base mounted units)**
  - For selector switch or mushroom head push button: XACA892
- **Legends, 30 x 40 mm**
  - Symbols conforming to NF E 52-124
  - With text
    - Blank: white or yellow background
    - White or yellow background: ZB2BY4101
- **Catalog number**
  - ZB2BV4901
  - ZB2BV4903
  - ZB2BV4907
  - ZB2BV4909
  - ZB2BY4913
  - ZB2BY4915
  - ZB2BY4930
  - ZB2BY2303
  - ZB2BY2304

For other versions, please consult with your Schneider Electric/Square D sales office: visit www.us.telemecanique.com
### Type BW pendant station

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 65 / NEMA &amp; UL Type 4, 4X</td>
</tr>
<tr>
<td>Rated operational characteristics</td>
<td>NEMA B600/P600</td>
</tr>
<tr>
<td>Conventional thermal current</td>
<td>5 A</td>
</tr>
<tr>
<td>Connection</td>
<td>Screw clamp terminals</td>
</tr>
<tr>
<td>For control of</td>
<td></td>
</tr>
<tr>
<td>single-speed motors</td>
<td></td>
</tr>
<tr>
<td>2-speed motors</td>
<td></td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td></td>
</tr>
<tr>
<td>W x H x D</td>
<td>56 x 119 x 75</td>
</tr>
<tr>
<td>56 x 119 x 75</td>
<td></td>
</tr>
<tr>
<td>Number of operators</td>
<td>mechanically interlocked 2</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>UP-DOWN</td>
</tr>
<tr>
<td>FOR-REV</td>
<td>9001BW73Y</td>
</tr>
<tr>
<td>ON-OFF (1)</td>
<td>9001BW74Y</td>
</tr>
<tr>
<td>START-STOP (1)</td>
<td>9001BW76Y</td>
</tr>
<tr>
<td>(1) Maintained contact.</td>
<td></td>
</tr>
</tbody>
</table>

### Type BW pendant station accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hanger bracket and sealing kit</td>
<td>9001B350</td>
</tr>
</tbody>
</table>
Heavy duty pendant control stations
Stations for user assembly

Type SKYP

<table>
<thead>
<tr>
<th>Material</th>
<th>Polymeric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>NEMA &amp; UL Type 1, 3, 4, 4X and 13</td>
</tr>
<tr>
<td>For outdoor use</td>
<td>UV protected</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>Conduit Entrance Size</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Button</td>
<td>3/4&quot;–14NPT</td>
<td>9001SKYP2</td>
</tr>
<tr>
<td>4 Button</td>
<td>3/4&quot;–14 NPT</td>
<td>9001SKYP4</td>
</tr>
<tr>
<td>6 Button</td>
<td>1&quot;–11-1/2 NPT</td>
<td>9001SKYP6</td>
</tr>
<tr>
<td>8 Button</td>
<td>1-1/4&quot;–11-1/2 NPT</td>
<td>9001SKYP8</td>
</tr>
<tr>
<td>10 Button</td>
<td>1-1/4&quot;–11-1/2 NPT</td>
<td>9001SKYP10</td>
</tr>
</tbody>
</table>

Push button units—2 button

<table>
<thead>
<tr>
<th>Contact rating</th>
<th>NEMA &amp; UL Type A600/P600</th>
<th>10 A thermal</th>
<th>Single Speed—Momentary Interlocked</th>
<th>9001SKRU1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact rating</td>
<td>NEMA &amp; UL Type B600</td>
<td>5 A thermal</td>
<td>Two Speed—Momentary Interlocked</td>
<td>9001SKRU2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Three Speed—Momentary Interlocked</td>
<td>9001SKRU3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Four Speed—Momentary Interlocked</td>
<td>9001SKRU4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Five Speed—Momentary Interlocked</td>
<td>9001SKRU5</td>
</tr>
</tbody>
</table>

Double legend plates for opposing functions

<table>
<thead>
<tr>
<th>For SKRU1 through SKRU05</th>
<th>Blank-Blank 9001SKN200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoist: Up-Down</td>
<td>9001SKN201</td>
</tr>
<tr>
<td>Trolley: East-West</td>
<td>9001SKN202</td>
</tr>
<tr>
<td>Trolley: Fwd.-Rev.</td>
<td>9001SKN203</td>
</tr>
<tr>
<td>Trolley: North-South</td>
<td>9001SKN204</td>
</tr>
<tr>
<td>Bridge: Fwd.-Rev.</td>
<td>9001SKN205</td>
</tr>
<tr>
<td>Bridge: East-West</td>
<td>9001SKN206</td>
</tr>
<tr>
<td>Bridge: North-South</td>
<td>9001SKN207</td>
</tr>
<tr>
<td>Start-Stop</td>
<td>9001SKN208</td>
</tr>
<tr>
<td>Reset-Stop</td>
<td>9001SKN209</td>
</tr>
</tbody>
</table>
## Control stations

### Standard and heavy duty

#### Type B standard duty control stations

<table>
<thead>
<tr>
<th>Number of Operators</th>
<th>Nameplate Markings and Features</th>
<th>Surface Mounting</th>
<th>Watertight and Dusttight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stop (Mushroom Button)</td>
<td>9001BG103</td>
<td>9001BW151</td>
</tr>
<tr>
<td></td>
<td>Stop (Lockout)</td>
<td>9001BG104</td>
<td>9001BW146</td>
</tr>
<tr>
<td></td>
<td>Hand-Off-Auto (Selector Switch)</td>
<td>9001BG112</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Start-Stop</td>
<td>9001BG201</td>
<td>9001BW240</td>
</tr>
<tr>
<td></td>
<td>Start-Stop (Lockout on Stop)</td>
<td>9001BG204</td>
<td>9001BW241</td>
</tr>
<tr>
<td></td>
<td>Up-Down</td>
<td>9001BG208</td>
<td>9001BW243</td>
</tr>
<tr>
<td></td>
<td>Start-Stop (Maintained Contact)</td>
<td>9001BG215</td>
<td>9001BW255</td>
</tr>
<tr>
<td>3</td>
<td>Forward - Reverse - Stop</td>
<td>9001BG302</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open - Close - Stop</td>
<td>9001BG303</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Up - Down - Stop</td>
<td>9001BG305</td>
<td></td>
</tr>
</tbody>
</table>

#### Type KY and SKY 30 mm control stations

<table>
<thead>
<tr>
<th>Number of Operators</th>
<th>Nameplate Markings and Features</th>
<th>Die Cast Aluminum Type K Operators</th>
<th>Polymeric Type SK Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Start</td>
<td>9001KYK11</td>
<td>9001SKY101</td>
</tr>
<tr>
<td></td>
<td>Stop (Mushroom)</td>
<td>9001KYK13</td>
<td>9001SKY103</td>
</tr>
<tr>
<td></td>
<td>To Stop - Break Glass (Red Enclosure)</td>
<td>9001KYK117</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Off - On (Selector Switch)</td>
<td>9001KYK110</td>
<td>9001SKY110</td>
</tr>
<tr>
<td></td>
<td>Hand - Off - Auto (Selector Switch)</td>
<td>9001KYK111</td>
<td>9001SKY111</td>
</tr>
<tr>
<td>2</td>
<td>Start - Stop</td>
<td>9001KYK21</td>
<td>9001SKY201</td>
</tr>
<tr>
<td></td>
<td>Up - Down</td>
<td>9001KYK25</td>
<td>9001SKY205</td>
</tr>
<tr>
<td></td>
<td>Open - Close</td>
<td>9001KYK26</td>
<td>9001SKY206</td>
</tr>
<tr>
<td>3</td>
<td>Forward - Reverse - Stop</td>
<td>9001KYK31</td>
<td>9001SKY301</td>
</tr>
<tr>
<td></td>
<td>Up - Down - Stop</td>
<td>9001KYK32</td>
<td>9001SKY302</td>
</tr>
<tr>
<td></td>
<td>Open - Close - Stop</td>
<td>9001KYK33</td>
<td>9001SKY303</td>
</tr>
</tbody>
</table>
# Foot switches

## Heavy duty

### DANGER

**HAZARDOUS APPLICATIONS**

Do not use foot switches on machines without point of operation protection.

Failure to follow this precaution will result in serious injury.

<table>
<thead>
<tr>
<th>Description</th>
<th>Features</th>
<th>Fully Shielded with Oversized Pedal Shield, Side Shields and Safety Door</th>
<th>With Oversized Pedal Shield and Side Shields</th>
<th>With Pedal Shield and Side Shields</th>
<th>Unshielded See Warning note (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Pole (2)</td>
<td>Spring Return</td>
<td>AW117</td>
<td>AW132</td>
<td>AW2</td>
<td>AW1</td>
</tr>
<tr>
<td>Double Throw</td>
<td>With Mechanical Latch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two Pole (2)</td>
<td>Spring Return</td>
<td>AW124 (1)</td>
<td>AW133</td>
<td>AW14</td>
<td>AW13</td>
</tr>
<tr>
<td>Double Throw</td>
<td>With Mechanical Latch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two Stage (2)</td>
<td>Spring Return</td>
<td>AW119</td>
<td>AW134</td>
<td>AW6</td>
<td>AW5</td>
</tr>
<tr>
<td>(One pole each stage)</td>
<td>With Mechanical Latch in 1st Stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>With Mechanical Latch in 2nd Stage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Four Stage (2)</td>
<td>Spring Return</td>
<td>AW123</td>
<td></td>
<td>AW22</td>
<td>AW21</td>
</tr>
<tr>
<td>(One pole each stage)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Pole</td>
<td>Maintained Contact–Push On/Push Off</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Throw</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) 2 N.O. and 2 N.C. isolated, direct acting contacts.

(2) A single pole snap switch that contains two double break contact elements (1 N.O. and 1 N.C.) must be used on circuits of same polarity.

A double pole snap switch contains two electrically separated sets of contact elements allowing use on circuits of opposite polarity. Each set that contains two double break contact elements (1 N.O. and 1 N.C.) must be used on circuits of same polarity.

(3) WARNING: These foot switches must not be used to operate machines or equipment where the possibility of operator injury exists. Typical uses include Emergency Stop functions, “Dead man” controls, signal functions (lights, bells, etc.).
## Display units
### With matrix screen (1)

<table>
<thead>
<tr>
<th>Type</th>
<th>Compact display units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>Capacity</td>
</tr>
<tr>
<td></td>
<td>Type</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Data entry</td>
<td>Via keypad with 8 keys (4 with changeable legends)</td>
</tr>
<tr>
<td>Functions</td>
<td>Representation of variables</td>
</tr>
<tr>
<td>Communication</td>
<td>Downloadable protocols</td>
</tr>
<tr>
<td>Development software</td>
<td>XBTN1001 and XBTN1003 (on Windows 98, 2000 and XP)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>132 x 37 x 74 mm</td>
</tr>
<tr>
<td>Compatibility with PLCs</td>
<td>Twido, Nano, TSX Micro, Premium, Quantum, Momentum</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>5 VDC (2)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>XBTN200, XBTN400, XBTN410, XBTN401, XBTN401</td>
</tr>
</tbody>
</table>

2. 5 VDC power supplied via PLC terminal port.

## Terminals with matrix screen

<table>
<thead>
<tr>
<th>Type</th>
<th>Terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>Capacity</td>
</tr>
<tr>
<td></td>
<td>Type</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Back-lit LCD</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Data entry</td>
<td>20 keys (12 configurable)</td>
</tr>
<tr>
<td>Functions</td>
<td>Representation of variables</td>
</tr>
<tr>
<td>Communication</td>
<td>Downloadable protocols</td>
</tr>
<tr>
<td>Development software</td>
<td>XBTN1001 and XBTN1003 (on Windows 98, 2000 and XP)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>137 x 37 x 118 mm</td>
</tr>
<tr>
<td>Compatibility with PLCs</td>
<td>Twido, Nano, TSX Micro, Premium, Quantum, Momentum</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>5 VDC (1)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>XBTN400, XBTN410, XBTN411</td>
</tr>
</tbody>
</table>

1. 5 VDC power supplied via PLC terminal port.
## Graphic terminals
### With keypad or touchscreen

<table>
<thead>
<tr>
<th>Type</th>
<th>With keypad</th>
<th>With touchscreen</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screen size</td>
<td>5.7”</td>
<td>10.4”</td>
</tr>
<tr>
<td>Type</td>
<td>TFT, 256 colors</td>
<td>TFT, 256 colors with resistive matrix tactile feedback (13 X 10 cells)</td>
</tr>
<tr>
<td>Data entry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soft function keys</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Static function keys</td>
<td>10 with changeable legends</td>
<td>12 with changeable legends</td>
</tr>
<tr>
<td>Service keys</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Alphanumeric keys</td>
<td>12 + 3 alphanumeric access</td>
<td>no</td>
</tr>
<tr>
<td>Touchscreen</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Functions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Representation of variables</td>
<td>Alphanumeric, bitmap, bargraph, gauge, potentiometer, selector</td>
<td></td>
</tr>
<tr>
<td>Recipes</td>
<td>125 records maximum with 5000 parameter values maximum</td>
<td>no</td>
</tr>
<tr>
<td>Curves</td>
<td>16 real-time</td>
<td>no</td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Downloadable protocols</td>
<td>Uni-TE, Modbus, AEG and for Allen Bradley, GE Fanuc, Omron, Siemens PLCs</td>
<td>no</td>
</tr>
<tr>
<td>Bus and networks</td>
<td>Pipway, Modbus Plus with PCMCIA card (except XBTF011110)</td>
<td>Uni-TE, Modbus, Modbus TCP/IP</td>
</tr>
<tr>
<td>Development software</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XBT L1003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>220.3x88x265mm</td>
<td>296x91x332mm</td>
</tr>
<tr>
<td>Compatibility with PLCs</td>
<td>Twido Nano, TSX Micro, Premium, Quantum</td>
<td>yes</td>
</tr>
<tr>
<td>RJ45 Ethernet TCP/IP connector</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24 VDC</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>XBTF01110 / F01130</td>
<td>XBTF024510</td>
</tr>
</tbody>
</table>

### With 3.8” and 5.7” touchscreen open to NTIC(1)

<table>
<thead>
<tr>
<th>Type</th>
<th>Optimum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
<td></td>
</tr>
<tr>
<td>LCD screen size</td>
<td>3.8”</td>
</tr>
<tr>
<td>Type</td>
<td>Back-lit STN monochrome, amber or red with 8 levels of gray</td>
</tr>
<tr>
<td>Functions</td>
<td></td>
</tr>
<tr>
<td>Representation of variables</td>
<td>Alphanumeric, bitmap, bargraph, gauge, button, light, clock, flashing light, keypad</td>
</tr>
<tr>
<td>Curves</td>
<td>yes, with log</td>
</tr>
<tr>
<td>Alarm logs</td>
<td>yes, incorporated</td>
</tr>
<tr>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>Downloadable protocols</td>
<td>Uni-TE, Modbus</td>
</tr>
<tr>
<td>Bus and networks</td>
<td>-</td>
</tr>
<tr>
<td>Third party protocols</td>
<td>Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)</td>
</tr>
<tr>
<td>Development software</td>
<td>Vijeo Designer VJpppTGSVpM (on Windows 2000 and XP)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>130 x 41 x 104 mm</td>
</tr>
<tr>
<td>Compatibility with PLCs</td>
<td>Twido Nano, TSX Micro, Premium, Quantum</td>
</tr>
<tr>
<td>Compact Flash card slot</td>
<td>no</td>
</tr>
<tr>
<td>Character fonts</td>
<td>ASCII, (including European characters), Japanese (ANK, Kanji), Chinese (simplified Chinese), Taiwanese (traditional Chinese), Korean</td>
</tr>
<tr>
<td>Built-in Ethernet TCP/IP</td>
<td>no</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Catalog number</td>
<td>XBGTGT1100</td>
</tr>
</tbody>
</table>

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For other versions, please consult with your Schneider Electric/Square D Sales office: visit www.us.telemecanique.com
## With 5.7" touchscreen open to NTIC\(^1\)

<table>
<thead>
<tr>
<th>Type</th>
<th>Multifunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>LCD screen size</td>
</tr>
<tr>
<td>Representation of variables</td>
<td>STN, color 4096 colors</td>
</tr>
<tr>
<td>Curves</td>
<td>yes, with log</td>
</tr>
<tr>
<td>Alarm logs</td>
<td>yes, incorporated</td>
</tr>
<tr>
<td>Downloadable protocols</td>
<td>Uni-TE, Modbus, Modbus TCP/IP</td>
</tr>
<tr>
<td>Bus and networks</td>
<td>Ethernet, IEEE 802.3 10/100 BASE-T, RJ45</td>
</tr>
<tr>
<td>Expansion</td>
<td>For Modbus Plus network connection</td>
</tr>
<tr>
<td>Third party protocols</td>
<td>Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)</td>
</tr>
<tr>
<td>Development software</td>
<td>Vijeo Designer VJDppp GSvpp M (on Windows 2000 and XP)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>167.5 x 59.5 x 135 mm</td>
</tr>
<tr>
<td>Compatibility with PLCs</td>
<td>Tewido, Nano, TSX Micro, Premium, Quantum</td>
</tr>
<tr>
<td>Character fonts</td>
<td>ASCII, (including European characters), Japanese (ANK, Kanji), Chinese (simplified Chinese), Taiwanese (traditional Chinese), Korean</td>
</tr>
<tr>
<td>Built-in EthernetTCP/IP</td>
<td>yes</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Catalog number</td>
<td>XBTGT2120 XBTGT2130 XBTGT2220 XBTGT2330</td>
</tr>
</tbody>
</table>

---

## With 7.5" touchscreen open to NTIC\(^1\)

<table>
<thead>
<tr>
<th>Type</th>
<th>Multifunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>LCD screen size</td>
</tr>
<tr>
<td>Representation of variables</td>
<td>STN, color 4096 colors</td>
</tr>
<tr>
<td>Curves</td>
<td>yes, with log</td>
</tr>
<tr>
<td>Alarm logs</td>
<td>yes, incorporated</td>
</tr>
<tr>
<td>Downloadable protocols</td>
<td>Modbus, Uni-TE, Modbus TCP/IP</td>
</tr>
<tr>
<td>Bus and networks</td>
<td>Ethernet, IEEE 802.3 10/100 BASE-T, RJ45</td>
</tr>
<tr>
<td>Video input NTCS/PAL</td>
<td>Mini-jack connector</td>
</tr>
<tr>
<td>Audio input (microphone)</td>
<td>RCA connector (75 ohms)</td>
</tr>
<tr>
<td>Expansion</td>
<td>For Modbus Plus network connection</td>
</tr>
<tr>
<td>Third party protocols</td>
<td>Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)</td>
</tr>
<tr>
<td>Development software</td>
<td>Vijeo Designer VJDppp GSvpp M (on Windows 2000 and XP)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>215 60 x 170 mm</td>
</tr>
<tr>
<td>Compatibility with PLCs</td>
<td>Tewido, Nano, TSX Micro, Premium, Quantum</td>
</tr>
<tr>
<td>Character fonts</td>
<td>ASCII, (including European characters), Japanese (ANK, Kanji), Chinese (simplified Chinese), Taiwanese (traditional Chinese), Korean</td>
</tr>
<tr>
<td>Built-in EthernetTCP/IP</td>
<td>yes</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Catalog number</td>
<td>XBTGT4320 XBTGT4330 XBTGT4340</td>
</tr>
</tbody>
</table>

\(^1\) NTIC: New Technology for Information and Communication
### With 10.4" touchscreen open to NTIC(1)

<table>
<thead>
<tr>
<th>Type</th>
<th>Multifunction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
<td>LCD screen size</td>
</tr>
<tr>
<td>Representation of variables</td>
<td>TFT, color 4096 colors, 65,536 colors, 16,384 if flashing</td>
</tr>
<tr>
<td>Curves</td>
<td>yes, with log</td>
</tr>
<tr>
<td>Alarm logs</td>
<td>yes, incorporated</td>
</tr>
<tr>
<td>Downloadable protocols</td>
<td>Modbus, Uni-TE, Modbus TCP/IP</td>
</tr>
<tr>
<td>Bus and networks</td>
<td>Ethernet, IEEE 802.3 10/100 BASE-T, RJ45</td>
</tr>
<tr>
<td>Video input NTCS/PAL</td>
<td>RCA connector (75 ohms), mini-jack connector</td>
</tr>
<tr>
<td>Audio input (microphone)</td>
<td></td>
</tr>
<tr>
<td><strong>Expansion</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Third party protocols</strong></td>
<td></td>
</tr>
<tr>
<td>Development software</td>
<td>Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>313 x 56 x 239 mm, 270.5 x 57 x 212.5 mm</td>
</tr>
<tr>
<td>Compatibility with PLCs</td>
<td>Twido, Nano, TSX Micro, Premium, Quantum</td>
</tr>
<tr>
<td>Character fonts</td>
<td>ASCII (including European characters), Japanese (ANK, Kanji), Chinese (simplified Chinese), Taiwanese (traditional Chinese), Korean</td>
</tr>
<tr>
<td>Built-in Ethernet TCP/IP</td>
<td>yes</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>XBTGT5230, XBTGT5330, XBTGT5340</td>
</tr>
</tbody>
</table>

(1) NTIC: New Technology for Information and Communication

### With 12.5" and 15" touchscreen open to NTIC(1)

<table>
<thead>
<tr>
<th>Type</th>
<th>Multifunction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
<td>LCD screen size</td>
</tr>
<tr>
<td>Representation of variables</td>
<td>TFT, color 65,536 colors, 16,384 if flashing</td>
</tr>
<tr>
<td>Curves</td>
<td>yes, with log</td>
</tr>
<tr>
<td>Alarm logs</td>
<td>yes, incorporated</td>
</tr>
<tr>
<td>Downloadable protocols</td>
<td>Modbus, Uni-TE, Modbus TCP/IP</td>
</tr>
<tr>
<td>Bus and networks</td>
<td>Ethernet, IEEE 802.3 10/100 BASE-T, RJ45</td>
</tr>
<tr>
<td>Video input NTCS/PAL</td>
<td>RCA connector (75 ohms), mini-jack connector</td>
</tr>
<tr>
<td>Audio input (microphone)</td>
<td></td>
</tr>
<tr>
<td><strong>Expansion</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Third party protocols</strong></td>
<td></td>
</tr>
<tr>
<td>Development software</td>
<td>Mitsubishi (Melsec), Omron (Sysmac), Rockwell Automation (Allen Bradley), Siemens (Simatic)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>313 x 56 x 239 mm, 395 x 60 x 294 mm</td>
</tr>
<tr>
<td>Compatibility with PLCs</td>
<td>Twido, Nano, TSX Micro, Premium, Quantum</td>
</tr>
<tr>
<td>Character fonts</td>
<td>ASCII (including European characters), Japanese (ANK, Kanji), Chinese (simplified Chinese), Taiwanese (traditional Chinese), Korean</td>
</tr>
<tr>
<td>Built-in Ethernet TCP/IP</td>
<td>yes</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>XBTGT6330, XBTGT6340, XBTGT7340</td>
</tr>
</tbody>
</table>

(1) NTIC: New Technology for Information and Communication
## Magelis Accessories

### For display units and terminals

<table>
<thead>
<tr>
<th>Connection cables</th>
<th>PC to Magelis transfer cables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2.5 m</strong></td>
<td><strong>2.5 m</strong></td>
</tr>
<tr>
<td><strong>2 m</strong></td>
<td><strong>2 m</strong></td>
</tr>
<tr>
<td><strong>2 m</strong></td>
<td><strong>2 m</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application</th>
<th>PC to all XBTN200, N400 and R400</th>
<th>PC to all XBTN except XBTN200, N400, R400 and XBTGT1p0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of connector</strong></td>
<td>RJ45/MiniDin + SUBD 9</td>
<td>SUBD 9</td>
</tr>
<tr>
<td><strong>Physical link</strong></td>
<td>RS 232C</td>
<td>RS 232C</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>XBTZ945(1)</td>
<td>XBTZ915(1)</td>
</tr>
</tbody>
</table>

(1) Adaptor SR2CBL06 for linking USB port of PC, to be used in conjunction with connecting cables XBTZ945 and XBTZ915 for connecting display units or terminals XBTN/R/H/P/E/HM/PM/F.

### Telemecanique PLC connection cables (2.5 m)

<table>
<thead>
<tr>
<th>Application</th>
<th>XBTGT, XBTN200, N400, R400, N400, R400, N400, R400, N400, R400</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of connector</strong></td>
<td>Twido, Nano, TSX Micro, Premium</td>
</tr>
<tr>
<td><strong>Physical link</strong></td>
<td>RS 485</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>XBTZ9780</td>
</tr>
</tbody>
</table>

### Cordsets for direct connection XBTGT terminals to Telemecanique products

<table>
<thead>
<tr>
<th>Automation product type</th>
<th>Connector type (product side)</th>
<th>Protocol</th>
<th>XBT type terminal, physical link</th>
<th>On XBT port</th>
<th>Length</th>
<th>Catalog number</th>
<th>Weight kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twido</td>
<td>1-way female Mini-DIN</td>
<td>Uni-TE</td>
<td>XBTGT11p0, RS485, RS485</td>
<td>COM1</td>
<td>2.5 m</td>
<td>XBTZ9780</td>
<td>0.180</td>
</tr>
<tr>
<td>Modicon TSX Micro</td>
<td>8-way female Mini-DIN</td>
<td>Modbus</td>
<td>XBTGT2p0p-GT7340, RS485</td>
<td>COM2</td>
<td>2.5 m</td>
<td>XBTZ968 + (2)</td>
<td>0.180</td>
</tr>
<tr>
<td>Modicon Premium</td>
<td>25-way female SUB-D</td>
<td>Uni-TE</td>
<td>XBTGT11p0, RS485, RS485</td>
<td>COM1</td>
<td>2.5 m</td>
<td>XBTZ981 + (2)</td>
<td>0.340</td>
</tr>
<tr>
<td>Modicon Quantum</td>
<td>9-way male SUB-D</td>
<td>Modbus</td>
<td>XBTGT11p0, RS485, RS485</td>
<td>COM1</td>
<td>2.5 m</td>
<td>XBTZ9710 + (3)</td>
<td>0.210</td>
</tr>
<tr>
<td>Advantys STB</td>
<td>HE13 (NIM, network interface)</td>
<td>Modbus</td>
<td>XBTGT11p0, RS485, RS485</td>
<td>COM1</td>
<td>2.5 m</td>
<td>XBTZ988 + (3)</td>
<td>0.220</td>
</tr>
<tr>
<td>Modicon M1</td>
<td>RJ45 (port 1 of Momentum M1)</td>
<td>Modbus</td>
<td>XBTGT11p0, RS485, RS485</td>
<td>COM1</td>
<td>2.5 m</td>
<td>XBTZ9711 + (3)</td>
<td>0.210</td>
</tr>
<tr>
<td>TeSysU</td>
<td>RJ45</td>
<td>Modbus</td>
<td>XBTGT11p0, RS485, RS485</td>
<td>COM2</td>
<td>3 m</td>
<td>VWSA3006R30</td>
<td>0.080</td>
</tr>
</tbody>
</table>

(1) XBTZ9939 adaptor to use with cordsets whose catalog number is followed by + (1).
(2) XBTZ9909 adaptor to use with cordsets whose catalog number is followed by + (2).
(3) XBTZ9919 adaptor to use with cordsets whose catalog number is followed by + (3).
(4) Male connector with XBTZG1232, female connector with XBTZG1485.
### Network cards

<table>
<thead>
<tr>
<th>Compatibility</th>
<th>Protocol</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>XBTF</td>
<td>Modbus Plus</td>
<td>TSXMBP100</td>
</tr>
<tr>
<td>XBTF</td>
<td>Fipway</td>
<td>TSXFPP20</td>
</tr>
<tr>
<td>XBTF</td>
<td>Fipio bus</td>
<td>TSXFPP10</td>
</tr>
<tr>
<td>XBTF</td>
<td>Modbus Plus</td>
<td>TSXCUSBMBP</td>
</tr>
</tbody>
</table>

### Memory cards

<table>
<thead>
<tr>
<th>Compatibility</th>
<th>Compact Flash card</th>
</tr>
</thead>
<tbody>
<tr>
<td>XBTF</td>
<td>XBTGT (except XBTGT1000 and XBTGT2110)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 Mb</td>
<td>XBTMEM16</td>
</tr>
<tr>
<td>128 Mb</td>
<td>XBTZGM128</td>
</tr>
<tr>
<td>256 Mb</td>
<td>XBTZGM256</td>
</tr>
<tr>
<td>512 Mb</td>
<td>MPCYN00CFE00N</td>
</tr>
<tr>
<td>1 Gb</td>
<td>MPCYN00CF100N</td>
</tr>
</tbody>
</table>
## Magelis Industrial PCs “all in one”

### Magelis Smart i PC 12”

<table>
<thead>
<tr>
<th>Feature</th>
<th>Smart i PC 12”</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touchscreen</td>
<td>12” LCD TFT</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>SVGA 800 x 600</td>
<td>XGA 1024 x 768</td>
</tr>
<tr>
<td>Front panel ports</td>
<td>1 x USB, protected by IP65 cover</td>
<td>–</td>
</tr>
<tr>
<td>Processor</td>
<td>Celeron M@600MHz</td>
<td>VIA @667MHz</td>
</tr>
<tr>
<td>RAM</td>
<td>256 MB → 1024 MB</td>
<td>256 MB → 512 MB</td>
</tr>
<tr>
<td>Storage</td>
<td>Compact Flash 1 GB</td>
<td>Compact Flash 512 MB or 1 GB</td>
</tr>
<tr>
<td>Reader</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Extension</td>
<td>1 or 2 x PCMCIA type I (or type III)</td>
<td>2 x PCMCIA type I (or type III)</td>
</tr>
<tr>
<td>Ethernet port</td>
<td>2 x 10/100 RJ45</td>
<td>1 x 10/100 RJ45</td>
</tr>
<tr>
<td>I/O ports</td>
<td>4 x USB, 1 x RS232, DIO</td>
<td>2 x USB, 2 x RS232, 2 x PS2, 1 x LPT1</td>
</tr>
<tr>
<td>Power supply</td>
<td>AC 100–240V</td>
<td>DC 24 V</td>
</tr>
<tr>
<td>Certifications</td>
<td>UL508, CSA</td>
<td>UL508, UL1604, CSA</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>313 x 239 x 60 mm</td>
<td>395 x 294 x 65 mm</td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows XPe SP2 installed in Compact Flash memory</td>
<td></td>
</tr>
<tr>
<td>Applications</td>
<td>Internet Explorer</td>
<td>Internet Explorer</td>
</tr>
<tr>
<td></td>
<td>Media Player</td>
<td>Media Player</td>
</tr>
<tr>
<td></td>
<td>Office readers</td>
<td>Office readers</td>
</tr>
<tr>
<td></td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Catalog number</td>
<td>MPCST21NAJ10T</td>
<td>MPCST21NAJ10R</td>
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</table>

### Magelis Smart i PC 15”

<table>
<thead>
<tr>
<th>Feature</th>
<th>Smart i PC 15”</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touchscreen</td>
<td>15” LCD TFT</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>XGA 1024 x 768</td>
<td>XGA 1024 x 768</td>
</tr>
<tr>
<td>Front panel ports</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Processor</td>
<td>VIA @667MHz</td>
<td>OR Pentium 4 m 1.7GHz</td>
</tr>
<tr>
<td>RAM</td>
<td>256 MB → 512 MB</td>
<td>256 MB → 512 MB</td>
</tr>
<tr>
<td>Storage</td>
<td>Compact Flash 512 MB or 1 GB</td>
<td></td>
</tr>
<tr>
<td>Reader</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Extension</td>
<td>2 x PCMCIA type I (or type III)</td>
<td>2 x PCMCIA type I (or type III)</td>
</tr>
<tr>
<td>Ethernet port</td>
<td>1 x 10/100 RJ45</td>
<td>1 x 10/100 RJ45</td>
</tr>
<tr>
<td>I/O ports</td>
<td>2 x USB, 2 x RS232, 2 x PS2, 1 x LPT1</td>
<td>2 x USB, 2 x RS232, 2 x PS2, 1 x LPT1</td>
</tr>
<tr>
<td>Power supply</td>
<td>AC 100–240V</td>
<td>DC 24 V</td>
</tr>
<tr>
<td>Certifications</td>
<td>UL508, UL1604, CSA</td>
<td>UL508, UL1604, CSA</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>395 x 294 x 65 mm</td>
<td>395 x 294 x 65 mm</td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows XPe SP2 installed in Compact Flash memory</td>
<td></td>
</tr>
<tr>
<td>Applications</td>
<td>Internet Explorer</td>
<td>Internet Explorer</td>
</tr>
<tr>
<td></td>
<td>Media Player</td>
<td>Media Player</td>
</tr>
<tr>
<td></td>
<td>Office readers</td>
<td>Office readers</td>
</tr>
<tr>
<td></td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Catalog number</td>
<td>MPCST21NAJ10T</td>
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### Magelis Compact i PC 12”

<table>
<thead>
<tr>
<th>Feature</th>
<th>Compact i PC 12”</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touchscreen</td>
<td>12” LCD TFT</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>XGA 1024 x 768</td>
<td>XGA 1024 x 768</td>
</tr>
<tr>
<td>Front panel ports</td>
<td>1 x USB</td>
<td></td>
</tr>
<tr>
<td>Processor</td>
<td>Celeron <a href="mailto:M@1.3GHz">M@1.3GHz</a></td>
<td>VIA @667MHz OR Pentium 4 m 1.7GHz</td>
</tr>
<tr>
<td>RAM</td>
<td>256 MB → 1024 MB</td>
<td>256 MB → 512 MB</td>
</tr>
<tr>
<td>Internal drive</td>
<td>≥ 20 GB</td>
<td></td>
</tr>
<tr>
<td>Reader</td>
<td>Diskette and CD-ROM</td>
<td>–</td>
</tr>
<tr>
<td>Extension</td>
<td>1 x PCI, 1 x PCMCIA type I (or type III)</td>
<td>1 x PCI, 2 x PCMCIA type I (or type III)</td>
</tr>
<tr>
<td>Ethernet port</td>
<td>2 x 10/100 RJ45</td>
<td>1 x 10/100 RJ45</td>
</tr>
<tr>
<td>I/O ports</td>
<td>4 x USB, 1 x RS232</td>
<td>2 x USB, 2 x RS232, 2 x PS2, 1 x LPT1</td>
</tr>
<tr>
<td>Power supply</td>
<td>AC 100–240V</td>
<td>DC 24 V</td>
</tr>
<tr>
<td>Certifications</td>
<td>UL508, CSA</td>
<td>UL508, UL1604, CSA</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>313 x 239 x 100 mm</td>
<td>395 x 294 x 100 mm</td>
</tr>
<tr>
<td>Applications</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Applications Windows 2000</td>
<td>MPCKT22NA00N</td>
<td>MPCKT22NA00N</td>
</tr>
<tr>
<td></td>
<td>Vijeo Designer RT (1)</td>
<td>Vijeo Designer RT (1)</td>
</tr>
<tr>
<td>Applications Windows Pro</td>
<td>MPCKT22NA00N</td>
<td>MPCKT22NA00N</td>
</tr>
<tr>
<td></td>
<td>Vijeo Designer RT (1)</td>
<td>Vijeo Look RT/RT (2)</td>
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</table>

### Magelis Compact i PC 15”

<table>
<thead>
<tr>
<th>Feature</th>
<th>Compact i PC 15”</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touchscreen</td>
<td>15” LCD TFT</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>XGA 1024 x 768</td>
<td>XGA 1024 x 768</td>
</tr>
<tr>
<td>Front panel ports</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Processor</td>
<td>VIA @667MHz</td>
<td>OR Pentium 4 m 1.7GHz</td>
</tr>
<tr>
<td>RAM</td>
<td>256 MB → 512 MB</td>
<td>256 MB → 512 MB</td>
</tr>
<tr>
<td>Internal drive</td>
<td>≥ 20 GB</td>
<td></td>
</tr>
<tr>
<td>Reader</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Extension</td>
<td>1 x PCI, 2 x PCMCIA type I (or type III)</td>
<td>1 x PCI, 2 x PCMCIA type I (or type III)</td>
</tr>
<tr>
<td>Ethernet port</td>
<td>1 x 10/100 RJ45</td>
<td>1 x 10/100 RJ45</td>
</tr>
<tr>
<td>I/O ports</td>
<td>2 x USB, 2 x RS232, 2 x PS2, 1 x LPT1</td>
<td>2 x USB, 2 x RS232, 2 x PS2, 1 x LPT1</td>
</tr>
<tr>
<td>Power supply</td>
<td>AC 100–240V</td>
<td>DC 24 V</td>
</tr>
<tr>
<td>Certifications</td>
<td>UL508, UL1604, CSA</td>
<td>UL508, UL1604, CSA</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>395 x 294 x 100 mm</td>
<td>395 x 294 x 100 mm</td>
</tr>
<tr>
<td>Applications</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Applications Windows 2000</td>
<td>MPCKT55NA00N</td>
<td>MPCKT55NA00N</td>
</tr>
<tr>
<td></td>
<td>Vijeo Designer RT (1)</td>
<td>Vijeo Designer RT (1)</td>
</tr>
<tr>
<td>Applications Windows Pro</td>
<td>MPCKT55NA00N</td>
<td>MPCKT55NA00N</td>
</tr>
<tr>
<td></td>
<td>Vijeo Look RT/RT (2)</td>
<td>Vijeo Look RT/RT (2)</td>
</tr>
</tbody>
</table>

(1) RT: Run Time
(2) RT: Run Time BT: Built Time
### Compact Flash card

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>512 Mb (empty) for Smart / PC or Compact / PC</td>
<td>MPCYN00CFE00N</td>
</tr>
<tr>
<td>Blank 1Gb Compact Flash for Smart / PC</td>
<td>MPCYN00CF100N</td>
</tr>
<tr>
<td>Compact Flash 1 GB for Smart / PC 15&quot; loaded with Windows XPe SP2 and Web Applications</td>
<td>MPCYN00CF152T</td>
</tr>
<tr>
<td>Compact Flash 1 GB for Smart / PC 12&quot; loaded with Windows XPe SP2 and Web Applications</td>
<td>MPCYN21CF100T</td>
</tr>
<tr>
<td>Compact Flash 1 GB for Smart / PC 15&quot; loaded with Windows XPe SP2 and Vijeo Designer Run Time</td>
<td>MPCYN00CF152R</td>
</tr>
<tr>
<td>Compact Flash 1 GB for Smart / PC 15&quot; loaded with Windows XPe SP2 and Vijeo Designer Run Time</td>
<td>MPCYN21CF100R</td>
</tr>
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### RAM memory expansion

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Catalog number</th>
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</thead>
<tbody>
<tr>
<td>512 Mb SO DIMM for 15&quot; Smart / PC</td>
<td>MPCYK02RAM512</td>
</tr>
<tr>
<td>512 Mb SO DIMM for 12&quot; Smart / PC</td>
<td>MPCYK05RAM512</td>
</tr>
<tr>
<td>1024 Mb SO DIMM for Smart and Compact / PC 12&quot;</td>
<td>MPCYK22RA1024</td>
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</tbody>
</table>
### Magelis Modular Industrial PCs
#### iPC Modular range

<table>
<thead>
<tr>
<th>Control box CPU</th>
<th>Front panel</th>
<th>Keypad</th>
<th>Touch/Keypad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch Keypad</td>
<td>102</td>
<td>402</td>
<td></td>
</tr>
<tr>
<td>Touch Keypad</td>
<td>15&quot; LCD TFT</td>
<td>XGA 1024 x 768</td>
<td>15&quot; LCD TFT</td>
</tr>
<tr>
<td>Keypad</td>
<td></td>
<td></td>
<td>XGA 1024 x 768</td>
</tr>
<tr>
<td>Touch/Keypad</td>
<td></td>
<td></td>
<td>XGA 1024 x 768</td>
</tr>
</tbody>
</table>

- **Screen**: 15" LCD TFT, XGA 1024 x 768
- **Resolution**: XGA 1024 x 768
- **Interfaces**: Touchscreen, Keypad/mouse, Keypad/mouse/touch
- **Front panel ports**: PS2 and infrared
- **Processor**: Celeron M@1.3GHz/Pentium M@1.6GHz
- **RAM**: 512 MB → 2 GB (maximum of 2 memory slots)
- **Internal drive**: ≥ 40 GB
- **Reader**: combined DVD-R/CD-RW drive available as an option
- **Extension**: 1 x PCI, 4 x PCI
- **Ethernet ports**: 1 x 10/100 RJ45
- **I/O ports**: 2 x USB, 2 x RS232, 2 x PS2, 1 x LPT1
- **Power supply**: AC 100–240 V or DC 24 V
- **Certifications**: UL508, UL1604, CSA
- **Dimensions**: W x D x H 290 x 290 x 130 mm, 290 x 290 x 192 mm, 460 x 340 x 45 mm, 480 x 370 x 45 mm
- **Operating system**: Windows 2000 or XP pro pre-installed

#### Catalog numbers
- MPCEN02N
- MPCDN02N
- MPCNT50NNN20N
- MPCNA50NNN20N
- MPCNB50NNN20N

**Power supply**: Replace p with A for AC 100–240 V or with D for DC 24 V.

**Operating system**: Replace b with X to order the model with Windows XP pro pre-installed or with A to order the model with Windows 2000 pre-installed.

---

### i Display external screen

- **Display external screen**: Separate components
- **Display with 15" TS AC**: External display with 15" color TFT LCD, XGA resolution (1024 x 768), Touchscreen, AC supply
- **Catalog number**: MPCYTS05NN00N

---

**For other versions, please consult with your Schneider Electric/Square D Sales office:** visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
### Vijeo Designer for Magelis touchscreen graphic terminals XBTG / XBTGT

The Vijeo Designer configuration software can be used to create operator dialog applications designed for controlling automation systems for all the Magelis range of New Technology (NTIC) terminals: XBTG / XBTGT / Smart IPC / Compact IPC.

#### Configuration

The Vijeo Designer configuration software enables operator dialog projects to be easily and quickly performed due to advanced ergonomics using multiple configuration windows. Vijeo Designer video solutions allow you to view real-time or recorded video.

Vijeo Designer configuration software also offers complete application management tools:
- Project creation, a project being one or several applications.
- WEB Gate remote access function to handle your HMI applications in complete security via a simple internet navigator using Ethernet architecture.
- Password and user group management.
- Recipe editor (32 groups of 64 recipes of 1024 ingredients max.).
- Cross-referencing of application variables.
- Application synoptics documentation.
- A simulation mode for easy testing of the application from the design office.
- Powerful graphics editor for easy creation of synoptics (more than 30 pre-configured animated objects).
- Data sharing (up to 300 variables between 8 panels).
- Support of 34 languages.
- Direct link to PLC symbol files (Unity, PL7, Concept, TwidoSoft, ProWORX, ModSoft).
- Upload capabilities: project can be backup on terminal to ease future maintenance.
- User friendly tool to recover data from terminal.

### Type Configuration software

<table>
<thead>
<tr>
<th>Type</th>
<th>XBTG / XBTGT / Smart IPC / Compact IPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatibility</td>
<td>XBTG / XBTGT / Smart IPC / Compact IPC</td>
</tr>
<tr>
<td>Operating system</td>
<td>Windows 2000 and XP</td>
</tr>
<tr>
<td>Version</td>
<td>Single (1 station)</td>
</tr>
<tr>
<td></td>
<td>Group (3 stations)</td>
</tr>
<tr>
<td></td>
<td>Team (10 stations)</td>
</tr>
<tr>
<td></td>
<td>Facility (unlimited licenses)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>VJDSNDTGSVppM</td>
</tr>
<tr>
<td>for PC CD-ROM</td>
<td>VJDGNDTGSVppM</td>
</tr>
<tr>
<td>Including PC cable</td>
<td>VJDTNDTGSVppM</td>
</tr>
<tr>
<td></td>
<td>VJDFNDTGSVppM</td>
</tr>
<tr>
<td></td>
<td>VJDSSDTGSVppM</td>
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<td></td>
<td>VJDSUDTGSVppM</td>
</tr>
<tr>
<td></td>
<td>VJDSUDTAVppM</td>
</tr>
</tbody>
</table>

Note: pp represents the version of the software.
Vijeo Citect, which will be available by the end of 2006, is the system of choice when you require a scalable, flexible and reliable system for any industrial automation monitoring and control application. Take the stress out of your operations by ensuring that vital production data will always be available. Easily expand or modify your system as your requirements change.

Whether you need an easy-to-use operator interface with networked reporting capability, or an entire client/server HMI/SCADA system spanning multiple plants on different continents, you can do it all with Vijeo Citect.

**Powerful visualization**
- Windows XP-style buttons
- Rounded rectangles
- Gradient files

**Performances**
- Multi-Processor/Hyper-Thradsed Support
- Independent Server Control

**Usability**
- Multi-Project Find & Replace
- Computer Setup Editor

**Security**
- Ensures that changes to the control system are implemented by authorized people
- Secures a project or a whole system from change between visits
- Retains complete operability of the system at runtime

**Integration brings productivity along the system life cycle**
- Define the objects you need
- Develop in concurrent the PLC and the SCADA applications
- Connect Vijeo Citect to the Unity Pro Project
- Create Vijeo Citect variables from Unity Pro
- Setup OFS (OPC Factory Server) as the I/O server
- Synchronize periodically the data bases during the commissioning phase
- Automatic consistency check manage by OFS in run-time

Vijeo Citect is characterized by its flexibility, allowing customers to build the supervision solution that corresponds to their needs.

**Evaluation License (free download)** allows the user to develop its application, and test it for 10 minutes in online mode. This system runs in standalone only.

**Development workshop (VJC1099)** is required for delivery of the physical components that make up an order such as the CD, hardware key, installation guide and packaging box. Either a USB or Parallel hardware key is needed to operate the server. The key is used to store floating client licenses. The key is also programmed to operate to a specific version of software and controls the number of points that can be viewed.

- Each server requires a hardware key (USB or parallel) in order to operate
- The keys is also used to store floating client licenses
- The key is programmed to operate on up to a particular version
- The key controls the number of points that can be viewed

**Server licenses (VJC1011)** are purchased by number of points that are required to be displayed (not I/O). Each license includes a Control Client and a large number of drivers to communicate to most of the PLC available on the market. Add on components such as specialty drivers can be purchased separately.

**Client licenses** are generally purchased using the same point count as the Server to which they are connected. Four types of Clients are available:

- Control Clients (VJC1020)
- View Clients (VJC1030)
- Web Control Clients (VJC1022)
- Web View Clients (VJC1052)

Client licenses for operators should be static meaning that they have their own physical key that plugs into the back of the PC. This ensures access to the control systems. Users that do not need to use the client all the time may purchase floating licenses. The software can be loaded on many different PCs, but connections will only be allowed up until the number purchased has been reached.

Redundancy Client licenses (VJC1080) are only available for the standby server in a redundant configuration and are used to ensure the user always has the number of clients available that they have purchased.

An upgrade offer (VJC100000-yy) for expanding client and server licenses to the next Points Count.
- If the server (or client) is upgraded, the keys must be reprogrammed.

**Additional drivers (VJC107...VJC305...)** that can be used to implement the access to some specific PLC and DCS systems.

**Vijeo Citect Lite (VJC3111)** is the stand-alone version of Vijeo Citect.

Please contact your local Schneider Electric sales representative regarding specific part numbers for ordering.

Purchase of server and client licenses includes Bronze level support which provides access to technical support, software patches and updates for a period of one year. To upgrade to Gold support or purchase additional support beyond the first year of ownership, please contact Schneider Electric Services at 800-468-5342 or 978-975-9079.
Embedded Web servers and gateways

FactoryCast

Implementation software

<table>
<thead>
<tr>
<th></th>
<th>FactoryCast</th>
<th>FactoryCast HMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatibility with Telemecanique PLCs</td>
<td>TSX Micro, Premium, Quantum</td>
<td>Premium, Quantum</td>
</tr>
<tr>
<td>Operating system</td>
<td>Windows 2000 and XP</td>
<td>Configuration of FactoryCast modules</td>
</tr>
<tr>
<td>Application</td>
<td>Configuration of FactoryCast modules</td>
<td>Development and implementation of FactoryCast HMI application</td>
</tr>
<tr>
<td>Catalog number for multilingual PC CD-ROM</td>
<td>Included with FactoryCast modules</td>
<td>TLXCDFCHMIV1M</td>
</tr>
</tbody>
</table>

FactoryCast

Remote “Ready to use” diagnostic functions using simple Internet browser
- Secure access to the diagnostics system and application
- Numerical or graphical display and adjustment of data
- E-mailing
- Open to customisation and creation of Web pages for diagnostics suited to your needs
- Library of animated graphic objects
- SOAP/XML server interface (Web services)

FactoryCast HMI

Identical diagnostic functions as FactoryCast + Core HMI functions embedded in a PLC module:
- Real-time database and acquisition of PLC data (1000 variables)
- Calculations for pre-processing of data
- Advanced alarm management with E-mailing
- Archiving of data in relational databases (SQL, Oracle, MySQL)
- Local Data Logging
- Recipe management
- HTML based Reporting function
- A user customizable Web server for creating an interface fully adapted to your needs
- Library of animated graphic objects
- SOAP/XML client/server interface (Web services)

FactoryCast Gateway

New offer comprising “all in one” Web intelligent gateways integrated in a stand-alone enclosure:
- Communications network interfaces and Modbus or Uni-Telway serial links
- Remote access function, RAS server, Router
- Notification of alarms function by E-mail
- A user customizable Web server for creating an interface fully adapted to your needs
- Library of animated graphic objects
- SOAP/XML client/server interface (Web services)

FactoryCast Web server modules

<table>
<thead>
<tr>
<th>Automation platform</th>
<th>TSX Micro</th>
<th>Premium</th>
<th>Quantum</th>
<th>Modbus</th>
<th>Uni-TE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data rate</td>
<td>10/100 Mbit/s</td>
<td>10 Mbit/s</td>
<td>10/100 Mbit/s</td>
<td>10/100 Mbit/s</td>
<td>10/100 Mbit/s</td>
</tr>
<tr>
<td>Services</td>
<td>Modbus TCP/IP Protocol</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Ethernet</td>
<td>Uni-Telway Protocol</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Serial Protocol</td>
<td>Uni-Telway</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Modem Protocol</td>
<td>PPP, PAP</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Global Data</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>I/O Scanning</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Web Services/RAS</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Standard Web services</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
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<td>FactoryCast services</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>FactoryCast HMI services</td>
<td>Yes</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>SOAP/XML Server</td>
<td>Web services</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Catalog number</td>
<td>TSXETZ510</td>
<td>TSXETY110WS</td>
<td>TSXETY5103</td>
<td>TSXWMY100</td>
<td>140NOE77111</td>
</tr>
</tbody>
</table>

For other versions, please consult with your Schneider Electric/Square D Sales office: visit www.us.telemecanique.com
Ingenious solutions for all your automation system applications

Perfect suitability for all your applications thanks to a complete offer... from simple relays to automation platforms.

Zelio®

Relays and Zelio Logic 2 programmable smart relays

Zelio relay range
Zello Relay plug-in relays, Zello Control control and measurement relays, Zello Count counters, ZelloTime timing relays: These ranges offer compactness and simplicity.

Zelio Logic 2 programmable smart relays
Designed for management of simple automation systems comprising 10 to 40 I/O. Compact or modular, Zelio Logic 2 offers flexibility and simplicity.

Twido™

Programmable controllers

Twido, ideal for simple installations and small machines: standard applications comprising from 10 to up to 256 I/O (max). Compact or modular, Twido offers flexibility and simplicity.

Modicon

Automation platforms and distributed I/Os

Modicon M340, ideal for complex OEM machine control applications that require small size, powerful capabilities and highly integrated functionality.
- 3 built-in communications ports (Ethernet, Modbus, CANopen)
- High density 64 pt modules in standard widths
- Hot swap modules ease maintenance
- Unity Software family development

Modicon Premium, ideal for manufacturing applications. Outstanding flexibility for distributed architectures and integration of advanced automation system functions.
- New high performance processors
- CANopen machine bus connection, from entry level

Modicon Quantum, ideal for process applications. High level of performance for process control and architecture availability.
- New high performance processors
- Onboard Ethernet
- Memory expansion option using PCMCIA
- USB connection

Modicon Momentum M1/M1E, ideal for distributed architectures. Compactness and flexibility for control and I/O distribution on Ethernet.
With Transparent Ready®

Schneider Electric has applied market standards to its automation system architectures, making data exchange even easier. Smart and simple to use, the Telemecanique software offers maximum efficiency in terms of application development and maintenance, while its high performance Telemecanique PLCs help to achieve optimum installation availability and productivity. Committed to maximizing your investment over the long-term, Schneider Electric makes it easy for you to develop your applications with complete peace of mind.

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Programmable controllers, Automation platforms

- Twido™ - Programmable controllers ............... 3/16 to 3/19
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- Distributed inputs/outputs Advantys™ range (see Chapter 7 “Interfaces and I/Os”) 

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Unity

Taking you into a new world of automation

At the heart of the Telemecanique offer, Unity is the new generation software and hardware automation platform.

- Smart. Unity provides a common IEC development environment for Modicon Premium, Atrium and Quantum platforms. With Unity, you can reduce development cycles and improve quality by reusing standard programs.

- Open. Based on universal Microsoft Visio, VBA and XML software standards, Unity is designed to allow your tools to work together.

- Flexible. The new range of Modicon Premium, Atrium and Quantum processors offers extended memory capabilities and greater execution performance.
## Type of relay

<table>
<thead>
<tr>
<th>Contact characteristics</th>
<th>Interface relays RSB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal current in A (temperature ≤55°C)</td>
<td>8 A</td>
</tr>
<tr>
<td>Number of contacts</td>
<td>2 “C/O”</td>
</tr>
<tr>
<td>Contact material</td>
<td>AgNi</td>
</tr>
<tr>
<td>Switching voltage, min. / max.</td>
<td>5 / 250 VAC/DC</td>
</tr>
<tr>
<td>Switching capacity, min. / max. (mA / VA)</td>
<td>5 / 2000</td>
</tr>
</tbody>
</table>

## Coefficient characteristics

<table>
<thead>
<tr>
<th>Average consumption, inrush,</th>
<th>0.75 VA / 0.45 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permissible voltage variation</td>
<td>0.8/0.85–1.1 Un (50 / 60Hz or =)</td>
</tr>
</tbody>
</table>

### Catalog number

<table>
<thead>
<tr>
<th>Coil supply voltage on DC</th>
<th>RSB2A080RD</th>
<th>RSB1A120RD</th>
<th>RSB1A160RD</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 VDC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 VDC</td>
<td>RSB2A080JD</td>
<td>RSB1A120JD</td>
<td>RSB1A160JD</td>
</tr>
<tr>
<td>24 VDC</td>
<td>RSB2A080BD</td>
<td>RSB1A120BD</td>
<td>RSB1A160BD</td>
</tr>
<tr>
<td>48 VDC</td>
<td>RSB2A080ED</td>
<td>RSB1A120ED</td>
<td>RSB1A160ED</td>
</tr>
<tr>
<td>60 VDC</td>
<td>RSB2A080ND</td>
<td>RSB1A120ND</td>
<td>RSB1A160ND</td>
</tr>
<tr>
<td>110 VDC</td>
<td>RSB2A080FD</td>
<td>RSB1A120FD</td>
<td>RSB1A160FD</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Coil supply voltage on AC</th>
<th>RSB2A080D7</th>
<th>RSB1A120D7</th>
<th>RSB1A160D7</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VAC</td>
<td>RSB2A080E7</td>
<td>RSB1A120E7</td>
<td>RSB1A160E7</td>
</tr>
<tr>
<td>48 VAC</td>
<td>RSB2A080F7</td>
<td>RSB1A120F7</td>
<td>RSB1A160F7</td>
</tr>
<tr>
<td>120 VAC</td>
<td>RSB2A080M7</td>
<td>RSB1A120M7</td>
<td>RSB1A160M7</td>
</tr>
<tr>
<td>220 VAC</td>
<td>RSB2A080P7</td>
<td>RSB1A120P7</td>
<td>RSB1A160P7</td>
</tr>
<tr>
<td>230 VAC</td>
<td>RSB2A080U7</td>
<td>RSB1A120U7</td>
<td>RSB1A160U7</td>
</tr>
</tbody>
</table>

### Protection modules

- **Diode**
  - 6–230 VDC
  - 6–24 VAC/DC
  - 24–60 VAC/DC
  - 110–230 VAC/DC
  - 240 VAC/DC

- **RC circuit**
  - 24–60 VAC/DC

- **Varistor**
  - 6–24 VAC/DC
  - 24–60 VAC/DC
  - 110–230 VAC/DC

- **Multifunction timer module**
  - 24–230 VAC/DC

### Accessories

- **Plastic maintaining clamp**
  - RSZR215

- **Label for socket**
  - RSZL300

- **Bus jumper**
  - 2 poles

- **DIN rail adapter**
  - 2 poles

- **Panel mounting adapter**
  -

(1) Catalog numbers for relays without socket, for relays with socket, add the letter S to the end of the selected catalog number. (Example: RSB2A080B7 becomes RSB2A080BS). (2) To use RSB1A160pp relay with socket, terminals must be interconnected. (3) With LED.

For additional information, reference catalog 8501CT0601.
### Miniature relays

<table>
<thead>
<tr>
<th>Type of relay</th>
<th>RXM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Thermal current Ith in A (temperature ≤ 55°C)</td>
<td>12</td>
</tr>
<tr>
<td>Number of contacts</td>
<td>2 “C/O”</td>
</tr>
<tr>
<td>Contact material</td>
<td>AgNi</td>
</tr>
<tr>
<td>Switching voltage, min. / max.</td>
<td>12 / 250 VAC/DC</td>
</tr>
<tr>
<td>Switching capacity, min. / max. (mA / VA)</td>
<td>10 / 3000</td>
</tr>
<tr>
<td><strong>Coil characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Average consumption, inrush,</td>
<td>1.2 VA / 0.9 W</td>
</tr>
<tr>
<td>Permissible voltage variation</td>
<td>0.8–1.1 Un (50 / 60Hz or =)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>(1) (1) (1) (1)</td>
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</tbody>
</table>

#### Coils for relays

<table>
<thead>
<tr>
<th>Coil supply voltage</th>
<th>6 VDC</th>
<th>12 VDC</th>
<th>24 VDC</th>
<th>48 VDC</th>
<th>60 VDC</th>
<th>110 VDC</th>
<th>RXM2AB2JD</th>
<th>RXM3AB2JD</th>
<th>RXM4AB2JD</th>
<th>RXM4GB2JD</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>RXM0AB2ED</td>
<td>RXM0AB2ED</td>
<td>RXM0AB2ED</td>
<td>RXM0AB2ED</td>
</tr>
<tr>
<td>RXM2AB2BD</td>
<td>RXM3AB2BD</td>
<td>RXM4AB2BD</td>
<td>RXM4GB2BD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RXM2AB2ED</td>
<td>RXM3AB2ED</td>
<td>RXM4AB2ED</td>
<td>RXM4GB2ED</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RXM2AB2FD</td>
<td>RXM3AB2FD</td>
<td>RXM4AB2FD</td>
<td>RXM4GB2FD</td>
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</table>

<table>
<thead>
<tr>
<th>Coil supply voltage</th>
<th>24 VAC</th>
<th>48 VAC</th>
<th>120 VAC</th>
<th>220 VAC</th>
<th>230 VAC</th>
<th>240 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>RXM2AB2P7</td>
<td>RXM3AB2P7</td>
<td>RXM4AB2P7</td>
<td>RXM4GB2P7</td>
<td></td>
<td></td>
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<tr>
<td>RXM2AB2P7</td>
<td>RXM3AB2P7</td>
<td>RXM4AB2P7</td>
<td>RXM4GB2P7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sockets for relays

<table>
<thead>
<tr>
<th>Type of socket</th>
<th>RXM2S108M</th>
<th>RXM2S111M</th>
<th>RXM2S114M</th>
<th>RXM2S114M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed input/output type sockets with location for protection module</td>
<td>RXZ2E2M114 (2)</td>
<td>–</td>
<td>RXZ2E2M114</td>
<td>RXZ2E2M114</td>
</tr>
<tr>
<td>Separate input/output type sockets with location for protection module</td>
<td>RXZ2E2M114M (2)</td>
<td>–</td>
<td>RXZ2E2M114M</td>
<td>RXZ2E2M114M</td>
</tr>
</tbody>
</table>

**Protection modules**

- **Diode**
  - 6–230 VDC: RXM040W
- **RC circuit**
  - 24–60 VAC: RXM41BN7
  - 110–240 VAC: RXM41FU7
- **Varistor**
  - 6–24 VAC/DC: RXM021RB
  - 24–60 VAC/DC: RXM021BN
  - 110–230 VAC/DC: RXM021FP
  - 24VAC/DC: –
  - 240VAC/DC: –

**Multifunction timer module**

- 24–230 VAC/DC: –

**Accessories**

- Plastic maintaining clamp: RXZFR35
- Metal maintaining clamp: RXZ460
- Label for socket: RXZL420 (except RXZ2E2M114)
- Bus jumper: 2 poles: RXZ52
- DIN rail adapter: RXZ20A
- Panel mounting adapter: RXZ2FA

(1) Catalog numbers for relays with LED, for relays without LED, replace the number 2 in the catalog number by 1. (Example: RXM2AB2JD becomes RXM2AB1JD).

(2) Thermal current Ith: 10 A.
## ZelioRelay

### Plug-in relays

### Universal relays

<table>
<thead>
<tr>
<th>Type of relay</th>
<th>Universal relays</th>
<th>RUM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contact characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal current $I_{th}$ in A (temperature $\leq 55^\circ C$)</td>
<td>Cylinders</td>
<td>Faston</td>
</tr>
<tr>
<td>Number of contacts</td>
<td>2 &quot;C/O&quot;</td>
<td>3 &quot;C/O&quot;</td>
</tr>
<tr>
<td>Contact material</td>
<td>AgNi</td>
<td>AgNi</td>
</tr>
<tr>
<td><strong>Switching voltage, min. / max.</strong></td>
<td>12 / 250 VAC/DC</td>
<td></td>
</tr>
<tr>
<td><strong>Switching capacity, min. / max. (mA / VA)</strong></td>
<td>10 / 2500</td>
<td>10 / 2500</td>
</tr>
<tr>
<td><strong>Coil characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average consumption, inrush,</td>
<td>2–3 VA / 1.4 W</td>
<td></td>
</tr>
<tr>
<td>Permissible voltage variation</td>
<td>0.8–1.1 Un (50 / 60Hz or =)</td>
<td></td>
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</tbody>
</table>

#### Coils

<table>
<thead>
<tr>
<th>Coils</th>
<th>6 VDC</th>
<th>12 VDC</th>
<th>24 VDC</th>
<th>48 VDC</th>
<th>80 VDC</th>
<th>110 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage on DC</td>
<td>RUM2AB2JD</td>
<td>RUMC3AB2JD</td>
<td>–</td>
<td>RUMF2AB2JD</td>
<td>RUMF3AB2JD</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>RUMC2AB2BD</td>
<td>RUMC3AB2BD</td>
<td>RUMC3GB2BD</td>
<td>RUMF2AB2BD</td>
<td>RUMF3AB2BD</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>RUMC2AB2ED</td>
<td>RUMC3AB2ED</td>
<td>RUMC3GB2ED</td>
<td>RUMF2AB2ED</td>
<td>RUMF3AB2ED</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>–</td>
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<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>RUMC2AB2FD</td>
<td>RUMC3AB2FD</td>
<td>–</td>
<td>RUMF2AB2FD</td>
<td>RUMF3AB2FD</td>
<td>–</td>
</tr>
</tbody>
</table>

#### Sockets for relays

<table>
<thead>
<tr>
<th>Type of socket</th>
<th>For universal relays RUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed input/output type sockets with location for protection module</td>
<td>RUZC2M</td>
</tr>
<tr>
<td>Separate input/output type sockets with location for protection module</td>
<td>–</td>
</tr>
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#### Protection modules

<table>
<thead>
<tr>
<th>Protection modules</th>
<th>RUW240BD</th>
<th>RUW241P7</th>
<th>RUW242B7</th>
<th>RUW242P7</th>
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<tbody>
<tr>
<td>Diode</td>
<td>6–230 VDC</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>RC circuit</td>
<td>24–60 VAC</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Varistor</td>
<td>110–240 VAC</td>
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<td>–</td>
</tr>
<tr>
<td>Multifunction timer module</td>
<td>–</td>
<td>–</td>
<td>–</td>
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</tr>
</tbody>
</table>

#### Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>RUZC200</th>
<th>RUZL420</th>
<th>RUZS2</th>
<th>RUZ1420</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic maintaining clamp</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Metal maintaining clamp</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Label for socket</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Bus jumper</td>
<td>2 poles</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>DIN rail adapter</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Panel mounting adapter</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
### Power relays

#### Type of relay

<table>
<thead>
<tr>
<th>Contact characteristics</th>
<th>RPM</th>
<th>RPF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal current $I_{th}$ (A) (temperature $\leq 55^\circ C$)</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Number of contacts</td>
<td>1 “C/O”</td>
<td>2 “C/O”</td>
</tr>
<tr>
<td>Contact material</td>
<td>AgNi</td>
<td>AgSnO$_2$</td>
</tr>
<tr>
<td>Switching voltage, min. / max.</td>
<td>12 / 250 VAC/DC</td>
<td>12 / 250 VAC/DC</td>
</tr>
<tr>
<td>Switching capacity, min. / max. (mA / VA)</td>
<td>100 / 3750</td>
<td>100 / 3750</td>
</tr>
</tbody>
</table>

#### Contact characteristics

<table>
<thead>
<tr>
<th>Permissible voltage variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9 VA / 0.7 W</td>
</tr>
<tr>
<td>1.2 VA / 0.9 W</td>
</tr>
<tr>
<td>1.5 VA / 1.7 W</td>
</tr>
<tr>
<td>1.5 VA / 2 W</td>
</tr>
<tr>
<td>4 VA / 1.7 W</td>
</tr>
</tbody>
</table>

#### Catalog number

<table>
<thead>
<tr>
<th>Coils supply voltage on DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 VDC</td>
</tr>
<tr>
<td>12 VDC</td>
</tr>
<tr>
<td>24 VDC</td>
</tr>
<tr>
<td>48 VDC</td>
</tr>
<tr>
<td>60 VDC</td>
</tr>
<tr>
<td>110 VDC</td>
</tr>
</tbody>
</table>

#### Sockets for relays

#### Type of socket

<table>
<thead>
<tr>
<th>Mixed input/output type sockets with location for protection module</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPZF1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Separate input/output type sockets with location for protection module</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
</tr>
</tbody>
</table>

#### Protection modules

<table>
<thead>
<tr>
<th>Protection modules</th>
<th>For power relays RPM</th>
<th>For power relays RPF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diode</td>
<td>6–230 VDC</td>
<td>RXM040W</td>
</tr>
<tr>
<td>RC circuit</td>
<td>24–60 VAC</td>
<td>RXM041BN7</td>
</tr>
<tr>
<td></td>
<td>110–240 VAC</td>
<td>RXM041FU7</td>
</tr>
<tr>
<td>Varistor</td>
<td>6–24 VAC/DC</td>
<td>RXM021RB</td>
</tr>
<tr>
<td></td>
<td>24–60 VAC/DC</td>
<td>RXM021BN</td>
</tr>
<tr>
<td></td>
<td>110–230 VAC/DC</td>
<td>RXM021FP</td>
</tr>
<tr>
<td></td>
<td>24VAC/DC</td>
<td>RUW242B7</td>
</tr>
<tr>
<td></td>
<td>240VAC/DC</td>
<td>–</td>
</tr>
</tbody>
</table>

#### Accessories

<table>
<thead>
<tr>
<th>Plastic maintaining clamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
</tr>
<tr>
<td>Metal maintaining clamp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Label for socket</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bus jumper</th>
<th>2 poles</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIN rail adapter</th>
<th>15/60 VAC/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPZ1DA</td>
<td>RXZE2DA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel mounting adapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPZ1FA</td>
</tr>
</tbody>
</table>

---

(1) Catalog numbers for relays with LED, for relays without LED, replace the number 2 in the catalog number by 1. (Example: RPM1 2B7 becomes RPM1 1B7).

(2) With LED.
### General purpose relays

#### Plug-in relays

<table>
<thead>
<tr>
<th>Resistive rating (@ 120 VAC)</th>
<th>Tube type termination</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 A</td>
<td>10 A</td>
<td>15 A</td>
</tr>
<tr>
<td>15 A</td>
<td>15 A</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Form C contacts</th>
<th>Tube type termination</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact material</th>
<th>Tube type termination</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver Nickel</td>
<td></td>
<td>Silver Cadmium Oxide</td>
</tr>
<tr>
<td>Silver Nickel</td>
<td></td>
<td>Silver Cadmium Oxide</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average consumption, inrush</th>
<th>Tube type termination</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAC coils 3.6 VA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VDC coils 1.5 W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAC coils 1.5 W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VDC coils 1.5 W</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voltage range</th>
<th>Tube type termination</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAC coils +10 to -15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VDC coils +10 to -25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAC coils +10 to -15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VDC coils +10 to -25%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Tube type termination</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>240 VAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 VDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 VDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>110 VDC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relay socket</th>
<th>Tube type termination</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>8501 NR51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8501 NR61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8501 NR62</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hold down clip</th>
<th>Tube type termination</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>8501 NH51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8501 NH61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8501 NH62</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Plug-in relays

<table>
<thead>
<tr>
<th>Resistive rating (@ 120 VAC)</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 A</td>
<td></td>
</tr>
<tr>
<td>10 A</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Form C contacts</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact material</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver Cadmium Oxide</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average consumption, inrush</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAC coils 1.52 VA</td>
<td></td>
</tr>
<tr>
<td>VDC coils 0.7 W</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voltage range</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAC coils +10 to -15%</td>
<td></td>
</tr>
<tr>
<td>VDC coils +10 to -20%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VAC</td>
<td></td>
</tr>
<tr>
<td>120 VAC</td>
<td></td>
</tr>
<tr>
<td>12 VDC</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relay socket</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>8501 NR41</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hold down clip</th>
<th>Spade type termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>~</td>
<td>8501 NH42</td>
</tr>
</tbody>
</table>

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For additional information, reference catalog 8501 CT0601.
### Miniature plug-in relays

#### Spade type termination

<table>
<thead>
<tr>
<th>Resistive Rating (@ 120VAC)</th>
<th>Number of Form C contacts</th>
<th>Contact material</th>
<th>Average consumption, inrush</th>
<th>Voltage range</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 A</td>
<td>4</td>
<td>Bifurcated Fine Silver Gold Flashed</td>
<td>VAC coils 1.2 VA</td>
<td>+10 to -15%</td>
<td>8501RS24V14</td>
</tr>
<tr>
<td>3 A</td>
<td>4</td>
<td>Fine Silver Gold Flashed</td>
<td>VDC coils 0.9 W</td>
<td>+10 to -15%</td>
<td>8501RS4V14</td>
</tr>
<tr>
<td>5 A</td>
<td>4</td>
<td>Silver Cadmium Oxide</td>
<td>VDC coils 0.9 W</td>
<td>+10 to -15%</td>
<td>8501RS14V14</td>
</tr>
</tbody>
</table>

#### Power relays

#### VAC rated contacts

<table>
<thead>
<tr>
<th>Resistive rating (@ 300 VAC)</th>
<th>Resistive rating (@ 600 VAC)</th>
<th>Single phase horsepower rating</th>
<th>Contact arrangement</th>
<th>Contact material</th>
<th>Average consumption, inrush</th>
<th>Voltage range</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 A</td>
<td>10 A</td>
<td>2</td>
<td>1 N.O.</td>
<td>Silver Cadmium Oxide</td>
<td>VAC coils 10 VA</td>
<td>+10 to -15%</td>
<td>8501CO6V14</td>
</tr>
<tr>
<td>30 A</td>
<td>5 A</td>
<td>1.5</td>
<td>2 N.O.</td>
<td></td>
<td>VDC coils 2 W</td>
<td>+10 to -15%</td>
<td>8501CO7V14</td>
</tr>
<tr>
<td>30 A</td>
<td>10 A</td>
<td>2</td>
<td>1 N.C.</td>
<td></td>
<td>VDC coils 2 W</td>
<td>+10 to -15%</td>
<td>8501CO8V14</td>
</tr>
<tr>
<td>30 A</td>
<td>5 A</td>
<td>1.5</td>
<td>1 N.C. &amp; 1 N.O.</td>
<td></td>
<td>VDC coils 2 W</td>
<td>+10 to -15%</td>
<td>8501CO15V14</td>
</tr>
<tr>
<td>30 A</td>
<td>5 A</td>
<td>1.5</td>
<td>2 N.C. &amp; 2 N.O.</td>
<td></td>
<td>VDC coils 2 W</td>
<td>+10 to -15%</td>
<td>8501CO16V14</td>
</tr>
</tbody>
</table>

For additional information, reference catalog 8501CT0601.
### Zelio Analog

**Analog Interface**

**Universal Thermocouple**

<table>
<thead>
<tr>
<th>Type</th>
<th>Thermocouple</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature range</strong></td>
<td>0 to 150 °C 0 to 300 °C 0 to 600 °C 0 to 1200 °C</td>
</tr>
<tr>
<td></td>
<td>32 to 302 °F 32 to 572 °F 32 to 1112 °F 32 to 2192 °F</td>
</tr>
<tr>
<td><strong>Output range</strong></td>
<td>0–10 V / 0–20 mA - 4–20 mA Switchable</td>
</tr>
<tr>
<td><strong>Dimensions H x W x D</strong></td>
<td>80 x 22.5 x 80 mm</td>
</tr>
<tr>
<td><strong>Voltage</strong></td>
<td>24 VDC - Non isolated</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>RMTJ40BD RMTJ60BD RMTJ80BD RMTK80BD RMTK90BD</td>
</tr>
</tbody>
</table>

### Universal PT 100

<table>
<thead>
<tr>
<th>Type</th>
<th>PT 100</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature range</strong></td>
<td>-40 to 40 °C -100 to 100 °C 0 to 250 °C 0 to -500 °C</td>
</tr>
<tr>
<td></td>
<td>-40 to 104 °F -148 to 212 °F 32 to 482 °F 32 to 932 °F</td>
</tr>
<tr>
<td><strong>Output range</strong></td>
<td>0–10 V / 0–20 mA - 4–20 mA Switchable</td>
</tr>
<tr>
<td><strong>Dimensions H x W x D</strong></td>
<td>80 x 22.5 x 80 mm</td>
</tr>
<tr>
<td><strong>Voltage</strong></td>
<td>24 VDC - Non isolated</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>RMPT10BD RMPT20BD RMPT30BD RMPT50BD RMPT70BD</td>
</tr>
</tbody>
</table>

For additional information, reference catalog 8501CT0601.
## Optimum PT 100

<table>
<thead>
<tr>
<th>Type</th>
<th>PT 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature range</td>
<td>-40 to 40 °C -100 to 100 °C 0 to 100 °C 0 to 250 °C 0 to 500 °C</td>
</tr>
<tr>
<td>Output range</td>
<td>0–10 V</td>
</tr>
<tr>
<td>Dimensions H x W x D</td>
<td>80 x 22.5 x 80 mm</td>
</tr>
<tr>
<td>Voltage</td>
<td>24 VDC - Non isolated</td>
</tr>
<tr>
<td>Catalog number</td>
<td>RMPT13BD RMPT23BD RMPT33BD RMPT53BD RMPT73BD</td>
</tr>
</tbody>
</table>

## Universal Analog Converter

<table>
<thead>
<tr>
<th>Type</th>
<th>Analog Converter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input range</td>
<td>0–10 V or 4–20 mA 0–10 V / -10–+10 V 0–50 V / 0–300 V 0–1,5 A / 0–5 A 0–20 mA 0–500 V 0–15 A</td>
</tr>
<tr>
<td>Output range</td>
<td>0–10 V or 4–20 mA 0–10 V / -10–+10 V 0–20 mA 4–20 mA Switchable 0–10 V 0–20 mA 4–20 mA Switchable 0–10 V or 0–20 mA or 4–20 mA</td>
</tr>
<tr>
<td>Dimensions H x W x D</td>
<td>80 x 22.5 x 80 mm 80 x 45 x 80 mm</td>
</tr>
<tr>
<td>Voltage</td>
<td>24 VDC - Non isolated 24 VDC - Isolated 24 VDC - Non isolated 24 VDC - Non isolated</td>
</tr>
<tr>
<td>Catalog number</td>
<td>RMCN22BD RMCL55BD RMCV60BD RMCA61BD</td>
</tr>
</tbody>
</table>

For additional information, reference catalog 8501CT0601.
Zelio Control

Relays
Control relays for 3-phase supplies

<table>
<thead>
<tr>
<th>Function</th>
<th>Rotational direction and presence of phases</th>
<th>+ Under voltage</th>
<th>+ Over and undervoltage</th>
<th>+ Asymmetry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustable time delay</td>
<td>without</td>
<td>0.1–10 s</td>
<td>0.1–10 s</td>
<td>0.1–10 s</td>
</tr>
<tr>
<td>Output</td>
<td>2 C/O</td>
<td>2 C/O</td>
<td>2 C/O</td>
<td>2 C/O</td>
</tr>
<tr>
<td>Catalog number</td>
<td>RM4TG20</td>
<td>RM4TU02</td>
<td>RM4TR34 (1)</td>
<td>RM4TA32</td>
</tr>
<tr>
<td></td>
<td>RM4TR32 (2)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Relay with fixed voltage thresholds.
(2) Relay with adjustable voltage thresholds.

Current and voltage measurement relays

<table>
<thead>
<tr>
<th>Function</th>
<th>Detection of over and under current</th>
<th>over and undercurrent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>3–30 mA</td>
<td>0.05–0.5 V</td>
</tr>
<tr>
<td></td>
<td>10–100 mA</td>
<td>0.3–3 V</td>
</tr>
<tr>
<td></td>
<td>0.1–1 A</td>
<td>0.5–5 V</td>
</tr>
<tr>
<td>Adjustable time delay</td>
<td>0.05–30 s</td>
<td>1–10 V</td>
</tr>
<tr>
<td>Output</td>
<td>2 C/O</td>
<td>5–50 V</td>
</tr>
<tr>
<td>Catalog number</td>
<td>RM4JA31,, (3)</td>
<td>10–100 V</td>
</tr>
<tr>
<td></td>
<td>RM4JA32,, (3)</td>
<td>30–300 V</td>
</tr>
<tr>
<td></td>
<td>RM4UA31,, (3)</td>
<td>180–270 V</td>
</tr>
<tr>
<td></td>
<td>RM4UA32,, (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RM4UA33,, (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RM4UB35</td>
<td></td>
</tr>
</tbody>
</table>

(3) Basic catalog number. To be completed with the letters indicating the required voltage, as shown below:

<table>
<thead>
<tr>
<th>Voltage VAC, 50/60 Hz</th>
<th>VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>24–240 V</td>
<td>MV</td>
</tr>
<tr>
<td>110–130 V</td>
<td>F</td>
</tr>
<tr>
<td>220–240 V</td>
<td>M</td>
</tr>
<tr>
<td>380–415 V</td>
<td>O</td>
</tr>
</tbody>
</table>

Liquid level control relays

<table>
<thead>
<tr>
<th>Function</th>
<th>Measuring electrode and reference electrode</th>
<th>Liquid level control probe type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control relays</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity scale</td>
<td>5–100 kΩ</td>
<td>1 simple stainless steel electrode in PVC protective casing</td>
</tr>
<tr>
<td>Time delay</td>
<td>without</td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>1 C/O</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>RM4LG01 (4)</td>
<td></td>
</tr>
<tr>
<td>Empty or fill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity scale</td>
<td>0.25–5 kΩ</td>
<td></td>
</tr>
<tr>
<td>Time delay</td>
<td>adjustable, 0.1 to 10 s</td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>2 C/O</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>RM4LA32 (4)</td>
<td></td>
</tr>
</tbody>
</table>

| Mounting                             | suspended                                   |                                |
| Maximum operating temperature        | 100°C                                       |                                |
| Catalog number                       | LA9RM201                                    | RM79696043                     |

For additional information, reference catalog 8430CT0001R6/02.
## Control relays for 3-phase supplies

### Function | Phase reversal and presence of phases | + Undervoltage | + Imbalance
---|---|---|---
Adjustable time delay | Fixed 0.3s | 0.2–10s | Fixed 0.2s | 0.1–10s | 0.1–10s
Catalog number | RM84673004 | RM84673015 | RM84673511(1) | RM84673501(2) | RM84673310 | RM84673311

### Function | Phase reversal, phase loss, phase imbalance, and undervoltage
---|---|---|---
Mounting Type | Plug-in | Plug-in | Panel Mount | Panel Mount
Supply voltage | 240 V 60 Hz | 480 V 60 Hz | 240 V 60 Hz | 480 V 60 Hz
Output | 1 N.C. / 1 N.O. | 1 N.C. / 1 N.O. | 2 N.C. / 2 N.O. | 2 N.C. / 2 N.O.
Catalog number relay | 8430MPSV24 | 8430MPSV29 | 8430MPDV24 | 8430MPDV29
socket | 8501NR51 | 8501NR82 | -- | --

For additional information on RM8, reference catalog 8430CT0001/R2/05.
For additional information on 8430, reference catalog 8430CT9701.
### Counters

<table>
<thead>
<tr>
<th>Display</th>
<th>LCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>Internal battery</td>
</tr>
<tr>
<td>Number of digits displayed</td>
<td>8</td>
</tr>
<tr>
<td>Counting frequency</td>
<td>40 Hz or 7.5 Hz</td>
</tr>
<tr>
<td>Voltage</td>
<td>40 Hz or 7.5 Hz</td>
</tr>
<tr>
<td>Solid state</td>
<td>14 or 100 Hz</td>
</tr>
<tr>
<td>Voltage</td>
<td>15 Hz</td>
</tr>
<tr>
<td>Input</td>
<td>40 Hz or 7.5 Hz</td>
</tr>
<tr>
<td>Voltage</td>
<td>40 Hz or 7.5 Hz</td>
</tr>
<tr>
<td>Solid state</td>
<td>14 or 100 Hz</td>
</tr>
<tr>
<td>Voltage</td>
<td>15 Hz</td>
</tr>
<tr>
<td>Front face dimensions, W x H</td>
<td>48 x 24 mm</td>
</tr>
<tr>
<td>Voltage</td>
<td>48 x 24 mm</td>
</tr>
<tr>
<td>Solid state</td>
<td>48 x 24 mm</td>
</tr>
<tr>
<td>Voltage</td>
<td>48 x 24 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>RC87610050</td>
</tr>
<tr>
<td>Voltage</td>
<td>RC87610340</td>
</tr>
<tr>
<td>Solid state</td>
<td>RC87610240</td>
</tr>
<tr>
<td>Voltage</td>
<td>RC87610250</td>
</tr>
</tbody>
</table>

### Totalizers

<table>
<thead>
<tr>
<th>Display</th>
<th>LCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of digits displayed</td>
<td>6</td>
</tr>
<tr>
<td>Supply frequency</td>
<td>Voltage</td>
</tr>
<tr>
<td>Voltage</td>
<td>Voltage</td>
</tr>
<tr>
<td>Input</td>
<td>48 x 24 mm</td>
</tr>
<tr>
<td>Front face dimensions, W x H</td>
<td>48 x 24 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>RC87610150</td>
</tr>
<tr>
<td>Voltage</td>
<td>RC87610440</td>
</tr>
</tbody>
</table>

For additional information, reference catalog 9051T0501.
## Timing relays
### Modular timers

<table>
<thead>
<tr>
<th>Type of modular timer</th>
<th>On-delay</th>
<th>Multifunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>width 17.5 mm, relay output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External control</td>
<td>no</td>
<td>--</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24 VDC - 24–240 VAC</td>
<td>24 VDC - 24–240 VAC – 12–240VAC/DC</td>
</tr>
<tr>
<td>Timing range</td>
<td>0.1 s–100 h</td>
<td>0.1 s–100 h 0.1 s–100 h</td>
</tr>
<tr>
<td>Output</td>
<td>1 C/O</td>
<td>1 C/O 1 C/O 1 C/O</td>
</tr>
<tr>
<td>Catalog number</td>
<td>RE11RAMU</td>
<td>RE11RMMU (1) RE11RMEMU (2) RE11RMMW (1)</td>
</tr>
</tbody>
</table>

(1) Multifunction: 8 functions On-delay, Off-delay, repeat cycle, one shot.
(2) Multifunction: 9 functions On-delay, Off-delay, safe guard, impulse counter, impulse relay.

<table>
<thead>
<tr>
<th>Type of modular timer</th>
<th>Asymmetrical repeat cycle</th>
<th>Off delay</th>
<th>One shot</th>
</tr>
</thead>
<tbody>
<tr>
<td>width 17.5 mm, relay output</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External control</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Timing range</td>
<td>0.1 s–100 h</td>
<td>0.1 s–100 h</td>
<td>0.1 s–100 h</td>
</tr>
<tr>
<td>Output</td>
<td>1 C/O</td>
<td>1 C/O</td>
<td>1 C/O</td>
</tr>
<tr>
<td>Catalog number</td>
<td>RE11RLMU</td>
<td>RE11RHMU</td>
<td>RE11RBMU</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of modular timer</th>
<th>On-delay</th>
<th>Off-delay</th>
<th>Multifunction (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>width 17.5 mm, solid-state output</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24–240 VAC/DC</td>
<td>24–240 VAC</td>
<td>24–240 VAC</td>
</tr>
<tr>
<td>Timing range</td>
<td>0.1 s–100 h</td>
<td>0.1 s–100 h</td>
<td>0.1 s–100 h</td>
</tr>
<tr>
<td>Output</td>
<td>solid-state</td>
<td>solid-state</td>
<td>solid-state</td>
</tr>
<tr>
<td>Catalog number</td>
<td>RE11LAMW</td>
<td>RE11LCBM</td>
<td>RE11LMBM</td>
</tr>
</tbody>
</table>

(3) Multifunction: 8 functions On-delay, Off-delay, one shot, off-delay with control contract, repeat cycle timers, on-delay and off-delay, pulse on energization.

---

### Panel-mounted relays

<table>
<thead>
<tr>
<th>Power supply</th>
<th>Timer on-delay</th>
<th>Asymmetrical flasher</th>
<th>Multifunction (4)</th>
<th>Multifunction (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24–240 VAC/DC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time range</td>
<td>0.02 s–300 h</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td>2 relay 5 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>RE48ATM12MW</td>
<td>RE48ACV12MW</td>
<td>RE48AMH13MW (6)</td>
<td>RE48AML12MW (7)</td>
</tr>
</tbody>
</table>

(4) Timer on-delay / pulse on energization.
(5) Timer on-delay / calibrator / timer off-delay / symmetrical flasher.
(6) 1 selectable in instantaneous.
(7) Multi-function: 4 functions On-delay, one shot, Off-delay, repeat cycle.
### Type of single function relay width 22.5 mm, relay output

<table>
<thead>
<tr>
<th>External control</th>
<th>On-delay</th>
<th>Off-delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24VAC/DC</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>110–240 VAC</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>42–48 VAC/DC</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>110–240 VAC</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

- **Timing range**: 0.05 s–300 h
- **Output**: 1 C/O
- **Catalog number**: RE7TL11BU, RE7TP13BU

(1) Selectable in instantaneous mode.

### Type of relay width 22.5 mm, relay output

<table>
<thead>
<tr>
<th>Single function</th>
<th>Multifunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymmetrical flashing</td>
<td>6 functions (2)</td>
</tr>
<tr>
<td>Pulse on energisation</td>
<td>6 functions (3)</td>
</tr>
</tbody>
</table>

- **External control**: yes
- **Supply voltage**: 24VAC/DC
- **Timing range**: 0.05 s–300 h
- **Output**: 1 C/O
- **Catalog number**: RE7CV11BU, RE7PE11BU

RE7ML11BU functions: On-delay, Off-delay, Pulse on energization with start on energization, Pulse on energization with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period.

REMY13BU functions: On-delay, Off-delay, Pulse on energization with start on energization, Pulse on energization with start on opening of remote control contact, Flashing with start during the OFF period, Flashing with start during the ON period, Star-delta starting with double On-delay timing, Star-delta starting with contact for switching to star connection.

(4) Selectable in instantaneous mode.

### Miniature plug-in relays, relay output

<table>
<thead>
<tr>
<th>Functions</th>
<th>7 switchable ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timing ranges</td>
<td>0.1 s–1 s - 1 s–10 s - 0.1 min–1 min - 1 min–10 min - 0.1 h–1 h - 1 h–10 h - 10 h–100 h</td>
</tr>
<tr>
<td>Relay output</td>
<td>4 timed C/O contacts</td>
</tr>
<tr>
<td>Rated current</td>
<td>AC 3 A</td>
</tr>
<tr>
<td>Voltages</td>
<td>24 VDC</td>
</tr>
<tr>
<td></td>
<td>24 VAC 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>120 VAC 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>230 VAC 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>RE XL4TMBD</td>
</tr>
<tr>
<td></td>
<td>RE XL4TMB7</td>
</tr>
<tr>
<td></td>
<td>RE XL4TMP7</td>
</tr>
<tr>
<td></td>
<td>RE XL4TMP7</td>
</tr>
<tr>
<td></td>
<td>RE XL4TMP7</td>
</tr>
<tr>
<td></td>
<td>RE XL4TMP7</td>
</tr>
</tbody>
</table>

For other versions, please consult with your local Schneider Electric/Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
### Plug-in timers

**Type of plug-in timer**

<table>
<thead>
<tr>
<th>Type of plug-in timer</th>
<th>On-Delay</th>
<th>Off-Delay</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply Voltage</strong></td>
<td>On-Delay</td>
<td>Off-Delay</td>
<td>Interval</td>
</tr>
<tr>
<td>24 VDC/110 VDC</td>
<td>120 VAC/110 VDC</td>
<td>120 VAC/110 VDC</td>
<td></td>
</tr>
<tr>
<td><strong>Relay Output</strong></td>
<td>2 N.C. / 2 N.O.</td>
<td>2 N.C. / 2 N.O.</td>
<td></td>
</tr>
<tr>
<td>10 A</td>
<td>10 A</td>
<td>10 A</td>
<td>10 A</td>
</tr>
<tr>
<td><strong>Output Pins</strong></td>
<td>8</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td><strong>Catalog Number</strong></td>
<td>9050JCK11V14</td>
<td>9050JCK11V20</td>
<td>9050JCK21V14</td>
</tr>
</tbody>
</table>

**Type of plug-in timer**

<table>
<thead>
<tr>
<th>Type of plug-in timer</th>
<th>One Shot</th>
<th>Repeat Cycle</th>
<th>On-Delay</th>
<th>Multifunction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply Voltage</strong></td>
<td>120 VAC/110 VDC</td>
<td>120 VAC/110 VDC</td>
<td>120 VAC</td>
<td>24 VAC</td>
</tr>
<tr>
<td><strong>Relay Output</strong></td>
<td>2 N.C. / 2 N.O.</td>
<td>2 N.C. / 2 N.O.</td>
<td>2 N.C. / 2 N.O.</td>
<td>2 N.C. / 2 N.O.</td>
</tr>
<tr>
<td>10 A</td>
<td>10 A</td>
<td>10 A</td>
<td>10 A</td>
<td>10 A</td>
</tr>
<tr>
<td><strong>Output Pins</strong></td>
<td>8</td>
<td>8</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td><strong>Catalog Number</strong></td>
<td>9050JCK41V20</td>
<td>9050JCK41V20</td>
<td>9050JCK51V20</td>
<td>–</td>
</tr>
</tbody>
</table>

For additional information on 9050JCK, reference Catalog 9050CT9601R7/04.

### Additional Information

For other versions, please consult with your local Schneider Electric/Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)

Zelio Time

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For additional information on 9050JCK, reference Catalog 9050CT9601R7/04.

### Additional Diagrams

For other versions, please consult with your local Schneider Electric/Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
## Programmable smart relays
### Compact, SR2

<table>
<thead>
<tr>
<th>Compact smart relays</th>
<th>With display, DC power supply</th>
<th>With display, AC power supply</th>
<th>Without display and without buttons, DC and AC power supply</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply voltage</strong></td>
<td>12VDC</td>
<td>24VAC</td>
<td>24VDC</td>
</tr>
<tr>
<td>Number of inputs/outputs</td>
<td>Discrete inputs</td>
<td>12 10 12 20 20 20 12 10 12 20 20 20</td>
<td>20 10 12 20 20 20 12 10 12 20 20 20</td>
</tr>
<tr>
<td>Number of inputs</td>
<td>8 12 6 8 12 6 8 12 6 8 12 6 8</td>
<td>8 12 6 8 12 6 8 12 6 8 12 6 8</td>
<td>6 8 12 20 20 20 12 10 12 20 20 20</td>
</tr>
<tr>
<td>Number of outputs</td>
<td>4 relay 4 relay 4 relay 2 relay 6 relay 6 relay 4 relay 4 relay 8 relay 8 relay 8 relay 8 relay</td>
<td>4 relay 4 relay 4 relay 8 relay 8 relay 8 relay 4 relay 4 relay 8 relay 8 relay 8 relay 8 relay</td>
<td>4 relay 4 relay 4 relay 8 relay 8 relay 8 relay 4 relay 4 relay 8 relay 8 relay 8 relay 8 relay</td>
</tr>
<tr>
<td>Dimensions, W x D x H</td>
<td>71.2x59.5x107.6 mm 124.6x59.5x107.6 mm 71.2x59.5x107.6 mm 124.6x59.5x107.6 mm</td>
<td>124.6x59.5x107.6 mm 124.6x59.5x107.6 mm 124.6x59.5x107.6 mm 124.6x59.5x107.6 mm</td>
<td>124.6x59.5x107.6 mm 124.6x59.5x107.6 mm 124.6x59.5x107.6 mm 124.6x59.5x107.6 mm</td>
</tr>
<tr>
<td>Clock</td>
<td>yes yes no yes no yes</td>
<td>no no yes yes yes yes yes yes yes yes yes yes</td>
<td>yes yes yes yes yes yes yes yes yes yes yes yes</td>
</tr>
</tbody>
</table>

(1) Programming on smart relay in LADDER language only.
(2) Replace the number 1 to order a smart relay with relay output or by 2 for a smart relay with transistor output (Example: SR2B121BD).
(3) To order a smart relay without a clock replace the letter D with the letter E (Example: SR2D201BD and SR2D201FU - these units can only be programmed in LADDER language).
Modular, SR3

Modular smart relays*  With display, DC and AC power supply

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>12 VDC</th>
<th>24 VDC</th>
<th>24 VAC</th>
<th>100–240 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Inputs/outputs</td>
<td>26</td>
<td>10</td>
<td>26</td>
<td>10</td>
</tr>
<tr>
<td>Number of Inputs</td>
<td>Discrete inputs</td>
<td>16</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>including 0-10 V analog inputs</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Number of outputs</td>
<td>relay</td>
<td>10</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Dimensions, W x D x H</td>
<td>124.6x59.5x107.6</td>
<td>71.2x59.5x107.6</td>
<td>124.6x59.5x107.6</td>
<td>71.2x59.5x107.6</td>
</tr>
<tr>
<td>Clock</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Catalog number</td>
<td>SR3B261JD SR3B101BD SR3B261FU SR3B101FU SR3B261FU</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The modular base can be fitted with one I/O extension module. The 24 VDC modular base can be fitted with one communication module and/or one I/O extension module.

(1) Replace the p by the number 1 to order a smart relay with relay output or by 2 for a smart relay with transistor output (Example: SR3B101BD).

Extension modules for Zelio Logic 2 SR3Bppppp (2)

| Application | MODBUS network | – | – | – | – |
| Number of Inputs/outputs | – | 6 | 10 | 14 | 4 |
| Number of Inputs | Discrete | – | 4 | 6 | 8 | – |
| Analog (0–10 V, 0–20 mA, PT100) | – | – | 2 relay | 4 relay | 6 relay | – |
| Number of outputs | Relay | – | – | – | – |
| Analog (0–10 V) | – | – | – |
| Dimensions, W x D x H | 35.5x59.5x107.6 | 35.5x59.5x107.6 | 35.5x59.5x107.6 | 72x59.5x107.6 | 72x59.5x107.6 |
| Catalog number | SR3XT61JD SR3XT101JD SR3XT141JD SR3XT43BD SR3XT43BD |

(2) The power supply of the extension modules is provided via the Zelio Logic 2 modular relays.

Zelio Soft software and memory for SR2/SR3

<table>
<thead>
<tr>
<th>Description</th>
<th>Multilingual programming software</th>
<th>Connecting cables</th>
<th>Back-up memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zelio Soft software and memory</td>
<td>PCCD-ROM (Windows 98, NT, 2000, XP, ME) (3)</td>
<td>PC Serial to Relay</td>
<td>EEPROM (&lt; V3.0 ZelioSoft)</td>
</tr>
<tr>
<td>Connecting cables</td>
<td>PC USB to SR2CBL01</td>
<td>PC USB to Relay</td>
<td></td>
</tr>
<tr>
<td>Back-up memory</td>
<td>EEPROM (&gt; V3.0 ZelioSoft)</td>
<td>ZelioSoft</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>SR2SFT01 SR2SFT02 SR2SFT03</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(3) CD-ROM including Zelio Soft software, an application library, a self-training manual, installation instructions and a user’s manual.

Communication interface for SR2/SR3

<table>
<thead>
<tr>
<th>Interface, Zelio Logic 2 Alarm software</th>
<th>Communication interface (4)</th>
<th>Alarm management software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>12–24 VDC</td>
<td>–</td>
</tr>
<tr>
<td>Description</td>
<td>–</td>
<td>PC CD-ROM (Windows 98, NT, 2000, XP)</td>
</tr>
<tr>
<td>Dimensions, W x D x H</td>
<td>72x59.5x107.6 mm</td>
<td>–</td>
</tr>
<tr>
<td>Catalog number</td>
<td>SR2COM01</td>
<td>SR2SFT02</td>
</tr>
</tbody>
</table>
# Programmable controllers

## Bases

<table>
<thead>
<tr>
<th>Type of base</th>
<th>Compact</th>
<th>Modular</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of discrete I/O</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Number of discrete inputs (24 VDC)</td>
<td>6 (sink/source)</td>
<td>12 (sink/source)</td>
</tr>
<tr>
<td>Number of discrete outputs</td>
<td>4 relay 2 A</td>
<td>8 relay transistor 0.3 A</td>
</tr>
<tr>
<td>Types of connection</td>
<td>Non-removable screw terminals</td>
<td>HE 10 connector</td>
</tr>
<tr>
<td>Possible I/O extension modules</td>
<td>–</td>
<td>4</td>
</tr>
<tr>
<td>Counting (resolutions in bits)</td>
<td>3 x 5 kHz (16 bit)</td>
<td>19.2–30 VDC</td>
</tr>
<tr>
<td>PWM position control</td>
<td>–</td>
<td>Modbus Master/Slave, ASCII, remote RTU</td>
</tr>
<tr>
<td>Serial ports</td>
<td>1 x RS 485</td>
<td>1 x RS 485; as an option: 1 x RS 232C or RS 485</td>
</tr>
<tr>
<td>Protocol</td>
<td>–</td>
<td>Modbus Master/Slave, ASCII, remote RTU and Ethernet</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>80 x 70 x 90 mm</td>
<td>35.4 x 70 x 90 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>TWDLC1A10DRF</td>
<td>TWDLDMA20DTK</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>100–240 VAC</td>
<td>12 sink/source (2)</td>
</tr>
<tr>
<td>Integrated Counting</td>
<td>2 x 5 kHz, 2 x 20 kHz</td>
<td>24 VDC</td>
</tr>
<tr>
<td>PLS/PWM position control</td>
<td>2 x 7 kHz</td>
<td>2 x 7 kHz</td>
</tr>
<tr>
<td>Real-time clock (as an option)</td>
<td>–</td>
<td>TWDLCPRTC</td>
</tr>
<tr>
<td>Display unit (as an option)</td>
<td>–</td>
<td>TWDXCPODC</td>
</tr>
</tbody>
</table>

(1) Positive or negative logic.

| Number of discrete I/O | 16 | 40 |
| Number of discrete inputs (24 VDC) | 9 (sink/source) | 12 (sink/source) |
| Number of discrete outputs | 7 relay 2 A | 6 relay and 2 source transistor 0.3 A |
| Types of connection | – | HE 10 connector |
| Possible I/O extension modules | – | 7 |
| Counting (resolutions in bits) | 1 x 20 kHz (32 bit) | 1 x RS 485; as an option: 1 x RS 232C or RS 485 |
| PWM position control | 4 x 5 kHz (16 bit), 2 x 20 kHz (32 bit) | Modbus Master/Slave, ASCII, remote RTU |
| Serial ports | 2 x 7 kHz | 1 x RS 485; as an option: 1 x RS 232C or RS 485 |
| Protocol | 2 x 7 kHz | Modbus Master/Slave, ASCII, remote RTU and Ethernet |
| Dimensions W x D x H | 80 x 70 x 90 mm | 47.5 x 70 x 90 mm |
| Catalog number | TWDLC1A16DRF | TWDLDMA20DTK |
| Supply voltage | 100–240 VAC | 12 sink/source (2) |
| Integrated Counting | 2 x 20 kHz | 24 VDC |
| PLS/PWM position control | – | 2 x 7 kHz |
| Real-time clock (as an option) | – | TWDLCPRTC |
| Display unit (as an option) | – | TWDXCPODC |

(2) Positive or negative logic.

(3) Also available in the following version: sink transistor outputs (TWDLMDA20DUK and TWDLMDA40DUK).

## Accessories

**HE10 connectors**

- TwidoFast “preformed” cable
  - Length: L = 3 m
  - Catalog number: TWDXCMFK32
- Cable with bare wire on other end
  - Length: L = 5 m
  - Catalog number: TWDXCMFK64
- Telefast sub-bases
  - Length: L = 1 m
  - Catalog number: TWDSPU001V10M
  - Length: L = 2 m
  - Catalog number: TWDSPU002V10M

**Description**

- Application update (32 Kb / 64 Kb) with cable
- Description update with USB cable
- Catalog number: TWDXCMFK32/TWDXCMFK64
- Catalog number: TWDSPU001V10M/TWDSPU002V10M

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
# I/O modules

## Type of module

### Analog

<table>
<thead>
<tr>
<th>Number of I/O</th>
<th>2 inputs</th>
<th>4 inputs</th>
<th>8 inputs</th>
<th>1 output</th>
<th>2 outputs</th>
<th>2 inputs/1 output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>Removable screw terminals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inputs Range</td>
<td>0–10 V (1)</td>
<td>4–20 mA (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>12 bits (4096 points)</td>
<td>12 bits (4096 points)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outputs Range</td>
<td>0–10 V</td>
<td>± 10 V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>12 bits (4096 points)</td>
<td>12 bits (4096 points)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Measuring accuracy

±0.2 %

### Supply voltage

24 VDC

### Dimensions W x D x H

23.5 x 70 x 90 mm

### Catalog number

| TWADAMI2HT | TWADAMI4LT | TWADAMI8HT | TWADAMO1HT | TWDAMO2HT | TWDAMM3HT | TWDALM3LT |

(1) Non differential.
(2) Differential.

## Type of module

### Discrete

<table>
<thead>
<tr>
<th>Number of discrete I/O</th>
<th>8</th>
<th>4 inputs/4 outputs</th>
<th>16</th>
<th>16</th>
<th>32</th>
<th>2 modules (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical input</td>
<td>Sink</td>
<td>Sink/Source</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connections</td>
<td>Removable screw terminals</td>
<td>HE 10 connectors</td>
<td>Removable screw terminals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>TWDDDI8DT</td>
<td>TWDDMM8DR</td>
<td>TWDDDI16DT</td>
<td>TWDDDI16DK</td>
<td>TWDDDI32DK</td>
<td>–</td>
</tr>
</tbody>
</table>

(3) Also available in the following version: sink transistor outputs, (TWDDDO8UT, TWDDDO16UK and TWDDDO32UK).

(4) 2 modules max. 62 discrete slaves max. 7 analog slaves max. AS-Interface/M3, V 2.11 (S.7.4 profile not supported).

## Communication modules

### CANopen

<table>
<thead>
<tr>
<th>Type of module</th>
<th>CANopen Expansion</th>
<th>Serial interface module</th>
<th>Serial interface adaptor</th>
<th>Ethernet Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical layer</td>
<td>RS-232C</td>
<td>RS-485</td>
<td>RS-232C</td>
<td>RS-485</td>
</tr>
<tr>
<td>Connections</td>
<td>Screw terminals</td>
<td>Mini-DIN connector</td>
<td>Screw terminals</td>
<td>Mini-DIN connector</td>
</tr>
<tr>
<td>Compatibility with Twido base</td>
<td>–</td>
<td>Modular bases only: TWDLMDA</td>
<td>Compact base TWDLCA16/24RF</td>
<td>All models</td>
</tr>
<tr>
<td>Catalog number</td>
<td>TWDNO10M3</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
Modicon M340, ideal for complex OEM machine control applications that require small size, powerful capabilities and highly integrated functionality.

- 3 built-in communications ports (Ethernet, Modbus, CANopen)
- High density 64 pt modules in standard widths
- Hot Swap modules ease maintenance
- Unity Software family development

<table>
<thead>
<tr>
<th>Selection guide</th>
<th>Modicon M340 PLC</th>
</tr>
</thead>
</table>

### M340 platforms for Unity Pro software offer

**Number of Racks**
- Maximum number of rack 4/6/8/12 slots
- Maximum number of free slots

<table>
<thead>
<tr>
<th>Inputs/Outputs</th>
<th>In-Rack IOs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum number of in-rack Discrete inputs/outputs</td>
</tr>
<tr>
<td></td>
<td>Maximum number of in-rack Analog inputs/outputs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distributed IOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum number of distributed Discrete Inputs/outputs</td>
</tr>
<tr>
<td>Maximum number of distributed Analog inputs/outputs</td>
</tr>
</tbody>
</table>

### Technology functions

- **In-Rack Application specific channels**
  - Counting channels & Serial poly

- **Integrated software libraries**
  - PLCopen Motion Library
  - Process control library

- **Communication**
  - **Embedded ports**
    - Ethernet (100 Base-TX) - see page 4/54 for details
    - CANopen Master (Ds89, 63 Slaves)
    - Modbus Master, Slave, RTU / ASCII (RJ45 19.2 Kbits/s RS485 / RS232)
    - USB terminal port, Device connector 12 Mbits/s

- **Maximum numbers of networks (Ethernet)**
  - Maximum nb of in-rack NOE ethernet TCP/IP module

### Memory capacity

- **CPU**
  - Memory size - user application
  - User data
  - Program and symbols (Code, constants)

- **SD card**
  - Application Backup
  - Ready-to-Use System Diagnostic Web Server
  - File storage (Standard SDcard / Optional SDcard BMWRMS008MPF)

### Execution time

<table>
<thead>
<tr>
<th>Execution time per instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boolean</td>
</tr>
<tr>
<td>One word or fixed-word arithmetic</td>
</tr>
<tr>
<td>On floating points</td>
</tr>
<tr>
<td><strong>Nb of Kinst per ms for typical applications</strong></td>
</tr>
<tr>
<td>100% Boolean</td>
</tr>
<tr>
<td>65% Boolean + 35% fixed arithmetic</td>
</tr>
</tbody>
</table>

### Multitasking operating system

- **Master task**
- **Fast task**
- **Event task (I/O event task)**

### Catalog number

Available 1st Quarter 2007
<table>
<thead>
<tr>
<th>Basic CPU</th>
<th>Performance CPU</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU 340-10, Modbus</td>
<td>CPU 340-20, Modbus, CANopen master</td>
</tr>
<tr>
<td>CPU 340-20, Modbus, CANopen master</td>
<td>CPU 340-20, Ethernet TCPIP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 (-&gt; 2 at 4Q2007)</th>
<th>1 (-&gt; 4 at 4Q2007)</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>47</td>
</tr>
<tr>
<td>512</td>
<td>1024</td>
</tr>
<tr>
<td>128</td>
<td>256</td>
</tr>
</tbody>
</table>

Limits related to the communication bus/network itself.

<table>
<thead>
<tr>
<th>Limits related to the communication bus/network itself.</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
</tr>
<tr>
<td>36</td>
</tr>
</tbody>
</table>

Motion Function Blocks Library

<table>
<thead>
<tr>
<th>CONT-CTL library</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
</tr>
<tr>
<td>–</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>–</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>–</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

2 mb               4 Mb
128Kb              256Kb
35Kinst            70Kinst
16Mb program
2Mb User web pages

<table>
<thead>
<tr>
<th>- / -</th>
</tr>
</thead>
<tbody>
<tr>
<td>- / 8 Mb</td>
</tr>
<tr>
<td>0.28</td>
</tr>
<tr>
<td>0.5</td>
</tr>
<tr>
<td>3.5</td>
</tr>
<tr>
<td>3.7 Kins/ms</td>
</tr>
<tr>
<td>3.45 Kins/ms</td>
</tr>
<tr>
<td>32</td>
</tr>
<tr>
<td>84</td>
</tr>
</tbody>
</table>

Available 1st Quarter 2007
## Counter modules

### Application

<table>
<thead>
<tr>
<th>Number of channels</th>
<th>2 channels</th>
<th>8 channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency per channel</td>
<td>60 KHz</td>
<td>10 KHz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module cycle time</th>
<th>Counting pulses &quot;24V</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counter/measurement input</td>
<td>Incremental encoder</td>
<td>10–30V with push-pull in outputs</td>
<td>10–30V with push-pull in outputs</td>
</tr>
<tr>
<td>Absolute encoder</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reflex inputs/outputs</th>
<th>6 inputs per channel (type 3)</th>
<th>2 inputs 24Vdc per channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counting capacity</td>
<td>32 bits per channel</td>
<td>16 bits per channel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Functions</th>
<th>4 counting modes, 4 measuring modes and PWM</th>
<th>5 counting modes, 1 measuring mode</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Processing</th>
<th>8 sources</th>
<th>6 sources</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Events</th>
<th>2 x 16-point connectors for inputs</th>
<th>20-point connectors for inputs/outputs</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Connection</th>
<th>Type of Module</th>
<th>BMXEHCO200</th>
<th>BMXEHCO800</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMXEHCO200</td>
<td>High speed counter 2 Ch1</td>
<td>BMXEHCO800</td>
<td>High Speed Counter 8 Ch</td>
</tr>
</tbody>
</table>

Available 1st Quarter 2007
# Discrete I/O modules

## Application

<table>
<thead>
<tr>
<th>Type</th>
<th>Voltage</th>
<th>Modularity (number of channels)</th>
<th>Connection</th>
<th>Compatibility with Telefast</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC</td>
<td>24 VDC</td>
<td>16 isolated channels</td>
<td>Terminal Block 20 points</td>
<td>Yes</td>
</tr>
<tr>
<td>DC</td>
<td>48 VDC</td>
<td>16 isolated channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>AC</td>
<td>120 VAC</td>
<td>16 isolated channels</td>
<td>3 types (1)</td>
<td>-</td>
</tr>
<tr>
<td>DC or AC</td>
<td>24 VDC or 24 VAC</td>
<td>16 isolated channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC</td>
<td>48 VAC</td>
<td>32 isolated channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC</td>
<td>24 VDC</td>
<td>64 isolated channels</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

## Type of discrete input and I/O modules

- BMXDDI1602
- BMXDDI1603
- BMXDAI1604
- BMXDAI1602
- BMXDAI1603
- BMXDDI3202K
- BMXDDI6402K

---

## Application

<table>
<thead>
<tr>
<th>Type</th>
<th>Voltage</th>
<th>Modularity (number of channels)</th>
<th>Connection</th>
<th>Compatibility with Telefast</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Transistors</td>
<td>24 VDC</td>
<td>16 Channels</td>
<td>Terminal Block 20 points</td>
<td>Yes</td>
</tr>
<tr>
<td>DC/AC Relays</td>
<td>24 VDC</td>
<td>16 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC/AC Relays</td>
<td>24–240 VAC</td>
<td>8 Channels</td>
<td>3 types (1)</td>
<td>-</td>
</tr>
<tr>
<td>DC/AC Relays</td>
<td>24–240 VAC</td>
<td>16 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>AC Triacs</td>
<td>24–240 VAC</td>
<td>32 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC Transistors</td>
<td>24 VDC</td>
<td>64 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC Transistors</td>
<td>24 VDC</td>
<td>8 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC Transistor</td>
<td>0.5 Amp</td>
<td>16 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC Transistor</td>
<td>3 Amp (Ith)</td>
<td>8 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC Transistor</td>
<td>4 Amp (Ith)</td>
<td>16 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC Transistor</td>
<td>1 Amp</td>
<td>32 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC Transistor</td>
<td>0.5 Amp</td>
<td>64 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>DC Transistor</td>
<td>0.1 Amp</td>
<td>32 Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>AC Triacs</td>
<td>0.1 Amp</td>
<td>64 Channels</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

## Type of discrete outputs and I/O modules

- BMXDDO1602
- BMXDDO1603
- BMXDDO1604
- BMXDDO1602
- BMXDDO1603
- BMXDDO3202K
- BMXDDO6402K

---

(1) Cabling Accessory for Basic Micro Programmable Logic Controller

- BMXFTB2000: Screw terminal strip (20 points), Standard
- BNXFTB2010: Screw terminal strip (20 points), Circular adaptor
- BMXFTB2020: Spring terminal strip (20 points)
# Modicon M340

## Analog I/O Modules

<table>
<thead>
<tr>
<th>Application</th>
<th>Analog Inputs</th>
<th>Analog Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of I/O</td>
<td>High Level Fast isolated inputs between channels</td>
<td>Temperature isolated inputs between channels</td>
</tr>
<tr>
<td>Type</td>
<td>4 multi-range (U &amp; I) channels</td>
<td>4 multi-range channels: Thermocouples and RTD (2, 3, 4 wires)</td>
</tr>
<tr>
<td>Range</td>
<td>Voltage: +/- 10 V 0–10 V 0–5 V 1–5 V</td>
<td>+/- 80 V</td>
</tr>
<tr>
<td>Current</td>
<td>0–20 mA 4–20 mA</td>
<td>Thermocouples and RTD (2, 3, 4 wires)</td>
</tr>
<tr>
<td>Modularity</td>
<td>4 channels</td>
<td>4 channels</td>
</tr>
<tr>
<td>Isolation</td>
<td>Between channels +/- 300 VDC</td>
<td>Between channels 750 VDC</td>
</tr>
<tr>
<td></td>
<td>Between bus and channels 2000 VDC</td>
<td>Between bus and channels 2000 VDC</td>
</tr>
<tr>
<td></td>
<td>Between channels and earth 2000 VDC</td>
<td>Between channels and earth 750 VDC</td>
</tr>
<tr>
<td>Read time</td>
<td>Response time: - 1 ms + 1 ms x nb of channels used - 5 ms (All channels used)</td>
<td>400 ms/4 voies</td>
</tr>
<tr>
<td>Resolution</td>
<td>16 bits</td>
<td>0.01 mV</td>
</tr>
<tr>
<td>Connection</td>
<td>20 points terminal block, 3 types (1)</td>
<td>1 FCN type connectors (40 points) 25-way SUB-D connectors</td>
</tr>
<tr>
<td>Type of module</td>
<td>BMXAMI0410 BMXART0414 BMXAMO0210</td>
<td>Telefast, 25-way SUB-D connectors</td>
</tr>
</tbody>
</table>

(1) Cabling Accessory for BasicMicro Programmable Logic Controller
- BMXFTB2000 Screw terminal strip (20 points), Standard
- BMXFTB2010 Screw terminal strip (20 points), circular adaptor
- BMXFTB2020 Spring terminal strip (20 points)

Available in Quarter 2007

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com

Courtesy of Steven Engineering, Inc. ● 230 Ryan Way, South San Francisco, CA 94080-6370 ● General Inquiries: (800) 670-4183 ● www.stevenengineering.com
## Analog Outputs

### Temperature inputs
8 multi-range channels:
- Thermocouples and RTD (2, 3, 4 wires)

### Fast high level inputs, high level outputs
6 multi-range \( U \) \& \( I \) channels:
- 4 input + 2 output

### +/- 80 V
- +/- 10 V input
- 0–10 V input
- 0–5 V input
- 1–5 V input
- +/- 10 V output

### 0–10 V input
- 0–5 V input
- 1–5 V input
- +/- 10 V output

### 0–5 V input
- 0–5 V input
- 1–5 V input
- +/- 10 V output

### 1–5 V input
- 1–5 V input
- +/- 10 V output

### +/- 10 V output
- 10 V input
- 5 V input
- +/- 10 V output

### – 0–20 mA input and output
- 4–20 mA input and output

### Thermocouples and RTD (2, 3, 4 wires)
- Temperature probes CEI Pt100/Pt1000, US/JIS Pt100/Pt1000 Cu10, Ni100/Ni1000 in 2, 3 or 4-wire temperature probes.

### 8 channels
- Between channels 750 VDC
- Between bus and channels 2000 VDC
- Between channels and earth 750 VDC

### 8 channels
- Not isolated between inputs channel
- Not isolated between outputs channel
- Between channels 1400 VDC
- Between bus and channels 2000 VDC
- Between channels and earth 2000 VDC

### 800 ms/8 voices
- User-definable filtering 0 to 0.64 s

### 0.01 mV
- 12 bits

### 1 FCN type connectors (40 points)
- 20 points terminal block, 3 types (1)

### 25-way SUB-D connectors

### Telefast, 25-way SUB-D connectors
- ABE7CPA412

### BMXART0614
- BMXAMM0600

Available 2nd Quarter 2007
## Automation platform
### Basic configurations

<table>
<thead>
<tr>
<th>Type of processor</th>
<th>TSX 3705</th>
<th>TSX 3708</th>
<th>TSX 3710</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>110–240 VAC</td>
<td>24 VDC</td>
<td></td>
</tr>
<tr>
<td>Number of slots</td>
<td>2 (1 available)</td>
<td>3 (1 available)</td>
<td>2 (1 available)</td>
</tr>
<tr>
<td>On extension</td>
<td>–</td>
<td>–</td>
<td>2</td>
</tr>
<tr>
<td>Number of integrated discrete I/O modules</td>
<td>1 (16 I, 12 Q)</td>
<td>2 (32 I, 24 Q)</td>
<td>1 (16 I, 12 Q)</td>
</tr>
<tr>
<td>Number of integrated analog I/O channels</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Type of integrated I/O</td>
<td>1:24 VDC, Q: relay</td>
<td>1:24 VDC, Q: relay</td>
<td>1:24 VDC, Q: sol.st. 0.5 A</td>
</tr>
<tr>
<td>Application-specific modules</td>
<td>2 half-size</td>
<td>2 half-size</td>
<td></td>
</tr>
<tr>
<td>Bus</td>
<td>AS-Interface cabling system</td>
<td>–</td>
<td>1 half-size</td>
</tr>
<tr>
<td>CANopen machine bus</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>FiPi fieldbus</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Modbus Plus, Fipway</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Ethernet TCP/IP</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Memory capacity</td>
<td>Integrated 11 K words</td>
<td>14 K words</td>
<td></td>
</tr>
<tr>
<td>With PCMCIA extension</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Execution time for one instruction</td>
<td>Boolean 0.25 µs</td>
<td>0.25 µs</td>
<td>4.81 µs</td>
</tr>
<tr>
<td>Numerical</td>
<td>4.81 µs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rack dimensions</td>
<td>170.3 x 132.5 x 151 mm</td>
<td>230 x 132.5 x 151 mm</td>
<td>170.3 x 132.5 x 151 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>TSX3705028DR1</td>
<td>TSX3708056DR1</td>
<td>TSX3710128DT1</td>
</tr>
<tr>
<td>With HE 10 connector (1)</td>
<td>–</td>
<td>–</td>
<td>TSX3710128DTK1</td>
</tr>
</tbody>
</table>

(1) For use with Advantys Telefast ABE7 wiring system.
(2) Basic configuration provided without I/O modules.

## Memory extension

<table>
<thead>
<tr>
<th>Type of PCMCIA card for TSX 3721/22</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>SRAM</td>
</tr>
<tr>
<td>Memory size (3)</td>
<td>TSXMRP128K</td>
</tr>
<tr>
<td>32 K words</td>
<td>TSXMRP248K</td>
</tr>
<tr>
<td>32 K words/128 K words</td>
<td>TSXMRPP224K</td>
</tr>
<tr>
<td>64 K words</td>
<td>TSXMRPP384K</td>
</tr>
<tr>
<td>64 K words/128 K words</td>
<td>TSXMRPP384K</td>
</tr>
<tr>
<td>128 K words</td>
<td>TSXMRPC448K</td>
</tr>
<tr>
<td>128 K words/128 K words</td>
<td>TSXMRPC768K</td>
</tr>
</tbody>
</table>

(3) The 1st value corresponds to the size of the application area, the second to the size of the area for data storage (recipes, production data, etc).

Connection accessories: See www.us.telemecanique.com
<table>
<thead>
<tr>
<th></th>
<th>TSX 3710</th>
<th>TSX 3721</th>
<th>TSX 3722</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of rack</td>
<td>Mini extension rack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 slots (4 positions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For use with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rack dimensions</td>
<td>W x D x H</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>112.5 x 132.5 x 151 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>TSXRKZ2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
### Discrete I/O modules

#### Type of module

<table>
<thead>
<tr>
<th>Connection</th>
<th>Module format</th>
<th>Number of channels</th>
<th>Input voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrete inputs</td>
<td>Half</td>
<td>12</td>
<td>24 VDC positive logic</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
<td>32</td>
<td>24 VDC positive/negative logic</td>
</tr>
<tr>
<td></td>
<td>Half</td>
<td>8</td>
<td>100–120 VAC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>200–240 VAC</td>
</tr>
<tr>
<td>Discrete outputs</td>
<td>Solid state</td>
<td>8</td>
<td>24 VDC/0.5 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32</td>
<td>24 VDC/2 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>24 VDC/1 A per channel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>24–240 VAC/1 A per channel</td>
</tr>
<tr>
<td>Discrete I/O</td>
<td></td>
<td></td>
<td>24 VDC/0.1 A</td>
</tr>
</tbody>
</table>

#### Connection accessories:

- For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com.

---

(1) For use with Advantys Telefast ABE7 wiring system.
## Communication modules

### Ethernet TCP/IP network

For TSX 3710/21/22 PLCs

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Speed</th>
<th>Standard services</th>
<th>Transparent Ready</th>
<th>Web server</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet TCP/IP network</td>
<td>10/100 Mbps</td>
<td>TCP/IP (Uni-TE, Modbus)</td>
<td>B20</td>
<td>-</td>
<td>TSXETZ410</td>
</tr>
<tr>
<td>For TSX 3710/21/22 PLCs</td>
<td>10/100 Mbps</td>
<td>TCP/IP (Uni-TE, Modbus)</td>
<td>C20</td>
<td>-</td>
<td>TSXETZ510</td>
</tr>
</tbody>
</table>

### AS-Interface cabling system

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Name and description</th>
<th>Speed</th>
<th>Standard services</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS-Interface cabling system</td>
<td>Half size in-rack</td>
<td>167 Kbps</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### CANopen machine bus

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Name and description</th>
<th>Speed</th>
<th>Standard services</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANopen machine bus</td>
<td>PCMCIA card</td>
<td>20 Kbps – 1 Mbps dep. on distance</td>
<td></td>
</tr>
</tbody>
</table>

### Fipio fieldbus

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Name and description</th>
<th>Speed</th>
<th>Standard services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fipio fieldbus</td>
<td>PCMCIA card</td>
<td>1 Mbps</td>
<td></td>
</tr>
</tbody>
</table>

### Serial links

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Name and description</th>
<th>Speed</th>
<th>Standard services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial links</td>
<td>Integrated port</td>
<td>19.2 Kbps</td>
<td>Multiprotocol PCMCIA card</td>
</tr>
</tbody>
</table>

### Networks

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Name and description</th>
<th>Speed</th>
<th>Standard services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networks</td>
<td>PCMCIA card</td>
<td>1 Mbps</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Name and description</th>
<th>Speed</th>
<th>Standard services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networks</td>
<td>PCMCIA card</td>
<td>1 Mbps</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Name and description</th>
<th>Speed</th>
<th>Standard services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networks</td>
<td>Modbus Plus</td>
<td>TSXMBP100</td>
<td>TSXFPP20</td>
</tr>
</tbody>
</table>

### Connection accessories

See [www.us.telemecanique.com](http://www.us.telemecanique.com)
## Automation platform
### Processors under Unity Pro software

<table>
<thead>
<tr>
<th>Type of processor</th>
<th>TSX 57C configuration</th>
<th>TSX 5700</th>
<th>TSX 5710</th>
<th>TSX 5720</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of I/O</td>
<td>Discrete</td>
<td>192</td>
<td>256</td>
<td>512</td>
</tr>
<tr>
<td>in racks</td>
<td>Analog</td>
<td>12</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Integrated process control</td>
<td>No / Yes</td>
<td>No / Yes</td>
<td>No / Yes</td>
<td>No / Yes</td>
</tr>
<tr>
<td>Application-specific channels (counter, position control, weighing)</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Bus</td>
<td>AS-Interface cabling system</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>CANopen machine bus</td>
<td>1 (integrated)</td>
<td>1 (integrated)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Number of I/O</td>
<td>Discrete</td>
<td>192</td>
<td>256</td>
<td>512</td>
</tr>
<tr>
<td>in racks</td>
<td>Analog</td>
<td>12</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Integrated process control</td>
<td>No / Yes</td>
<td>No / Yes</td>
<td>No / Yes</td>
<td>No / Yes</td>
</tr>
<tr>
<td>Application-specific channels (counter, position control, weighing)</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Bus</td>
<td>AS-Interface cabling system</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>CANopen machine bus</td>
<td>1 (integrated)</td>
<td>1 (integrated)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Networks (Ethernet, Modbus Plus, Fipway)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2 (6)</td>
</tr>
<tr>
<td>Memory capacity</td>
<td>Without PCMCIA extension</td>
<td>96 Kb data/prog.</td>
<td>96 Kb data/prog.</td>
<td>96 Kb data/prog.</td>
</tr>
<tr>
<td>With PCMCIA extension</td>
<td>96 Kb data/128 Kb prog.</td>
<td>96 Kb data/128 Kb prog.</td>
<td>96 Kb data/224 Kb prog.</td>
<td>160/192 Kb data (1)/768 Kb prog.</td>
</tr>
<tr>
<td>Execution time</td>
<td>Boolean</td>
<td>0.19 µs</td>
<td>0.19 µs</td>
<td>0.19 µs</td>
</tr>
<tr>
<td>for one instruction</td>
<td>On word or arithmetic</td>
<td>0.25 µs</td>
<td>0.25 µs</td>
<td>0.25 µs</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Without integrated port</td>
<td>–</td>
<td>–</td>
<td>TXSP57104M</td>
</tr>
<tr>
<td>Integrated Ethernet</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>TXSP57163M</td>
</tr>
<tr>
<td>Integrated CANopen</td>
<td>TXSP57C0244M (2)</td>
<td>TXSP570244M</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Integrated Fipio</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>TXSP57154M</td>
</tr>
</tbody>
</table>

1. The second value corresponds to the integrated memory capacity when the processor is equipped with a Fipio manager integrated link.
2. 24 VDC version: TXSP57CD0244M, 100–240 VAC version: TXSP57CA0244M.
3. Processor with double format.
4. PC format card on PCI bus.

## Processors under PL7 software

<table>
<thead>
<tr>
<th>Type of processor</th>
<th>TSX 5710</th>
<th>TSX 5720</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of I/O</td>
<td>Discrete</td>
<td>512</td>
</tr>
<tr>
<td>in racks</td>
<td>Analog</td>
<td>24</td>
</tr>
<tr>
<td>Integrated process control</td>
<td>No</td>
<td>30 loops</td>
</tr>
<tr>
<td>Application-specific channels (counter, position control, weighing)</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>Bus</td>
<td>AS-Interface cabling system</td>
<td>2</td>
</tr>
<tr>
<td>CANopen machine bus</td>
<td>1 (with TSXP57103M)</td>
<td>1</td>
</tr>
<tr>
<td>Networks (Ethernet, Modbus Plus, Fipway)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Memory capacity</td>
<td>Without PCMCIA extension</td>
<td>32 K words data/prog.</td>
</tr>
<tr>
<td>With PCMCIA extension</td>
<td>32 K words data/64 K words prog.</td>
<td>32 K words data (5)/160 K words prog.</td>
</tr>
<tr>
<td>Execution time</td>
<td>Boolean</td>
<td>0.50 µs</td>
</tr>
<tr>
<td>for one instruction</td>
<td>On word or arithmetic</td>
<td>0.62 µs</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Without integrated port</td>
<td>TXSP57103M</td>
</tr>
<tr>
<td>Integrated Ethernet</td>
<td>–</td>
<td>TXSP57263M</td>
</tr>
<tr>
<td>Integrated Fipio</td>
<td>–</td>
<td>TXSP57153M</td>
</tr>
<tr>
<td>Integrated Ethernet and Fipio</td>
<td>–</td>
<td>TXSP57263M</td>
</tr>
</tbody>
</table>

1. The second value corresponds to the processor with integrated Fipio bus manager link.
2. (5) The second value corresponds to the processor with integrated Fipio bus manager link.
### Processors under Unity Pro software

<table>
<thead>
<tr>
<th>Model</th>
<th>Racks</th>
<th>Loops</th>
<th>Data/Prog.</th>
<th>Cycle Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSX 5730</td>
<td>16</td>
<td>128</td>
<td>60</td>
<td>0.12 µs</td>
</tr>
<tr>
<td>TSX 5740</td>
<td>16</td>
<td>64</td>
<td>45</td>
<td>0.06 µs</td>
</tr>
<tr>
<td>TSX 5750</td>
<td>16</td>
<td>32</td>
<td>10</td>
<td>0.17 µs</td>
</tr>
<tr>
<td>PCI 5720</td>
<td>16</td>
<td>1</td>
<td>0</td>
<td>0.17 µs</td>
</tr>
<tr>
<td>PCI 5730</td>
<td>16</td>
<td>1</td>
<td>32</td>
<td>0.17 µs</td>
</tr>
</tbody>
</table>

### Atrium slot-PLCs under Unity Pro software

<table>
<thead>
<tr>
<th>Model</th>
<th>Racks</th>
<th>Loops</th>
<th>Data/Prog.</th>
<th>Cycle Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSX 5730</td>
<td>16</td>
<td>128</td>
<td>60</td>
<td>0.12 µs</td>
</tr>
<tr>
<td>TSX 5740</td>
<td>16</td>
<td>64</td>
<td>45</td>
<td>0.06 µs</td>
</tr>
<tr>
<td>TSX 5750</td>
<td>16</td>
<td>32</td>
<td>10</td>
<td>0.17 µs</td>
</tr>
<tr>
<td>PCI 5720</td>
<td>16</td>
<td>1</td>
<td>0</td>
<td>0.17 µs</td>
</tr>
<tr>
<td>PCI 5730</td>
<td>16</td>
<td>1</td>
<td>32</td>
<td>0.17 µs</td>
</tr>
</tbody>
</table>

(6) with PL7 V4.4 min.
### Memory extensions for Unity Pro processors

<table>
<thead>
<tr>
<th>Type of PCMCIA card</th>
<th>Application</th>
<th>Additional data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>SRAM</td>
<td>Flash EPROM only</td>
</tr>
<tr>
<td>Memory size</td>
<td>SRAM</td>
<td></td>
</tr>
<tr>
<td>96 Kb</td>
<td>TSXMRP128K</td>
<td>TSXMFPB096K (3)</td>
</tr>
<tr>
<td>128 Kb</td>
<td>TSXMRP128K</td>
<td>–</td>
</tr>
<tr>
<td>224 Kb</td>
<td>TSXMRP224K / TSXMPC224K</td>
<td>TSXMRP224K</td>
</tr>
<tr>
<td>384 Kb</td>
<td>TSXMRP384K</td>
<td>TSXMRP384K</td>
</tr>
<tr>
<td>448 Kb</td>
<td>TSXMRP448K(1)</td>
<td>–</td>
</tr>
<tr>
<td>512 kb</td>
<td>TSXMCPC256K</td>
<td>–</td>
</tr>
<tr>
<td>768 Kb</td>
<td>TSXMRP768K (1)</td>
<td>TSXMRP768K (512 Ko)</td>
</tr>
<tr>
<td>1 Mb</td>
<td>TSXMRP001M(1)</td>
<td>TSXMRP001M</td>
</tr>
<tr>
<td>1.7 Mb</td>
<td>TSXMRP01M7</td>
<td>–</td>
</tr>
<tr>
<td>2 Mb</td>
<td>TSXMRP0002M(1)</td>
<td>TSXMRPC002M (2)</td>
</tr>
<tr>
<td>3 Mb</td>
<td>TSXMRP0003M(1)</td>
<td>–</td>
</tr>
<tr>
<td>4 Mb</td>
<td>–</td>
<td>TSXMRP0004M</td>
</tr>
<tr>
<td>7 Mb</td>
<td>TSXMRP0007M(1)</td>
<td>–</td>
</tr>
<tr>
<td>8 Mb</td>
<td>–</td>
<td>TSXMRP0008M</td>
</tr>
</tbody>
</table>

(1) By configuration, the user can reserve part of the memory space for data storage (recipes, production data) on request.

(2) These cards have an additional SRAM area for storing data (recipes, production data).

(3) Backup cartridge of the program when this one reside entirely in PLC internal memory.

### Memory extensions for PL7 processors

<table>
<thead>
<tr>
<th>Type of PCMCIA card</th>
<th>Application</th>
<th>Additional data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>SRAM</td>
<td>Flash EPROM only</td>
</tr>
<tr>
<td>Memory size</td>
<td>SRAM</td>
<td></td>
</tr>
<tr>
<td>32 K words</td>
<td>TSXMRP128K</td>
<td>TSXMRP128K</td>
</tr>
<tr>
<td>64 K words</td>
<td>TSXMRP224K</td>
<td>TSXMRP224K</td>
</tr>
<tr>
<td>64 K words/128 K words</td>
<td>TSXMRP384K</td>
<td>TSXMRP384K</td>
</tr>
<tr>
<td>96 K words</td>
<td>–</td>
<td>TSXMRP001M</td>
</tr>
<tr>
<td>128 K words</td>
<td>TSXMRP448K</td>
<td>TSXMRP448K</td>
</tr>
<tr>
<td>128 K words/128 K words</td>
<td>TSXMRP768K (5)</td>
<td>–</td>
</tr>
<tr>
<td>256 K words</td>
<td>TSXMRP0002M</td>
<td>–</td>
</tr>
<tr>
<td>64 K words/640 K words</td>
<td>TSXMRP0004M</td>
<td>–</td>
</tr>
<tr>
<td>384 K words/64 K words</td>
<td>TSXMRP0008M</td>
<td>–</td>
</tr>
<tr>
<td>512 K words</td>
<td>TSXMRP0003M(5)</td>
<td>–</td>
</tr>
<tr>
<td>992 K words/640 K words</td>
<td>TSXMRP0007M</td>
<td>–</td>
</tr>
<tr>
<td>2048 K words</td>
<td>–</td>
<td>TSXMRP0008M</td>
</tr>
</tbody>
</table>

(4) The 1st value corresponds to the size of the application area, the second to the size of the additional data area for storing data (recipes, production data, etc).

(5) These cards have an additional SRAM area for storing application object symbols.

(6) with PV0.05
Power supply modules (1)

<table>
<thead>
<tr>
<th>Type of power supply module for</th>
<th>Premium</th>
<th>Atrium (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>24 VDC</td>
<td>100–240 VAC</td>
</tr>
<tr>
<td>Output voltage</td>
<td>5 VDC / 24 VDC</td>
<td>5 VDC</td>
</tr>
<tr>
<td>Total useful power</td>
<td>26 W</td>
<td>50 W</td>
</tr>
<tr>
<td>Format</td>
<td>Standard</td>
<td>Double</td>
</tr>
<tr>
<td>Catalog number</td>
<td>TSXPSY1610M</td>
<td>TSXPSY3610M</td>
</tr>
</tbody>
</table>

(1) Process power supplies see chapter 6 “Power supply.”
(2) Only for Atrium slot-PLCs under Unity.

Racks

<table>
<thead>
<tr>
<th>Type of rack</th>
<th>Non extendable</th>
<th>Extendable</th>
</tr>
</thead>
<tbody>
<tr>
<td>For configuration</td>
<td>Mono-rack</td>
<td>Multi-rack (16 max.)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Dimensions W x D x P</td>
<td>TSXRKY4EX</td>
</tr>
<tr>
<td>4 positions</td>
<td>188 x 160 x 151.5 mm (3)</td>
<td></td>
</tr>
<tr>
<td>6 positions</td>
<td>261.6 x 160 x 151.5 mm (3)</td>
<td>TSXRKY6</td>
</tr>
<tr>
<td>8 positions</td>
<td>335.3 x 160 x 151.5 mm (3)</td>
<td>TSXRKY8</td>
</tr>
<tr>
<td>12 positions</td>
<td>482.6 x 160 x 151.5 mm (3)</td>
<td>TSXRKY12</td>
</tr>
</tbody>
</table>

(3) Height of I/O modules: 151.5 mm with HE 10 or SUB-D connectors, 165 mm with screw terminals.

Connection accessories

<table>
<thead>
<tr>
<th>Type</th>
<th>Bus X daisy chaining cable for extendable racks</th>
<th>Line terminators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td></td>
<td>Set of 2</td>
</tr>
<tr>
<td>L = 1 m</td>
<td>TSXCBY010K</td>
<td></td>
</tr>
<tr>
<td>L = 3 m</td>
<td>TSXCBY030K</td>
<td></td>
</tr>
<tr>
<td>L = 5 m</td>
<td>TSXCBY050K</td>
<td></td>
</tr>
<tr>
<td>L = 12 m</td>
<td>TSXCBY120K</td>
<td></td>
</tr>
<tr>
<td>L = 18 m</td>
<td>TSXCBY180K</td>
<td></td>
</tr>
<tr>
<td>L = 28 m</td>
<td>TSXCBY280K</td>
<td></td>
</tr>
<tr>
<td>L = 38 m</td>
<td>TSXCBY380K</td>
<td></td>
</tr>
<tr>
<td>L = 50 m</td>
<td>TSXCBY500K</td>
<td></td>
</tr>
<tr>
<td>L = 72 m</td>
<td>TSXCBY720K</td>
<td></td>
</tr>
<tr>
<td>L = 100 m</td>
<td>TSXCBY1000K</td>
<td></td>
</tr>
</tbody>
</table>
## Discrete I/O modules

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Discrete inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connection</strong></td>
<td><strong>Number of isolated channels</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>24 VDC</strong></td>
<td></td>
</tr>
<tr>
<td><strong>48 VDC</strong></td>
<td></td>
</tr>
<tr>
<td><strong>24 VAC</strong></td>
<td></td>
</tr>
<tr>
<td><strong>48 VAC</strong></td>
<td></td>
</tr>
<tr>
<td><strong>100–120 VAC</strong></td>
<td></td>
</tr>
<tr>
<td><strong>200–240 VAC</strong></td>
<td></td>
</tr>
</tbody>
</table>

(1) Terminal block to be ordered separately.
(2) For use with Advantys Telefast ABE7 wiring system.
(3) Module with high-speed isolated inputs (filtering from 0.1 to 7.5 ms) able to activate the event-triggered task.
(4) Module also compatible with 24 VDC negative logic.

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Discrete outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connection</strong></td>
<td><strong>Number of protected channels</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>24 VDC/0.5 A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>24 VDC/2 A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>24 VDC/0.1 A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>48 VDC/1 A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>48 VDC/0.25 A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>24–48 VDC/24–240 VAC/3 A Th.c</strong></td>
<td></td>
</tr>
<tr>
<td><strong>24–120 VAC/5 A Th.c</strong></td>
<td></td>
</tr>
<tr>
<td><strong>24–120 VAC/1 A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>48–240 VAC/1 A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>48–240 VA/2 A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>24 VDC/24–240 VAC/3A</strong></td>
<td></td>
</tr>
</tbody>
</table>

(1) Terminal block to be ordered separately.
(2) For use with Advantys Telefast ABE7 wiring system.

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Discrete I/O</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connection</strong></td>
<td><strong>Number of inputs</strong></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(2) For use with Advantys Telefast ABE7 wiring system.

**Connection accessories:** See www.us.telemecanique.com
### Analog I/O modules

#### Type of module

<table>
<thead>
<tr>
<th>Connection</th>
<th>Analog input</th>
<th>High level isolated</th>
<th>Low level isolated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>By 25-way SUB-D connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of channels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 high-speed</td>
<td>8</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>12 bits</td>
<td>16 bits</td>
<td>16 bits</td>
<td>16 bits</td>
</tr>
<tr>
<td>Resolution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between channels</td>
<td>Common point</td>
<td>Common point</td>
<td>Common point</td>
</tr>
<tr>
<td>Isolation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between channels and earth</td>
<td>~ 1000 Vrms</td>
<td>~ 1000 Vrms</td>
<td>~ 1000 Vrms</td>
</tr>
<tr>
<td>Catalog number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High level input (2)</td>
<td>TSXAIEY420</td>
<td>TSXAIEY800</td>
<td>TSXAIEY1600</td>
</tr>
<tr>
<td>Multi-range</td>
<td>~ 1000 Vrms</td>
<td>~ 1000 Vrms</td>
<td>~ 1000 Vrms</td>
</tr>
</tbody>
</table>

1. Screw terminals TSXBLY01 to be ordered separately.
2. ± 10 V, 0–10 V, 0–5 V, 1–5 V, 0–20 mA, 4–20 mA.
4. ± 10 V, ± 5 V, 0–10 V, 0–5 V, 1–5 V, 0–20 mA, 4–20 mA, -13–+63 mV, 0–400 W, 0–3850 W, thermal probe, thermocouple.

#### Type of module

<table>
<thead>
<tr>
<th>Connection</th>
<th>Analog output</th>
<th>Isolated</th>
<th>With common point</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>By screw terminals TSXBLY01 (5)</td>
<td></td>
<td>By 25-way SUB-D connector</td>
</tr>
<tr>
<td>Number of channels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Resolution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 bits + sign</td>
<td></td>
<td></td>
<td>13 bits + sign</td>
</tr>
<tr>
<td>Isolation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between channels</td>
<td>~ 1500 Vrms</td>
<td></td>
<td>Common point</td>
</tr>
<tr>
<td>Catalog number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input signal (6)</td>
<td>TSXASY410</td>
<td></td>
<td>TSXASY800</td>
</tr>
</tbody>
</table>

5. Terminal block to be ordered separately.
6. ± 10 V, 0–10 V, 0–20 mA, 4–20 mA.

**Connection accessories:** See www.us.telemecanique.com
### Automation platform

#### Counter modules

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Counter</th>
<th>Counter/measurement</th>
<th>Electronic cam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of inputs for</td>
<td>Sensors (1) Incremental encoders (2)</td>
<td>Sensors (1) Encoders (2)(3) Absolute encoders (4)</td>
<td></td>
</tr>
<tr>
<td>Counting</td>
<td>40 kHz</td>
<td>500 kHz/200 kHz (4)</td>
<td></td>
</tr>
<tr>
<td>Cycle time module</td>
<td>5 ms</td>
<td>10 ms</td>
<td>1 ms</td>
</tr>
<tr>
<td>Number of channels</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Number of axes</td>
<td>188 kHz</td>
<td>500 kHz with incremental encoder, 200 kHz with absolute encoder (6)</td>
<td>128 cams</td>
</tr>
<tr>
<td>Catalog number</td>
<td>TSXCTY2A</td>
<td>TSXCTY4A</td>
<td>TSXCTY2C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TSXCY1128</td>
</tr>
</tbody>
</table>

(1) For 2/3-wire PNP/NPN 24 VDC sensors.
(2) For 5 VDC RS422, 10–30 VDC Torex Pole incremental encoders.
(3) For SSI serial or parallel output absolute encoders.
(4) For RS485 serial or parallel output absolute encoders.

---

### Motion control modules

#### For translators

<table>
<thead>
<tr>
<th>Module type</th>
<th>Control outputs</th>
<th>Compatible with drives</th>
<th>Functions</th>
<th>Frequency for each axis</th>
<th>Number of axes</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>(amplifier for stepper motor)</td>
<td>RS 422</td>
<td>Lexium 05, Twin Line</td>
<td>Linear axes</td>
<td>187 kHz</td>
<td>1</td>
<td>TSXCFY11</td>
</tr>
<tr>
<td></td>
<td>+/- 10 V</td>
<td>Lexium 05/17D, Twin Line</td>
<td>Slew axes</td>
<td></td>
<td>2</td>
<td>TSXCFY21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>TSXCFY41</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TSXCAY22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TSXCAY42</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TSXCA33</td>
</tr>
</tbody>
</table>

(5) With linear interpolation on 2 or 3 axes.
(6) SSI serial or with parallel outputs.

#### For analog control servomotors

<table>
<thead>
<tr>
<th>Module type</th>
<th>Control outputs</th>
<th>Compatible with drives</th>
<th>Functions</th>
<th>Frequency for each axis</th>
<th>Number of axes</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>(for asynchronous and brushless motors)</td>
<td>SERCOS® network ring</td>
<td>Lexium 17D</td>
<td>Linear or infinite independent axes, slave axes with cam profile or ratio</td>
<td>4 Mb SERCOS® network ring</td>
<td>8 (8)</td>
<td>TSXCYSY84</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TSXCYSY85</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TSXCSY164</td>
</tr>
</tbody>
</table>

(7) TSXCSY85 module supplied with TJE trajectory editor: linear trajectories with links between segments according to polynomial or circular interpolation and circular trajectories.

(8) 8 real axes, 4 imaginary axes and 4 remote axes.

(9) 16 axes (real axes, imaginary and remote axes).

---

### Weighing modules

<table>
<thead>
<tr>
<th>Type of module</th>
<th>ISP Plus</th>
<th>supplied uncalibrated</th>
<th>supplied calibrated and offer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Load cell inputs / outputs</td>
<td>Without display unit</td>
<td>50 measurements (for 1 to 8 load cells) / 2 discrete and 1 RS 485 for display unit</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>TSXISPY101</td>
<td>Please consult your Schneider Electric agency</td>
<td></td>
</tr>
<tr>
<td>With display unit</td>
<td>TSXISPY111</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Connection accessories: See www.us.telemecanique.com
## Communication modules

### Ethernet TCP/IP

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Speed</th>
<th>Standard services</th>
<th>Transparent Ready</th>
<th>Web server</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet TCP/IP</td>
<td>10 Mbps</td>
<td>10/100 Mbps</td>
<td>Class</td>
<td>Global Data</td>
<td>I/O Scanning</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C10</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>B30</td>
<td>–</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>B30</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C30</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>D30</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### AS-Interface CANopen Fipio manager INTERBUS Profibus DP

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Name and description</th>
<th>Speed</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-rack PCM CIA</td>
<td>Integrated port</td>
<td>167 Kbps</td>
<td>TSXSAY1000</td>
</tr>
<tr>
<td>20 K–1 Mbps</td>
<td>1 Mbps</td>
<td>TSXCPP110</td>
<td></td>
</tr>
<tr>
<td>1 Mbps</td>
<td>19.2 Kbps</td>
<td>TSXSCP116</td>
<td></td>
</tr>
<tr>
<td>0.5 Mbps</td>
<td>9.6 Kbps</td>
<td>TSXIBY100</td>
<td></td>
</tr>
<tr>
<td>9.6 Kbps</td>
<td>12 Mbps</td>
<td>TSXPBY100</td>
<td></td>
</tr>
</tbody>
</table>

### Serial links Uni-Telway Modbus ASCII

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Name and description</th>
<th>Speed</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated port</td>
<td>In-rack PCM CIA</td>
<td>19.2 Kbps</td>
<td>TSXP57 (1)</td>
</tr>
<tr>
<td>1.2–19.2 Kbps</td>
<td>19.2 Kbps</td>
<td>TSXSCP116 (2)</td>
<td></td>
</tr>
<tr>
<td>19.2 Kbps</td>
<td>19.2 Kbps</td>
<td>TSXSCP114</td>
<td></td>
</tr>
<tr>
<td>1 Mbps</td>
<td>1 Mbps</td>
<td>TSXSCP111</td>
<td></td>
</tr>
<tr>
<td>1.2–19.2 Kbps</td>
<td>1.2–19.2 Kbps</td>
<td>TSXSCP114</td>
<td></td>
</tr>
<tr>
<td>20mA CL</td>
<td>20mA CL</td>
<td>TSXSCP112</td>
<td></td>
</tr>
<tr>
<td>–</td>
<td>–</td>
<td>TSXSCP112</td>
<td></td>
</tr>
</tbody>
</table>

### Other networks Modbus Plus Finway Fipio (agent function)

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Name and description</th>
<th>Speed</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated port</td>
<td>PCMCIA card</td>
<td>1 Mbps</td>
<td>TSXMIP100</td>
</tr>
<tr>
<td>1 Mbps</td>
<td>1 Mbps</td>
<td>TSXFPP20</td>
<td></td>
</tr>
<tr>
<td>1 Mbps</td>
<td>1 Mbps</td>
<td>TSXFPP10</td>
<td></td>
</tr>
</tbody>
</table>

---

(1) Catalog numbers: see pages 3/30 and 3/31, Premium processors with integrated Ethernet TCP/IP port.

(2) Catalog numbers: see pages 3/30 and 3/31, Premium processors with integrated Fipio port.

(1) Catalog numbers: see pages 3/30 and 3/31, Premium processors with integrated Ethernet TCP/IP port.

(2) Also designed for Modbus serial (channel 0).
### Automation platform

**Processors under Unity Pro software**

<table>
<thead>
<tr>
<th>Type of processor</th>
<th>Simple applications</th>
<th>Simple and medium complexity applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. number of discrete I/O (1)</td>
<td>Local</td>
<td>Unlimited (27 slots max.) 2 racks (1 main + 1 extension)</td>
</tr>
<tr>
<td>Max. number of analog I/O (1)</td>
<td>Decentralized/distributed</td>
<td>31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)</td>
</tr>
<tr>
<td>Max. number of analog I/O (1)</td>
<td>Local</td>
<td>Unlimited (27 slots max.)</td>
</tr>
<tr>
<td>Type of application-specific I/O</td>
<td>Decentralized/distributed</td>
<td>1894 inputs (RIO)/500 inputs (DIO) and 1894 outputs (RIO)/500 outputs (DIO)</td>
</tr>
<tr>
<td>Type of application-specific I/O</td>
<td>Decentralized/distributed</td>
<td>Intrinsically safe I/O, counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus</td>
</tr>
<tr>
<td>Communication ports (2)</td>
<td>Integrated Modbus</td>
<td>2 RS 232/RS 485</td>
</tr>
<tr>
<td>Communication ports (2)</td>
<td>Modbus Plus</td>
<td>1 integrated, 2 in local rack</td>
</tr>
<tr>
<td>Communication ports (2)</td>
<td>Ethernet TCP/IP</td>
<td>2 in local rack</td>
</tr>
<tr>
<td>Communication ports (2)</td>
<td>Fieldbus</td>
<td>Profibus DP: 2 in local rack</td>
</tr>
<tr>
<td>Memory capacity</td>
<td>Integrated</td>
<td>2 Mb</td>
</tr>
<tr>
<td>Memory capacity</td>
<td>With PCMCIA extension</td>
<td>2 Mb</td>
</tr>
<tr>
<td>Memory capacity</td>
<td>Data storage</td>
<td>--</td>
</tr>
<tr>
<td>Catalog number</td>
<td>140CPU31110</td>
<td>140CPU34312U</td>
</tr>
</tbody>
</table>

(1) The maximum values for the number of discrete or analog I/O are not cumulative.
(2) The numbers of communication modules are not cumulative, 2 or 6 in local rack, depending on model.
(3) Processor compatible with Unity Pro software after updating its firmware (via OS-Loader included in Unity Pro).

### Processors under Concept/ProWORX software

<table>
<thead>
<tr>
<th>Type of processor</th>
<th>Simple applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. number of discrete I/O (1)</td>
<td>Local</td>
</tr>
<tr>
<td>Max. number of analog I/O (1)</td>
<td>Decentralized/distributed</td>
</tr>
<tr>
<td>Max. number of analog I/O (1)</td>
<td>Local</td>
</tr>
<tr>
<td>Type of application-specific I/O</td>
<td>Decentralized/distributed</td>
</tr>
<tr>
<td>Type of application-specific I/O</td>
<td>Decentralized/distributed</td>
</tr>
<tr>
<td>Communication ports (2)</td>
<td>Integrated Modbus</td>
</tr>
<tr>
<td>Communication ports (2)</td>
<td>Modbus Plus</td>
</tr>
<tr>
<td>Communication ports (2)</td>
<td>Ethernet TCP/IP</td>
</tr>
<tr>
<td>Communication ports (2)</td>
<td>Fieldbus</td>
</tr>
<tr>
<td>Communication ports (2)</td>
<td>Fieldbus</td>
</tr>
<tr>
<td>Memory capacity</td>
<td>Integrated</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Concept/ProWORX</td>
</tr>
<tr>
<td>Catalog number</td>
<td>140CPU11302</td>
</tr>
</tbody>
</table>

(1) The maximum values for the number of discrete or analog I/O are not cumulative.
(2) The numbers of communication modules are not cumulative, 2 or 6 in local rack, depending on model.
(3) Processor compatible with Unity Pro software after updating its firmware (via OS-Loader included in Unity Pro).
<table>
<thead>
<tr>
<th>Complex applications</th>
<th>Hot Standby redundant applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlimited (26 slots max.) 2 racks (1 main + 1 extension)</td>
<td></td>
</tr>
<tr>
<td>31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)</td>
<td></td>
</tr>
<tr>
<td>Unlimited (27 slots max.)</td>
<td></td>
</tr>
<tr>
<td>1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)</td>
<td></td>
</tr>
<tr>
<td>Intrinsically safe I/O, counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus</td>
<td></td>
</tr>
<tr>
<td>1 RS 232/485</td>
<td></td>
</tr>
<tr>
<td>1 integrated, 6 in local rack</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 in local rack</td>
</tr>
<tr>
<td>PROFIBUS DP: 6 in local rack</td>
<td></td>
</tr>
<tr>
<td>2 Mb</td>
<td></td>
</tr>
<tr>
<td>7 Mb</td>
<td></td>
</tr>
<tr>
<td>8 Mb</td>
<td></td>
</tr>
<tr>
<td>140CPU65150</td>
<td>140CPU65160</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Simple and medium complexity applications</th>
<th>Complex applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlimited (27 slots max.) 2 racks (1 main + 1 extension)</td>
<td></td>
</tr>
<tr>
<td>31744 inputs (RIO)/8000 inputs (DIO) and 31744 outputs (RIO)/8000 outputs (DIO)</td>
<td></td>
</tr>
<tr>
<td>Unlimited (27 slots max.)</td>
<td></td>
</tr>
<tr>
<td>1984 inputs (RIO)/500 inputs (DIO) and 1984 outputs (RIO)/500 outputs (DIO)</td>
<td></td>
</tr>
<tr>
<td>Intrinsically safe I/O, counter, motion control, high-speed interrupt inputs, time-stamp, serial link, AS-Interface sensor/actuator bus</td>
<td></td>
</tr>
<tr>
<td>2 RS 232</td>
<td></td>
</tr>
<tr>
<td>1 integrated, 6 in local rack</td>
<td></td>
</tr>
<tr>
<td>6 in local rack</td>
<td></td>
</tr>
<tr>
<td>INTERBUS/PROFIBUS DP: 6 in local rack</td>
<td></td>
</tr>
<tr>
<td>2 Mb</td>
<td></td>
</tr>
<tr>
<td>4 Mb</td>
<td></td>
</tr>
<tr>
<td>140CPU43412A (3)</td>
<td>140CPU63414B (3)</td>
</tr>
</tbody>
</table>
### Type of power supply module for Quantum

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>Type of Power Supply Module</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC</td>
<td>Standalone (1)</td>
<td>140CPS21100</td>
</tr>
<tr>
<td>48-60 VDC</td>
<td></td>
<td>140CPS51100</td>
</tr>
<tr>
<td>100-150 VDC</td>
<td></td>
<td>140CPS11100</td>
</tr>
<tr>
<td>120-230 VAC</td>
<td></td>
<td>140CPS21400</td>
</tr>
<tr>
<td>115/230 VAC</td>
<td></td>
<td>140CPS41400</td>
</tr>
</tbody>
</table>

**Footnote:** The output current for the standalone power supply modules is 3 A.

### PCMCIA memory extensions

<table>
<thead>
<tr>
<th>Type of PCMCIA card for Unity processors 140CPU65/67</th>
<th>Application</th>
<th>Additional data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td>SRAM</td>
<td>Flash EPROM</td>
</tr>
<tr>
<td>Memory size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>512 Kb/512 Kb (2)</td>
<td>–</td>
<td>TSXMCPC512K</td>
</tr>
<tr>
<td>1 Mb (3)</td>
<td>TSXMRPC001M</td>
<td>–</td>
</tr>
<tr>
<td>2 Mb (3)</td>
<td>TSXMRPC002M</td>
<td>–</td>
</tr>
<tr>
<td>2 Mb/1 Mb (2)</td>
<td>–</td>
<td>TSXMCPC002M</td>
</tr>
<tr>
<td>3 Mb (3)</td>
<td>TSXMRPC003M</td>
<td>–</td>
</tr>
<tr>
<td>4 Mb</td>
<td>–</td>
<td>TSXMRPF004M</td>
</tr>
<tr>
<td>7 Mb (3)</td>
<td>TSXMRPC007M</td>
<td>–</td>
</tr>
<tr>
<td>8 Mb</td>
<td>–</td>
<td>TSXMRPF008M</td>
</tr>
</tbody>
</table>

**Footnotes:**
1. The output current for the standalone power supply modules is 3 A.
2. The 1st value corresponds to the size of the application area, the second to the size of the additional data area for storing data (recipes, production data, etc).
3. By configuration the user can reserve part of the memory space for data storage (recipes, production data, etc).
Racks

<table>
<thead>
<tr>
<th>Type</th>
<th>Racks</th>
<th>Rack extension module (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>Dimensions W x D x H</td>
<td></td>
</tr>
<tr>
<td>2 slots</td>
<td>104 x 104 x 290 mm</td>
<td>140XBP00200</td>
</tr>
<tr>
<td>3 slots</td>
<td>143 x 104 x 290 mm</td>
<td>140XBP00300</td>
</tr>
<tr>
<td>4 slots</td>
<td>164 x 104 x 290 mm</td>
<td>140XBP00400</td>
</tr>
<tr>
<td>6 slots</td>
<td>265 x 104 x 290 mm</td>
<td>140XBP00600</td>
</tr>
<tr>
<td>10 slots</td>
<td>428 x 104 x 290 mm</td>
<td>140XBP01000</td>
</tr>
<tr>
<td>16 slots</td>
<td>671 x 104 x 290 mm</td>
<td>140XBP01600</td>
</tr>
<tr>
<td>Rack extension</td>
<td>–</td>
<td>140XBE10000</td>
</tr>
</tbody>
</table>

(1) Local extension module, to be placed in main rack and secondary rack.

Connection accessories (2)

<table>
<thead>
<tr>
<th>Type</th>
<th>Cable for extension racks (main and secondary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>L = 1 m</td>
</tr>
<tr>
<td></td>
<td>L = 2 m</td>
</tr>
<tr>
<td></td>
<td>L = 3 m</td>
</tr>
</tbody>
</table>

(2) Other accessories: See www.us.telemecanique.com
## Discrete I/O modules

### Type of module

**Discrete inputs**

<table>
<thead>
<tr>
<th>Connection</th>
<th>Number of isolated channels</th>
<th>Input voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>By screw terminals 140XTS00200 (to be ordered separately)</td>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
</tr>
<tr>
<td>9 VDC TTL (negative logic)</td>
<td>16</td>
<td>140DDI15300</td>
</tr>
<tr>
<td>24 VDC</td>
<td>4 groups of 8</td>
<td>140DDI35300(1)</td>
</tr>
<tr>
<td>10–60 VDC</td>
<td>3 groups of 8</td>
<td>140DDI65300</td>
</tr>
<tr>
<td>20–30 VDC</td>
<td>2 groups of 8</td>
<td>140DDI84100</td>
</tr>
<tr>
<td>125 VDC</td>
<td>8 groups of 16</td>
<td>140DDI36400</td>
</tr>
<tr>
<td>24 VAC</td>
<td>8 groups of 2</td>
<td>140DDI46300</td>
</tr>
<tr>
<td>48 VAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>115 VAC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>230 VAC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) For negative logic, replace 00 at the end of the Catalog number with 10, for example 140DDI35300 becomes 140DDI35310.

### Type of module

**Discrete outputs**

<table>
<thead>
<tr>
<th>Connection</th>
<th>Number of protected channels</th>
<th>Output voltage/current</th>
</tr>
</thead>
<tbody>
<tr>
<td>By screw terminals 140XTS00200 (to be ordered separately)</td>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
</tr>
<tr>
<td>Solid state</td>
<td>16</td>
<td>5 VDC TTL/0.075 A (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 VDC/0.5 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10–30 VDC/0.5 A (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19.2–30 VDC/0.5 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10–60 VDC/2 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24–125 VDC/0.75 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24–48 VAC/4 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24–115 VAC/4 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24–230 VAC/ 4-3 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100–230 VAC/ 4-3 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>125 VAC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>125 VDC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 VDC/15 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>125 VAC/4 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>125 VDC/4 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150 VDC or 250 VAC/2 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150 VDC or 250 VAC/5 A</td>
</tr>
</tbody>
</table>

(1) For negative logic, replace 01 at the end of the catalog number with 10, for example 140DDO35301 becomes 140DDO35310.

(2) Negative logic.

(3) Controlled outputs.

### Type of module

**Discrete I/O – mixed**

<table>
<thead>
<tr>
<th>Connection</th>
<th>Number of I/O</th>
<th>Input voltage</th>
<th>Output voltage/current</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>By screw terminals 140XTS00200 (to be ordered separately)</td>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
<td><img src="image3" alt="Image" /></td>
<td><img src="image4" alt="Image" /></td>
</tr>
<tr>
<td>Solid state</td>
<td>2 groups of 8/2 groups of 4</td>
<td>24 VDC</td>
<td>30 VDC/15 A</td>
<td>140DDM9000</td>
</tr>
<tr>
<td>Relay</td>
<td>1 group of 4/ 4 isolated</td>
<td>125 VDC</td>
<td>125 VAC/4 A</td>
<td>140DAM9000</td>
</tr>
<tr>
<td></td>
<td>−/−/16 NO</td>
<td>125 VDC/4 A</td>
<td>150 VDC or 250 VAC/2 A</td>
<td>140DDDM9000</td>
</tr>
<tr>
<td></td>
<td>−/−/8 NO/NC</td>
<td></td>
<td>150 VDC or 250 VAC/5 A</td>
<td>140DRA84000</td>
</tr>
</tbody>
</table>

**Connection accessories:** See www.us.telemecanique.com
### Analog I/O modules

#### Analog inputs

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Analog inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>By screw terminals 140XTS00200 (to be ordered separately)</td>
</tr>
<tr>
<td>Number of channels</td>
<td>8</td>
</tr>
<tr>
<td>Input signal</td>
<td>4–20 mA</td>
</tr>
<tr>
<td></td>
<td>1–5 V</td>
</tr>
<tr>
<td>Resolution</td>
<td>12 bits</td>
</tr>
<tr>
<td>Catalog number</td>
<td>140ACI03000</td>
</tr>
</tbody>
</table>

(1) 0–25 mA, ± 20 mA, 4–20 mA, 0–10 V, ± 10 V, 0–5 V, ± 5 V, 1–5 V.
(2) Type B, E, J, K, R, S, T, mV.

#### Analog output

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Analog output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>By screw terminals 140XTS00200 (to be ordered separately)</td>
</tr>
<tr>
<td>Number of channels</td>
<td>4</td>
</tr>
<tr>
<td>Input signal</td>
<td>4–20 mA</td>
</tr>
<tr>
<td></td>
<td>4–20 mA</td>
</tr>
<tr>
<td>Resolution</td>
<td>12 bits</td>
</tr>
<tr>
<td>Catalog number</td>
<td>140ACO02000</td>
</tr>
</tbody>
</table>

#### Analog I/O

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Analog I/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>By screw terminals 140XTS00200 (to be ordered separately)</td>
</tr>
<tr>
<td>Number of inputs</td>
<td>4</td>
</tr>
<tr>
<td>Number of outputs</td>
<td>2</td>
</tr>
<tr>
<td>Input signal</td>
<td>0–20 mA, ± 20 mA, 4–20 mA, 0–10 V, ± 10 V, 0–5 V, ± 5 V, 1–5 V.</td>
</tr>
<tr>
<td>Resolution</td>
<td>inputs 16 bits, outputs 12 bits</td>
</tr>
<tr>
<td>Catalog number</td>
<td>140AMM09000</td>
</tr>
</tbody>
</table>

Connection accessories: See www.telemecanique.com
### Intrinsically safe I/O modules

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Inputs/Outputs</th>
<th>Analog</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrete</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analog</td>
<td></td>
<td>12 bits + sign</td>
</tr>
<tr>
<td><strong>Conformity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Directive ATEX 94/9/EC, EN 50014, EN 50020, EN 50284, EN 50281-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Zone D (dust)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EC type examination certificate number / marking</strong></td>
<td>SIRA 02ATEX2345X G/D-[EEx ia] II</td>
<td></td>
</tr>
<tr>
<td><strong>Connection</strong></td>
<td>By screw terminal 140XTS33200 (to be ordered separately)</td>
<td></td>
</tr>
<tr>
<td><strong>Number of inputs</strong></td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td><strong>Number of outputs</strong></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Signal inputs</strong></td>
<td>–</td>
<td>Thermal probe 0-25/20 mA</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>–</td>
<td>12 bits + sign</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>140DII33000</td>
<td>140DIO33000</td>
</tr>
<tr>
<td></td>
<td>140AIi33000</td>
<td>140AIi3010</td>
</tr>
<tr>
<td></td>
<td>140AIio33000</td>
<td></td>
</tr>
</tbody>
</table>

(1) Type J, K, E, T, S, R, B, mV.

### Counter and special purpose modules

<table>
<thead>
<tr>
<th>Type of module</th>
<th>High-speed counter</th>
<th>High-speed inputs with interrupt</th>
<th>Time-stamp system</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of inputs for</strong></td>
<td>Incremental encoders</td>
<td>Discrete 24 VDC (2)</td>
<td>Discrete 24 VDC (3)</td>
</tr>
<tr>
<td><strong>Counting frequency</strong></td>
<td>100 kHz</td>
<td>500 kHz</td>
<td>24-125 VDC</td>
</tr>
<tr>
<td><strong>Number of channels</strong></td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>140EHC10500</td>
<td>140EHC20200</td>
<td>140HLJ34000</td>
</tr>
<tr>
<td></td>
<td>140EHC20500</td>
<td>140EHC20200</td>
<td>140DCF07700</td>
</tr>
<tr>
<td></td>
<td>140HLJ34000</td>
<td>140EHC20500</td>
<td>140ERT5410</td>
</tr>
</tbody>
</table>

(2) 3 operating modes: Interrupt, latch, high-speed inputs, on rising or falling edge.

(3) For GPS or DCF time receiver.
## Communication

### Modicon Quantum

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Ethernet TCP/IP network</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Speed</strong></td>
<td>10/100 Mbps</td>
</tr>
<tr>
<td><strong>Standard services</strong></td>
<td>TCP/IP (Modbus)</td>
</tr>
<tr>
<td><strong>Transparent Ready</strong></td>
<td>Class</td>
</tr>
<tr>
<td>Global Data</td>
<td>Yes</td>
</tr>
<tr>
<td>I/O Scanning</td>
<td>Yes</td>
</tr>
<tr>
<td>FDR server</td>
<td>Yes</td>
</tr>
<tr>
<td>SNMP protocol</td>
<td>Yes</td>
</tr>
<tr>
<td>Web server</td>
<td>Class</td>
</tr>
<tr>
<td>Standard services</td>
<td>Yes</td>
</tr>
<tr>
<td>FactoryCast services</td>
<td>–</td>
</tr>
<tr>
<td>FactoryCast HMI services</td>
<td>–</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>140CPU651 (1)</td>
</tr>
</tbody>
</table>

(1) Catalog numbers: see pages 3/38 and 3/39, Quantum processors with integrated Ethernet TCP/IP.

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Modbus Plus network</th>
<th>AS-Interface cabling system</th>
<th>InterBus fieldbus (2)</th>
<th>Profinet DP V0 fieldbus (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name and description</strong></td>
<td>Integrated link</td>
<td>1 Mbps</td>
<td>167 Kbps</td>
<td>1 Mbps</td>
</tr>
<tr>
<td><strong>Speed</strong></td>
<td>1 Mbps</td>
<td>1 Mbps</td>
<td>9.6 K–12 Mbps</td>
<td></td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>140CPU (4)</td>
<td>140EIA92100</td>
<td>140NOA61100</td>
<td>140CRP81100</td>
</tr>
</tbody>
</table>

(2) Compatible with concept and ProWORX32 software.

(3) Available in Profinet DP V1 version, please consult your Schneider Electric agency.

(4) Catalog numbers: see pages 3/38 and 3/39, Quantum processors with integrated Modbus Plus.

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Serial link</th>
<th>ASCII</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name and description</strong></td>
<td>Integrated link</td>
<td>In-rack</td>
</tr>
<tr>
<td><strong>Speed</strong></td>
<td>19.2 Kbps</td>
<td>19.2 Kbps</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>140CPU (5) (6)</td>
<td>140ESI06210</td>
</tr>
</tbody>
</table>

(5) Catalog numbers: see pages 3/38 and 3/39, Quantum processors with integrated Modbus.

(6) RS 232/RS 485 on 140CPU651pp and 140CPU67160 processors and RS 232 on 140CPU31110, 140CPU43412A, 140CPU53414A processors.

### Connection accessories

See www.us.telemecanique.com
Unity™ software
For Modicon Premium, Quantum and Atrium slot PLCs

<table>
<thead>
<tr>
<th>Type of software</th>
<th>Unity Pro Medium version 2.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of license version 2.2</td>
<td>Single (1 station)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>UNYPUMFUCD22</td>
</tr>
<tr>
<td>Software package</td>
<td>–</td>
</tr>
<tr>
<td>Update (1)</td>
<td>UNYPUM2UCD22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of software</th>
<th>Unity Pro Large version 2.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of license version 2.2</td>
<td>Single (1 station)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>UNYPULFUCD22</td>
</tr>
<tr>
<td>Software package</td>
<td>–</td>
</tr>
<tr>
<td>Update (1)</td>
<td>UNYPULZUCD22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of software</th>
<th>Unity Pro Extra large version 2.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of license version 2.2</td>
<td>Single (1 station)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>UNYPUEFUCD22</td>
</tr>
<tr>
<td>Software package</td>
<td>–</td>
</tr>
<tr>
<td>Update (2)</td>
<td>UNYPUEZUCD22</td>
</tr>
</tbody>
</table>

(1) From Concept M et PL7 junior.
(2) From Concept M, PL7 junior, ProWORX NexT and ProWORX 32.

Unity Pro is the common programming, debugging and operating software for the Premium, Atrium and Quantum ranges of PLCs. It is based on the standards set by PL7 and Concept software and provides a comprehensive set of new functions for greater productivity and openness to other software.

The five IEC61131-3 languages are supported as standard in Unity Pro with all the debugging functions, on the simulator or directly online with the PLC.

Thanks to independent symbolic memory variables, structured data and user function blocks, the application objects directly reflect the application-specific components of the automated process.

Using graphic libraries, the Unity Pro operator screens are configured in the application by the user. Operator access is simple and direct.

Debugging and maintenance are made simple by animated graphic objects.

For diagnostics, a display window provides a clear display in chronological order (time-stamped at source) of all system and application faults. The navigation function for finding the causes of faults traces missing conditions back to the source.

The standard XML Web format for exchanging data has been adopted as the source format for Unity applications. All or part of the application can be exchanged with other software in the project simply using the Import/Export function.

The converters integrated in Unity Pro automatically convert IEC 61131-3 PL7 and Concept standards and applications.
### Unity software

#### Specialist tools

**SFC View application diagnostic and monitoring software**

<table>
<thead>
<tr>
<th>Type of software</th>
<th>Unity SFC View</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of license version 2.0</td>
<td>Single (1 station)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Software package</td>
</tr>
</tbody>
</table>

**EF/EFB function development software in C language**

<table>
<thead>
<tr>
<th>Type of software</th>
<th>Unity EFB Toolkit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of license</td>
<td>Single (1 station), English version (software and manual)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Software package</td>
</tr>
<tr>
<td>Renewal</td>
<td>UNYCSPSPUZBU</td>
</tr>
</tbody>
</table>

**Software for designing and generating batch/process applications**

<table>
<thead>
<tr>
<th>Type of software</th>
<th>Unity UAG (Unity application generator)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of license version 2.2</td>
<td>Single (1 station)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Medium Software package</td>
</tr>
<tr>
<td></td>
<td>Large Software package</td>
</tr>
</tbody>
</table>

**Pack for developing specific solutions**

<table>
<thead>
<tr>
<th>Type of software</th>
<th>Unity UDE (Unity Developer’s Edition)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of license</td>
<td>Single (1 station)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Software package</td>
</tr>
</tbody>
</table>
PL7 is the common programming, debugging and operating software for the TSX Micro and Premium ranges of PLCs (see pages 3/26 and 3/37).

PL7 offers 4 IEC languages: Instruction List (IL), Ladder Diagram (LD), Structured Text (ST) and Sequential Function Chart (SFC). You can use the most suitable language for each function in your application, making use of the multi-tasking structure of the processors.

For using application-specific functions, PL7 directly integrates the application-specific screens required for configuration and adjustment as well as supervisory and diagnostics activities.

### PL7 Micro for TSX Micro platform

<table>
<thead>
<tr>
<th>Type of Software</th>
<th>License Type</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL7 Micro</td>
<td>Single (1 station)</td>
<td>TLXCDPL7MPPU45M</td>
</tr>
<tr>
<td></td>
<td>Single with SyCon V2.8</td>
<td>TLXCDPL7MPPC45M</td>
</tr>
<tr>
<td></td>
<td>Group (3 stations)</td>
<td>TLXCD3DPL7MPPU45M</td>
</tr>
<tr>
<td></td>
<td>Open Team (10 stations)</td>
<td>TLXOTPL7MP45M</td>
</tr>
</tbody>
</table>

### PL7 Junior for TSX Micro/Premium and Atrium coprocessor platforms

<table>
<thead>
<tr>
<th>Type of Software</th>
<th>License Type</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL7 Junior</td>
<td>Single (1 station)</td>
<td>TLXCDPL7JPU45M</td>
</tr>
<tr>
<td></td>
<td>Group (3 stations)</td>
<td>TLXCD3DPL7JPU45M</td>
</tr>
</tbody>
</table>

### PL7 Pro for TSX Micro/Premium and Atrium coprocessor platforms

<table>
<thead>
<tr>
<th>Type of Software</th>
<th>License Type</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL7 Pro</td>
<td>Single (1 station)</td>
<td>TLXCDPL7PPU45M</td>
</tr>
<tr>
<td></td>
<td>Group (3 stations)</td>
<td>TLXCD3DPL7PPU45M</td>
</tr>
<tr>
<td></td>
<td>Open Team (10 stations)</td>
<td>TLXOTPL7PP45M</td>
</tr>
<tr>
<td></td>
<td>Open Site</td>
<td>TLXOPL7PP45M</td>
</tr>
</tbody>
</table>

### Specialist tools

**EF function development software in C language**

<table>
<thead>
<tr>
<th>Type of Software</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL7 SDKC for EF function development software in C language</td>
<td>TLXLSDKCPL741M</td>
</tr>
</tbody>
</table>

**Development of applications in C language**

<table>
<thead>
<tr>
<th>Type of Software</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL7 FUZ for processing process applications using fuzzy logic</td>
<td>TLXLP7FUZ34M</td>
</tr>
</tbody>
</table>

**Comparison of PL7 applications**

<table>
<thead>
<tr>
<th>Type of Software</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL7 DIF for comparison of applications</td>
<td>TLXCDPL7DF42</td>
</tr>
<tr>
<td></td>
<td>TLXOPL7DF42</td>
</tr>
</tbody>
</table>

**Availability of control systems based on Premium platforms**

<table>
<thead>
<tr>
<th>Type of Software</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warm Standby redundant</td>
<td>TLXCDWSBYP40F/E</td>
</tr>
</tbody>
</table>
Programming software

For Modicon Quantum, Momentum

**Concept** is the IEC programming software for the Momentum and Quantum range of PLCs. It provides advanced Microsoft Windows based tools that deliver a multi-language development environment for control system programming.

Uses familiar, standardized editors, bundled in a single application to create and integrate PLC control, communication and diagnostic logic.

Five IEC editors give users the freedom to choose the programming language that fits their application requirements: Function Block Diagram (FBD), Ladder Diagram (LD), Sequential Function Chart (SFC), Structured Text (ST) and Instruction List (IL).

### Type of software

**Concept for Quantum/Momentum platforms**

<table>
<thead>
<tr>
<th>Type of license version 2.6</th>
<th>Single (1 station)</th>
<th>Group (3 stations)</th>
<th>10 users (10 stations)</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept S</td>
<td>372SPU47101V26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept M</td>
<td>372SPU47201V26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept XL</td>
<td>372SPU47401V26</td>
<td>372SPU47411V26</td>
<td>372SPU47421V26</td>
<td>372SPU47431V26</td>
</tr>
</tbody>
</table>

**Update references**

<table>
<thead>
<tr>
<th>Concept S (3)</th>
<th>Concept M (3)</th>
<th>Concept XL (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>372ESS47401</td>
<td>372ESS47403</td>
<td>372SS4740310</td>
</tr>
<tr>
<td></td>
<td></td>
<td>372SS4741000</td>
</tr>
</tbody>
</table>

(3) From an earlier software version.

### Specialist tools

**EF/EFB function development software in C language**

**Type of software**

**Concept EFB Toolkit**

<table>
<thead>
<tr>
<th>Type of license</th>
<th>Version 2.6</th>
<th>Upgrade version 2.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>Software package</td>
<td></td>
</tr>
<tr>
<td>332SPU47001V26</td>
<td>372ESS47001</td>
<td></td>
</tr>
</tbody>
</table>

**Type of software**

**Concept Application Loader**

<table>
<thead>
<tr>
<th>Type of license</th>
<th>Version 2.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>Software package</td>
</tr>
<tr>
<td>372SPU47701V26</td>
<td></td>
</tr>
</tbody>
</table>

**Software for designing and generating batch/process applications**

**Type of software**

**Unity UAG (Unity application generator)**

<table>
<thead>
<tr>
<th>Type of license version 2.2</th>
<th>Single (1 station)</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>Medium Software package</td>
<td>Large Software package</td>
</tr>
<tr>
<td>UAGSEWMFUCD22</td>
<td>UAGSEWMFFCD22</td>
<td>UAGSEWLFFCD22</td>
</tr>
</tbody>
</table>

**SFC View application diagnostic and monitoring software**

**Type of software**

**Concept SFC View**

<table>
<thead>
<tr>
<th>Type of license version 3.0</th>
<th>Single (1 station)</th>
<th>Group (10 stations)</th>
<th>Site (100 stations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>372SFV16000V30</td>
<td>372SFV16020V30</td>
<td>372SFV16030V30</td>
<td></td>
</tr>
</tbody>
</table>

**ProWORX for Modicon Quantum, Momentum**

**ProWORX 32** is the flexible, easy-to-use cross-platform LL984-programming software for Modicon range PLCs. It gives you the power to program your Modicon controllers online or offline, manage your I/O subsystems, and analyze your plant’s activity in real-time, all in a familiar Windows environment.

**ProWORX 32** provides client/server capabilities to organize user-groups and -rights, store projects at a central location and realize office-plant floor bridging.

The project emulator provides the ability to test projects prior to running them in the PLC run-time environment to ensure your system will run at peak efficiency.

**Type of software**

**ProWORX for Quantum/Momentum platforms**

<table>
<thead>
<tr>
<th>Type of license version 2.0</th>
<th>ProWORX 32 Server</th>
<th>ProWORX 32 Suite</th>
<th>ProWORX 32 Client, Full Dev.</th>
<th>ProWORX 32 Online</th>
<th>ProWORX 32 Lite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software catalog numbers</td>
<td>372SPU78001PSEV</td>
<td>372SPU78001PSSV</td>
<td>372SPU78001PDEV</td>
<td>372SPU78101PONL</td>
<td>372SPU78001PLDV</td>
</tr>
</tbody>
</table>

**Upgrade to ProWORX 32 catalog numbers**

(4) Only possible for customers who are “up-to-date” with CSP (continuing support program)

**Accessories**

See www.us.telemecanique.com

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com

3/49
## Discrete I/O and processors

### Discrete I/O modules

#### Type of module

<table>
<thead>
<tr>
<th>Connection</th>
<th>Discrete inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>24 VDC</th>
<th>120 VAC</th>
<th>230 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>16 (1 common point)</td>
<td>32 (2 common points)</td>
<td>16 (2 common points)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>125 x 47.5 x 141.5 mm (with communication modules or processors)</td>
<td>144 x 70 x 141.5 mm (with M1/M1E processors and optional modules)</td>
<td></td>
</tr>
</tbody>
</table>

| Catalog number | 170AD34000 | 170AD35000 | 170AD34050 | 170AD374050 |

#### Type of module

<table>
<thead>
<tr>
<th>Connection</th>
<th>Discrete outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>24 VDC</th>
<th>120 VAC</th>
<th>230 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>6 (1 common pt)</td>
<td>16 (2 common pts)</td>
<td>32 (2 common pts)</td>
</tr>
<tr>
<td>Output current</td>
<td>Per channel: 5A 0.5 A 0.5 A 2 A 0.5 A 2 A 0.5 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per group of channels</td>
<td>4 A 8 A 4 A 8 A 4 A 4 A 4 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>125 x 47.5 x 141.5 mm (with communication modules or processors)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Catalog number | 170AD03100 | 170AD034000 | 170AD05000 | 170AD05300 | 170AD05400 | 170AD05700 | 170AD074050 |

### Type of module

<table>
<thead>
<tr>
<th>Connection</th>
<th>Discrete I/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>24 VDC</th>
<th>24–230 VAC/20–115 VDC</th>
<th>230 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>Inputs: 16 (1 common pt) 16 (4 com. pts) 16 (1 com. pt)</td>
<td>Outputs: 16 (1 common pt) 16 (2 common pts) 8/4 (1 com. pt) 12</td>
<td></td>
</tr>
<tr>
<td>Input logic</td>
<td>Positive Positive (1) Negative Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>125 x 47.5 x 141.5 mm (with communication modules or processors)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Catalog number | 170ADM365010 | 170ADM35010 | 170ADM35015 | 170ADM35010 | 170ADM35010 | 170ADM35010 | 170ADM35010 | 170ADM30020 | 170ARM37030 | 170ADM35051 |

(1) For a version with high-speed positive logic, replace 0 at the end of the catalog number with 1. E.g. 170ADM35010 becomes 170ADM35011.

Connection accessories: See www.us.telemecanique.com
### Analog I/O modules

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Analog inputs</th>
<th>Analog I/O and discrete I/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>By screw terminals 170XTS00100 or spring terminals 170XTS00200 (to be ordered separately)</td>
<td>By screw terminals 140XTS00200 (to be ordered separately)</td>
</tr>
<tr>
<td>Number of channels</td>
<td>8 isolated</td>
<td>6 differential + 4 discrete</td>
</tr>
<tr>
<td>Input signal</td>
<td>± 5 V, ± 10 V, ± 20 mA</td>
<td>± 10 V, ± 20 mA</td>
</tr>
<tr>
<td>Input signal</td>
<td>± 1–5 V, 4–20 mA</td>
<td>± 1–5 V, 4–20 mA</td>
</tr>
<tr>
<td>Resolution</td>
<td>14 bits + sign, 15 bits unipolar</td>
<td>12 bits + sign</td>
</tr>
<tr>
<td>Resolution</td>
<td>15 bits + sign</td>
<td>15 bits + sign</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>125 x 47.5 x 141.5 mm (with communication modules or processors)</td>
<td>144 x 70 x 141.5 mm (with M1/M1E processors and optional modules)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>170AAI03000</td>
<td>170AAI14000</td>
</tr>
</tbody>
</table>

(1) Temperature probe: Pt 100, Pt 1000, Ni 100, Ni 1000, Thermocouple: B, E, J, K, N, R, S, T.

### Application-specific I/O modules

<table>
<thead>
<tr>
<th>Type of module</th>
<th>High-speed counter</th>
<th>Discrete I/O with Modbus port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of inputs for</td>
<td>Incremental or absolute encoders</td>
<td>RS 485 Modbus port</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>24 VDC</td>
<td>≥20 VAC</td>
</tr>
<tr>
<td>Counting frequency</td>
<td>200 kHz</td>
<td>–</td>
</tr>
<tr>
<td>Number of channels</td>
<td>3 independent</td>
<td>–</td>
</tr>
<tr>
<td>Number of discrete I/O</td>
<td>2 x 3 inputs/2 x 2 outputs</td>
<td>6 inputs/3 outputs</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>125 x 47.5 x 141.5 mm (with communication modules or processors)</td>
<td>144 x 70 x 141.5 mm (with M1/M1E processors and optional modules)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>170AEC92000</td>
<td>170ADM54080</td>
</tr>
</tbody>
</table>
### Distributed I/O and processors

#### Communication modules

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Ethernet TCP/IP network</th>
<th>Fipio fieldbus</th>
<th>InterBus (1) fieldbus</th>
<th>Profibus DP fieldbus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>10 Mbps</td>
<td>1 Mbps</td>
<td>0.5 Mbps</td>
<td>9.6 K–12 Mbps</td>
</tr>
<tr>
<td>Manager PLC</td>
<td></td>
<td>Premium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redundancy</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Standard services</td>
<td>Modbus TCP/IP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>170ENT11002</td>
<td>170ENT11001</td>
<td>170FNT11001</td>
<td>170INT11000 (1)</td>
</tr>
</tbody>
</table>

(1) Generation 4, twisted pair medium: 170INT11003, with optical fiber medium: 170INT12000.

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Other networks</th>
<th>Modbus Plus</th>
<th>DeviceNet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>1 Mbps</td>
<td></td>
<td>0.5 Mbps</td>
</tr>
<tr>
<td>Manager PLC</td>
<td>Premium or Quantum IEC</td>
<td>Quantum IEC</td>
<td></td>
</tr>
<tr>
<td>Redundancy</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Standard services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>170PNT11020(2)</td>
<td>170PNT16020(2)</td>
<td>170LNT71000</td>
</tr>
</tbody>
</table>

(2) For 984 data format, use 170NEF11021 (not redundant) or 170NEF16021 (redundant).

### Optional modules for M1/M1E processors

<table>
<thead>
<tr>
<th>Type of module (3)</th>
<th>Modbus Plus</th>
<th>Asynchronous serial link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication ports</td>
<td>1 Modbus Plus</td>
<td>2 redundant Modbus Plus</td>
</tr>
<tr>
<td>Real-time clock</td>
<td>integrated, ±13 sec/day accuracy</td>
<td>1 RS 232/RS 485 Modbus</td>
</tr>
<tr>
<td>Connection</td>
<td>By 9-way SUB-D connector</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>172PNN21022</td>
<td>172PNN26022</td>
</tr>
</tbody>
</table>

(3) Include save battery of the M1/M1E processors application and data memories.

### Connection accessories

<table>
<thead>
<tr>
<th>Type</th>
<th>RS 232C communication cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>1 m</td>
</tr>
<tr>
<td>Catalog number</td>
<td>110XCA28201</td>
</tr>
</tbody>
</table>

Connection accessories: See www.us.telemecanique.com

For other versions, please consult with your local Schneider Electric/ Square D sales office: visit www.us.telemecanique.com
### M1/M1E processors

#### Type of processor

<table>
<thead>
<tr>
<th>M1</th>
<th>M1E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of I/O</td>
<td>Discrete</td>
</tr>
<tr>
<td></td>
<td>2048 I/O</td>
</tr>
<tr>
<td></td>
<td>2048 I/2048 Q</td>
</tr>
<tr>
<td>Registers</td>
<td>2048 words</td>
</tr>
<tr>
<td></td>
<td>26048 words</td>
</tr>
<tr>
<td>Integrated communication ports</td>
<td>Modbus</td>
</tr>
<tr>
<td></td>
<td>1 RS 232C</td>
</tr>
<tr>
<td></td>
<td>1 RS 232C + 1 RS 485</td>
</tr>
<tr>
<td>Ethernet TCP/IP</td>
<td>–</td>
</tr>
<tr>
<td>I/O bus (1)</td>
<td>–</td>
</tr>
<tr>
<td>Transparent Ready</td>
<td>Embedded Web server</td>
</tr>
<tr>
<td>Memory capacity</td>
<td>RAM</td>
</tr>
<tr>
<td></td>
<td>64 Kb</td>
</tr>
<tr>
<td></td>
<td>256 Kb</td>
</tr>
<tr>
<td></td>
<td>2.4 K</td>
</tr>
<tr>
<td></td>
<td>26048 words</td>
</tr>
<tr>
<td></td>
<td>2 K</td>
</tr>
<tr>
<td></td>
<td>4 K</td>
</tr>
<tr>
<td>Cycle time</td>
<td>1 ms/K</td>
</tr>
<tr>
<td></td>
<td>1 ms/K</td>
</tr>
<tr>
<td></td>
<td>1 ms/K</td>
</tr>
<tr>
<td>Catalog number</td>
<td>171CCS70000</td>
</tr>
<tr>
<td></td>
<td>171CCS78000</td>
</tr>
<tr>
<td></td>
<td>171CCS78010</td>
</tr>
</tbody>
</table>

(1) I/O bus derived from INTERBUS bus.

(2) ProWORX 32 or Concept programming software.

(3) Concept programming software.

#### Power supply module

<table>
<thead>
<tr>
<th>Type of power supply module for</th>
<th>Momentum processors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>120 or 230 VAC (selected by jumper)</td>
</tr>
<tr>
<td>Output voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Output current</td>
<td>0.7 A</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>73 x 44.5 x 146 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>170CPS11100</td>
</tr>
</tbody>
</table>

(4) Process power supplies see chapter 6 “Power supply”.

---

For other versions, please consult with your local Schneider Electric/Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
## ConneXium Ethernet Switches

| Interfaces | Copper cable ports | Number and type | Shielded connectors | Medium | Max. distances | Optical fiber ports | Number and type | Shielded connectors | Medium | Fiber length | Ethernet services | Topology | No. of Switches | Removable terminals | Power supply | Power consumption | Degree of protection | Dimensions W x H x D | Conformity to standards | LED indicators | Alarm indicators | Catalog number |
|------------|--------------------|-----------------|---------------------|--------|--------------|------------------|-------------------|-----------------|------------|-------------|-------------------|----------|----------------|-------------------|--------------|-----------------|----------------------|-----------------|------------------|-------------------|
|            | 4 x 10BASE-T/100BASE-TX/Ports | 4 x 10BASE-T/100BASE-TX/Ports | RJ45 | Shielded twisted pair, CAT5E | 100 m | 4 x 10BASE-FX ports | SC | 50/125 μm | 5000 m (1) | Multimode fiber (or Single Mode*) | FDR client, SNMP V3, SNTP, multicast filtering for optimization of the Global Data protocol, Web based configuration VLAN, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), Port priority, Flow control, Port security, PTP Client (Precision Time Protocol) according to IEEE 1588 | Cascaded | Any | 5-way | 24 VAC (9.5–60 VDC and 18–32 VDC), safety extra low voltage (SELV) | 47 x 131 x 111 mm | CE and IEC 61131-2, cUL 60950, UL 508 and CSA 14, UL 1604 and CSA 213 Class 1 Division 2, e, GL | P1 and P2 power supplies, Ethernet link status, redundancy management | Power supply failure, permanent fault in hub, faulty link status of TP port | No | TCSESM043F23F0, TCSESM043F1CU0, TCSESM043F2CU0, TCSESM043F2CS0, TCSESM063F1CU0, TCSESM063F2CU0, TCSESM063F1CS0, TCSESM063F2CS0, TCSESM063F2C00, TCSESM163F2C00 |

(1) Depends on the optical fiber budget and fiber attenuation (typical specification: 2 km).
(2) Depends on the optical fiber budget and fiber attenuation (typical specification: 15 km).
### ConneXium Ethernet Switches

<table>
<thead>
<tr>
<th>Model</th>
<th>16 PORT</th>
<th>24 PORT</th>
<th>GIGABIT 10 PORT</th>
<th>GIGABIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16 TX</td>
<td>14 TX/2 FX-MM</td>
<td>22 TX/2 FX-MM</td>
<td>8x 10/100 BASE-TX</td>
</tr>
<tr>
<td></td>
<td>10 BASE-T/100 BASE-TX/Ports</td>
<td>14 x 10 BASE-T/100 BASE-TX/Ports</td>
<td>22 x 10 BASE-T/100 BASE-TX/Ports</td>
<td>8x 10/100 BASE-TX/2x 10/100/1000 BASE-TX</td>
</tr>
<tr>
<td></td>
<td>2x 1000 BASE-TX</td>
<td>8x 10/100 BASE-TX</td>
<td>2max@1000 BASE-TX</td>
<td></td>
</tr>
</tbody>
</table>

#### Interfaces
- Copper cable ports: 16 x 10BASE-T/100BASE-TX/Ports, 14 x 10BASE-T/100BASE-TX/Ports, 22 x 10BASE-T/100BASE-TX/Ports
- Optical fiber ports: 8x 10/100BASE-TX, 2x 10/100/1000BASE-TX

#### Shielded connectors
- RJ45

#### Medium
- Shielded twisted pair, CAT5E

#### Max. distances
- 100 m

#### Ethernet services
- FDR client, SNMP V3, SNTF, multicast filtering for optimization of the Global Data protocol, Web-based configuration VLAN, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), Port priority, Flow control, Port security, PTP Client (Precision Time Protocol) according to IEEE 1588

#### Topology
- Number of Switches: Cascaded
- Redundancy: P1 and P2 redundant power supplies

#### Power supply
- Voltage: 24 VAC (9.6–60 VDC and 18–32 VDC), safety extra low voltage (SELV)
- Power consumption: 9.4 W, 11.8 W, 15.5 W, 8.9 W, 8.3 W

#### Removable terminals
- 5-way

#### Operating temperature
- 0 to 60 °C (+32 to +131°F)

#### Dimensions W x H x D
- 111 x 131 x 111 mm, 74 x 131 x 111 mm

#### LED indicators
- P1 and P2 power supplies, Ethernet link status, redundancy management

#### Catalog number
- TCSES1M163F2F0, TCSES1M163F2CU0, TCSES2M243F2CU0, TCSES1M03G3G0, TCSES1M03F3G0, TCSEA1F1FU00, TCSEA1F1FS00, TCSEA1F1FH00

(1) Depends on the optical fiber budget and fiber attenuation (typical specification: 2 km).
(2) Depends on the optical fiber budget and fiber attenuation (typical specification: 15 km).

---

**ConneXview Software**

ConneXview™ is a user-friendly, powerful diagnostic software program that lets you visualize your entire network on a single screen, making it easy to monitor, edit, and troubleshoot your industrial Ethernet networks. More than just a simple tool to visualize your network, ConneXview allows users to perform a wide variety of intelligent functions to keep your network traffic moving at peak efficiency, and your entire factory moving at optimum productivity.

- **Reduce downtime & increase productivity**
- **Optimize network performance and efficiency**
- **Decrease maintenance and startup costs**
- **Increase system quality and performance**

<table>
<thead>
<tr>
<th>License Type</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single user license</td>
<td>TCSEA201PSEF10</td>
</tr>
<tr>
<td>Group license (3-user)</td>
<td>TCSEA201PGEF10</td>
</tr>
<tr>
<td>Team license (10-user)</td>
<td>TCSEA201PTEF10</td>
</tr>
<tr>
<td>Site license (Facility license)</td>
<td>TCSEA201PFFE10</td>
</tr>
</tbody>
</table>
The simplicity of a complete offer

Altistart, Altivar

A solution for every soft starting and adjustable speed application

Simple machines >>> compact

Starters
Altistart 01
b 0.25 to 75 Hp

Starters
Altistart 48
b 2 to 1200 Hp

Pumping and ventilation machines >>> tailor-made

Starters
Altistart 48
b 2 to 1200 Hp

Complex machines, high power >>> high performance

Drives
Altivar 11
b 0.25 to 3 Hp

Drives
Altivar 21
b 1 to 40 Hp

Drives
Altivar 61
b 0.5 to 900 Hp

Drives
Altivar 71
b 0.5 to 700 Hp

Lexium

High-performance motion control

Lexium has added to its Telemecanique motion control offer by offering Lexium 05 drives for servo motors, available in four sizes. Combined with motors in the BSH series, this new range provides compact drive solutions ranging in power from 0.4 to 6 kW.

Lexium 05 drives from 4 A to 25 A
b Lexium 05 operates in either torque or speed control mode by means of its ±10 V analog interface. Its encoder interface also performs the function of an electronic gearbox.

Lexium 17D drives from 1.5 A to 20 A and 40 A to 70 A
b High-technology digital drives for brushless motors.

b “All in one” concept integrating: EMC filters, braking resistors (reduction in system cost and dimensions), simple indexer and built-in transmission for simple applications.

Motors
4 ranges:
BSH from 0.5 to 36 Nm
BPL from 1.1 to 5.4 Nm
BPH from 0.4 to 100 Nm
SER from 1.1 to 13.4 Nm
Wide variety of control architectures:
- Fieldbus: FIP/IO, CanOpen (native), Modbus Plus, Profinet DP
- SERCOS®: high-technology fully digital motion with Premium or Quantum processing

4 motor ranges are associated with the drives:

- **BSH servo motors from 0.5 to 36 Nm:**
  - Compact servomotors with low inertia
  - Extensive speed range from 1500 to 8000 min⁻¹
  - IP40 or IP65 protection, brake, single turn or multiturn SinCos encoder
  - Straight or right angle connectors
- **BPL and BPH motors from 0.4 to 100 Nm:**
  - Brushless motors with high torque-inertia ratio
  - Extensive power range: 0.4 to 100 Nm continuous operation, 1 to 230 Nm peak operation
  - IP67 protection, brake, high-resolution SinCos feedback
- **SER motors from 0.3 to 13.4 Nm:**
  - Specially adapted to the needs of OEMs
  - Wide power range: 1.1 to 13.4 Nm continuous operation, 2.5 to 30 Nm peak operation. High-resolution SinCos feedback as standard
  - IP 56 protection, brake, etc.
## Selection guide

### Type of machine

<table>
<thead>
<tr>
<th>Simple machines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Starters/drives</strong></td>
</tr>
<tr>
<td>Variable speed drives</td>
</tr>
<tr>
<td>Soft starters and soft start/soft stop units</td>
</tr>
<tr>
<td><strong>AltiStart® 01</strong></td>
</tr>
<tr>
<td><strong>AltiVar® 11</strong></td>
</tr>
<tr>
<td><strong>AltiVar 31</strong></td>
</tr>
</tbody>
</table>

### Supply voltage ranges for 50/60 Hz line supply

<table>
<thead>
<tr>
<th><strong>AltiStart® 01</strong></th>
<th><strong>AltiVar® 11</strong></th>
<th><strong>AltiVar 31</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Single phase 110–480 V</td>
<td>Single phase 100–120 V</td>
<td>Single phase 200–240 V</td>
</tr>
<tr>
<td>Three phase 200–230 V</td>
<td>Three phase 360–500 V</td>
<td>Three phase 360–500 V</td>
</tr>
<tr>
<td>Three phase 200–230 V</td>
<td>Three phase 360–500 V</td>
<td>Three phase 525–600 V</td>
</tr>
</tbody>
</table>

### Motor power

<table>
<thead>
<tr>
<th><strong>AltiStart® 01</strong></th>
<th><strong>AltiVar® 11</strong></th>
<th><strong>AltiVar 31</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25–75 Hp</td>
<td>0.25–3 Hp</td>
<td>0.25–20 Hp</td>
</tr>
</tbody>
</table>

### Drive

<table>
<thead>
<tr>
<th><strong>AltiStart® 01</strong></th>
<th><strong>AltiVar® 11</strong></th>
<th><strong>AltiVar 31</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Output frequency</td>
<td>0.5–200 Hz</td>
<td>0.5–500 Hz</td>
</tr>
</tbody>
</table>

### Type of control

<table>
<thead>
<tr>
<th><strong>AltiStart® 01</strong></th>
<th><strong>AltiVar® 11</strong></th>
<th><strong>AltiVar 31</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asynchronous motor</td>
<td>Sensorless flux vector control</td>
<td></td>
</tr>
<tr>
<td>Synchronous motor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transient overtorque</td>
<td>150–170% of nominal motor torque</td>
<td>170–200% of the nominal motor torque</td>
</tr>
</tbody>
</table>

### Functions

<table>
<thead>
<tr>
<th><strong>AltiStart® 01</strong></th>
<th><strong>AltiVar® 11</strong></th>
<th><strong>AltiVar 31</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of functions</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Number of preset speeds</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

### Number of I/O

<table>
<thead>
<tr>
<th><strong>AltiStart® 01</strong></th>
<th><strong>AltiVar® 11</strong></th>
<th><strong>AltiVar 31</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Analog inputs</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Logic inputs</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Analog outputs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logic outputs</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Relay outputs</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Communication

<table>
<thead>
<tr>
<th><strong>AltiStart® 01</strong></th>
<th><strong>AltiVar® 11</strong></th>
<th><strong>AltiVar 31</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available as an option</td>
<td>Combined with TeSys U-line self-protected starter</td>
<td></td>
</tr>
</tbody>
</table>

### Cards (available as an option)

<table>
<thead>
<tr>
<th><strong>AltiStart® 01</strong></th>
<th><strong>AltiVar® 11</strong></th>
<th><strong>AltiVar 31</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
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</table>

### Standards and certifications

<table>
<thead>
<tr>
<th><strong>AltiStart® 01</strong></th>
<th><strong>AltiVar® 11</strong></th>
<th><strong>AltiVar 31</strong></th>
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</thead>
<tbody>
<tr>
<td>IEC/EN 60947-4/2</td>
<td>EN 50178, EN 61800-3</td>
<td>EN 50178, EN 61800-3</td>
</tr>
<tr>
<td>C-TICK - CSA - UL</td>
<td>EN 55011 - EN 55022 class B and class A gr.1</td>
<td>EN 55011 - EN 55022 class A, class B with option</td>
</tr>
<tr>
<td>CE - CCC</td>
<td>NOM 117 - C-TICK - CSA</td>
<td>C-TICK - UL - N998 - CE - CSA</td>
</tr>
<tr>
<td></td>
<td>UL - N998 - CE</td>
<td></td>
</tr>
</tbody>
</table>

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For other versions, please consult with your local Schneider Electric/Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
### Pumping and ventilation machines

- **Soft start/soft stop units**
- **Altistart 48**
  - Three phase 230–415 V
  - Three phase 208–240 V
  - 2–1200 Hp
  - 0.1–40 Hp
  - 0.5–200 Hz

- **Variable speed drives (Building (HVAC))** (1)
  - Altivar 21
    - Three phase 200–240 V
    - Three phase 380–480 V
    - 0.5–900 Hp
    - 0.5–1600 Hz up to 50 Hp
  - Altivar 61
    - Three phase 208–690 V
    - Three phase 380–480 V
    - 0.5–700 Hp
    - 0.5–500 Hz from 50 to 900 Hp

- **Variable speed drives (Industry)**
  - Altivar 71
    - Three phase 380–480 V
    - Three phase 380–480 V
    - 0.1–1600 Hz up to 50 Hp
    - 0.1–500 Hz from 50 to 700 Hp

### Complex, high-power machines

- **Sensorless flux vector control**
- **Altistart 48**
  - Transient overload: 110% of the nominal drive current for 60 seconds
  - 36
  - 50
- **Altivar 21**
  - Transient overload: 110%–120% of the nominal drive current for 60 seconds
  - >150
- **Altivar 61**
  - >150
- **Altivar 71**
  - >150

### Selection guide

- **DeviceNet, EtherCAT, FIP, PROFINET**
- **LonWorks, METASYS N2, APOGEE FLN, BACnet**
- **Modbus**

- **I/O extension cards**
- **Encoder interface card**
- **"Controller Inside" programmable card, multi-pump cards**

- **IEC/EN 60947-4-2**
  - EN 50178, IEC/EN 61800-3
  - EN 50011, EN 50022:
  - class A, class B with option CE, UL, C-Tick, N998

- **CCC - CSA - CE - UL - C-Tick**
  - IEC/EN 61800-3 (environments 1 and 2, C1 to C3)
  - EN 50011, EN 50022,
  - IEC/EN 61000-4-2/4-3/4-4/4-5/4-6/4-11
  - CE, UL, CSA, DNV, C-Tick, NOM 117, GOST

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.telemecanique.com
# Selection Guide

## Enclosed and MMC packaged products

<table>
<thead>
<tr>
<th>Type of motor control</th>
<th>Soft starts</th>
<th>Adjustable speed drives</th>
<th>Adjustable speed drive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key application/market segment</strong></td>
<td>Commercial &amp; Industrial</td>
<td>Commercial HVAC &amp; retrofits</td>
<td>Commercial &amp; Industrial HVAC</td>
</tr>
<tr>
<td>– pumps</td>
<td>– agitators</td>
<td>– pumps</td>
<td>– fans</td>
</tr>
<tr>
<td>– fans</td>
<td>– mixers</td>
<td>– fans</td>
<td>– fans</td>
</tr>
<tr>
<td>– conveyors</td>
<td>– grinders</td>
<td>– crushers</td>
<td>– presses</td>
</tr>
<tr>
<td>– centrifuges</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>– lifts</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Packaged products

- Integrated controls protected within enclosures, optimized with disconnect means, circuit breakers, push buttons, selector switches, control logic, communication and miscellaneous options designed to meet application requirements.

### Product platform

- Enclosed 48
- S-Flex™
- E-Flex™

### Distribution voltage ranges

- **For 50/60 Hz line supply**
  - Altistart 48: 208, 240, 480, 600 Vac
  - Altivar 31: 208, 240, 480 Vac
  - Altivar 61 (variable torque): 3 to 200 hp, 208 V

### Homepower ratings

- **Variable torque:**
  - 5 to 250 hp, 230 V
  - 1 to 20 hp, 460 V
  - 1 to 100 hp, 460 V
  - 1 to 50 hp, 208/230 V

### Configurable options

- **Customizable product**
  - non-reversing
  - reversing
  - shunt trip

- **Standard product**
  - drive with isolation/bypass

- **Configurable product**
  - drive with disconnect means
  - drive with isolation/bypass

### Enclosure ratings

- **Type 1 general purpose**
- **Type 12 dust/drip proof**
- **Type 3R outdoor**

### Communication networks

- Modbus (native)
- Modbus Plus
- Ethernet TCP/IP (gateway)
- DeviceNet (gateway)
- Modbus RJ45
- CANopen
- APOGEE FLN (P1)
- MetSYS N2
- BACnet
- Modbus Plus
- Ethernet TCP/IP
- Profibus DP
- DeviceNet (gateway)
- LonWorks

### Standards and certifications

- UL508
- cUL/CSA
- Seismic qualification ICC ES AC156
- acceptance test protocol
- UL508A
- Seismic qualification ICC ES AC156
- acceptance test protocol
- UL508C
- cUL
- Seismic qualification ICC ES AC156
- acceptance test protocol

### Catalog number

- Altistart 48: 8636BR0401 8638CT0401
- Altivar 31: 8639BR0501 8638BR0601
- Altivar 61 (variable torque): 8000HO0622 8800BR0601
**Enclosed and MMC packaged products**

<table>
<thead>
<tr>
<th>Adjustable speed drives</th>
<th>Adjustable speed drives (18-Pulse)</th>
<th>Soft starts &amp; adjustable speed drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial, Water/wastewater, Strategic Accounts</td>
<td>Industrial, Water/wastewater</td>
<td>Industrial, Water/wastewater</td>
</tr>
<tr>
<td>– aggregates</td>
<td>– clean power technology</td>
<td>– high density construction</td>
</tr>
<tr>
<td>– government</td>
<td>– high horsepower</td>
<td>– pumps</td>
</tr>
<tr>
<td>– healthcare</td>
<td>– process control applications</td>
<td>– fans</td>
</tr>
<tr>
<td>– schools</td>
<td>– fans</td>
<td>– intelligent networking</td>
</tr>
<tr>
<td>– pharmaceutical</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M-Flex™

**PowerGard™ Series C**

**Model 6 motor control center**

### Adjustable speed drives

- Altivar 61 (constant torque)
- Altivar 71 (constant torque)
- Altivar 61 (variable torque)
- Altivar 71 (variable torque)

### Adjustable speed drives (18-Pulse)

- Altivar 61 (constant torque)
- Altivar 71 (constant torque)
- Soft start & adjustable speed drives

### Industrial, Water/wastewater

- Strategic Industrial, Water/waste water
- Pharmaceuticals
- Aggregates
- Industrial facilities
- Manufacturing process
- Municipal pumping
- Process control applications
- Fans
- Intelligent networking

### Drive: Three phase 480Vac

<table>
<thead>
<tr>
<th>Variable torque</th>
<th>Constant torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 500 hp, 460 V</td>
<td>40 to 480 hp, 460 V</td>
</tr>
<tr>
<td>1 to 50 hp, 208/230 V</td>
<td>1 to 40 hp, 208/230 V</td>
</tr>
</tbody>
</table>

### Variable torque: 480Vac

- 1 to 500 hp, 460 V
- 1 to 50 hp, 208/230 V
- 40 to 480 hp, 460 V

### Customizable product

- Drive with disconnect means
- Drive with integrated bypass
- Drive with barred bypass
- Drive with reduced voltage bypass
- Drive with soft start bypass

### Extensive options

- Type 1 general purpose
- Type 1G general purpose with gasketing
- Type 12/12K dust/drip proof

### Type 1 general purpose

- Drive with disconnect means
- Drive with integrated bypass
- Drive with barred bypass
- Drive with reduced voltage bypass
- Drive with soft start bypass
- Drive with soft start bypass

### Type 1G general purpose with fan filters

- Drive with disconnect means
- Drive with integrated bypass
- Drive with soft start bypass

### Type 12/12K dust/drip proof

- Drive with disconnect means
- Drive with integrated bypass
- Drive with soft start bypass

### Type 3R outdoor

### APOGEE FLN (P1)

- LonWorks
- MetSYS N2
- Modbus/Unitelway
- Profibus DP
- Interbus S
- UL508A
- UL508C
- cUL
- Seismic qualification ICC ES AC156 acceptance test protocol
- 8000H00623
- 8800BR0602

### APOGEE FLN (P1)

- LonWorks
- MetSYS N2
- Modbus/Unitelway
- Profibus DP
- Interbus S
- UL508A
- UL508C
- cUL
- Seismic qualification ICC ES AC156 acceptance test protocol

### Pending release: 3Q-2006

### 8998BR9701

### 8998CT9701
## Altistart 01

### Simple machines

#### Soft Starts

<table>
<thead>
<tr>
<th>Dimensions (mm) width x height x depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>N103FT / N106FT 22.5 x 100 x 100</td>
</tr>
<tr>
<td>N109FT / N112FT 45 x 124 x 130</td>
</tr>
<tr>
<td>N209pp / N210pp / N212pp 45 x 154 x 130</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of starter</th>
<th>Soft start</th>
<th>Soft start and soft stop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor power</td>
<td>0.25–7.5 Hp</td>
<td>1.0–20 Hp</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP20</td>
<td>Yes (2 controlled phases)</td>
</tr>
<tr>
<td>Peak current reduction</td>
<td>No (1 controlled phase)</td>
<td>Yes (2 controlled phases)</td>
</tr>
<tr>
<td>Adjustable starting time</td>
<td>1–5 s</td>
<td>1–10 s</td>
</tr>
<tr>
<td>Adjustable stopping time</td>
<td>No: free-wheel stop</td>
<td>Yes: 1–10 s</td>
</tr>
<tr>
<td>Adjustable starting torque</td>
<td>30–80% of rated motor starting torque</td>
<td>3 logic inputs (start, stop and startup boost)</td>
</tr>
<tr>
<td>Logic inputs</td>
<td>– 3 logic inputs (start, stop and startup boost)</td>
<td></td>
</tr>
<tr>
<td>Logic outputs</td>
<td>– 1 logic output</td>
<td></td>
</tr>
<tr>
<td>Relay outputs</td>
<td>– 1 relay output</td>
<td></td>
</tr>
<tr>
<td>Control supply voltage</td>
<td>110–240VAC ±10%, 24VDC ±10%</td>
<td>Built into the soft start</td>
</tr>
</tbody>
</table>

#### Supply voltage

<table>
<thead>
<tr>
<th>Motor power</th>
<th>110 V</th>
<th>230 V</th>
<th>Nominal current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hp</td>
<td>kw</td>
<td>hp</td>
<td></td>
</tr>
<tr>
<td>0.25</td>
<td>0.75</td>
<td>0.5</td>
<td>6</td>
</tr>
<tr>
<td>0.33</td>
<td>1.1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>0.5</td>
<td>1.5</td>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Motor power</th>
<th>208 V</th>
<th>230 V</th>
<th>400 V</th>
<th>460 V</th>
<th>Nominal current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hp</td>
<td>kw</td>
<td>hp</td>
<td>kW</td>
<td>kw</td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>0.37–0.55</td>
<td>0.5</td>
<td>1.1</td>
<td>1–1.5</td>
<td>3</td>
</tr>
<tr>
<td>1.5–2</td>
<td>1.5</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>2.2</td>
<td>3</td>
<td>5.5</td>
<td>7.5</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>6–5.5</td>
<td>5–7.5</td>
<td>7.5–11</td>
<td>10–15</td>
<td>22</td>
</tr>
<tr>
<td>7.5–10</td>
<td>7.5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>32</td>
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</tbody>
</table>

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hp</td>
<td>kw</td>
<td>A TS01N103FT</td>
<td>A TS01N106FT</td>
<td>A TS01N109FT</td>
<td>A TS01N112FT</td>
</tr>
<tr>
<td>0.37–0.55</td>
<td>0.25–7.5 Hp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>1.5</td>
<td>2.2–3</td>
<td>2–3</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1.5–2</td>
<td>1.5</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>2.2</td>
<td>3</td>
<td>5.5</td>
<td>7.5</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>6–5.5</td>
<td>5–7.5</td>
<td>7.5–11</td>
<td>10–15</td>
<td>22</td>
</tr>
<tr>
<td>7.5–10</td>
<td>7.5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>32</td>
</tr>
</tbody>
</table>
Starters

**Type of starter**
- **Soft start and soft stop**

**Motor power**
- 10 TO 60 HP

**Degree of protection**
- IP20 on the front panel

**Peak current reduction**
- Yes

**Adjustable starting time**
- 1–25 s

**Adjustable starting torque**
- 30–80% of rated motor starting torque

**Logic inputs**
- 2 logic inputs (start and stop)

**Relay outputs**
- 1 relay output (1 more optional)

**Control supply voltage**
- 110–240 VAC ± 10%, 24 VDC ± 10% Built into the soft start

**Supply voltage**
- 3-phase 230–690V

**Motor power (kW, Hp)**

<table>
<thead>
<tr>
<th>ATV01N230LY</th>
<th>ATV01N244LY</th>
<th>ATV01N272LY</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>11</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td>18.5</td>
<td>25</td>
<td>37</td>
</tr>
<tr>
<td>22</td>
<td>30</td>
<td>45</td>
</tr>
</tbody>
</table>

**Nominal current (A)**

<table>
<thead>
<tr>
<th>ATV01N230LY</th>
<th>ATV01N244LY</th>
<th>ATV01N272LY</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>37</td>
<td>55</td>
</tr>
<tr>
<td>50</td>
<td>60</td>
<td>72</td>
</tr>
<tr>
<td>75</td>
<td>85</td>
<td></td>
</tr>
</tbody>
</table>

**Dimensions (mm) width x height x depth**

<table>
<thead>
<tr>
<th>ATV01N230L/N244L</th>
<th>180 x 146 x 126</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV01N272L</td>
<td>180 x 254.5 x 126</td>
</tr>
</tbody>
</table>

**Starters with TeSys model U**

**Type of starter**
- **Soft start and soft stop**

**Motor power**
- 1.0–20 HP

**Degree of protection**
- IP20

**Peak current reduction**
- Yes

**Adjustable starting and stopping times**
- 1–10 s

**Adjustable starting torque**
- 30–80% of rated motor starting torque

**Logic inputs**
- 3 logic inputs (start, stop and startup boost)

**Logic outputs**
- 1 logic output

**Relay outputs**
- 1 relay output

**Control supply voltage**
- Built into the soft start

**Catalog number**
- Soft start

**Supply voltage**
- Three phase 200–480 V

**Motor power kW, Hp**

<table>
<thead>
<tr>
<th>ATV01N206LT/L209LT/L212LT</th>
<th>0.75</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
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</table>

<table>
<thead>
<tr>
<th>ATV01N206LT/L209LT/L212LT</th>
<th>1.1</th>
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<tbody>
<tr>
<td></td>
<td>1.5</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATV01N209LT/L222LT/L232LT</th>
<th>2.2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATV01N209LT/L222LT/L232LT</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATV01N209LT/L222LT/L232LT</th>
<th>7.5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

**Dimensions (mm) width x height x depth**

<table>
<thead>
<tr>
<th>ATV01N206LT/L209LT/L212LT</th>
<th>124 x 113</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV01N206LT/L209LT/L212LT</td>
<td>154 x 113</td>
</tr>
</tbody>
</table>

**Soft start TeSys model U-line self-protected starter**

**Power base**

**Control unit (1)**

**Power connector between ATSU and TeSys model U**

<table>
<thead>
<tr>
<th>ATV01N206LT/L209LT/L212LT</th>
<th>LUB12</th>
<th>LUB12</th>
<th>LUCP05BL</th>
<th>LUCP12BL</th>
<th>VW3G4104</th>
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</thead>
<tbody>
<tr>
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<td></td>
</tr>
</tbody>
</table>

(1) To compose your catalog number, replace p in the catalog number with: “A” for a standard control unit, “M” for a multifunction unit and “B” for an advanced unit.

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
## Altistart 48

**2–1200 Hp**

**3–900 kW**

### Dimensions (W x H x D) mm

<table>
<thead>
<tr>
<th>Type</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATS48 D17Y to D47Y</td>
<td>160 x 275 x 190</td>
</tr>
<tr>
<td>D62Y to C11Y</td>
<td>190 x 340 x 265</td>
</tr>
<tr>
<td>C14Y to C17Y</td>
<td>200 x 340 x 265</td>
</tr>
<tr>
<td>C21Y to C32Y</td>
<td>320 x 380 x 265</td>
</tr>
<tr>
<td>C41Y to C66Y</td>
<td>400 x 670 x 300</td>
</tr>
<tr>
<td>C79Y to M12Y</td>
<td>770 x 890 x 315</td>
</tr>
</tbody>
</table>

### Supply voltage

<table>
<thead>
<tr>
<th>Application duty cycle</th>
<th>3-phase 208–690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Starter control supply voltage</strong></td>
<td><strong>Standard duty</strong></td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 20: ATS48D17Y to ATS48C11Y soft starts</td>
</tr>
<tr>
<td>Motor thermal protection</td>
<td>Class 10</td>
</tr>
</tbody>
</table>

### Protection

| **EMC** | Class A | On all soft starts |
|=========|---------|--------------------|
| Class B | On all soft starts up to ATS48C17Y |

### Starting mode

<table>
<thead>
<tr>
<th><strong>Starting mode</strong></th>
<th><strong>I/O</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Torque ramp control</td>
<td>Analog inputs 1 PTC probe</td>
</tr>
<tr>
<td>Logic inputs 4, 2 of which are configurable</td>
<td></td>
</tr>
<tr>
<td>Logic outputs 2 configurable</td>
<td></td>
</tr>
<tr>
<td>Analog outputs 1</td>
<td></td>
</tr>
<tr>
<td>Relay outputs 3, 2 of which are configurable</td>
<td></td>
</tr>
</tbody>
</table>

### Communication

<table>
<thead>
<tr>
<th><strong>Dialog</strong></th>
<th><strong>Integrated</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Modbus</td>
<td></td>
</tr>
<tr>
<td>DeviceNet, Ethernet TCP/IP, Profinet, Fipio</td>
<td></td>
</tr>
</tbody>
</table>

### Motor power

<table>
<thead>
<tr>
<th>Motor power</th>
<th>208 V</th>
<th>230 V</th>
<th>460 V</th>
<th>575 V</th>
<th>230 V</th>
<th>400 V</th>
<th>440 V</th>
<th>500 V</th>
<th>525 V</th>
<th>660 V</th>
<th>690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hp</td>
<td>2</td>
<td>5</td>
<td>7.5</td>
<td>10</td>
<td>15</td>
<td>25</td>
<td>50</td>
<td>75</td>
<td>100</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>current</td>
<td>3</td>
<td>10</td>
<td>15</td>
<td>4</td>
<td>9</td>
<td>18.5</td>
<td>37</td>
<td>55</td>
<td>90</td>
<td>110</td>
<td>150</td>
</tr>
<tr>
<td>(A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) Starting time greater than 30 seconds (fans, high inertia machines and compressors).

(2) For more information concerning PowerSuite software and communication protocols, see page 4/28.

### Accessory

**Type of accessory**

**Remote display terminal** [Includes 3 m (9.8’) cable with connectors, with seals, plastic bezel, screws for IP 65 keypad mounting on door of enclosure.]

| Catalog number | VW3G48101 |

For other versions, please consult with your local Schneider Electric/ Square D sales office: visit www.us.telemecanique.com
### Dimensions (W x H x D) mm

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (W x H x D) mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATS48 D17p</td>
<td>160 x 275 x 190</td>
</tr>
<tr>
<td>D62p C11p</td>
<td>190 x 280 x 225</td>
</tr>
<tr>
<td>C14p C17p</td>
<td>200 x 240 x 265</td>
</tr>
<tr>
<td>C21p C32p</td>
<td>320 x 380 x 265</td>
</tr>
<tr>
<td>C41p C66p</td>
<td>400 x 670 x 300</td>
</tr>
</tbody>
</table>

### Soft start (1)

#### Starter control supply voltage

**Application duty cycle**

<table>
<thead>
<tr>
<th>Motor power</th>
<th>208 V</th>
<th>230 V</th>
<th>460 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hp</td>
<td>7.5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>kW</td>
<td>5.5</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Nominal current (A)</td>
<td>15</td>
<td>17</td>
<td>22</td>
</tr>
</tbody>
</table>

#### Characteristics

- **3-phase 208–500 V**
- **Standard duty**
- **Severe duty (2)**

<table>
<thead>
<tr>
<th>Application duty cycle</th>
<th>110–230 V</th>
<th>Severe duty</th>
<th>Nominal current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard duty</td>
<td>110–230</td>
<td>Severe duty</td>
<td>12</td>
</tr>
<tr>
<td>Severe duty</td>
<td>110–230</td>
<td>Severe duty</td>
<td>12</td>
</tr>
</tbody>
</table>

### Motor power

<table>
<thead>
<tr>
<th>Hp</th>
<th>208 V</th>
<th>230 V</th>
<th>460 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>10</td>
<td>20</td>
<td>7.5</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>30</td>
<td>9</td>
</tr>
<tr>
<td>15</td>
<td>20</td>
<td>40</td>
<td>15</td>
</tr>
<tr>
<td>20</td>
<td>25</td>
<td>50</td>
<td>16.5</td>
</tr>
<tr>
<td>25</td>
<td>30</td>
<td>60</td>
<td>22</td>
</tr>
<tr>
<td>30</td>
<td>40</td>
<td>75</td>
<td>55</td>
</tr>
<tr>
<td>40</td>
<td>50</td>
<td>100</td>
<td>37</td>
</tr>
<tr>
<td>50</td>
<td>60</td>
<td>125</td>
<td>45</td>
</tr>
<tr>
<td>60</td>
<td>75</td>
<td>150</td>
<td>55</td>
</tr>
<tr>
<td>75</td>
<td>100</td>
<td>200</td>
<td>75</td>
</tr>
<tr>
<td>100</td>
<td>125</td>
<td>250</td>
<td>90</td>
</tr>
<tr>
<td>125</td>
<td>150</td>
<td>300</td>
<td>110</td>
</tr>
<tr>
<td>150</td>
<td>200</td>
<td>450</td>
<td>160</td>
</tr>
<tr>
<td>200</td>
<td>200</td>
<td>500</td>
<td>220</td>
</tr>
<tr>
<td>300</td>
<td>300</td>
<td>550</td>
<td>320</td>
</tr>
<tr>
<td>400</td>
<td>400</td>
<td>400</td>
<td>420</td>
</tr>
<tr>
<td>500</td>
<td>500</td>
<td>500</td>
<td>520</td>
</tr>
</tbody>
</table>

### Notes

1. For wiring in series with the windings of a 6 or 12 lead delta-wound motor.
2. Starting time greater than 30 seconds (fans, high inertia machines and compressors).
Altivar 11
0.25–3 Hp
0.18–2.2 kW

Dimensions (W x H x D) (1) mm
Size 1: 72 x 142 x 101
Size 2: 72 x 142 x 125
Size 3: 72 x 142 x 138
Size 4: 117 x 142 x 156

<table>
<thead>
<tr>
<th>Range</th>
<th>E Range</th>
<th>U Range</th>
<th>A Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output frequency</td>
<td>0.5–200 Hz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of control</td>
<td>Sensorless flux vector control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed range</td>
<td>1 to 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I/O</td>
<td>Analog inputs</td>
<td>1 configurable analog input</td>
<td></td>
</tr>
<tr>
<td>Logic inputs</td>
<td>4 assignable logic inputs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outputs</td>
<td>1 PWM open collector output assignable as logic or analog output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relay outputs</td>
<td>1 protected relay logic output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dialog</td>
<td>Integrated display terminal or PowerSuite software workshop (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMC</td>
<td>Integrated class B filter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local controls</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard NEC 1999 Motor Current Rated</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>Single phase 100–120 V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Motor power kW Hp
0.18 0.25 – ATV11HU05F1U Size 1 ATV11HU05F1A Size 1
0.37 0.5 – ATV11HU09F1U Size 2 ATV11HU09F1A Size 2
0.75 1 – ATV11HU18F1U Size 4 ATV11HU18F1A Size 4

Supply voltage Single phase 200–240 V
Motor power kW Hp
0.18 0.25 ATV11HU05M2E Size 1 ATV11HU05M2A Size 1
0.37 0.5 ATV11HU09M2E Size 2 ATV11HU09M2A Size 2
0.55 ATV11HU12M2E Size 3 – –
0.75 1 ATV11HU18M2E Size 3 ATV11HU18M2A Size 3
1.5 2 ATV11HU29M2E Size 4 ATV11HU29M2A Size 4
2.2 3 ATV11HU41M2E Size 4 ATV11HU41M2A Size 4

Supply voltage Three phase 200–230 V
Motor power kW Hp
0.18 0.25 – ATV11HU05M3U ATV11HU05M3A
0.37 0.5 – ATV11HU09M3U ATV11HU09M3A
0.75 1 – ATV11HU18M3U ATV11HU18M3A
1.5 2 – ATV11HU29M3U ATV11HU29M3A
2.2 3 – ATV11HU41M3U ATV11HU41M3A

(1) The A range has local controls with Run/Stop keys and potentiometer. Add 7 mm to depth (height of the potentiometer).
(2) PowerSuite software, see page 4/28.

AC drives with base plates

Dimensions (W x H x D) (1) mm
Size 1: 72 x 142 x 101

<table>
<thead>
<tr>
<th>Range</th>
<th>E Range</th>
<th>U Range</th>
<th>A Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>Single phase 100–120 V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor power</td>
<td>kW Hp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.37 0.5</td>
<td>– ATV11PU09F1U ATV11PU09F1A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Supply voltage Single phase 200–240 V
Motor power kW Hp
0.37 0.5 ATV11PU09M2E ATV11PU09M2A
0.55 ATV11PU12M2E – –
0.75 1 ATV11PU18M2E ATV11PU18M2A

Supply voltage Three phase 200–230 V
Motor power kW Hp
0.37 0.5 – ATV11PU09M3U ATV11PU09M3A
0.75 1 – ATV11PU18M3U ATV11PU18M3A

(1) The A range has local controls with Run/Stop keys and potentiometer. Add 7 mm to depth (height of the potentiometer).
### Additional EMC input filters

#### Supply voltage

<table>
<thead>
<tr>
<th>Drive type</th>
<th>Catalog numbers</th>
<th>Filters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>E range</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single phase</td>
<td>100–120 V</td>
<td>200–240 V</td>
</tr>
<tr>
<td>Single phase</td>
<td>100–120 V</td>
<td>200–240 V</td>
</tr>
<tr>
<td>Drive type</td>
<td>ATV11</td>
<td>HU05M2E to HU18M2E</td>
</tr>
<tr>
<td>Catalog numbers</td>
<td>VW3A11401</td>
<td>VW3A11401</td>
</tr>
<tr>
<td><strong>U range</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive type</td>
<td>ATV11</td>
<td>HU05F1U to HU09F1U</td>
</tr>
<tr>
<td>Catalog numbers</td>
<td>VW3A11402</td>
<td>VW3A11401</td>
</tr>
<tr>
<td>Drive type</td>
<td>ATV11</td>
<td>HU09F1U to HU29F1U</td>
</tr>
<tr>
<td>Catalog numbers</td>
<td>VW3A11402</td>
<td>VW3A11402</td>
</tr>
<tr>
<td><strong>A range</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive type</td>
<td>ATV11</td>
<td>HU05F1A to HU18F1A</td>
</tr>
<tr>
<td>Catalog numbers</td>
<td>VW3A11401</td>
<td>VW3A11401</td>
</tr>
<tr>
<td>Drive type</td>
<td>ATV11</td>
<td>HU09F1A to HU29F1A</td>
</tr>
<tr>
<td>Catalog numbers</td>
<td>VW3A11402</td>
<td>VW3A11402</td>
</tr>
</tbody>
</table>

#### Accessories

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Mounting plates for DIN rail</th>
<th>Grounding plate for EMC mounting</th>
<th>Braking module</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Width 35 mm</td>
<td>Minimum dynamic braking resistance value 75 Ω</td>
<td></td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>Drive type</td>
<td>ATV11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drive type</td>
<td>ATV11</td>
<td></td>
</tr>
<tr>
<td>Accessories</td>
<td>VW3A11851</td>
<td>VW3A11852</td>
<td>VW3A11831</td>
</tr>
</tbody>
</table>

Braking resistors and modules–other accessories: Please consult the «Variable speed drives and soft starts» catalog.
Altivar 21
1–40 Hp
0.75–30 kW

Building (HVAC)(1)
UL Type 1/IP20 drives

Drive
Supply voltage

Three phase
200–240 V
380–480 V

Degree of protection
IP21 and IP41 on the top of the drive controller

Output frequency
0.5–200 Hz

Type of control
Sensorless flux vector control

Speed range
1 to 10

I/O
Analog inputs
1 switch-configurable current or voltage analog input, and
1 voltage analog input configurable as a PTC probe input

Logic inputs
3 programmable logic inputs

Analog outputs
1 switch-configurable current or voltage analog output

Relay outputs
2 relay logic outputs

Dialog
Integrated display terminal with local controls (2) or remote display terminal or PC software (see page 4/15)

Communication
Integrated Modbus RTU

(see page 4/15)

Available as an option
HVAC protocols: LonWorks, METASYS N2, APOGEE FLN, BACnet

EMC
Class A
External filter available as an option

Class B
External filter available as an option

Motor power (3)

kW
Horsepower

Type 1 conduit entry kit

ATV21H075M3X
Size 1
VW3A31814
Size 1
ATV21H075N4
Size 1

ATV21HU15M3X
Size 1
ATV21HU15N4
Size 1

ATV21HU22M3X
Size 2
ATV21HU22N4
Size 2

ATV21HU30M3X
Size 2
VW3A31815
Size 2
ATV21HU30N4
Size 2

ATV21HU40M3X
Size 2
ATV21HU40N4
Size 2

ATV21HU55M3X
Size 3
ATV21HU55N4
Size 3

ATV21HU75M3X
Size 3
ATV21HU75N4
Size 3

ATV21HD11M3X
Size 4
ATV21HD11N4
Size 4

ATV21HD15M3X
Size 4
ATV21HD15N4
Size 4

ATV21HD18M3X
Size 4
ATV21HD18N4
Size 4

ATV21HD22M3X
Size 5
VW3A9206
Size 5
ATV21HD22N4
Size 5

ATV21HD30M3X
Size 6
VW3A9208
Size 6
ATV21HD30N4
Size 6

Dimensions (mm) width x height x depth

Size 1: 105 x 130 x 150
Size 2: 140 x 170 x 150
Size 3: 180 x 220 x 170
Size 4: 245 x 310 x 190
Size 5: 240 x 420 x 210
Size 6: 320 x 630 x 290

Type 12/IP54 drives

Available in 2007

Dimensions (mm) width x height x depth

Size 1: 215 x 257 x 192
Size 2: 230 x 340 x 208
Size 3: 284 x 720 x 315
Size 4: 310 x 665 x 315
Size 5: 290 x 560 x 315

For other versions, please consult with your local Schneider Electric/
Square D sales office: visit www.us.telemecanique.com

(1) Heating Ventilation Air Conditioning.
(2) Drive with local controls, Run/Stop, Loc/Rem. keys.
(3) 380–480 V drive controllers available up to 100 Hp in 2007.
### Supply voltage

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Type of drive</th>
<th>Filters</th>
<th>Three phase</th>
<th>Maximum length of shielded cable m (1)</th>
<th>Class A</th>
<th>Class B</th>
<th>Three phase</th>
<th>Maximum length of shielded cable m (1)</th>
<th>Class A</th>
<th>Class B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>200–240 V</td>
<td></td>
<td></td>
<td></td>
<td>380–480 V</td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
</tr>
</tbody>
</table>

(1) Maximum lengths for shielded cables connecting motors to drives for a switching frequency of 6 to 16 kHz.

### Communication cards

<table>
<thead>
<tr>
<th>Type</th>
<th>LonWorks</th>
<th>METASYS N2</th>
<th>APOGEE FLN</th>
<th>BACnet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structure</td>
<td>Connector</td>
<td>1 removable 3-way screw terminal</td>
<td>1 removable 4-way screw terminal</td>
<td>1 removable 4-way screw terminal</td>
</tr>
<tr>
<td>Topology</td>
<td>TP/F-T10 (free topology)</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Transmission speed</td>
<td>78 Kbps</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Diagnostics</td>
<td>With LEDs</td>
<td>1 LED on the card: “Service”</td>
<td>1 LED on the card: “COM” (network traffic)</td>
<td>–</td>
</tr>
<tr>
<td>Description file</td>
<td>Using the graphic display terminal</td>
<td>Command word received/referenced</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Catalog number</td>
<td>VW3A21312</td>
<td>VW3A21313</td>
<td>VW3A21314</td>
<td>VW3A21315</td>
</tr>
</tbody>
</table>

### Remote display terminal

Description

The Altivar 21 drive can be connected to a remote display terminal. The display terminal can be mounted on the door of an enclosure with IP54 protection on the front panel. Max. operating temperature: 40°C

Supplied with:

– 1 cable with 2 RJ45 connectors, length 3.6 m
– Seal and screws for IP54 mounting on an enclosure door

Catalog number

VW3A21101

### Connection accessories

<table>
<thead>
<tr>
<th>Modbus bus</th>
<th>Splitter box</th>
<th>Cables (L = 1 m)</th>
<th>T-junction boxes (L = 1 m)</th>
<th>Line terminator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>10 RJ45 connectors and 1 screw terminal</td>
<td>Equipped with 2 RJ45 connectors</td>
<td>T-junction boxes (with integrated cable)</td>
<td>Adaptation for RJ45 connector</td>
</tr>
<tr>
<td>Catalog number</td>
<td>LU9GC3</td>
<td>VW3A8306R10</td>
<td>VW3A8306TF10</td>
<td>VW3A8306RC</td>
</tr>
</tbody>
</table>

### PC software for Altivar 21 drives

<table>
<thead>
<tr>
<th>Software</th>
<th>Connection Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>It includes various functions such as: Preparing configurations, setup and maintenance. Operates in the following PC environments and configurations: Microsoft Windows® 98, Microsoft Windows® 2000, Microsoft Windows® XP, Pentium® 233 MHz or more, hard disk with 10 Mb available, 32 Mb RAM, 256 colour 640 x 480 pixels or higher definition monitor.</td>
</tr>
<tr>
<td>Catalog number</td>
<td>VW3A2106</td>
</tr>
</tbody>
</table>
### Altivar 31

**0.25–20 Hp**

**0.18–15 kW**

#### Dimensions (W x H x D) mm

- **Size 1:** 72 x 145 x 120
- **Size 2 & 3:** 72 x 145 x 130
- **Size 4:** 72 x 145 x 140
- **Size 5:** 105 x 143 x 130
- **Size 6:** 105 x 143 x 150
- **Size 7:** 140 x 184 x 150
- **Size 8:** 180 x 232 x 170

#### Supply voltage

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.18</td>
<td>0.25</td>
<td>ATV31H016M2 S3</td>
<td>ATV31H016M3X S1</td>
<td>~</td>
<td>~</td>
</tr>
<tr>
<td>0.37</td>
<td>0.5</td>
<td>ATV31H037M2 S3</td>
<td>ATV31H037M3X S1</td>
<td>ATV31H037N4 S6</td>
<td>~</td>
</tr>
<tr>
<td>0.55</td>
<td>0.75</td>
<td>ATV31H055M2 S4</td>
<td>ATV31H055M3X S2</td>
<td>ATV31H055N4 S6</td>
<td>~</td>
</tr>
<tr>
<td>0.75</td>
<td>1</td>
<td>ATV31H075M2 S4</td>
<td>ATV31H075M3X S2</td>
<td>ATV31H075N4 S6</td>
<td>ATV31H075S6X S6</td>
</tr>
<tr>
<td>1.1</td>
<td>1.5</td>
<td>ATV31H11M2 S6</td>
<td>ATV31H11M3X S5</td>
<td>ATV31H11N4 S5</td>
<td>~</td>
</tr>
<tr>
<td>1.5</td>
<td>2</td>
<td>ATV31H15M2 S6</td>
<td>ATV31H15M3X S5</td>
<td>ATV31H15N4 S6</td>
<td>ATV31H15S6X S6</td>
</tr>
<tr>
<td>2.2</td>
<td>3</td>
<td>ATV31HU22M2 S7</td>
<td>ATV31HU22M3X S6</td>
<td>ATV31HU22N4 S7</td>
<td>ATV31HU22S6X S7</td>
</tr>
<tr>
<td>3</td>
<td>4.5</td>
<td>~</td>
<td>ATV31HU5M3X S7</td>
<td>ATV31HU5N4 S7</td>
<td>~</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>~</td>
<td>ATV31HU0M3X S7</td>
<td>ATV31HU0N4 S7</td>
<td>ATV31HU0S6X S7</td>
</tr>
<tr>
<td>5.5</td>
<td>7.5</td>
<td>~</td>
<td>ATV31HU55M3X S8</td>
<td>ATV31HU55N4 S8</td>
<td>ATV31HU55S6X S8</td>
</tr>
<tr>
<td>7.5</td>
<td>10</td>
<td>~</td>
<td>ATV31HU75M3X S8</td>
<td>ATV31HU75N4 S8</td>
<td>ATV31HU75S6X S8</td>
</tr>
<tr>
<td>11</td>
<td>15</td>
<td>~</td>
<td>ATV31HD11M3X S9</td>
<td>ATV31HD11N4 S9</td>
<td>ATV31HD11S6X S9</td>
</tr>
<tr>
<td>15</td>
<td>20</td>
<td>~</td>
<td>ATV31HD15M3X S9</td>
<td>ATV31HD15N4 S9</td>
<td>ATV31HD15S6X S9</td>
</tr>
</tbody>
</table>

#### Motor power

(1) For drive with local controls (Run/Stop keys and potentiometer) add an “A” at the end of the catalog number.

(2) (3) PowerSuite software and communication protocols, see page 4/28.
### Supply voltage

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum length of shielded cable (1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class A</td>
<td>5 m</td>
<td>50 m</td>
<td>5 m</td>
</tr>
<tr>
<td>Class B</td>
<td>20 m</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

### Catalog numbers

<table>
<thead>
<tr>
<th>Drive type</th>
<th>Filters</th>
<th>Catalog numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV31</td>
<td>H018M2 to H075M2</td>
<td>VW3A31401</td>
</tr>
<tr>
<td>ATV31</td>
<td>H018M3X to H075M3X</td>
<td>VW3A31402</td>
</tr>
<tr>
<td>ATV31</td>
<td>H037N4 to H15N4</td>
<td>VW3A31404</td>
</tr>
<tr>
<td>ATV31</td>
<td>H037N4 - H075N4</td>
<td>VW3A31406</td>
</tr>
<tr>
<td>ATV31</td>
<td>H037N4 - H075N4</td>
<td>VW3A31407</td>
</tr>
<tr>
<td>ATV31</td>
<td>H055N4</td>
<td>VW3A31409</td>
</tr>
</tbody>
</table>

### Minimum Dynamic Braking Resistance Values

<table>
<thead>
<tr>
<th>Drive</th>
<th>PA to PB Min. Resistance Value (Ω)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV31H018M2, ATV31H037M2</td>
<td>40</td>
</tr>
<tr>
<td>ATV31H055M2, ATV31H075M2</td>
<td>27</td>
</tr>
<tr>
<td>ATV31H018M3X, ATV31H037M3X</td>
<td>40</td>
</tr>
<tr>
<td>ATV31H055M3X, ATV31H075M3X</td>
<td>27</td>
</tr>
<tr>
<td>ATV31H037N4, ATV31H055N4</td>
<td>80</td>
</tr>
<tr>
<td>ATV31H037N4, ATV31H055N4</td>
<td>54</td>
</tr>
<tr>
<td>ATV31HU11M2, ATV31HU15M2</td>
<td>25</td>
</tr>
<tr>
<td>ATV31HU22M2</td>
<td>16</td>
</tr>
<tr>
<td>ATV31HU30M3X</td>
<td>16</td>
</tr>
<tr>
<td>ATV31HU00N4</td>
<td>55</td>
</tr>
<tr>
<td>ATV31HU40N4</td>
<td>36</td>
</tr>
<tr>
<td>ATV31HU22M3X</td>
<td>25</td>
</tr>
</tbody>
</table>

### Drive size

<table>
<thead>
<tr>
<th>Drive size</th>
<th>Type 1 conduit entry kit</th>
<th>ATV28 substitution kit</th>
<th>DIN rail kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2</td>
<td>VW3A31811</td>
<td>VW3A31821</td>
<td>VW3A11851</td>
</tr>
<tr>
<td>3, 4</td>
<td>VW3A31812</td>
<td>VW3A31821</td>
<td>VW3A11851</td>
</tr>
<tr>
<td>5</td>
<td>VW3A31813</td>
<td>VW3A31822</td>
<td>VW3A31852</td>
</tr>
<tr>
<td>6</td>
<td>VW3A31814</td>
<td>VW3A31822</td>
<td>VW3A31852</td>
</tr>
<tr>
<td>7</td>
<td>VW3A31815</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>8</td>
<td>VW3A31816</td>
<td>VW3A31823</td>
<td>–</td>
</tr>
<tr>
<td>9</td>
<td>VW3A31817</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
Altivar 61
0.5–900 Hp, 0.37–630 kW

Pumping and ventilation machines

IP21 drives

**Dimensions (mm)** width x height x depth

<table>
<thead>
<tr>
<th>Size</th>
<th>Width x Height x Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>132 x 230 x 175</td>
</tr>
<tr>
<td>4</td>
<td>175 x 295 x 187</td>
</tr>
<tr>
<td>5B</td>
<td>220 x 400 x 213</td>
</tr>
<tr>
<td>7A</td>
<td>240 x 550 x 266</td>
</tr>
<tr>
<td>8</td>
<td>320 x 630 x 290</td>
</tr>
<tr>
<td>9</td>
<td>390 x 920 x 377</td>
</tr>
<tr>
<td>10</td>
<td>360 x 1022 x 377</td>
</tr>
<tr>
<td>12</td>
<td>440 x 1190 x 377</td>
</tr>
<tr>
<td>14</td>
<td>890 x 1390 x 377</td>
</tr>
</tbody>
</table>

**Type of drive**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>200–240 V (3)</td>
<td>200–240 V (3)</td>
<td>380–480 V (3)</td>
</tr>
</tbody>
</table>

**Degree of protection**

IP21 for unprotected drives and IP41 on the top of the drive controller

0.5–1600 Hz up to 37 kW (50 Hp); 0.5–500 Hz from 45 to 630 kW (60 to 900 Hp)

**Type of control**

Asynchronous motor

Synchronous motor

**Motor power (kW/Hp)**

<table>
<thead>
<tr>
<th>Size</th>
<th>Power (kW/Hp)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0.37</td>
<td>Class A</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Class A</td>
</tr>
<tr>
<td>5B</td>
<td>2</td>
<td>Class A</td>
</tr>
<tr>
<td>7A</td>
<td>3</td>
<td>Class A</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>Class A</td>
</tr>
<tr>
<td>9</td>
<td>5</td>
<td>Class A</td>
</tr>
<tr>
<td>10</td>
<td>7.5</td>
<td>Class A</td>
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<tr>
<td>12</td>
<td>11</td>
<td>Class A</td>
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<tr>
<td>14</td>
<td>15</td>
<td>Class A</td>
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<tr>
<td>16</td>
<td>18.5</td>
<td>Class A</td>
</tr>
<tr>
<td>18</td>
<td>22</td>
<td>Class A</td>
</tr>
<tr>
<td>20</td>
<td>30</td>
<td>Class A</td>
</tr>
<tr>
<td>22</td>
<td>37</td>
<td>Class A</td>
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<tr>
<td>25</td>
<td>45</td>
<td>Class A</td>
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<tr>
<td>30</td>
<td>55</td>
<td>Class A</td>
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<td>35</td>
<td>75</td>
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<td>40</td>
<td>100</td>
<td>Class A</td>
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<td>45</td>
<td>125</td>
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<td>50</td>
<td>150</td>
<td>Class A</td>
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<tr>
<td>55</td>
<td>185</td>
<td>Class A</td>
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<tr>
<td>60</td>
<td>220</td>
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<tr>
<td>65</td>
<td>250</td>
<td>Class A</td>
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<td>70</td>
<td>300</td>
<td>Class A</td>
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<tr>
<td>75</td>
<td>450</td>
<td>Class A</td>
</tr>
<tr>
<td>80</td>
<td>500</td>
<td>Class A</td>
</tr>
<tr>
<td>85</td>
<td>600</td>
<td>Class A</td>
</tr>
<tr>
<td>90</td>
<td>630</td>
<td>Class A</td>
</tr>
</tbody>
</table>

**EMC**

Class A

Integrated filter

External filter available as an option

**Type of control**

Asynchronous motor

Synchronous motor

**Logic inputs (4)**

<table>
<thead>
<tr>
<th>I/O</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analog inputs</td>
<td>2</td>
</tr>
<tr>
<td>Analog outputs</td>
<td>1</td>
</tr>
<tr>
<td>Relay outputs</td>
<td>2</td>
</tr>
<tr>
<td>Safety input</td>
<td>1</td>
</tr>
</tbody>
</table>

**Dialog**

Remote graphic display terminal or PowerSuite software workshop (see pages 4/25 and 4/28)

**Communication**

Integrated

Modbus and CANopen

**Cards (available as an option)**

Available as an option

HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE FLN

Industrial: Ethernet TCP/IP, Modbus/Uni-Telway, Fipio, Modbus Plus, Profibus DP, DeviceNet, InterBus

Multi-pump cards, I/O extension cards, “Controller Inside” programmable card

**Reduction of current harmonics**

DC choke integrated or supplied with the product (optional chokes and passive filters, see page 4/20)

**Supply voltage**

200–240 V (3)

380–480 V (3)

**(1) Must be used with a line choke, see page 4/20.**

**(2) Drive supplied without EMC filter.**

**(3) To order a reinforced version of the drive for specific environmental conditions, conforming to IEC 60721-3-3 class 3c2, add S337 at the end of the catalog number.**

**(4) Refer to page 4/24 for information on option cards if additional I/O is needed.**
Type of drive | Three phase | Three phase range in ready-assembled enclosure (5) |
--- | --- | ---
Degree of protection | UL Type 12/IP54 | IP54 enclosure |
Output frequency | 0.5–1600 Hz up to 37 kW (50 Hp); 0.5–500 Hz from 45 to 630 kW (60 to 900 Hp) | |
Type of control | Asynchronous motor Flux vector control with or without sensor | Vector control without speed feedback |
Transient overtorque | 110% to 120% of the nominal drive current for 60 seconds | |
Speed range | 1–100 in open loop mode | |
I/O | | |
Logic inputs (4) | | |
Analog inputs | 2 | |
Analog outputs | 1 | |
Relay outputs | 2 | |
Safety input | 1 | |
Dialog | Remote graphic display terminal or PowerSuite software workshop (see page 4/32) | |
Communication (see page 4/32) | Integrated Modbus and CANopen | Available as an option |
Cards (as available as an option) | HVAC protocols: LonWorks, BACnet, METASYS N2, APOGEE FLN | Multi-pump cards, I/O extension cards, “Controller Inside” programmable card |
Reduction of current harmonics | Integrated DC chokes (optional chokes and passive filters, see page 4/20) | |
EMC | | |
Class A | Integrated filter | Integrated filter | External filter available as an option |
Class B | | | |
Motor power (kW/Hp) | ATV61W075N4 Size A2 | ATV61W075N4C Size A2 | – |
| 0.75 | 1 | – | – |
| 1.5 | 2 | – | – |
| 2.2 | 3 | – | – |
| 3 | – | – | – |
| 4 | 5 | – | – |
| 5.5 | 7.5 | – | – |
| 7.5 | 10 | – | – |
| 11 | 15 | – | – |
| 15 | 20 | – | – |
| 18.5 | 25 | – | – |
| 22 | 30 | – | – |
| 30 | 40 | – | – |
| 37 | 50 | – | – |
| 45 | 60 | – | – |
| 55 | 75 | – | – |
| 75 | 100 | – | – |
| 90 | 125 | – | – |
| Ready-assembled enclosure with braking transistor integrated in the drive | | | |
| 110 | 150 | – | – |
| 132 | 200 | – | – |
| 160 | 250 | – | – |
| 220 | 350 | – | – |
| Ready-assembled enclosure with braking unit in the enclosure | | | |
| 250 | 400 | – | – |
| 315 | 500 | – | – |
| 375 | 600 | – | – |
| Ready-assembled enclosure without braking unit | | | |
| 250 | 400 | – | – |
| 315 | 500 | – | – |
| 400 | 600 | – | – |
| 500 | 700 | – | – |
| 630 | 900 | – | – |

(5) The Altivar 61 range in ready-assembled enclosure consists of:
– An ATV61H… drive
– A switch and fast-acting fuses
– An IP65 remote mounting kit for graphic display terminal

Dimensions (mm) width x height x depth

<table>
<thead>
<tr>
<th>Size</th>
<th>Width</th>
<th>Height</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>235 x 490 x 272</td>
<td>A1</td>
<td>616 x 2000 x 600</td>
</tr>
<tr>
<td>A3</td>
<td>239 x 490 x 286</td>
<td>A2</td>
<td>816 x 2000 x 600</td>
</tr>
<tr>
<td>B</td>
<td>255 x 525 x 286</td>
<td>A3</td>
<td>1016 x 2000 x 600</td>
</tr>
<tr>
<td>C</td>
<td>290 x 560 x 315</td>
<td>A3</td>
<td>1220 x 2000 x 600</td>
</tr>
<tr>
<td>D</td>
<td>310 x 665 x 315</td>
<td>A3</td>
<td>2024 x 2000 x 600</td>
</tr>
<tr>
<td>E</td>
<td>264 x 720 x 315</td>
<td>A4</td>
<td>1216 x 2000 x 600</td>
</tr>
<tr>
<td>F</td>
<td>284 x 880 x 343</td>
<td>A4</td>
<td>1820 x 2000 x 600</td>
</tr>
<tr>
<td>G</td>
<td>362 x 1000 x 364</td>
<td>A4</td>
<td>2224 x 2000 x 600</td>
</tr>
</tbody>
</table>
**Altivar 61**

0.5–900 Hp  
0.37–630 kW

---

**Pumping and ventilation machines**

**I/O extension and specific cards**

<table>
<thead>
<tr>
<th>Type of card</th>
<th>I/O extension</th>
<th>Extended</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Logic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 relay logic output (“C/O” contact)</td>
<td>1 x 0–20 mA differential current analog input</td>
</tr>
<tr>
<td></td>
<td>4 x 24 VDC positive or negative logic inputs</td>
<td>1 software-configurable voltage (0–10 VDC) or current (0–20 mA) analog input</td>
</tr>
<tr>
<td></td>
<td>2 x 24 VDC open collector positive or negative logic outputs</td>
<td>2 software-configurable voltage (±10V, 0–10 VDC) or current (0–20 mA) analog outputs</td>
</tr>
<tr>
<td></td>
<td>1 input for PTC probes</td>
<td>1 relay logic output (“C/O” contact)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>VW3A3201</td>
<td>VW3A3202</td>
</tr>
</tbody>
</table>

---

**“Controller Inside” programmable card**

<table>
<thead>
<tr>
<th>Type of card</th>
<th>Programmable “Controller Inside”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>10 logic inputs, 2 of which can be used for 2 counters or 4 of which can be used for 2 incremental encoders</td>
</tr>
<tr>
<td></td>
<td>2 analog inputs, 6 logic outputs, 2 analog outputs, a master port for the CANopen bus, a PC port for programming with the PS 1131 software workshop.</td>
</tr>
<tr>
<td>Catalog number</td>
<td>VW3A3501</td>
</tr>
</tbody>
</table>

---

**Multi-pump cards**

<table>
<thead>
<tr>
<th>Type of card</th>
<th>Multi-pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Can be used to support all multi-pump applications</td>
</tr>
<tr>
<td></td>
<td>The card’s operating modes are:</td>
</tr>
<tr>
<td></td>
<td>a) OFF: no function is activated. This mode is used in particular during maintenance of the installation.</td>
</tr>
<tr>
<td></td>
<td>b) Single variable. b) Multiple variable. b) Single variable with changeover of auxiliary pumps.</td>
</tr>
<tr>
<td></td>
<td>b) Multiple variable with changeover of auxiliary pumps and limited operating time. b) Single variable with changeover of auxiliary pumps and limited operating time. b) Multiple variable with changeover of auxiliary pumps and limited operating time.</td>
</tr>
<tr>
<td></td>
<td>b) In addition to the existing operating modes, it is possible to develop new applications: booster station, irrigation, etc.</td>
</tr>
</tbody>
</table>
| Catalog number | VW3A3502  
|               | VW3A3503  |
## Dialog accessories

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Remote graphic display terminal</th>
<th>Remote mounting kit (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>This display terminal is attached to the front of the drive. It includes the integrated 7-segment display terminal for drives supplied without a graphic display terminal.</td>
<td>A remote mounting kit for mounting on an enclosure door with IP54 degree of protection. It includes:</td>
</tr>
<tr>
<td>References</td>
<td>VW3A1101</td>
<td>b All the mechanical fittings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b Fixing accessories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VW3A1102</td>
</tr>
</tbody>
</table>

1) Use a VW3A1104Rpp remote-mounting connection cable, to be ordered separately (please consult the “Soft starters and variable speed drives” catalog).

## Additional EMC input filters

The additional EMC input filters can be used to meet the requirements of the EMC “products” standard IEC/EN 61800-3, edition 2, category C2 or C3 in environment 1 or 2.

<table>
<thead>
<tr>
<th>Type of drive</th>
<th>Three phase 200–240 V 50/60 Hz</th>
<th>380–480 V 50/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum length of shielded cable (1)</td>
<td>Class A</td>
<td>Class B</td>
</tr>
<tr>
<td>ATV61H075M3, HU15M3</td>
<td>VW3A4401</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV61H022M3–HU40M3</td>
<td>VW3A4402</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV61H055M3</td>
<td>VW3A4403</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV61H075M3</td>
<td>VW3A4404</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV61H011M3X, HD15M3X</td>
<td>VW3A4405</td>
<td>200 m</td>
</tr>
<tr>
<td>ATV61H018M3X, HD22M3X</td>
<td>VW3A4406</td>
<td>200 m</td>
</tr>
<tr>
<td>ATV61H030M3X–HD45M3X</td>
<td>VW3A4408</td>
<td>200 m</td>
</tr>
<tr>
<td>ATV61H055M3X, HD75M3X</td>
<td>VW3A4410</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV61H090M3X</td>
<td>VW3A4411</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV61p030N4(C)–pU50N4(C)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61p030N4(C), pU40N4(C)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61p055N4(C), pU75N4(C)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61p010N4(C)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61p015N4(C)–pD18N4(C)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61p022N4(C)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61p030N4(C), pD37N4(C)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61p045N4(C)–pD75N4(C)</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61p090N4(C)–HC16N4, ATV61E5C11N4…E5C16N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61HC22N4–HC31N4, ATV61E5C22N4…E5C31N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61HC40N4, HC50N4, ATV61E5C40N4, E5C50N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV61HC63N4, ATV61E5C63N4</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Applies to the following drives: ATV61H–N4, ATV61H–N4C, ATV61W–N4, ATV61W–N4C.

1) Maximum lengths for shielded cables connecting motors to drives for a switching frequency of 0.5 to 12 kHz.

These limits are given as examples only as they vary depending on the stray capacitance of the motors and the cables used.
# Altivar 61

0.5–900 Hp
0.37–630 kW

## Line reactors

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>width x height x depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size 1</td>
<td>203 x 203 x 152</td>
</tr>
<tr>
<td>Size 2</td>
<td>381 x 330 x 330</td>
</tr>
<tr>
<td>Size 3</td>
<td>610 x 432 x 432</td>
</tr>
</tbody>
</table>

### Supply voltage

<table>
<thead>
<tr>
<th>Motor Power</th>
<th>Line reactors for variable torque or constant torque applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>Hp</td>
</tr>
<tr>
<td>0.5</td>
<td>RL00812</td>
</tr>
<tr>
<td>1</td>
<td>RL01212</td>
</tr>
<tr>
<td>2</td>
<td>RL01812</td>
</tr>
<tr>
<td>3</td>
<td>RL02512</td>
</tr>
<tr>
<td>(3 kW)</td>
<td>RL03512</td>
</tr>
<tr>
<td>5</td>
<td>RL04512</td>
</tr>
<tr>
<td>7.5</td>
<td>RL08012</td>
</tr>
<tr>
<td>10</td>
<td>–</td>
</tr>
<tr>
<td>15</td>
<td>–</td>
</tr>
<tr>
<td>20</td>
<td>–</td>
</tr>
<tr>
<td>25</td>
<td>–</td>
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<tr>
<td>30</td>
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<td>40</td>
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<td>50</td>
<td>–</td>
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<tr>
<td>60</td>
<td>–</td>
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<tr>
<td>75</td>
<td>–</td>
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<tr>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>125</td>
<td>–</td>
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<tr>
<td>150</td>
<td>–</td>
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<tr>
<td>200</td>
<td>–</td>
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<tr>
<td>250</td>
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<tr>
<td>300</td>
<td>–</td>
</tr>
<tr>
<td>350–400</td>
<td>–</td>
</tr>
<tr>
<td>450–500</td>
<td>–</td>
</tr>
</tbody>
</table>

For other versions or requirements above 500 Hp, please consult your nearest Schneider Electric/Square D sales office.
For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com

### Motor protecting output filters

#### Altivar 61

- **0.5–900 Hp**
- **0.37–630 kW**

#### Dimensions (mm)

<table>
<thead>
<tr>
<th>Size</th>
<th>Width x Height x Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>311 x 318 x 171</td>
</tr>
<tr>
<td>2</td>
<td>486 x 394 x 394</td>
</tr>
<tr>
<td>3</td>
<td>562 x 521 x 619</td>
</tr>
</tbody>
</table>

#### Supply voltage

- Three phase
- 480 V

#### Type of drive

- ATV61HC25N4, HC31N4
- ATV61HC40N4, HC50N4, HC63N4

#### Continuous power/Max (kw)

| Motor Protecting Output Filters for variable torque or constant torque applications
<table>
<thead>
<tr>
<th>Degree of protection</th>
<th>Three phase 480 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Power</td>
<td>Type 1 enclosed</td>
</tr>
<tr>
<td>Motor Power</td>
<td>KLCUL4A1 Size 1</td>
</tr>
<tr>
<td>1–2</td>
<td>KLCUL6A1 Size 1</td>
</tr>
<tr>
<td>3</td>
<td>KLCUL8A1 Size 1</td>
</tr>
<tr>
<td>5</td>
<td>KLCUL12A1 Size 1</td>
</tr>
<tr>
<td>7.5</td>
<td>KLCUL16A1 Size 1</td>
</tr>
<tr>
<td>10</td>
<td>KLCUL25A1 Size 1</td>
</tr>
<tr>
<td>15</td>
<td>KLCUL35A1 Size 1</td>
</tr>
<tr>
<td>20–25</td>
<td>KLCUL45A1 Size 1</td>
</tr>
<tr>
<td>30</td>
<td>KLCUL55A1 Size 1</td>
</tr>
<tr>
<td>40</td>
<td>KLCUL80A1 Size 2</td>
</tr>
<tr>
<td>50-60</td>
<td>KLCUL110A1 Size 2</td>
</tr>
<tr>
<td>75</td>
<td>KLCUL130A1 Size 2</td>
</tr>
<tr>
<td>100</td>
<td>KLCUL160A1 Size 2</td>
</tr>
<tr>
<td>125</td>
<td>KLCUL200A1 Size 2</td>
</tr>
<tr>
<td>150</td>
<td>KLCUL250A1 Size 2</td>
</tr>
<tr>
<td>200</td>
<td>KLCUL300A1 Size 2</td>
</tr>
<tr>
<td>250</td>
<td>KLCUL350A1 Size 2</td>
</tr>
<tr>
<td>300</td>
<td>KLCUL400A1 Size 2</td>
</tr>
<tr>
<td>350</td>
<td>KLCUL450A1 Size 2</td>
</tr>
<tr>
<td>400</td>
<td>KLCUL500A1 Size 2</td>
</tr>
<tr>
<td>450–500</td>
<td>KLCUL600A1 Size 2</td>
</tr>
</tbody>
</table>

For other versions or requirements above 500 Hp, please consult your nearest Schneider Electric/Square D sales office.

### Resistance braking units

(Integrated in ATV61 drives up to 220 kW)

ATV61HpM3, ATV61HpM3X and ATV61H075N4–HC22N4, ATV61HpM4 and ATV61HpM4C drives have a built-in braking transistor.

The braking resistor enables the Altivar 61 drive to operate while braking to a standstill or during slowdown braking, by dissipating the braking energy.

#### Supply voltage

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>Three phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of drive</td>
<td>380–480 V 50/60 Hz</td>
</tr>
<tr>
<td>Continuous power/Max (kw)</td>
<td>ATV61HC25N4, HC31N4</td>
</tr>
<tr>
<td>Catalog number</td>
<td>ATV61HC40N4, HC50N4, HC63N4</td>
</tr>
</tbody>
</table>

Consult Square D / Schneider Electric Representative for Braking Resistor recommendations.
Altivar 71
0.5–700 Hp, 0.37–500 kW

Complex, high-power machines

IP21 drives

<table>
<thead>
<tr>
<th>Dimensions (mm) width x height x depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size 2: 130 x 230 x 175</td>
</tr>
<tr>
<td>Size 3: 155 x 260 x 187</td>
</tr>
<tr>
<td>Size 4: 175 x 285 x 167</td>
</tr>
<tr>
<td>Size 5A: 210 x 295 x 213</td>
</tr>
<tr>
<td>Size 5B: 230 x 400 x 213</td>
</tr>
<tr>
<td>Size 6: 240 x 420 x 226</td>
</tr>
<tr>
<td>Size 7A: 240 x 550 x 266</td>
</tr>
<tr>
<td>Size 7B: 320 x 550 x 266</td>
</tr>
<tr>
<td>Size 8: 320 x 630 x 290</td>
</tr>
<tr>
<td>Size 9: 320 x 920 x 377</td>
</tr>
<tr>
<td>Size 10: 360 x 1022 x 377</td>
</tr>
<tr>
<td>Size 11: 340 x 1190 x 377</td>
</tr>
<tr>
<td>Size 12: 440 x 1190 x 377</td>
</tr>
<tr>
<td>Size 13: 595 x 1190 x 377</td>
</tr>
<tr>
<td>Size 14: 890 x 1390 x 377</td>
</tr>
<tr>
<td>Size 15: 1120 x 1390 x 377</td>
</tr>
</tbody>
</table>

Type of drive

Supply voltage

<table>
<thead>
<tr>
<th>Single phase</th>
<th>Three phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>200–240 V (3)</td>
<td>380–480 V (3)</td>
</tr>
</tbody>
</table>

Degree of protection

IP21 for unprotected drives and IP41 on the upper part

Output frequency

0.1–1600 Hz up to 37 kW / 50 Hp, 0.1–500 Hz from 45 to 500 kW / 60 to 700 HP

Type of control

Asynchronous motor

Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System

Synchronous motor

Vector control without speed feedback

Transistor output

220% of nominal motor torque for 2 seconds, and 170% for 60 seconds

Speed range

1–1000 in closed loop mode with encoder feedback, 1–100 in open loop mode

I/O (4)

Analog inputs: 2

Logic inputs: 6

Analog outputs: 1

Relay outputs: 2

Safety input: 1

Dialog

Remote graphic display terminal or PowerSuite software workshop (see pages 4/25 and 4/28)

Communication

Modbus and CANopen

Available as an option

Ethernet TCP/IP, Modbus/Uni-Telway Fipio, Modbus Plus, Profinet, DeviceNet, InteBus

Cards (available as an option)

Encoder interface cards, I/O extension cards, “Controller Inside” programmable card

Reduction of current harmonics

DC choke integrated or supplied with the product, (optional chokes and passive filters, see page 4/26)

EMC

Class A

Class B

Integrated filter

External filter available as an option

Motor power

kW/Hp

0.37 0.5

ATV71H075N4 Size 2

ATV71H075N4 (3) Size 2

ATV71H150N4 Size 2

ATV71H150N4 (3) Size 2

ATV71H220N4 Size 3

ATV71H220N4 (3) Size 3

ATV71H30M3 Size 3

ATV71H30M3 (3) Size 3

ATV71H40M3 (1) Size 3

ATV71H40M3 (3) Size 3

ATV71H55M3 (1) Size 3

ATV71H55M3 (3) Size 3

ATV71H75M3 (1) Size 5A

ATV71H75M3 (3) Size 5A

ATV71H11M3X (2) Size 5B

ATV71H11M3X (3) Size 5B

ATV71H15M3X (2) Size 5B

ATV71H15M3X (3) Size 5B

ATV71H18M3X (2) Size 5B

ATV71H18M3X (3) Size 5B

ATV71H22M3X (2) Size 5B

ATV71H22M3X (3) Size 5B

ATV71H30M3X (2) Size 5B

ATV71H30M3X (3) Size 5B

ATV71H40M3X (2) Size 5B

ATV71H40M3X (3) Size 5B

ATV71H55M3X (2) Size 5B

ATV71H55M3X (3) Size 5B

ATV71H75M3X (2) Size 5B

ATV71H75M3X (3) Size 5B

ATV71H075N4Z Size 2

ATV71H11N4Z (3) Size 5A

ATV71H15N4Z (3) Size 5B

ATV71H18N4Z (3) Size 5B

ATV71H22N4Z (3) Size 5B

ATV71H30N4Z (3) Size 5B

ATV71H40N4Z (3) Size 5B

ATV71H55N4Z (3) Size 5B

ATV71H75N4Z (3) Size 5B

(1) Must be used with a line choke, see page 4/26.

(2) Drive supplied without EMC filter.

(3) To order a reinforced version of the drive for specific environmental conditions, conforming to IEC 60721-3-3 class 3c2, add S337 at the end of the catalog number.

e.g. ATV71H075N4S337

(4) Refer to page 4/24 for information on option cards if additional I/O is needed.
IP54 drives

<table>
<thead>
<tr>
<th>Type of drive</th>
<th>Three phase</th>
<th>Three phase range in ready-assembled enclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>380–480 V</td>
<td>380–480 V</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>UL Type 12/IP54</td>
<td>IP54 enclosure</td>
</tr>
<tr>
<td>Drive</td>
<td>Output frequency</td>
<td>Asynchronous motor / Flux vector control with or without sensor, voltage/frequency ratio (2 or 5 points), ENA System</td>
</tr>
<tr>
<td></td>
<td>Transient overtorque</td>
<td>Vector control without speed feedback</td>
</tr>
<tr>
<td>Speed range</td>
<td>0.1–1600 Hz up to 37 kW, 0.1–500 Hz from 45 to 500 kW</td>
<td></td>
</tr>
<tr>
<td>I/O (4)</td>
<td>Analog inputs</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Logic inputs</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Analog outputs</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Relay outputs</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Safety input</td>
<td>1</td>
</tr>
</tbody>
</table>

Dialog
- Remote graphic display terminal or PowerSuite software workshop (see page 4/28)

Communication
- Integrated Modbus and CANopen
- Available as an option Ethernet TCP/IP, Modbus/Uni-Telway, Fipo, Modbus Plus, Profibus DP, DeviceNet, InterBus
- Cards (available as an option) Encoder interface cards, I/O extension cards, "Controller Inside" programmable card

Reduction of current harmonics
- Optional chokes and passive filters (see page 4/26)

EMC
- Class A Integrated filter
- Class B External filter available as an option

Motor power
<table>
<thead>
<tr>
<th>kW/HP</th>
<th>iTV71W…</th>
<th>Size A2</th>
<th>iTV71E5C…</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>3</td>
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<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.5</td>
<td>7.5</td>
<td></td>
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</tr>
<tr>
<td>7.5</td>
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<tr>
<td>11</td>
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<td>15</td>
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<td>18.5</td>
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<td></td>
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<tr>
<td>55</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ready-assembled enclosure
- with braking transistor integrated in the drive
- with braking unit in the enclosure
- without braking unit

Dimensions (mm) width x height x depth
<table>
<thead>
<tr>
<th>Size</th>
<th>Width x Height x Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2</td>
<td>235 x 490 x 272</td>
</tr>
<tr>
<td>A3</td>
<td>235 x 490 x 286</td>
</tr>
<tr>
<td>B</td>
<td>255 x 525 x 286</td>
</tr>
<tr>
<td>C</td>
<td>290 x 560 x 315</td>
</tr>
<tr>
<td>D</td>
<td>310 x 665 x 315</td>
</tr>
<tr>
<td>E</td>
<td>284 x 720 x 315</td>
</tr>
<tr>
<td>F</td>
<td>284 x 880 x 343</td>
</tr>
<tr>
<td>G</td>
<td>362 x 1000 x 364</td>
</tr>
</tbody>
</table>

(4) The Altivar 71 range in ready-assembled enclosure consists of:
- An ATV71H… drive
- A switch and fast-acting fuses
- An IP65 remote mounting kit for graphic display terminals

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
Altivar 71
0.5–700 Hp
0.37–500 kW

Complex, high-power machines
I/O extension and specific cards

<table>
<thead>
<tr>
<th>Type of card</th>
<th>I/O extension Logic</th>
<th>Extended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>1 relay logic output (&quot;C/O&quot; contact)</td>
<td>1 0–20 mA differential current analog input</td>
</tr>
<tr>
<td></td>
<td>4 x 24 VDC positive or negative logic inputs</td>
<td>1 software-configurable voltage (0–10 VDC) or current (0–20 mA) analog input</td>
</tr>
<tr>
<td></td>
<td>2 x 24 VDC open collector positive or negative logic outputs</td>
<td>2 software-configurable voltage (±10 V, 0–10 VDC) or current (0–20 mA) analog outputs</td>
</tr>
<tr>
<td></td>
<td>1 input for PTC probes</td>
<td>1 relay logic output (&quot;C/O&quot; contact)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 x 24 VDC positive or negative logic inputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 x 24 VDC open collector positive or negative logic outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 input for PTC probes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 frequency control input</td>
</tr>
</tbody>
</table>

Catalog number
VW3A3201
VW3A3202

“Controller Inside” programmable card

<table>
<thead>
<tr>
<th>Type of card</th>
<th>Programmable “Controller Inside”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>10 logic inputs, 2 of which can be used for 2 counters or 4 of which can be used for 2 incremental encoders</td>
</tr>
<tr>
<td></td>
<td>2 analog inputs</td>
</tr>
<tr>
<td></td>
<td>6 logic outputs</td>
</tr>
<tr>
<td></td>
<td>2 analog outputs</td>
</tr>
<tr>
<td></td>
<td>A master port for the CANopen bus</td>
</tr>
<tr>
<td></td>
<td>A PC port for programming with the PS 1131 software workshop</td>
</tr>
</tbody>
</table>

Catalog number
VW3A3501

Encoder interface cards

<table>
<thead>
<tr>
<th>Type of card</th>
<th>Encoder interface with Differential outputs (RS422)</th>
<th>Open collector outputs (NPN)</th>
<th>Push-pull outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating frequency</td>
<td>300 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>VW3A3401</td>
<td>VW3A3403</td>
<td>VW3A3405</td>
</tr>
<tr>
<td>5 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VW3A3402</td>
<td>VW3A3404</td>
<td>VW3A3406</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>VW3A3407</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Dialog accessories

### Accessory

<table>
<thead>
<tr>
<th>Description</th>
<th>Remote graphic display terminal</th>
<th>Remote mounting kit (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All the mechanical hardware and accessories.</td>
<td>This display terminal is attached to the front of the drive. It includes the integrated 7-segment display terminal for drives supplied without a graphic display terminal.</td>
<td>A remote mounting kit for mounting on an enclosure door with IP54 degree of protection. It includes all the mechanical hardware and accessories.</td>
</tr>
</tbody>
</table>

**Catalog number**

| VW3A1101 | VW3A1102 |

(1) Use a VW3A1104Rpp remote-mounting connection cable, to be ordered separately (please consult the “Soft starters and variable speed drives” catalog).

## Additional EMC input filters

The additional EMC input filters can be used to meet the requirements of the EMC “products” standard IEC/EN 61800-3, edition 2, category C2 or C3 in environment 1 or 2.

### Type of drive

<table>
<thead>
<tr>
<th>Maximum length of shielded cable (1)</th>
<th>Three phase 200–240 V 50/60 Hz</th>
<th>380–480 V 50/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>Class B</td>
<td></td>
</tr>
<tr>
<td>ATV71HD07M3–HU15M3</td>
<td>VW3A4401</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV71HD22M3–HU40M3</td>
<td>VW3A4402</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV71HU05M3</td>
<td>VW3A4403</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV71HU75M3</td>
<td>VW3A4404</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV71HD11M3X, HD15M3X</td>
<td>VW3A4405</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV71HD18M3X, HD22M3X</td>
<td>VW3A4406</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV71HD30M3X–HD45M3X</td>
<td>VW3A4408</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV71HD55M3X, HD75M3X</td>
<td>VW3A4410</td>
<td>100 m</td>
</tr>
<tr>
<td>ATV71HD07M4–pU22N4, ATV71P075N4–pU22N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV71HD07M4–pD15N4, ATV71P075N4–pD15N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV71HD07M4–pD18N4, ATV71P075N4–pD18N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV71HD07M4–pD37N4, ATV71P075N4–pD37N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV71HD07M4–pD75N4, ATV71P075N4–pD75N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV71HD07M4–pE5C13N4, ATV71P075N4–pE5C13N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV71HD07M4–pE5C16N4, ATV71P075N4–pE5C16N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV71HD07M4–pE5C22N4, ATV71P075N4–pE5C22N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV71HD07M4–pE5C31N4, ATV71P075N4–pE5C31N4</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ATV71HD07M4–pE5C50N4, ATV71P075N4–pE5C50N4</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

1) Maximum lengths for shielded cables connecting motors to drives for a switching frequency of 0.5 to 12 kHz. These limits are given as examples only as they vary depending on the stray capacitance of the motors and the cables used.

---

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
# Altivar 71

## 0.5–700 Hp

## 0.37–500 kW

### Line reactors

<table>
<thead>
<tr>
<th>Dimensions (mm)</th>
<th>width x height x depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size 1</td>
<td>203 x 203 x 152</td>
</tr>
<tr>
<td>Size 2</td>
<td>381 x 330 x 330</td>
</tr>
<tr>
<td>Size 3</td>
<td>610 x 432 x 432</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Motor Power</th>
<th>HP</th>
<th>Line reactors for variable torque or constant torque applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>RL00812</td>
<td>Size 1</td>
</tr>
<tr>
<td>1</td>
<td>RL01212</td>
<td>Size 1</td>
</tr>
<tr>
<td>2</td>
<td>RL01812</td>
<td>Size 1</td>
</tr>
<tr>
<td>3</td>
<td>RL02512</td>
<td>Size 2</td>
</tr>
<tr>
<td>(3 kW)</td>
<td>RL03512</td>
<td>Size 2</td>
</tr>
<tr>
<td>5</td>
<td>RL04512</td>
<td>Size 2</td>
</tr>
<tr>
<td>7.5</td>
<td>RL06012</td>
<td>Size 2</td>
</tr>
<tr>
<td>10</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>15</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>20</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>25</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>30</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>40</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>50</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>60</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>75</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>100</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>125</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>150</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>200</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>250</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>300</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>350-400</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>450-500</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

For other versions or requirements above 500 Hp, please consult your nearest Schneider Electric/Square D sales office.
### Motor protecting output filters for variable torque or constant torque applications

#### Dimensions (mm) width x height x depth

<table>
<thead>
<tr>
<th>Size</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size 1</td>
<td>311 x 318 x 171</td>
</tr>
<tr>
<td>Size 2</td>
<td>486 x 394 x 394</td>
</tr>
<tr>
<td>Size 3</td>
<td>562 x 521 x 619</td>
</tr>
</tbody>
</table>

#### Supply voltage

<table>
<thead>
<tr>
<th>Motor Power</th>
<th>Hp</th>
<th>Motor protecting output filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–2</td>
<td>KLCUL4A1</td>
<td>Size 1</td>
</tr>
<tr>
<td>3</td>
<td>KLCUL6A1</td>
<td>Size 1</td>
</tr>
<tr>
<td>5</td>
<td>KLCUL8A1</td>
<td>Size 1</td>
</tr>
<tr>
<td>7.5</td>
<td>KLCUL12A1</td>
<td>Size 1</td>
</tr>
<tr>
<td>10</td>
<td>KLCUL16A1</td>
<td>Size 1</td>
</tr>
<tr>
<td>15</td>
<td>KLCUL25A1</td>
<td>Size 1</td>
</tr>
<tr>
<td>20–25</td>
<td>KLCUL35A1</td>
<td>Size 1</td>
</tr>
<tr>
<td>30</td>
<td>KLCUL45A1</td>
<td>Size 1</td>
</tr>
<tr>
<td>40</td>
<td>KLCUL55A1</td>
<td>Size 1</td>
</tr>
<tr>
<td>50–60</td>
<td>KLCUL80A1</td>
<td>Size 2</td>
</tr>
<tr>
<td>75</td>
<td>KLCUL110A1</td>
<td>Size 2</td>
</tr>
<tr>
<td>100</td>
<td>KLCUL130A1</td>
<td>Size 2</td>
</tr>
<tr>
<td>125</td>
<td>KLCUL160A1</td>
<td>Size 2</td>
</tr>
<tr>
<td>150</td>
<td>KLCUL200A1</td>
<td>Size 2</td>
</tr>
<tr>
<td>200</td>
<td>KLCUL250A1</td>
<td>Size 2</td>
</tr>
<tr>
<td>250</td>
<td>KLCUL300A1</td>
<td>Size 2</td>
</tr>
<tr>
<td>300</td>
<td>KLCUL360A1</td>
<td>Size 2</td>
</tr>
<tr>
<td>350</td>
<td>KLCUL420A1</td>
<td>Size 2</td>
</tr>
<tr>
<td>400</td>
<td>KLCUL480A1</td>
<td>Size 2</td>
</tr>
<tr>
<td>450–500</td>
<td>KLCUL600A1</td>
<td>Size 2</td>
</tr>
</tbody>
</table>

For other versions or requirements above 500 Hp, please consult your nearest Schneider Electric/Square D sales office.
Altivar/Altistart

Dialog and communication
PowerSuite software workshop

Multilingual configuration software

<table>
<thead>
<tr>
<th>Configuration of drives and starters</th>
<th>Altistart 48, Altivar (except Altivar 21) and TeSys model U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Microsoft Windows®</td>
</tr>
<tr>
<td>Languages</td>
<td>English - French - German - Italian - Spanish</td>
</tr>
<tr>
<td>Catalog number</td>
<td>PowerSuite CD-ROM (1) VW3A8104</td>
</tr>
<tr>
<td></td>
<td>PowerSuite update CD-ROM VW3A8105</td>
</tr>
<tr>
<td></td>
<td>Connection kit for serial port VW3A8106</td>
</tr>
</tbody>
</table>

(1) Contents: Software, technical documentation and the ABC configurator program.

Accessories

Multilingual configuration software

<table>
<thead>
<tr>
<th>Description</th>
<th>Bluetooth® adaptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>Modbus - Bluetooth®</td>
</tr>
</tbody>
</table>

(1) Can also be used to communicate between a Twido PLC and the TwidoSoft software workshop.

CANopen communication bus: connection accessories

<table>
<thead>
<tr>
<th>Drives</th>
<th>Tap junction VW3CANTAP2</th>
<th>CANopen adaptor</th>
<th>CANopen connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATV31</td>
<td>2 RJ45 connectors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATV61 and ATV71</td>
<td>9-way female SUB-D</td>
<td>RJ 45 to 9-way male SUB-D output for 2 cables at 180°</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>VW3CANCARR03 VW3CANCARR1</td>
<td>VW3CANA71</td>
<td>VW3CANKCDF180T</td>
</tr>
</tbody>
</table>

CANopen cables

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>CANopen LSZH</th>
<th>CANopen UL/IEC332-2</th>
<th>LSZH HD flexible CANopen</th>
</tr>
</thead>
<tbody>
<tr>
<td>L = 50 m</td>
<td>TSXCANCA50</td>
<td>TSXCANCB50</td>
<td>TSXCANCD50</td>
</tr>
<tr>
<td>L = 100 m</td>
<td>TSXCANCA100</td>
<td>TSXCANCB100</td>
<td>TSXCANCD100</td>
</tr>
<tr>
<td>L = 300 m</td>
<td>TSXCANCA300</td>
<td>TSXCANCB300</td>
<td>TSXCANCD300</td>
</tr>
</tbody>
</table>

1 PLC
2 CANopen trunk cable TSXCANCpp
3 CANopen tap junction VW3CANTAP2
4 CANopen drop cable VW3CANCARRpp
5 CANopen connector VW3CANKCDF180T
6 CANopen adaptor VW3CANA71
Modbus communication bus: connection accessories

<table>
<thead>
<tr>
<th>Starters/drives</th>
<th>Splitter box</th>
<th>Tap junction</th>
<th>Subscriber socket</th>
<th>Line terminators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altistart 48, Altivar 21, 31, 61, 71</td>
<td>LU9GC3</td>
<td>TSXSCA50</td>
<td>TSXSCA62</td>
<td>VW3A8306RC</td>
</tr>
</tbody>
</table>

Catalog number: VW3A8306DRC

Modbus connection

<table>
<thead>
<tr>
<th>Starters/drives</th>
<th>Cables</th>
<th>Double shielded twisted pair cables RS 485</th>
<th>T-junction boxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altistart 48, Altivar 21, 31, 61, 71</td>
<td>VW3A8306R03</td>
<td>--</td>
<td>VW3A8306TF03</td>
</tr>
<tr>
<td></td>
<td>VW3A8306R10</td>
<td>--</td>
<td>VW3A8306TF10</td>
</tr>
<tr>
<td></td>
<td>VW3A8306R30</td>
<td>VW3A8306D30</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>--</td>
<td>TSXCSA100</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>--</td>
<td>TSXCSA200</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>--</td>
<td>TSXCSA500</td>
</tr>
</tbody>
</table>

Connection via splitter boxes and RJ 45 connectors
1 PLC
2 Modbus cable depending on the type of PLC
3 Modbus splitter box LU9GC3
4 Modbus drop cables VW3A8306Rpp
5 Line terminators VW3A8306RC
6 Modbus T-junction boxes VW3A8306TFpp (with cable)
7 Modbus drop cable VW3A8306Rpp
## Altivar/Altistart

### Dialog and communication

#### Communication modules

<table>
<thead>
<tr>
<th>Starters/drives</th>
<th>Ethernet/Modbus</th>
<th>DeviceNet/Modbus</th>
<th>Fipio/Modbus</th>
<th>ProfibusDP/Modbus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altistart 48/Altivar 31</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>ABC configurator program</td>
</tr>
<tr>
<td>Parameter setting</td>
<td>Bridge</td>
<td>TSXETG100</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Gateway</td>
<td>–</td>
<td>LUFPP9</td>
<td>LUFPP1</td>
</tr>
<tr>
<td>Catalog number</td>
<td>–</td>
<td>LUFPP7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter setting</th>
<th>Catalog number</th>
<th>Bridge</th>
<th>DeviceNet/Modbus</th>
<th>Fipio/Modbus</th>
<th>ProfibusDP/Modbus</th>
</tr>
</thead>
<tbody>
<tr>
<td>L = 0.3 m</td>
<td>VW3A8306R03</td>
<td>VW3A8306R03</td>
<td>VW3A8306R03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L = 1 m</td>
<td>VW3A8306R10</td>
<td>VW3A8306R10</td>
<td>VW3A8306R10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L = 3 m</td>
<td>VW3A8306R30</td>
<td>VW3A8306R30</td>
<td>VW3A8306R30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

1. To network
2. Communication modules
3. PLC cables VW3A8 306 Rpp, VW3 P07 306 R10
4. Modbus splitter box LU9 GC3
5. Modbus drop cables VW3A8 306 Rpp
6. Line terminator VW3A8 306 RC
## Communication cards and modules

### Drives: Altivar 61, Altivar 71

<table>
<thead>
<tr>
<th>Feature</th>
<th>Ethernet</th>
<th>Modbus/Uni-Telway</th>
<th>Fipio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum number of drives controlled</td>
<td>–</td>
<td>Uni-Telway: 27</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>10/100 Mbps</td>
<td>Modbus:31</td>
<td></td>
</tr>
<tr>
<td>Transmission speed</td>
<td>4800–19200 bps</td>
<td>1 Mbps</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>VW3A3310</td>
<td>VW3A3303</td>
<td>VW3A311</td>
</tr>
</tbody>
</table>

### Drives: Altivar 61, Altivar 71

<table>
<thead>
<tr>
<th>Feature</th>
<th>Modbus Plus</th>
<th>Profibus DP</th>
<th>DeviceNet</th>
<th>INTERBus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum number of drives controlled</td>
<td>64</td>
<td>126</td>
<td>63</td>
<td>64</td>
</tr>
<tr>
<td>Transmission speed</td>
<td>1 Mbps</td>
<td>9600 bps–12 Mbps</td>
<td>125/250/500 Kbps</td>
<td>1 Mbps</td>
</tr>
<tr>
<td>Catalog number</td>
<td>VW3A3302</td>
<td>VW3A3307</td>
<td>VW3A3309</td>
<td>VW3A3304</td>
</tr>
</tbody>
</table>

### Drives: Altivar 61

<table>
<thead>
<tr>
<th>Feature</th>
<th>LONWORKS</th>
<th>METASYS N2</th>
<th>APOGEE FLN</th>
<th>BACnet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector</td>
<td>1 removable 3-way screw terminal</td>
<td>1 removable 4-way screw terminal</td>
<td>1 removable 4-way screw terminal</td>
<td>1 removable 4-way screw terminal</td>
</tr>
<tr>
<td>Transmission speed</td>
<td>78 Kbps</td>
<td>~</td>
<td>~</td>
<td>~</td>
</tr>
<tr>
<td>Catalog number</td>
<td>VW3A3312</td>
<td>VW3A3313</td>
<td>VW3A3314</td>
<td>VW3A3315</td>
</tr>
</tbody>
</table>

For other connection accessories, please consult the “Soft starters and variable speed drives” catalog.
## Lexium™

### Motion control

#### Modules for Modicon Premium platform

<table>
<thead>
<tr>
<th>Module type</th>
<th>For translators (amplifier for stepper motor)</th>
<th>For analog control servomotors (for asynchronous and brushless motors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control outputs</td>
<td>RS 422 +/- 10 V</td>
<td>+/- 10 V</td>
</tr>
<tr>
<td>Compatible with drives</td>
<td>Lexium 05</td>
<td>Lexium 05/17D</td>
</tr>
<tr>
<td>Functions</td>
<td>Linear axes</td>
<td>Limited</td>
</tr>
<tr>
<td>Slave axes</td>
<td>–</td>
<td>With static ratio</td>
</tr>
<tr>
<td>Frequency for each axis</td>
<td>187 kHz</td>
<td>500 kHz with incremental encoder, 200 kHz with absolute encoder (SSI serial or parallel output)</td>
</tr>
<tr>
<td>Number of axes</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Catalog number</td>
<td>TSXCFY11</td>
<td>TSXCFY21</td>
</tr>
</tbody>
</table>

(1) With linear interpolation on 2 or 3 axes.

---

### Servomotors with SERCOS® digital ring

<table>
<thead>
<tr>
<th>Module type</th>
<th>Servomotors with SERCOS® digital ring (for brushless motors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control outputs</td>
<td>SERCOS® network ring</td>
</tr>
<tr>
<td>Compatible with ranges</td>
<td>Lexium 17D</td>
</tr>
<tr>
<td>Functions</td>
<td>Linear or infinite independent axes, slave axes with cam profile or ratio</td>
</tr>
<tr>
<td>Processing</td>
<td>4 sets of axes with linear interpolation from 2 to 8 axes</td>
</tr>
<tr>
<td>Frequency for each axis</td>
<td>4 Mb SERCOS® network ring</td>
</tr>
<tr>
<td>Number of axes</td>
<td>8 (3)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>TSXCSY84</td>
</tr>
</tbody>
</table>

(2) TSXCSY85 module supplied with TJE trajectory editor: linear trajectories with links between segments according to polynomial or circular interpolation and circular trajectories.
(3) 8 real axes, 4 imaginary axes and 4 remote axes.
(4) 16 axes (real axes, imaginary and remote axes).
**SERCOS® Connection Accessories**

<table>
<thead>
<tr>
<th>Type</th>
<th>Fiber optic cables</th>
<th>For Lexium 15 drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>Pre-equipped cable with SMA connectors</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L = 0.3 m</td>
<td>990MCO00001</td>
<td></td>
</tr>
<tr>
<td>L = 0.9 m</td>
<td>990MCO00003</td>
<td></td>
</tr>
<tr>
<td>L = 1.5 m</td>
<td>990MCO00005</td>
<td></td>
</tr>
<tr>
<td>L = 4.5 m</td>
<td>990MCO00015</td>
<td></td>
</tr>
<tr>
<td>L = 16.5 m</td>
<td>990MCO00055</td>
<td></td>
</tr>
<tr>
<td>L = 22.5 m</td>
<td>990MCO00075</td>
<td></td>
</tr>
<tr>
<td>L = 37.5 m</td>
<td>990MCO00125</td>
<td></td>
</tr>
</tbody>
</table>
## Servo drive type

<table>
<thead>
<tr>
<th>Servo drive type</th>
<th>Digital for servo motors</th>
<th>Servo drive type</th>
<th>Digital for servo motors</th>
<th>Servo drive type</th>
<th>Digital for servo motors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>110–120 VAC single phase</td>
<td>Supply voltage</td>
<td>200–240 VAC 3-phase</td>
<td>Supply voltage</td>
<td>380–480 VAC 3-phase</td>
</tr>
<tr>
<td>Output current</td>
<td>Continuous (RMS)</td>
<td>Output current</td>
<td>Continuous (RMS)</td>
<td>Output current</td>
<td>Continuous (RMS)</td>
</tr>
<tr>
<td></td>
<td>4 A</td>
<td></td>
<td>8 A</td>
<td></td>
<td>6 A</td>
</tr>
<tr>
<td></td>
<td>Maximum (Peak)</td>
<td></td>
<td>10 A</td>
<td></td>
<td>14 A</td>
</tr>
<tr>
<td>Safety function</td>
<td>Integrated “Power Removal”</td>
<td>Safety function</td>
<td>Integrated “Power Removal”</td>
<td>Safety function</td>
<td>Integrated “Power Removal”</td>
</tr>
<tr>
<td>Braking resistor</td>
<td>Integrated</td>
<td>Braking resistor</td>
<td>Integrated</td>
<td>Braking resistor</td>
<td>Integrated</td>
</tr>
<tr>
<td>EMC filter</td>
<td>Integrated</td>
<td>EMC filter</td>
<td>Not integrated</td>
<td>EMC filter</td>
<td>Integrated</td>
</tr>
<tr>
<td>Catalog number with Integrated CANopen (1)</td>
<td>LXM05AD10F1</td>
<td>Catalog number with Integrated CANopen (1)</td>
<td>LXM05AD17F1</td>
<td>Catalog number with Integrated CANopen (1)</td>
<td>LXM05AD28F1</td>
</tr>
</tbody>
</table>

(1) To order a Lexium 05 servo drive with PROFIBUS DP bus, replace “A” in the catalog number by “B”. Exemple LXM05AD14N4 become LXM05BD14N4.
### Motion control

#### Additional EMC input filters

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>Single phase</th>
<th>3-phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum cable length</td>
<td>Category C3 40 m</td>
<td>40 m</td>
</tr>
<tr>
<td>Category C2 20 m</td>
<td>20 m</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>Drives Size 1</td>
<td>LXM05AD10F1, LXM05AD10M2</td>
</tr>
<tr>
<td></td>
<td>Filters</td>
<td>VW3A31401</td>
</tr>
<tr>
<td>Drives Size 2</td>
<td>LXM05AD17F1, LXM05AD17M2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Filters</td>
<td>VW3A31403</td>
</tr>
<tr>
<td>Drives Size 3</td>
<td>LXM05AD28F1, LXM05AD28M2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Filters</td>
<td>VW3A31405</td>
</tr>
<tr>
<td>Drives Size 4</td>
<td>~</td>
<td>LXM05AD57N4</td>
</tr>
<tr>
<td>Filters</td>
<td>~</td>
<td>VW3A31407</td>
</tr>
</tbody>
</table>

### Line inductances

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>Single phase</th>
<th>200–240 V</th>
<th>300–480 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>Drives Size 1</td>
<td>LXM05AD10F1, LXM05AD10M2</td>
<td>LXM05AD10M3X</td>
</tr>
<tr>
<td></td>
<td>Inductances</td>
<td>V21L007UM50</td>
<td>VW3A4S51</td>
</tr>
<tr>
<td></td>
<td>Drives Size 2</td>
<td>LXM05AD17F1, LXM05AD17M2</td>
<td>LXM05AD17M3X</td>
</tr>
<tr>
<td></td>
<td>Inductances</td>
<td>V21L018UM20</td>
<td>VW3A4S52</td>
</tr>
<tr>
<td></td>
<td>Drives Size 3</td>
<td>LXM05AD28F1, LXM05AD28M2</td>
<td>LXM05AD28M3X</td>
</tr>
<tr>
<td></td>
<td>Inductances</td>
<td>V21L018UM20</td>
<td>VW3A4S53</td>
</tr>
<tr>
<td></td>
<td>Drives Size 4</td>
<td>~</td>
<td>~</td>
</tr>
<tr>
<td>Inductances</td>
<td>~</td>
<td>LXM05AD57N4</td>
<td></td>
</tr>
</tbody>
</table>

### Holding brake controller

- Controller type: Holding brake
- Power supply: 24 VDC
- Maximum current: 1.6 A
- Maximum power: 50 W
- Degree of protection: IP20
- Catalog number: VW3M3103

### External braking resistors

<table>
<thead>
<tr>
<th>Resistor type</th>
<th>External braking for Lexium 05 drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance</td>
<td>10 Ω</td>
</tr>
<tr>
<td>Power</td>
<td>100 W</td>
</tr>
<tr>
<td>Catalog number</td>
<td>A7601R07</td>
</tr>
</tbody>
</table>
| (1) In order to select the braking resistor, you need to calculate the continuous and peak power to be dissipated in it. Please consult our Lexium 05 catalog.
# Lexium 05

## Motion control

**PowerSuite software workshop**

### Multilingual configuration software

<table>
<thead>
<tr>
<th>Configuration of drives and softstarters</th>
<th>Lexium 05 / Altivar / Altistart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Microsoft Windows ®</td>
</tr>
<tr>
<td>Languages</td>
<td>English - French - German - Italian - Spanish</td>
</tr>
<tr>
<td>Catalog number</td>
<td>PowerSuite CD-ROM (1)</td>
</tr>
</tbody>
</table>

(1) A dedicated PowerSuite software for Lexium is delivered with each servo drive.

### CANopen communication bus connection

#### Via spring terminal (CN1)

**Twido**

<table>
<thead>
<tr>
<th>Connector type</th>
<th>Via spring terminal (CN1)</th>
<th>Type of cable</th>
<th>UL certification</th>
<th>For heavy duty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector IP20</td>
<td>Bended at 90° SUB-D</td>
<td>Halogen free</td>
<td>TSXCANCA50</td>
<td>TSXCANCD50</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>TSXCANCB50</td>
<td>TSXCANCD50</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>TSXCANCA100</td>
<td>TSXCANCB100</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>TSXCANCA300</td>
<td>TSXCANCB300</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>TSXCANCA50</td>
<td>TSXCANCD50</td>
</tr>
</tbody>
</table>

#### Via RJ45 connector

**Twido**

<table>
<thead>
<tr>
<th>Connection type</th>
<th>Description</th>
<th>2 RJ45 ports</th>
<th>2 RJ45 connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Junction box</strong></td>
<td>1 SUB-D connector</td>
<td>2 CANopen cable standard</td>
<td>3 Junction box</td>
</tr>
<tr>
<td><strong>Cable</strong></td>
<td>Catalog number</td>
<td>VW3CANTAP2</td>
<td>VW3CANCARR03</td>
</tr>
<tr>
<td>L = 0.3 m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L = 100 m</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

For other versions, please consult with your local Schneider Electric/ Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)

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**For PC**

- **Lexium 05**
- **Altivar**
- **Altistart**
- **Microsoft Windows ®**
- **Languages**: English - French - German - Italian - Spanish
- **Catalog number**: PowerSuite CD-ROM (1)"
# Lexium 05

## Modbus control

### Modbus serial link connection accessories

#### Drives

<table>
<thead>
<tr>
<th>Connection type</th>
<th>Description</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Splitter box with 10 RJ45 connectors and 1 screw terminal block</td>
<td>LU9GC3</td>
<td></td>
</tr>
<tr>
<td>Junction box for drop cable</td>
<td>VW3A8306D30</td>
<td></td>
</tr>
<tr>
<td>Subscriber socket for drop cable</td>
<td>VW3A8306</td>
<td></td>
</tr>
</tbody>
</table>

#### Line terminators

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>For RJ45 connector</td>
<td>VW3A8306RC</td>
</tr>
<tr>
<td>For screw terminals</td>
<td>VW3A8306DRC</td>
</tr>
</tbody>
</table>

#### T-junction boxes

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>With integrated cable 0.3 m</td>
<td>VW3A8306TF03</td>
</tr>
<tr>
<td>With integrated cable 1 m</td>
<td>VW3A8306TF10</td>
</tr>
</tbody>
</table>

#### Cables

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 RJ 45 connectors</td>
<td>VW3A8306R03</td>
</tr>
<tr>
<td>1 m</td>
<td>VW3A8306R10</td>
</tr>
<tr>
<td>3 m</td>
<td>VW3A8306R30</td>
</tr>
</tbody>
</table>

#### RS 485 shielded twisted double pair cables

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 RJ45 connector and one stripped end</td>
<td>VW3A8306D30</td>
</tr>
<tr>
<td>Supplied without connector</td>
<td>TSXCSA100</td>
</tr>
<tr>
<td>100 m</td>
<td></td>
</tr>
<tr>
<td>200 m</td>
<td>TSXCSA200</td>
</tr>
<tr>
<td>500 m</td>
<td>TSXCSA500</td>
</tr>
</tbody>
</table>

**Connection with RJ45 splitter box and screw terminals**

1. Controller Twido
2. Cable for controller Twido serial link
3. Modbus splitter box LU9 GC3
4. Modbus drop cables VW3 A8 306Rpp
5. Line terminators VW3 A8 306RC
6. Modbus T-junction boxes VW3 A8 306TFpp (with cable)

**Connection with junction box or subscriber sockets**

1. Controller Twido
2. Cable for controller Twido serial link
3. Modbus cables TSX CSA p00
4. T-junction box TSX SCA 50
5. Subscriber socket TSX SCA 62
6. Modbus drop cables VW3 A8 306
7. Modbus drop cables VW3 A8 306 D30

Connection via screw terminals

In this case, a Modbus drop cable (VW3 A8 306D30) and line terminators (VW3 A8 306DRC) are used.
## Lexium 05

### BSH servo motors

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Torque at standstill</th>
<th>Nominal speed</th>
<th>D10F1</th>
<th>D17F1</th>
<th>D28F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSH 0551T</td>
<td>0.5 Nm</td>
<td>3000 min⁻¹</td>
<td>1.4 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0552M</td>
<td>0.9 Nm</td>
<td>3000 min⁻¹</td>
<td>1.8 Nm</td>
<td>2.7 Nm</td>
<td></td>
</tr>
<tr>
<td>BSH 0552P</td>
<td>0.9 Nm</td>
<td>3000 min⁻¹</td>
<td>1.8 Nm</td>
<td>3.5 Nm</td>
<td></td>
</tr>
<tr>
<td>BSH 0553M</td>
<td>1.3 Nm</td>
<td>3000 min⁻¹</td>
<td>3.3 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0553P</td>
<td>1.3 Nm</td>
<td>3000 min⁻¹</td>
<td>3.2 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0553T</td>
<td>1.3 Nm</td>
<td>3000 min⁻¹</td>
<td>3.2 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0701P</td>
<td>1.4 Nm</td>
<td>3000 min⁻¹</td>
<td>2.4 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0702M</td>
<td>2.1 Nm</td>
<td>3000 min⁻¹</td>
<td>4.1 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0702P</td>
<td>2.1 Nm</td>
<td>3000 min⁻¹</td>
<td>4.1 Nm</td>
<td>5.6 Nm</td>
<td></td>
</tr>
<tr>
<td>BSH 0702T</td>
<td>2.1 Nm</td>
<td>3000 min⁻¹</td>
<td>4.1 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0703M</td>
<td>2.8 Nm</td>
<td>4000 min⁻¹</td>
<td>3.2 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0703P</td>
<td>2.8 Nm</td>
<td>4000 min⁻¹</td>
<td>3.9 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0703T</td>
<td>2.8 Nm</td>
<td>4000 min⁻¹</td>
<td>3.9 Nm</td>
<td>5.6 Nm</td>
<td></td>
</tr>
<tr>
<td>BSH 1001T</td>
<td>1.4 Nm</td>
<td>1500 min⁻¹</td>
<td>2.6 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1001P</td>
<td>3.4 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1001T</td>
<td>3.4 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1001P</td>
<td>3.4 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1002P</td>
<td>5.5 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1002T</td>
<td>5.5 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1002P</td>
<td>5.5 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
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<tr>
<td>BSH 1003M</td>
<td>7.8 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1003P</td>
<td>7.8 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1003T</td>
<td>7.8 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### BSH servo drives for Lexium 05

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Torque at standstill</th>
<th>Nominal speed</th>
<th>D10M3X</th>
<th>D17M3X</th>
<th>D42M3X</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSH 0551T</td>
<td>0.5 Nm</td>
<td>6000 min⁻¹</td>
<td>1.4 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0552M</td>
<td>0.9 Nm</td>
<td>1500 min⁻¹</td>
<td>2.2 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0552P</td>
<td>0.9 Nm</td>
<td>4000 min⁻¹</td>
<td>2.7 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0553M</td>
<td>1.3 Nm</td>
<td>6000 min⁻¹</td>
<td>3.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0553P</td>
<td>1.3 Nm</td>
<td>3000 min⁻¹</td>
<td>2.7 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0553T</td>
<td>1.3 Nm</td>
<td>3000 min⁻¹</td>
<td>3.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0701P</td>
<td>1.4 Nm</td>
<td>3000 min⁻¹</td>
<td>2.6 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0702M</td>
<td>2.1 Nm</td>
<td>3000 min⁻¹</td>
<td>4.1 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0702P</td>
<td>2.1 Nm</td>
<td>3000 min⁻¹</td>
<td>4.1 Nm</td>
<td>6.7 Nm</td>
<td></td>
</tr>
<tr>
<td>BSH 0702T</td>
<td>2.1 Nm</td>
<td>3000 min⁻¹</td>
<td>4.1 Nm</td>
<td>6.7 Nm</td>
<td></td>
</tr>
<tr>
<td>BSH 0703M</td>
<td>2.8 Nm</td>
<td>1500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0703P</td>
<td>2.8 Nm</td>
<td>1500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 0703T</td>
<td>2.8 Nm</td>
<td>1500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1001T</td>
<td>1.4 Nm</td>
<td>1500 min⁻¹</td>
<td>2.6 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1001P</td>
<td>3.4 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1001T</td>
<td>3.4 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1001P</td>
<td>3.4 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1002P</td>
<td>5.5 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1002T</td>
<td>5.5 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1002P</td>
<td>5.5 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1003M</td>
<td>7.8 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1003P</td>
<td>7.8 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BSH 1003T</td>
<td>7.8 Nm</td>
<td>2500 min⁻¹</td>
<td>8.5 Nm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Availability of BSH 055 and BSH 205 servomotors: 1st quarter 2006.

1.4 Nm: This value corresponds to the peak torque at standstill that can be provided by the Lexium 05 servo drive/BSH servo motor combination.

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
# Motion control
## BSH servo motors for Lexium 05

To order a BSH motor, please use these catalog numbers:

<table>
<thead>
<tr>
<th>Flange size</th>
<th>Catalog number to be completed:</th>
<th>BSH</th>
<th>ppp</th>
<th>p</th>
<th>p</th>
<th>p</th>
<th>p</th>
<th>p</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 mm</td>
<td>A</td>
<td>055</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70 mm</td>
<td></td>
<td>070</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 mm</td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140 mm</td>
<td></td>
<td>140</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length (Number of magnet stacks)</th>
<th>205 mm</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>205</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Winding type</th>
<th>Flange size</th>
<th>55 mm</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest speed</td>
<td>Flange size</td>
<td>70 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Medium speed</td>
<td>Flange size</td>
<td>100 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Highest speed</td>
<td>Flange size</td>
<td>140 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shaft (1)</th>
<th>Flange size</th>
<th>55 mm</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>w/o key (smooth)</td>
<td>Flange size</td>
<td>70 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>w/ key : IP40 (IP65)</td>
<td>Flange size</td>
<td>100 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>w/ key : IP65</td>
<td>Flange size</td>
<td>140 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Encoder</th>
<th>Flange size</th>
<th>55 mm</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute SinCos, single turn (128 periods per revolution)</td>
<td>Flange size</td>
<td>70 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Absolute SinCos multi turn (4096 revolutions)</td>
<td>Flange size</td>
<td>100 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Flange size</td>
<td>140 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Brake</th>
<th>Flange size</th>
<th>55 mm</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>w/o brake</td>
<td>Flange size</td>
<td>70 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>with brake</td>
<td>Flange size</td>
<td>100 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Flange size</td>
<td>140 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connection System</th>
<th>Flange size</th>
<th>55 mm</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight connector</td>
<td>Flange size</td>
<td>70 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Right angle turnable connector</td>
<td>Flange size</td>
<td>100 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Flange size</td>
<td>140 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Flange size</th>
<th>55 mm</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>International standard mounting</td>
<td>Flange size</td>
<td>70 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Flange size</td>
<td>100 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Flange size</td>
<td>140 mm</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

(1) Other possibilities to be detailed: see www.us.telemecanique.com

---

**Connecting cables**

<table>
<thead>
<tr>
<th>Cable type</th>
<th>Power cable (motor side)</th>
<th>Encoder cable (2 connectors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servo motor type</td>
<td>BSH...</td>
<td>Power cable</td>
</tr>
<tr>
<td>Servo drive type</td>
<td>LXM05...</td>
<td>05pp / 07pp / 01pp / 1401T / 1402T / 1403M / 1404M</td>
</tr>
<tr>
<td>Composition</td>
<td>4x1.5 mm² + 2x1 mm²</td>
<td>4x2.5 mm² + 2x1 mm²</td>
</tr>
<tr>
<td>Catalog number</td>
<td>L = 3 m</td>
<td>VW3M5101R30</td>
</tr>
<tr>
<td></td>
<td>L = 5 m</td>
<td>VW3M5101R50</td>
</tr>
<tr>
<td></td>
<td>L = 10 m</td>
<td>VW3M5101R100</td>
</tr>
<tr>
<td></td>
<td>L = 15 m</td>
<td>VW3M5101R100</td>
</tr>
<tr>
<td></td>
<td>L = 20 m (2)</td>
<td>VW3M5101R200</td>
</tr>
</tbody>
</table>

(2) For cable lengths of > 20 m, see www.us.telemecanique.com.
# Lexium 17D

## Motion control
### Drives for SER and BPH/BPL brushless motors

<table>
<thead>
<tr>
<th>Drive type</th>
<th>Digital for SER and BPH/BPL brushless motors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexium 17D</td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>208–480 VAC 3-phase 50/60 Hz (230 VAC single phase authorized with derating)</td>
</tr>
<tr>
<td>Output current</td>
<td>Continuous</td>
</tr>
<tr>
<td></td>
<td>1.5 A</td>
</tr>
<tr>
<td></td>
<td>Maximum (discontinuous, 5 s)</td>
</tr>
<tr>
<td>Anti-start</td>
<td>With or without</td>
</tr>
<tr>
<td>Braking resistor</td>
<td>Integrated</td>
</tr>
<tr>
<td>EMC filter</td>
<td>Integrated</td>
</tr>
<tr>
<td>Catalog number (1)</td>
<td>MDHA1004000</td>
</tr>
</tbody>
</table>

(1) For a drive without anti-start function, replace the p at the end of the catalog number with N, or for one with integrated anti-start function, with A.

## Drive type

| Supply voltage | 208–480 VAC 3-phase |
| Output current | Continuous |
|               | 40 A | 70 A |
| Maximum (discontinuous, 5 s) | 80 A | 140 A |
| Anti-start | Integrated |
| Braking resistor | Not integrated |
| EMC filter | Not integrated |
| Catalog number | MDHA1112A00 | MDHA1198A00 |

---

## Control and connectivity of Lexium 17D drives

<table>
<thead>
<tr>
<th>Drive connectivity</th>
<th>Connectivity type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated</td>
<td>+/- 10 V, Pulse/direction, CANopen</td>
</tr>
<tr>
<td>Via an optional card (1 slot available)</td>
<td>High-speed SERCOS® digital ring</td>
</tr>
<tr>
<td></td>
<td>Profinet fieldbus</td>
</tr>
<tr>
<td></td>
<td>Modbus Plus network</td>
</tr>
<tr>
<td></td>
<td>Profibus DP fieldbus</td>
</tr>
<tr>
<td></td>
<td>CANopen machine bus (standard medium)</td>
</tr>
<tr>
<td></td>
<td>Card with 14 I/O for controlling the integrated position indexer</td>
</tr>
</tbody>
</table>

Catalog number:
- AM0SER001V000
- AM0FIP001V000
- AM0MBP001V000
- AM0PBS001V000
- AM02CA001V000
- AM0INIE001V000
Supply voltage

<table>
<thead>
<tr>
<th>Type of Lexium 17D HP drive</th>
<th>MDHA1112</th>
<th>MDHA1198</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input rms current</td>
<td>42 A</td>
<td>75 A</td>
</tr>
<tr>
<td>Catalog number</td>
<td>AM0EMC118</td>
<td>AM0EMC212</td>
</tr>
</tbody>
</table>

(1) Must be ordered with the drive, unless an isolation transformer is being used with IT connection.

Line reactors

Supply voltage

<table>
<thead>
<tr>
<th>Type of Lexium 17D HP drive</th>
<th>MDHA1112</th>
<th>MDHA1198</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input current</td>
<td>60 A</td>
<td>75 A</td>
</tr>
<tr>
<td>Catalog number(1)</td>
<td>AM0CHK170</td>
<td>AM0CHK212</td>
</tr>
</tbody>
</table>

(1) Must be ordered with the drive, unless an isolation transformer is being used with IT connection.

External braking resistors

Resistor type

<table>
<thead>
<tr>
<th>Drive type</th>
<th>MDHA1004/1008</th>
<th>MDHA1017/1028/1056</th>
<th>MDHA1112</th>
<th>MDHA1198</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance</td>
<td>33 Ω</td>
<td>33 Ω</td>
<td>15 Ω</td>
<td>10 Ω</td>
</tr>
<tr>
<td>Power</td>
<td>250 W</td>
<td>500 W</td>
<td>1500W</td>
<td>860 W</td>
</tr>
<tr>
<td>Catalog number (1)</td>
<td>AMORFE001V025</td>
<td>AMORFE001V050</td>
<td>AMORFE001V150</td>
<td>AMORFE002V066</td>
</tr>
</tbody>
</table>

(1) In order to select the braking resistor, you need to calculate the continuous and peak power to be dissipated in it. Please consult our Lexium 17 catalog.

Motor reactor

Supply voltage

<table>
<thead>
<tr>
<th>Type of Lexium 17D drive</th>
<th>MDHA1004/1008/1017/1028/1056</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td>Reactor for drive-motor cable length &gt; 25 m</td>
</tr>
<tr>
<td>Catalog number</td>
<td>AM0FIL001V056</td>
</tr>
</tbody>
</table>
Unilink software is used to configure, set parameters and make adjustments on Lexium MHDA drives according to the associated SER/BPH brushless motor and the requirements of the application. During these debugging phases, the PC-compatible terminal, supporting the Unilink software in Windows 95/98, 2000, NT 4.0 or XP, is connected to the MHDA drives via a serial link (9-way SUB-D connector marked X6).

There are three possible configurable operating modes:

- +/- 10 V analog control mode controlled by Premium or Quantum motion control module.
- Off line mode with integrated position indexer controlled by:
  - 5 1/2 D integrated in the Lexium 17D drive (or by 14 I/8 O option card)
  - CANopen, Fipio, Modbus Plus or Profibus DP bus
- SERCOS® mode, high-speed digital ring on optical fiber.

The initial screen providing access to the Unilink software services and functions is divided into three zones:

1. Banner at the top of the screen for accessing the main functions.
2. Mimic diagram for accessing configuration/parameter setting and realtime display of the various drive values.
3. Zone at the bottom of the screen indicating the drive status.

### Configuration and adjustment software

<table>
<thead>
<tr>
<th>Drive configuration</th>
<th>Lexium 17D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>Microsoft Windows®</td>
</tr>
<tr>
<td>Language</td>
<td>English, French, German, Italian and Spanish</td>
</tr>
<tr>
<td>Catalog number</td>
<td>CD-ROM (1)</td>
</tr>
</tbody>
</table>

(1) Contents: Unilink software + documentation.

### Accessories

<table>
<thead>
<tr>
<th>Type of accessory</th>
<th>Backup key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td>Saving and instant retrieval of drive parameters (without a PC)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>AM0PCM001V000</td>
</tr>
</tbody>
</table>

For other versions, please consult with your local Schneider Electric/Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
# Motion control

## SER brushless motors for Lexium 17D

<table>
<thead>
<tr>
<th>Motor type</th>
<th>SER brushless type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatible Lexium 17 drive type</td>
<td>MDHA1004p00</td>
</tr>
<tr>
<td>Torque at standstill</td>
<td></td>
</tr>
<tr>
<td>Mechanical continuous/peak speed</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>1.1/2.5 Nm 6000 rpm</td>
</tr>
<tr>
<td></td>
<td>SER39A4L7Sppppp</td>
</tr>
<tr>
<td></td>
<td>2.9/4.7 Nm 6000 rpm</td>
</tr>
<tr>
<td></td>
<td>SER39C4L3Sppppp</td>
</tr>
<tr>
<td></td>
<td>4.6/15.3 Nm 6000 rpm</td>
</tr>
<tr>
<td></td>
<td>SER3B4L5Sppppp</td>
</tr>
<tr>
<td></td>
<td>6.6/25 Nm 5800 rpm</td>
</tr>
<tr>
<td></td>
<td>SER3B4L5Sppppp</td>
</tr>
<tr>
<td></td>
<td>10/32 Nm 2500 rpm</td>
</tr>
<tr>
<td></td>
<td>SER3B4L5Sppppp</td>
</tr>
</tbody>
</table>

(1) Complete the catalog numbers using the table below.

To order an SER motor, complete the above catalog number:

<table>
<thead>
<tr>
<th>Catalog number to be completed:</th>
<th>SER39/3B A/B/C/D 4L 3/5/7 S/D pp p p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor integrated</td>
<td>Resolver with 1 pair of poles RA</td>
</tr>
<tr>
<td>In the motor</td>
<td>SinCos multi-turn absolute encoder MO</td>
</tr>
<tr>
<td>Shaft seal</td>
<td>IP41 without holding brake A</td>
</tr>
<tr>
<td></td>
<td>with holding brake T</td>
</tr>
<tr>
<td></td>
<td>IP56 without holding brake B</td>
</tr>
<tr>
<td></td>
<td>with holding brake 2 O</td>
</tr>
<tr>
<td>Without speed reduction gear</td>
<td>Shaft extension Untapped 1</td>
</tr>
<tr>
<td>With speed reduction gear</td>
<td>Type PLE80, PLE120, PLE160 (2)</td>
</tr>
</tbody>
</table>

(2) For an SER motor with speed reduction gear: see the “Lexium 17D motion control” catalog.
Lexium 17D

Connection cables between Lexium 17D drive and SER motor

<table>
<thead>
<tr>
<th>Lexium 17 MHDA drive</th>
<th>Cable length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L = 3 m</td>
</tr>
<tr>
<td>Cable type (1) Power</td>
<td>MDHA1004A00</td>
</tr>
<tr>
<td></td>
<td>MDHA1008A00</td>
</tr>
<tr>
<td></td>
<td>MDHA1017A00</td>
</tr>
<tr>
<td></td>
<td>MDHA1028A00</td>
</tr>
<tr>
<td>Cable type (2) Resolver</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SinCos Hiperface encoder</td>
</tr>
</tbody>
</table>

(1) Cables equipped with 1 connector (motor end) and 1 connector to be fitted (drive end).
(2) Cables equipped with connectors at both ends.
(3) For cable lengths between drive and motor > 25 m, use of a motor reactor is compulsory, placed as close to the drive as possible.
(4) For cable lengths > 30 m, please consult your Schneider Electric agency.
## Motor type

### Compatible Lexium 17 drive type

<table>
<thead>
<tr>
<th>MDHA</th>
<th>1004A00</th>
<th>1008A00</th>
<th>1017A00</th>
<th>1028A00</th>
<th>1056A00</th>
<th>1112A</th>
<th>1198A</th>
</tr>
</thead>
</table>

### BPH brushless type

**Catalog number (1)**

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Torque at standstill</th>
<th>Mechanical continuous</th>
<th>Mechanical peak speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPH0552S5</td>
<td>0.4/1.1 Nm 8000 rpm</td>
<td>0.9/1.7 Nm 6000 rpm</td>
<td>1.3/2.5 Nm 6000 rpm</td>
</tr>
<tr>
<td>BPH0751N5</td>
<td>1.3/3.4 Nm 6000 rpm</td>
<td>1.3/2.5 Nm 6000 rpm</td>
<td>2.3/4.8 Nm 6000 rpm</td>
</tr>
<tr>
<td>BPH0752N5</td>
<td>3.7/7.2 Nm 6000 rpm</td>
<td>4.3/13.4 Nm 6000 rpm</td>
<td>6/13.4 Nm 6000 rpm</td>
</tr>
<tr>
<td>BPH0752N5</td>
<td>7.4/13.6 Nm 6000 rpm</td>
<td>7.4/19.3 Nm 6000 rpm</td>
<td>6.8/13.5 Nm 6000 rpm</td>
</tr>
<tr>
<td>BPH0752N5</td>
<td>10.5/19.4 Nm 6000 rpm</td>
<td>11.4/18 Nm 4000 rpm</td>
<td>12/30 Nm 4000 rpm</td>
</tr>
<tr>
<td>BPH0752N5</td>
<td>14/22.4 Nm 4000 rpm</td>
<td>14/22.4 Nm 4000 rpm</td>
<td>14/22.4 Nm 4000 rpm</td>
</tr>
<tr>
<td>BPH0952N5</td>
<td>17/42 Nm 4000 rpm</td>
<td>25/37.5 Nm 4000 rpm</td>
<td>36/57 Nm 4000 rpm</td>
</tr>
<tr>
<td>BPH0952N5</td>
<td>46/76.2 Nm 4000 rpm</td>
<td>75/157 Nm 4000 rpm</td>
<td>90/163 Nm 4000 rpm</td>
</tr>
<tr>
<td>BPH0953N5</td>
<td>100/230 Nm 4000 rpm</td>
<td>100/230 Nm 4000 rpm</td>
<td>100/230 Nm 4000 rpm</td>
</tr>
</tbody>
</table>

(1) Complete the catalog numbers using the tables below.

### To order a BPH motor, complete the above catalog numbers

Catalog number to be completed: BPH0552S5

<table>
<thead>
<tr>
<th>Sensor integrated in the motor</th>
<th>BPH0552S5</th>
<th>P</th>
<th>pp</th>
<th>p</th>
<th>0</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolver with 1 pair of poles</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without</td>
<td>A2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With</td>
<td>F2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaft extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Untapped</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degree of protection: IP65 (casing) IP54 (shaft extension)

### To order a BPH motor, complete the above catalog numbers

Catalog number to be completed: BPH0751N5-BPH190AK5

<table>
<thead>
<tr>
<th>Sensor integrated in the motor</th>
<th>BPH0751N5-BPH190AK5</th>
<th>P</th>
<th>pp</th>
<th>p</th>
<th>A</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolver with 1 pair of poles</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-turn high-resolution absolute encoder, Sincos Hiperface (4096 resolutions)</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-turn high-resolution absolute encoder, Sincos Hiperface (4096 resolutions)</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holding brake</td>
<td>A2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without</td>
<td>F2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaft extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Untapped</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degree of protection: IP65 (casing and shaft extension) 1

IP67 (casing and shaft extension) 2
# Lexium 17D

## Motion control

BPL compact brushless motors for Lexium 17D

<table>
<thead>
<tr>
<th>Motor type</th>
<th>BPL brushless type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatible Lexium 17 drive type</td>
<td>MDHA1068A00</td>
</tr>
<tr>
<td>Torque at standstill</td>
<td>Mechanical speed</td>
</tr>
<tr>
<td>Catalog number (1)</td>
<td>1.1/2.4 Nm 6000 rpm</td>
</tr>
<tr>
<td></td>
<td>1.7/3.5 Nm 6000 rpm</td>
</tr>
<tr>
<td></td>
<td>2.8/7.3 Nm 6000 rpm</td>
</tr>
<tr>
<td></td>
<td>2/5.5 Nm 6000 rpm</td>
</tr>
<tr>
<td></td>
<td>5.4/13.4 Nm 6000 rpm</td>
</tr>
</tbody>
</table>

(1) Complete the catalog numbers using the tables below.

### To order a BPL motor, complete the above catalog numbers

<table>
<thead>
<tr>
<th>Catalog number to be completed: BPL0751V5–953NS</th>
<th>p</th>
<th>A2</th>
<th>p</th>
<th>A</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor integrated in the motor:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolver with 1 pair of poles</td>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-turn high-resolution absolute encoder, Sincos Hiperface (4096 revolutions)</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-turn high-resolution absolute encoder, Sincos Hiperface</td>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holding brake:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Without</td>
<td>A2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaft extension:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Untapped</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of protection: (casing and shaft extension)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP65</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP67</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
## Cable type: Power

<table>
<thead>
<tr>
<th>Composition</th>
<th>4x1.5 mm$^2$ + 2x1 mm$^2$</th>
<th>4x2.5 mm$^2$ + 2x1 mm$^2$</th>
</tr>
</thead>
</table>

## Drive type

<table>
<thead>
<tr>
<th>Drive type</th>
<th>MDHA1004</th>
<th>MDHA1004/1008/10017/1028</th>
<th>MDHA1028/1056</th>
<th>MDHA1112/1198</th>
</tr>
</thead>
</table>

## Motor type

<table>
<thead>
<tr>
<th>Motor type</th>
<th>BPH0552</th>
<th>BPH0751–1153</th>
<th>BPH1422–1904</th>
<th>BPH1907–190A</th>
</tr>
</thead>
</table>

## Catalog number

- **L = 5 m**
  - AGOKIT001M005
  - AGOKIT018M005
  - AGOKIT019M005
  - AGOKIT020M005
- **L = 10 m**
  - –
  - –
  - –
  - AGOKIT020M100
- **L = 15 m**
  - AGOKIT001M105
  - AGOKIT018M105
  - AGOKIT019M105
  - AGOKIT020M105
- **L = 25 m (2)**
  - AGOKIT001M205
  - AGOKIT018M205
  - AGOKIT019M205
  - AGOKIT020M205
- **L = 50 m (2)**
  - –
  - AGOKIT018M500
  - AGOKIT019M500
  - AGOKIT020M500
- **L = 75 m (2)**
  - –
  - AGOKIT018M705
  - AGOKIT019M705
  - AGOKIT020M705

(1) Cable supplied without connector to be fitted at the drive end, connection is made to the drive via screw terminals.
(2) For cable lengths between drive (MDHA1004–1056) and motor > 25 m, use of an AM0FIL001V056 motor reactor is compulsory, placed as close to the drive as possible.

## Cable type: Resolver SinCos Hiperface encoder

<table>
<thead>
<tr>
<th>Composition</th>
<th>4x2.5 mm$^2$ + 2x1 mm$^2$</th>
</tr>
</thead>
</table>

## Drive type

<table>
<thead>
<tr>
<th>Drive type</th>
<th>MDHA1004</th>
</tr>
</thead>
</table>

## Motor type

<table>
<thead>
<tr>
<th>Motor type</th>
<th>BPH0552</th>
<th>BPH0751–1153</th>
<th>BPH1422–1904</th>
</tr>
</thead>
</table>

## Catalog number

- **L = 5 m**
  - AGOKIT015M005
  - AGOKIT016M005
  - AGOKIT014M005
  - AGOKIT013M005

(2) For cable lengths between drive (MDHA1004–1056) and motor > 25 m, use of an AM0FIL001V056 motor reactor is compulsory, placed as close to the drive as possible.

## Connection cables between Lexium 17 D drives and BPH/BPL motor

Equipped with 2 connectors at the motor end and drive end

<table>
<thead>
<tr>
<th>Cable type</th>
<th>Power</th>
<th>Resolver</th>
<th>SinCos Hiperface encoder</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Drive type</th>
<th>MDHA1004/1008/10017/1028</th>
<th>MDHA1004/1008/10017/1028</th>
<th>MDHA1004/1008/10017/1028</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Motor type</th>
<th>BPH0751–1153</th>
<th>BPH0751–1153</th>
<th>BPH0751–1153</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>L = 10 m</th>
<th>AGOFRU015M010</th>
<th>AGOFRU016M010</th>
<th>AGOFRU014M010</th>
</tr>
</thead>
</table>

For other versions, please consult with your local Schneider Electric/ Square D sales office: visit www.us.telemecanique.com
### Lexium drives

**For SER and BPH brushless motors**

#### Type of MHDA drive

<table>
<thead>
<tr>
<th>Power supply</th>
<th>Voltage</th>
<th>Current</th>
<th>Output current</th>
<th>Anti-start</th>
<th>Braking resistor</th>
<th>EMC filter</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>208–480 Vac 3-phase</td>
<td>1.8 A rms, 3.6 A rms, 7.2 A rms</td>
<td>1.5 A rms, 3 A rms, 6 A rms</td>
<td>Integrated</td>
<td>Integrated</td>
<td>Not integrated</td>
<td>MHDA1004A00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 A rms, 24 A rms, 48 A rms</td>
<td>10 A rms, 20 A rms, 40 A rms</td>
<td></td>
<td></td>
<td></td>
<td>MHDA1017A00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 A rms, 12 A rms, 20 A rms</td>
<td>3 A rms, 6 A rms, 12 A rms</td>
<td></td>
<td></td>
<td></td>
<td>MHDA1028A00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48 A rms, 84 A rms</td>
<td>24 A rms, 48 A rms</td>
<td></td>
<td></td>
<td></td>
<td>MHDA1056A00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80 A rms, 140 A rms</td>
<td>40 A rms, 80 A rms</td>
<td></td>
<td></td>
<td></td>
<td>MHDA1120A00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MHDA1198A00</td>
</tr>
</tbody>
</table>

#### Power supply

- Voltage: 208–480 Vac 3-phase
- Current: 1.8 A rms, 3.6 A rms, 7.2 A rms

#### Output current

- Continuous: 1.5 A rms, 3 A rms, 6 A rms
- Intermittent (5 s): 3 A rms, 6 A rms

#### Anti-start

- Integrated

#### Braking resistor

- Integrated

#### EMC filter

- Not integrated

#### Catalog number

- MHDA1004A00
- MHDA1017A00
- MHDA1028A00
- MHDA1056A00
- MHDA1120A00
- MHDA1198A00

### Type of associated brushless motor (3)

**Lexium SER (IP41 or IP56)**

<table>
<thead>
<tr>
<th>Type of associated brushless motor (3)</th>
<th>Continuous torque at standstill/peak torque at standstill</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPH0552S 6000 rpm</td>
<td>3.5/9.7 in-lb</td>
</tr>
<tr>
<td>BPH0751N 6000 rpm</td>
<td>8/16.8 in-lb</td>
</tr>
<tr>
<td>BPH0752N 6000 rpm</td>
<td>19.5/38.9 in-lb</td>
</tr>
<tr>
<td>BPH0952N 6000 rpm</td>
<td>32.7/63.7 in-lb</td>
</tr>
<tr>
<td>BPH0953N 6000 rpm</td>
<td>41/73 in-lb</td>
</tr>
<tr>
<td>BPH0954N 6000 rpm</td>
<td>53/91 in-lb</td>
</tr>
<tr>
<td>BPH1152N 6000 rpm</td>
<td>65/122 in-lb</td>
</tr>
<tr>
<td>BPH1153N 6000 rpm</td>
<td>89/150 in-lb</td>
</tr>
<tr>
<td>BPH1422N 4000 rpm</td>
<td>99/183 in-lb</td>
</tr>
<tr>
<td>BPH1423N 4000 rpm</td>
<td>101/199 in-lb</td>
</tr>
<tr>
<td>BPH1902N 4000 rpm</td>
<td>150/372 in-lb</td>
</tr>
<tr>
<td>BPH1903K 4000 rpm</td>
<td>221/332 in-lb</td>
</tr>
<tr>
<td>BPH1904K 4000 rpm</td>
<td>319/504 in-lb</td>
</tr>
<tr>
<td>BPH1907K 4000 rpm</td>
<td>407/674 in-lb</td>
</tr>
<tr>
<td>BPH1909K 4000 rpm</td>
<td>664/1390 in-lb</td>
</tr>
</tbody>
</table>

### Accessories

#### Type of accessory

<table>
<thead>
<tr>
<th>Type of accessory</th>
<th>External braking resistor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use for drives</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td></td>
</tr>
<tr>
<td>Use for drives</td>
<td></td>
</tr>
<tr>
<td>Characteristics</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td></td>
</tr>
</tbody>
</table>

#### Connection accessories and cables

See our “Lexium motion control” Catalog # AUTCD21124207EN.
## Twin Line™ drives
For SER brushless motors

### Type of drive: Digital for brushless motors
Control integrated in the PLC

<table>
<thead>
<tr>
<th>Power supply</th>
<th>230 Vac single phase</th>
<th>230–480 Vac 3-phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Power</td>
<td>0.75 kW rms</td>
<td>1.5 kW rms</td>
</tr>
<tr>
<td>Output current</td>
<td>Continuous</td>
<td>3 A rms</td>
</tr>
<tr>
<td></td>
<td>Discontinuous (5 s)</td>
<td>6 A rms</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP20</td>
<td>6 A rms</td>
</tr>
</tbody>
</table>

### Catalog number

<table>
<thead>
<tr>
<th>Type of associated brushless motor (1)</th>
<th>22F2ppppp1</th>
<th>42F3ppppp1</th>
<th>62F3ppppp1</th>
<th>82F3ppppp1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SER364/368/36A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SER36A/39B/39C/39D</td>
<td>12000 rpm</td>
<td>6000 rpm</td>
<td>6000 rpm</td>
<td>6000 rpm</td>
</tr>
<tr>
<td>SER3BA/3BB/3BC/3BD</td>
<td>6000/4500 rpm</td>
<td>6000/4500 rpm</td>
<td>6000/4500 rpm</td>
<td>6000/4500 rpm</td>
</tr>
</tbody>
</table>

(1) Complete the catalog numbers using the table below
(2) Complete catalog numbers of brushless motors: See our “Twin Line motion control” Catalog #8000CT0101R8/02.

### Type of drive: Digital for brushless motors
Command via discrete control, fieldbus or integrated programmable motion controller

<table>
<thead>
<tr>
<th>Power supply</th>
<th>230 Vac single phase</th>
<th>230–480 Vac 3-phase</th>
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<tbody>
<tr>
<td>Motor Power</td>
<td>0.75 kW rms</td>
<td>1.5 kW rms</td>
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<tr>
<td>Output current</td>
<td>Continuous</td>
<td>3 A rms</td>
</tr>
<tr>
<td></td>
<td>Discontinuous (5 s)</td>
<td>6 A rms</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP20</td>
<td>6 A rms</td>
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### Command via

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<th>Command via (1)</th>
<th>Discrete control</th>
<th>Fieldbus</th>
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<tbody>
<tr>
<td>TLD13</td>
<td>22F21ppppp</td>
<td>42F31ppppp</td>
</tr>
<tr>
<td>TLD13</td>
<td>22F2ppppp</td>
<td>42F3ppppp</td>
</tr>
<tr>
<td>TLD43</td>
<td>22F2ppppp</td>
<td>42F3ppppp</td>
</tr>
<tr>
<td>TLD13</td>
<td>62F3ppppp</td>
<td>82F3ppppp</td>
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<tr>
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### Programmable motion controller (1)

<table>
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<th>42F3ppppp</th>
<th>62F3ppppp</th>
<th>82F3ppppp</th>
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<tbody>
<tr>
<td>TLD43</td>
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### Type of associated brushless motor (2)

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<th>6000/4500 rpm</th>
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<tr>
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<tr>
<td>SER39A/39B/39C/39D</td>
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<td></td>
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<tr>
<td>SER3BA/3BB/3BC/3BD</td>
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(1) Complete the catalog numbers using the table below
(2) Complete catalog numbers of brushless motors: See our “Twin Line motion control” Catalog #8000CT0101R8/02.

### Complete each of the above catalog numbers

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<td>PULS-C module</td>
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</tr>
<tr>
<td>Slot M2</td>
<td>Sinocos Hiperface</td>
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</tr>
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<td></td>
<td>No module (TLD13)</td>
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</tr>
<tr>
<td></td>
<td>No encoder simulation (TLD43/53/63)</td>
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<tr>
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<td>ESIM3-C encoder simulation</td>
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<td>Slot M4 communication</td>
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<td>CANopen/DeviceNet (TLC43/53/63), SSI-C module (TLD13)</td>
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<td>Profibus DP (TLC43/53/63)</td>
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<tr>
<td>Integrated holding brake controller</td>
<td>None (TLD43/53/63)</td>
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Connection accessories: See the “Twin Line motion control” Catalog #8000CT0101R8/02.
# BDH servo motors

The BDH servo motors shown below are supplied without a gearbox. For GBX gearboxes see page 52.

<table>
<thead>
<tr>
<th>Continuous stall torque</th>
<th>Peak stall torque</th>
<th>Maximum mechanical speed</th>
<th>Associated servo drive LXM 15</th>
<th>Maximum nominal speed</th>
<th>Catalog number</th>
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<td>Nm</td>
<td>rpm</td>
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</table>

(1) Derating possible according to the power supply voltage.

(2) Complete each catalog number based on the available options, see table page 49.
## BDH servo motors

**BDH servo motors (continued)**

<table>
<thead>
<tr>
<th>Continuous stall torque</th>
<th>Peak stall torque</th>
<th>Maximum mechanical speed</th>
<th>Associated servo drive LXM 15</th>
<th>Maximum nominal speed (rpm)</th>
<th>Catalog number (2)</th>
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<tbody>
<tr>
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</tbody>
</table>

To order a BDH servo motor complete each catalog number with:

| BDH 0583D | 2 |

<table>
<thead>
<tr>
<th>Shaft end</th>
<th>IP 54</th>
<th>Untapped (3)</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP 67</td>
<td></td>
<td>Keyed (5) (6)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Untapped (3)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Keyed (5) (6)</td>
<td>3</td>
</tr>
</tbody>
</table>

| Integrated sensor | Single turn, SinCos Hiperface® 4096 points/tum (4) | 1 |
|                   | Multiturn, SinCos Hiperface® 4096 points/tum, 4096 turns (4) | 2 |
|                   | 2-pole resolver | 5 |

<table>
<thead>
<tr>
<th>Holding brake</th>
<th>None</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>With (4)</td>
<td></td>
<td>F</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connection</th>
<th>Angled connectors that can be rotated through 90°</th>
<th>2</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Flange</th>
<th>International IEC standard (6)</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEMA (5) (6) (7)</td>
<td></td>
<td>B</td>
</tr>
</tbody>
</table>

**Note:** The example above is for a BDH 0583D servo motor. Replace BDH 0583D with the relevant catalog number for other servo motors.

1. Derating possible according to the power supply voltage.
2. To complete each catalog number see the above table.
4. Not available for BDH 040 servo motors.
5. Not available in NEMA mounting for BDH 040 servo motors and BDH 058.
6. The type of key differs according to the type of mounting (IEC or NEMA) and the servo motor rating:
   - EMC mounting: BDH 040, open shaft key; other BDH servo motors, closed shaft key.
   - NEMA mounting: BDH 084, BDH 108, BDH 138 and BDH 188, open shaft key. Shaft key option not available for BDH 040 and BDH 058.
7. Not available for BDH 070 servo motors.
Motion control
BDH servo motors

**Power supply connection cables**

<table>
<thead>
<tr>
<th>Description</th>
<th>From servo motor</th>
<th>To servo drive</th>
<th>Composition</th>
<th>Length m</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cables fitted with a connector on servo motor side</td>
<td>BDH 040</td>
<td>LXM 15L</td>
<td>(4 x 1.5 mm²) + (2 x 1 mm²)</td>
<td>3</td>
<td>VW3 M5 101 R30</td>
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<tr>
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<td>BDH 068</td>
<td></td>
<td></td>
<td>5</td>
<td>VW3 M5 101 R50</td>
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<tr>
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<td>BDH 070</td>
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<td>10</td>
<td>VW3 M5 101 R100</td>
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<td>BDH 084</td>
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<td></td>
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<td>VW3 M5 101 R150</td>
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<tr>
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<td>BDH 108 K</td>
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<td>50</td>
<td>VW3 M5 101 R500</td>
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<tr>
<td></td>
<td>BDH 138</td>
<td>LXM 15MD N4</td>
<td>(4 x 1.5 mm²) + (2 x 1 mm²)</td>
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<td>BDH 136</td>
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<td>BDH 186</td>
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<td>VW3 M5 201 R200</td>
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<td>BDH 108</td>
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<td>75</td>
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For cables longer than 20m, a motor choke is compulsory.
## BDH servo motors

### Control connecting cables

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<th>Description</th>
<th>From servo motor</th>
<th>To servo drive</th>
<th>Composition</th>
<th>Length m</th>
<th>Catalog number</th>
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</thead>
<tbody>
<tr>
<td>SinCos Hiperface® encoder cables fitted with two connectors</td>
<td>BDH, all ratings</td>
<td>LXM 15, all ratings</td>
<td>5x(2 x 0.25 mm²) + (2 x 0.5 mm²)</td>
<td>3</td>
<td>VW3 M8 301 R30</td>
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<td>VW3 M8 301 R50</td>
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<td>VW3 M8 301 R100</td>
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<td>VW3 M8 301 R150</td>
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<td>VW3 M8 301 R200</td>
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<td></td>
<td>75</td>
<td>VW3 M8 301 R750</td>
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| Resolver cables fitted with two connectors | BDH, all ratings | LXM 15, all ratings | 5x(2 x 0.25 mm²) + (2 x 0.5 mm²) | 3 | VW3 M8 401 R30 |
| | | | | 5 | VW3 M8 401 R50 |
| | | | | 10 | VW3 M8 401 R100 |
| | | | | 15 | VW3 M8 401 R150 |
| | | | | 20 | VW3 M8 401 R200 |
| | | | | 25 | VW3 M8 401 R250 |
| | | | | 50 | VW3 M8 401 R500 |
| | | | | 75 | VW3 M8 401 R750 |
### Catalog number

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<th>Speed reduction ratio</th>
<th>GBX 40</th>
<th>GBX 60</th>
<th>GBX 80</th>
<th>GBX 120</th>
<th>GBX 160</th>
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<td>GBX 080</td>
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<td>GBX 160</td>
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<td>60</td>
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<td>GBX 060</td>
<td>GBX 080</td>
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<td>GBX 080</td>
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<td>GBX 080</td>
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<td>GBX 060</td>
<td>GBX 080</td>
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<td>GBX 160</td>
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### To order a GBX planetary gearbox, complete each catalog number with:

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<th>Junction box diameter (see associations table with BDH servo motor, pages 140 and 141)</th>
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<td>40 mm</td>
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<td>60 mm</td>
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### Speed reduction ratio

<table>
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<th>Speed reduction ratio</th>
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<th>GBX 60</th>
<th>GBX 80</th>
<th>GBX 120</th>
<th>GBX 160</th>
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<tbody>
<tr>
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<td>GBX 080</td>
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<td>GBX 160</td>
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<td>GBX 080</td>
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<td>GBX 160</td>
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<td>8:1</td>
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<td>GBX 080</td>
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<td>9:1</td>
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<td>GBX 080</td>
<td>GBX 120</td>
<td>GBX 160</td>
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<td>GBX 080</td>
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<td>GBX 160</td>
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<td>12:1</td>
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<td>15:1</td>
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<td>GBX 060</td>
<td>GBX 080</td>
<td>GBX 120</td>
<td>GBX 160</td>
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<td>16:1</td>
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<td>GBX 060</td>
<td>GBX 080</td>
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<td>20:1</td>
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<td>GBX 060</td>
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<td>25:1</td>
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<td>GBX 080</td>
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<td>32:1</td>
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<tr>
<td>40:1</td>
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<td>GBX 060</td>
<td>GBX 080</td>
<td>GBX 120</td>
<td>GBX 160</td>
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</table>

### Associated BDH servo motor

<table>
<thead>
<tr>
<th>Type</th>
<th>GBX 40</th>
<th>GBX 60</th>
<th>GBX 80</th>
<th>GBX 120</th>
<th>GBX 160</th>
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<tbody>
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<td>BDH 058</td>
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<td>BDH 084</td>
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</table>

### BDH servo motor adaptation

<table>
<thead>
<tr>
<th>BDH servo motor adaptation</th>
<th>D</th>
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<tbody>
<tr>
<td>BDH 040</td>
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</tr>
<tr>
<td>BDH 058</td>
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<td>BDH 070</td>
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<td>BDH 108</td>
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</table>

For other versions, please consult with your local Schneider Electric Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
BSH servo motors

The BSH servo motors shown below are not equipped with gearboxes.

<table>
<thead>
<tr>
<th>Continuous stall torque</th>
<th>Peak stall torque</th>
<th>Maximum mechanical speed</th>
<th>Associated servo drive LXM 15</th>
<th>Maximum nominal speed (1)</th>
<th>Catalog number (2)</th>
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(1) Derating possible according to the power supply voltage.
(2) To complete each catalog number, see the table on page 54.
## BSH servo motors (continued)

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<tr>
<th>Continuous stall torque (Nm)</th>
<th>Peak stall torque (Nm)</th>
<th>Maximum mechanical speed (rpm)</th>
<th>Associated servo drive LXM 15</th>
<th>Maximum nominal power (1)</th>
<th>Catalog number (2)</th>
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### To order a BSH servo motor complete each catalog number with:

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<th>Shaft end</th>
<th>Untapped</th>
<th>Keyed</th>
<th>IP 65</th>
<th>Untapped</th>
<th>Keyed</th>
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<td>IP 65</td>
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**Integrated sensor**
- Single turn, SinCos Hiperface® 4096 points/turn: 1
- Multiturn, SinCos Hiperface® 4096 points/turn, 4096 turns: 2

**Holding brake**
- None: A

**Connection (3)**
- Straight connectors: 1
- Rotatable right-angled connectors: 2

**Flange**
- International standard: A

---

**Note:**
- The example above is for a BSH 0701P servo motor. Replace BSH 0701P by the relevant catalog number for other servo motors.
- Derating possible according to the power supply voltage.
- To complete each catalog number see the table above.
- The BSH 2052 and BSH 2053 servo motors are supplied with a power connection terminal and an angled connector for the control connection (sensor).

---

For other versions, please consult with your local Schneider Electric/Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
### BSH servo motors

#### Power connection cables

<table>
<thead>
<tr>
<th>Description</th>
<th>From servo motor</th>
<th>To servo drive</th>
<th>Composition</th>
<th>Length m</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cables fitted with a connector on servo motor side</td>
<td>BSH 055 ●●</td>
<td>LXM 15L●●●●</td>
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(1) For cables longer than 20 m, a motor choke is compulsory.
## Lexium 15

**Motion control**

**BSH servo motors**

### Power connection cables (continued)

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<tr>
<th>Description</th>
<th>From servo motor</th>
<th>To servo drive</th>
<th>Composition</th>
<th>Length m</th>
<th>Catalog number</th>
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### Control connecting cables

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<th>Composition</th>
<th>Length m</th>
<th>Catalog number</th>
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<tr>
<td><strong>SinCos Hiperface® encoder cables fitted with two connectors</strong></td>
<td>BSH, all ratings</td>
<td>LXM 15, all ratings</td>
<td>5x(2 x 0.25 mm²) + (2 x 0.5 mm²)</td>
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<td>VW3 M8 301 R750</td>
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</tbody>
</table>
Accurate and reliable control of motors

TeSys range provide you more simplicity, compactness, openness and flexibility... so many evolutions and new items to aid your productivity.

TeSys

For a new start!

A range of simple, compact and advanced components for power control and protection.

New horizons are opening up to you. Increase your productivity - adopt our solutions which help to simplify setting-up.

Motor starters

b Ready-to-use component combinations, designed to work together in perfect harmony.

b Safe operation and level of coordination guaranteed by a major manufacturer.

Power circuit control

b A wide range of components.

b Solutions for a variety of power control applications: lighting, capacitor switching, heating, changeover contactor pairs, resistive loads, upstream protection.
TeSys U - LU9

Control increases in power

Simply Smart benefits

Introducing the 1st intelligent starter capable of integrating motor control, control and changeover functions in a unit 45 mm wide! Simple in its modular format, it is also open to standard buses and can monitor your applications via the web.

Applications
b Industry: ideal solution when the motor starter needs to be decentralized in the machine or the process

Motor control components

TeSys contactors ......................................................... 5/2 to 5/9
b Contactors, models K, D, F

TeSys protection components .................................... 5/10 to 5/21
b Manual motor starters
b Switch-disconnector-fuses
b Thermal overload relays
b Electronic thermal overload relays
b Multifunction protection relays
b Switch disconnectors Mini Vario and Vario

TeSys starters ................................................................. 5/22 to 5/25
b Self-protected starter, U-Line
b Solid state overload relay system, U-Line

IEC type industrial control relays ................................. 5/26 to 5/29
b TeSys type CA2K, CA3K and CA4K
b TeSys type CAD

NEMA type ................................................................. 5/30 to 5/49
b Contactors and starters
b Combination starters
b Solid state overload relays Motor Logic®
b Definite purpose contactors
b Lighting contactors
b Manual starters and switches
b Accessories
b Industrial control relays
b Circuit breaker operating mechanisms
b Disconnect switches
### Connections

<table>
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<th>Connections</th>
<th>Screw clamp terminals</th>
<th>Rated operational current</th>
<th>Rated operational power</th>
<th>in category AC3</th>
<th>Contactor type</th>
<th>Reversing contactor type</th>
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<tbody>
<tr>
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<td></td>
<td>Ie max AC-3 (Ue - 440V)</td>
<td>-</td>
<td>60/690 V - 500 V</td>
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<td>AC/LC2K06</td>
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<td>-</td>
<td>220/240 V</td>
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<td>2 Hz</td>
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<td></td>
<td>12 A</td>
<td>4 Hz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.5 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Screw Terminals

- Add the figure 3 before the voltage code. Example LC1K0610 becomes LC1K06103.
- Add the figure 7 before the voltage code. Example LC1K0610 becomes LC1K06107.
- Add the figure 5 before the voltage code. Example LC1K0610 becomes LC1K06105.

---

### Standard Control Circuit Voltages

#### AC Supply

<table>
<thead>
<tr>
<th>AC supply</th>
<th>Volts 12</th>
<th>20</th>
<th>24</th>
<th>36</th>
<th>42</th>
<th>48</th>
<th>110</th>
<th>115</th>
<th>120</th>
<th>127</th>
<th>200/208</th>
<th>220/230</th>
<th>230</th>
<th>230/240</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contactors LC1K (0.8–1.15 Uc)</td>
<td>J7</td>
<td>Z7</td>
<td>B7</td>
<td>C7</td>
<td>D7</td>
<td>E7</td>
<td>F7</td>
<td>F7</td>
<td>G7</td>
<td>FC7</td>
<td>L7</td>
<td>M7</td>
<td>P7</td>
<td>U7</td>
</tr>
<tr>
<td>50/60 Hz</td>
<td>256</td>
<td>277</td>
<td>380/400</td>
<td>400</td>
<td>400/415</td>
<td>440</td>
<td>480</td>
<td>500</td>
<td>575</td>
<td>600</td>
<td>660/690</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example of complete catalog number LC1K0910P7.

#### DC Supply

| DC supply | Volts 12 | 20 | 24 | 36 | 48 | 60 | 100 | 110 | 125 | 155 | 174 | 200 | 220 | 230 | 240 | 250 |
|-----------|----------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Contactors LP1K (0.8–1.15 Uc) | JD | ZD | BD | CD | ED | ND | SD | KD | FD | GD | PD | QD | LD | MD | MPD | MUD | UD |
| Low Consumption | JW3 | ZW3 | BW3 | EW3 | SW3 | FW3 | GW3 |

Example of complete catalog number LC1K0910BD.
Auxiliary contact blocks
instantaneous, screw clamp connections

<table>
<thead>
<tr>
<th>Composition</th>
<th>2 N.O.</th>
<th>2 N.C.</th>
<th>1 N.O.</th>
<th>1 N.C.</th>
<th>4 N.O.</th>
<th>3 N.O.</th>
<th>1 N.C.</th>
<th>2 N.C.</th>
<th>1 N.O.</th>
<th>3 N.C.</th>
<th>-</th>
<th>4 N.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>for LC1, LP1K, LP4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for LC1, LP1K</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>LA1KN20</td>
<td>LA1KN02</td>
<td>LA1KN11</td>
<td>LA1KN40</td>
<td>LA1KN31</td>
<td>LA1KN22</td>
<td>LA1KN13</td>
<td>LA1KN04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

electronic time delay
Relay outputs, with common point changeover contact, AC or DC 24–48, 2 A maximum
Control voltage 0.85–1.1Uc
Maximum switching capacity 250 VA or 150 W
Operating temperature -10 to + 60°C
Reset time: 1.5 s for 0.5 s after the time delay period

<table>
<thead>
<tr>
<th>Type</th>
<th>On-delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timing range</td>
<td>1–30 s</td>
</tr>
<tr>
<td>Composition</td>
<td>1</td>
</tr>
<tr>
<td>Voltage</td>
<td>AC or DC 24–48 V</td>
</tr>
<tr>
<td>Reference</td>
<td>LA2KT2E</td>
</tr>
</tbody>
</table>

Suppressor modules
For LC1, LP1K

<table>
<thead>
<tr>
<th>Type</th>
<th>Varistor (AC and DC)</th>
<th>Diode (DC) + zener</th>
<th>RC (AC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>12–24 V</td>
<td>12–24 V</td>
<td>110–250 V</td>
</tr>
<tr>
<td></td>
<td>50–129 V</td>
<td>130–250 V</td>
<td>110–250 V</td>
</tr>
<tr>
<td></td>
<td>130–250 V</td>
<td>130–250 V</td>
<td>110–250 V</td>
</tr>
<tr>
<td>Catalog number</td>
<td>LA4KE1B</td>
<td>LA4KE1E</td>
<td>LA4KE1FC</td>
</tr>
</tbody>
</table>
## Connections

| Connections | • screw clamp terminals or connectors | • spring terminals (1) | • ring tongue terminals (2) | • slip-on connectors (3) 2 x 0.35 (power) and 1 x 0.35 (control) up to D12 only | • slip-on connectors (3) 2 x 0.35 (power) and 1 x 0.35 (control) up to D12 only |
| --- | --- | --- | --- | --- |
| Rated operational voltage | 690 V | | | |
| Rated operational current | le AC-3 (Ue - 440V) 9 A 12 A 18 A 25 A 32 A | le AC-1 (≤ 60° C) 25 A 32 A 40 A 50 A | | |
| Rated operational power | 220/240 V 3 Hp 4 Hp 5 Hp 7.5 Hp 10 Hp | 380/400 V 5 Hp 7.5 Hp 10 Hp 15 Hp 20 Hp | 415/440 V 5 Hp 7.5 Hp 10 Hp 15 Hp 20 Hp | 500 V 7.5 Hp 10 Hp 13 Hp 20 Hp 25 Hp | 660/690 V 7.5 Hp 10 Hp 13 Hp 20 Hp 25 Hp | 1000 V - - - - - |
| Contactor type | LC1D09 | LC1D12 | LC1D18 | LC1D25 | LC1D32 |
| Reversing contactor type * with mechanical interlock | LC2D09 | LC2D12 | LC2D18 | LC2D25 | LC2D32 |

### Standard control circuit voltages

#### AC supply

<table>
<thead>
<tr>
<th>Volts</th>
<th>24 42 48 110 115 220 230 240 380 400 415 440 500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contactors LC1D09–D50 (coils D115 and D150 with integral suppression device fitted as standard)</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>50 Hz</td>
<td>B7 D7 E7 F7 FE7 M7 P7 U7 Q7 V7 N7 R7 -</td>
</tr>
<tr>
<td>60 Hz</td>
<td>B6 - E6 F6 - M6 - U6 Q6 - - R6 -</td>
</tr>
<tr>
<td>Contactors LC1D40–D115</td>
<td></td>
</tr>
<tr>
<td>50 Hz</td>
<td>B5 D5 E5 F5 FE5 M5 P5 U5 Q5 V5 N5 R5 S5</td>
</tr>
<tr>
<td>60 Hz</td>
<td>B6 - E6 F6 - M6 - U6 Q6 - - R6 -</td>
</tr>
<tr>
<td>DC supply</td>
<td></td>
</tr>
<tr>
<td>Volts</td>
<td>12 24 36 48 60 72 110 125 220 250 440</td>
</tr>
<tr>
<td>Contactors LC1D09–D38 (coils with integral suppression device fitted as standard)</td>
<td></td>
</tr>
<tr>
<td>U 0.7–1.25 Uc</td>
<td>JD BD CD ED ND SD FD GD MD UD RD</td>
</tr>
<tr>
<td>Contactors LC1D40–D95</td>
<td></td>
</tr>
<tr>
<td>U 0.85–1.1 Uc</td>
<td>JD BD CD ED ND SD FD GD MD UD RD</td>
</tr>
<tr>
<td>U 0.75–1.2 Uc</td>
<td>JW BW OW EW - SW FW - MV - -</td>
</tr>
<tr>
<td>Contactors LC1D115 and D150 (coils with integral suppression device fitted as standard)</td>
<td></td>
</tr>
<tr>
<td>U 0.75–1.2 Uc</td>
<td>- BD - ED ND SD FD GD MD UD RD</td>
</tr>
<tr>
<td>Low consumption</td>
<td></td>
</tr>
<tr>
<td>Contactors LC1D09–D38 (coils with integral suppression device fitted as standard)</td>
<td></td>
</tr>
<tr>
<td>Volts DC</td>
<td>5 12 20 24 48 110 120 250</td>
</tr>
<tr>
<td>U 0.7–1.25 Uc</td>
<td>AL JL ZL BL EL FL ML UL</td>
</tr>
</tbody>
</table>

Example of complete catalog number LC1D09P7.

For enclosed version of d-Line starters up to 80A, reference catalog 8502CT9901.
Mounting accessories for 3-pole reversing contactors

<table>
<thead>
<tr>
<th>Mounting accessories</th>
<th>2 identical contactors with screw clamp terminals or connectors, horizontally mounted</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mechanical interlock</strong></td>
<td><strong>Set of connections</strong></td>
</tr>
<tr>
<td>■ with an electrical interlocking kit for the contactors</td>
<td>LC1D09–D38</td>
</tr>
<tr>
<td>■ with integral electrical interlocking</td>
<td>LC1D40–D65</td>
</tr>
<tr>
<td></td>
<td>LC1D80 and D95 (AC)</td>
</tr>
<tr>
<td></td>
<td>LC1D80 and D95 (DC)</td>
</tr>
<tr>
<td></td>
<td>LC1D115 and D150</td>
</tr>
<tr>
<td>■ without electrical interlocking</td>
<td>LC1D09–D38</td>
</tr>
<tr>
<td></td>
<td>LC1D40–D65</td>
</tr>
<tr>
<td></td>
<td>LC1D80 and D95 (AC)</td>
</tr>
<tr>
<td></td>
<td>LC1D80 and D95 (DC)</td>
</tr>
</tbody>
</table>

Mechanical latch blocks

Clip-on front mounting, manual or electrical unlatching control

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Standard control circuit voltages</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC1D09–D38</td>
<td>LA6DK10-</td>
</tr>
<tr>
<td>LC1D40–D65</td>
<td>LA6DK20-</td>
</tr>
<tr>
<td>LC1D80–D150</td>
<td>LA6DK30-</td>
</tr>
<tr>
<td>LC1D09–D38</td>
<td>LA6KD10-</td>
</tr>
<tr>
<td>LC1D40–D65</td>
<td>LA6KD20-</td>
</tr>
<tr>
<td>LC1D80–D150</td>
<td>LA6KD30-</td>
</tr>
<tr>
<td>LC1D09–D38</td>
<td>LA6KD10-</td>
</tr>
<tr>
<td>LC1D40–D65</td>
<td>LA6KD20-</td>
</tr>
<tr>
<td>LC1D80–D150</td>
<td>LA6KD30-</td>
</tr>
</tbody>
</table>
### Auxiliary contact blocks

<table>
<thead>
<tr>
<th>Instantaneous, for connection by screw clamp terminals</th>
<th>Time delay</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Composition</strong></td>
<td><strong>Number of poles and size</strong></td>
</tr>
<tr>
<td>N.O. N.C.</td>
<td>Composition</td>
</tr>
<tr>
<td>1 -</td>
<td>LADN10</td>
</tr>
<tr>
<td>- 1</td>
<td>LADN01</td>
</tr>
<tr>
<td>- 2</td>
<td>LADN02</td>
</tr>
<tr>
<td>3 1</td>
<td>LADN31</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Maximum number of auxiliary contacts that can be fitted

<table>
<thead>
<tr>
<th>Contactors</th>
<th>Instantaneous auxiliary contact blocks</th>
<th>Time delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Number of poles and size</td>
<td>Side mounting</td>
</tr>
<tr>
<td>AC</td>
<td>3PLC1009–D38</td>
<td>1 on LH side and</td>
</tr>
<tr>
<td></td>
<td>LC1D40–D95 (50/60 Hz)</td>
<td>1 on each side or</td>
</tr>
<tr>
<td></td>
<td>LC1D40–D95 (50 or 60 Hz)</td>
<td>1 on each side and</td>
</tr>
<tr>
<td></td>
<td>LC1D115 and D150</td>
<td>1 on LH side</td>
</tr>
<tr>
<td>DC</td>
<td>4PLC1D720–DT40</td>
<td>1 on LH side</td>
</tr>
<tr>
<td></td>
<td>LC1D65 and D80</td>
<td>1 on each side or</td>
</tr>
<tr>
<td></td>
<td>LC1D115</td>
<td>1 on each side and</td>
</tr>
<tr>
<td>Low Consumption</td>
<td>3PLC1009–D38</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LC1D40–D95</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LC1D115 and D150</td>
<td>1 on LH side and</td>
</tr>
<tr>
<td></td>
<td>4PLC1D720–DT40</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LP1D65 and D80</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>LC1D115</td>
<td>-</td>
</tr>
</tbody>
</table>
### Suppressors (peak limiting)

Protection provided by limiting the transient voltage to 2 Uc max.

Maximum reduction of transient voltage peaks.

Slight increase in drop-out time (1.1 to 1.5 times the normal time)

<table>
<thead>
<tr>
<th>Mounting</th>
<th>For use with contactor</th>
<th>Type</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clip-on</td>
<td></td>
<td>Rating VAC</td>
<td>VDC</td>
</tr>
<tr>
<td>D09–D38 (3P)</td>
<td>12–24 V</td>
<td>-</td>
<td>LAD4VE</td>
</tr>
<tr>
<td>DT20–DT40 (4P)</td>
<td>50–127 V</td>
<td>-</td>
<td>LAD4VG</td>
</tr>
<tr>
<td>D65–D115 (4P)</td>
<td>110–250 V</td>
<td>-</td>
<td>LAD4YU</td>
</tr>
<tr>
<td>Screw clamp</td>
<td></td>
<td>D40–D115 (3P)</td>
<td>24–48 V</td>
</tr>
<tr>
<td>D65–D115 (4P)</td>
<td>110–250 V</td>
<td>-</td>
<td>LAD4DE2G</td>
</tr>
<tr>
<td>D40–D115 (3P)</td>
<td>-</td>
<td>24–48 V</td>
<td>LAD4DE2U</td>
</tr>
<tr>
<td>Screw clamp</td>
<td></td>
<td>D65–D115 (4P)</td>
<td>-</td>
</tr>
<tr>
<td>D40–D115 (3P)</td>
<td>-</td>
<td>50–127 V</td>
<td>LAD4DE3G</td>
</tr>
<tr>
<td>D65–D115 (4P)</td>
<td>-</td>
<td>110–250 V</td>
<td>LAD4DE3U</td>
</tr>
</tbody>
</table>

### Diodes

No overvoltage or oscillating frequency.

Increase in drop-out time (6 to 10 times the normal time).

Polarised component.

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Type</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw clamp</td>
<td>D40–D95 (3P)</td>
<td>24–250 V</td>
</tr>
<tr>
<td>D65 and D80 (4P)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Bidirectional peak limiting diode

Protection provided by limiting the transient voltage to 2 Uc max.

Maximum reduction of transient voltage peaks.

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Type</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clip-on</td>
<td>D09–D38 (3P)</td>
<td>24 V</td>
</tr>
<tr>
<td>DT20–DT40 (4P)</td>
<td>72 V</td>
<td>LAD4TS</td>
</tr>
<tr>
<td>Screw clamp</td>
<td>D40–D95 (3P)</td>
<td>24 V</td>
</tr>
<tr>
<td>D65 and D80 (4P)</td>
<td>72 V</td>
<td>LAD4DB2S</td>
</tr>
<tr>
<td>D40–D95 (3P)</td>
<td>-</td>
<td>24 V</td>
</tr>
<tr>
<td>D65 and D80 (4P)</td>
<td>-</td>
<td>72 V</td>
</tr>
</tbody>
</table>

### RC circuits (Resistor-Capacitor)

Effective protection for circuits highly sensitive to “high frequency” interference.

For use only in cases where the voltage is virtually sinusoidal, i.e. less than - 5% total harmonic distortion.

Voltage limited to 3 Uc max and oscillating frequency limited to 400 Hz max.

Slight increase in drop-out time (1.2 to 2 times the normal time)

<table>
<thead>
<tr>
<th>Mounting</th>
<th>Type</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clip-on</td>
<td>D09–D38 (3P)</td>
<td>12–24 V</td>
</tr>
<tr>
<td>DT20–DT40 (4P)</td>
<td>110–240 V</td>
<td>LAD4RCU</td>
</tr>
<tr>
<td>Screw fixing</td>
<td>D40–D150 (3P)</td>
<td>24–48 V</td>
</tr>
<tr>
<td>D65–D115 (4P)</td>
<td>110–240 V</td>
<td>LAD4DA2U</td>
</tr>
<tr>
<td>and</td>
<td>D65–D115 (4P)</td>
<td>380–415 V</td>
</tr>
</tbody>
</table>
# TeSys F-line

## Contactors

### 30–900 Hp

<table>
<thead>
<tr>
<th>Rated operational current</th>
<th>185 A</th>
<th>225 A</th>
<th>265 A</th>
<th>330 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>le max AC-3 (Ue - 440V)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>le AC-1 (i - 40° C)</td>
<td>275 A</td>
<td>315 V</td>
<td>350 V</td>
<td>400 A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rated operational voltage</th>
<th>1 000 V</th>
<th>1 000 V</th>
<th>1 000 V</th>
<th>1 000 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>in category AC3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>220/240 V</td>
<td>75 Hp</td>
<td>75 Hp</td>
<td>100 Hp</td>
<td>125 Hp</td>
</tr>
<tr>
<td>380/400 V</td>
<td>125 Hp</td>
<td>150 Hp</td>
<td>200 Hp</td>
<td>250 Hp</td>
</tr>
<tr>
<td>415 V</td>
<td>125 Hp</td>
<td>150 Hp</td>
<td>175 Hp</td>
<td>220 Hp</td>
</tr>
<tr>
<td>440 V</td>
<td>125 Hp</td>
<td>150 Hp</td>
<td>175 Hp</td>
<td>300 Hp</td>
</tr>
<tr>
<td>500 V</td>
<td>150 Hp</td>
<td>175 Hp</td>
<td>250 Hp</td>
<td>300 Hp</td>
</tr>
<tr>
<td>660/690 V</td>
<td>150 Hp</td>
<td>175 Hp</td>
<td>250 Hp</td>
<td>350 Hp</td>
</tr>
<tr>
<td>1000 V</td>
<td>125 Hp</td>
<td>125 Hp</td>
<td>200 Hp</td>
<td>250 Hp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of poles</th>
<th>3 or 4</th>
<th>3 or 4</th>
<th>3 or 4</th>
<th>3 or 4</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Rated operational power</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>in category AC3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>220/240 V</td>
<td>75 Hp</td>
<td>75 Hp</td>
<td>100 Hp</td>
<td>125 Hp</td>
</tr>
<tr>
<td>380/400 V</td>
<td>125 Hp</td>
<td>150 Hp</td>
<td>200 Hp</td>
<td>250 Hp</td>
</tr>
<tr>
<td>415 V</td>
<td>125 Hp</td>
<td>150 Hp</td>
<td>175 Hp</td>
<td>220 Hp</td>
</tr>
<tr>
<td>440 V</td>
<td>125 Hp</td>
<td>150 Hp</td>
<td>175 Hp</td>
<td>300 Hp</td>
</tr>
<tr>
<td>500 V</td>
<td>150 Hp</td>
<td>175 Hp</td>
<td>250 Hp</td>
<td>300 Hp</td>
</tr>
<tr>
<td>660/690 V</td>
<td>150 Hp</td>
<td>175 Hp</td>
<td>250 Hp</td>
<td>350 Hp</td>
</tr>
<tr>
<td>1000 V</td>
<td>125 Hp</td>
<td>125 Hp</td>
<td>200 Hp</td>
<td>250 Hp</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Contactor type(1)</th>
<th>LC1F185</th>
<th>LC1F225</th>
<th>LC1F265</th>
<th>LC1F330</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reversing contactor type(1)</td>
<td>LC2F185</td>
<td>LC2F225</td>
<td>LC2F265</td>
<td></td>
</tr>
</tbody>
</table>

(1) Basic catalog number to be completed by adding the coil voltage code. Example: LC1F18567.

## Standard control circuit voltages

### AC supply

<table>
<thead>
<tr>
<th>Volts</th>
<th>24</th>
<th>48</th>
<th>110</th>
<th>115</th>
<th>120</th>
<th>208</th>
<th>220</th>
<th>230</th>
<th>240</th>
<th>380</th>
<th>400</th>
<th>415</th>
<th>440</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contactors LC1F115-F225(0.85−1.1UC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>50 Hz (coil LX1)</td>
<td>B5</td>
<td>E5</td>
<td>F5</td>
<td>FE5</td>
<td>-</td>
<td>-</td>
<td>M5</td>
<td>P5</td>
<td>U5</td>
<td>Q5</td>
<td>V5</td>
<td>N5</td>
<td>-</td>
</tr>
<tr>
<td>60 Hz (coil LX1)</td>
<td>-</td>
<td>E5</td>
<td>F6</td>
<td>-</td>
<td>G6</td>
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<td>R6/U7</td>
</tr>
<tr>
<td>40–400 Hz (coil LX9)</td>
<td>-</td>
<td>E7</td>
<td>F7</td>
<td>FE7</td>
<td>G7</td>
<td>L7</td>
<td>M7</td>
<td>P7</td>
<td>U7</td>
<td>Q7</td>
<td>V7</td>
<td>N7</td>
<td>R7</td>
</tr>
<tr>
<td>Contactors LC1F265-F330U7</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>40–400 Hz (coil LX1)</td>
<td>B7</td>
<td>E7</td>
<td>F7</td>
<td>FE7</td>
<td>G7</td>
<td>L7</td>
<td>M7</td>
<td>P7</td>
<td>U7</td>
<td>Q7</td>
<td>V7</td>
<td>N7</td>
<td>R7</td>
</tr>
<tr>
<td>Contactors LC1F400-F630U7</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>40–400 Hz (coil LX1)</td>
<td>-</td>
<td>E7</td>
<td>F7</td>
<td>FE7</td>
<td>G7</td>
<td>L7</td>
<td>M7</td>
<td>P7</td>
<td>U7</td>
<td>Q7</td>
<td>V7</td>
<td>N7</td>
<td>R7</td>
</tr>
<tr>
<td>Contactors LC1F780U7</td>
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<td></td>
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</tr>
<tr>
<td>40–400 Hz (coil LX1)</td>
<td>-</td>
<td>E7</td>
<td>F7</td>
<td>FE7</td>
<td>G7</td>
<td>L7</td>
<td>M7</td>
<td>P7</td>
<td>U7</td>
<td>Q7</td>
<td>V7</td>
<td>N7</td>
<td>R7</td>
</tr>
<tr>
<td>Contactors LC1F800U7</td>
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</tr>
<tr>
<td>Volts</td>
<td>24</td>
<td>48</td>
<td>110</td>
<td>125</td>
<td>220</td>
<td>230</td>
<td>250</td>
<td>400</td>
<td>440</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contactors LC1F115-F330(0.85−1.1UC)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(coil LX4F)</td>
<td>BD</td>
<td>ED</td>
<td>FD</td>
<td>GD</td>
<td>MD</td>
<td>MD</td>
<td>UD</td>
<td>-</td>
<td>RD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contactors LC1F400-F630(0.85−1.1UC)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(coil LX4F)</td>
<td>-</td>
<td>ED</td>
<td>FD</td>
<td>GD</td>
<td>MD</td>
<td>MD</td>
<td>UD</td>
<td>-</td>
<td>RD</td>
<td></td>
<td></td>
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<td>Contactors LC1F780(0.85−1.1UC)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(coil LX4F)</td>
<td>-</td>
<td>-</td>
<td>FD</td>
<td>GD</td>
<td>MD</td>
<td>UD</td>
<td>-</td>
<td>RD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contactors LC1F800(0.85−1.1UC)</td>
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<td></td>
</tr>
<tr>
<td>(coil LX4F)</td>
<td>-</td>
<td>-</td>
<td>FW</td>
<td>FW</td>
<td>MW</td>
<td>MW</td>
<td>QW</td>
<td>-</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Example: For a 630 A contactor with a 110 VAC coil, order LC1F630F7.

(1) F7 for LC1F630.
### Auxiliary contact blocks

<table>
<thead>
<tr>
<th>Composition</th>
<th>Catalog number</th>
<th>Composition</th>
<th>Catalog number</th>
<th>Composition</th>
<th>Catalog number</th>
<th>Composition</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>instantaneously</td>
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<td>instantaneously</td>
<td>instantaneously</td>
<td>instantaneously</td>
<td>instantaneously</td>
<td>instantaneously</td>
<td>instantaneously</td>
</tr>
<tr>
<td>1 - LADN10</td>
<td>1 - LADN11</td>
<td>2 - LADN22</td>
<td>2 - LADN33</td>
<td>2 - LADN44</td>
<td>3 - LADN55</td>
<td>2 - LADN66</td>
<td></td>
</tr>
<tr>
<td>- 1 LADN01</td>
<td>2 - LADN20</td>
<td>3 - LADN13</td>
<td>4 - LADN40</td>
<td>2 - LADN21</td>
<td>3 - LADN31</td>
<td>2 - LADN22</td>
<td></td>
</tr>
<tr>
<td>- 2 LADN02</td>
<td>3 - LADN20</td>
<td>4 - LADN40</td>
<td>4 - LADN04</td>
<td>2 - 11 LA1DZ31</td>
<td>2 - 11 LA1DZ31</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Dust &amp; damp protected contacts</th>
<th>Type</th>
<th>Range</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-delay</td>
<td>0.1–3 s</td>
<td>LADR0</td>
<td></td>
</tr>
<tr>
<td>On-delay</td>
<td>0.1–3 s</td>
<td>LADT0</td>
<td></td>
</tr>
<tr>
<td>1–30 s</td>
<td>LAD52</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Time delay 1 N.O. + 1 N.C.

<table>
<thead>
<tr>
<th>Type</th>
<th>Range</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-delay</td>
<td>0.1–3 s</td>
<td>LADT0</td>
</tr>
<tr>
<td>Off-delay</td>
<td>0.1–3 s</td>
<td>LADR0</td>
</tr>
</tbody>
</table>

### Mounting accessories for 3-pole reversing contactors for motor control

2 identical contactors, horizontally mounted

**Mechanical interlock with an electrical interlocking kit for the contactors**

<table>
<thead>
<tr>
<th>Contactor type</th>
<th>Set of connections</th>
<th>Mechanical interlock</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC1F115</td>
<td>LABFF976</td>
<td>LABFF970</td>
</tr>
<tr>
<td>LC1F150</td>
<td>LABFF5076</td>
<td>LABFF970</td>
</tr>
<tr>
<td>LC1F185</td>
<td>LABFF5076</td>
<td>LABFF970</td>
</tr>
<tr>
<td>LC1F225</td>
<td>LABFF222576</td>
<td>LABFF970</td>
</tr>
<tr>
<td>LC1F265</td>
<td>LABFF4676</td>
<td>LABFF970</td>
</tr>
<tr>
<td>LC1F330</td>
<td>LABFF976</td>
<td>LABFF970</td>
</tr>
<tr>
<td>LC1F400</td>
<td>LABFF976</td>
<td>LABFF970</td>
</tr>
<tr>
<td>LC1F500</td>
<td>LABFF976</td>
<td>LABFF970</td>
</tr>
<tr>
<td>LC1F630 or LC1F800</td>
<td>LABFF976</td>
<td>LABFF970</td>
</tr>
</tbody>
</table>
## TeSys
**Type GVZME and GV2P**

### Manual motor starters 0.1–30 Hp

#### Manual motor starters GV2ME and GV2P for connection by screw clamp terminals

<table>
<thead>
<tr>
<th>GV2ME with pushbutton control, GV2P control by rotary knob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horsepower ratings of 3-phase motors 50/60 Hz</td>
</tr>
<tr>
<td>200 V</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>-</td>
</tr>
<tr>
<td>-</td>
</tr>
<tr>
<td>-</td>
</tr>
<tr>
<td>-</td>
</tr>
<tr>
<td>0.5</td>
</tr>
<tr>
<td>0.75</td>
</tr>
<tr>
<td>1.5</td>
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<td>2</td>
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<td>3</td>
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<td>5</td>
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<tr>
<td>5</td>
</tr>
<tr>
<td>10</td>
</tr>
</tbody>
</table>

### Thermal-magnetic circuit-breakers GV2ME for connection by spring terminals

Add the number 3 to the end of the catalog number. Example GV2ME223 (available up to GV2ME22)

### Thermal-magnetic circuit-breakers GV2ME for connection by spring terminals

Add the figure 3 to the end of the catalog number. Example GV2ME223 (available up to GV2ME22)

#### Fuse holder—30 A rated, type CC or KTK-R fuses

<table>
<thead>
<tr>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>With screw terminals</td>
</tr>
<tr>
<td>With spring terminals</td>
</tr>
<tr>
<td>Auxiliary pole (screw terminals; mount on left or right side)</td>
</tr>
</tbody>
</table>
### Accessories

#### Combination block
- For mounting on: LC1K or LP1K, LC1D09–D38, LAD31 and LC1D09–D38
- GV2AF01, GV2AF3, GV2AF4

#### Sets of 3-pole busbars
- 63 A Pitch
  - 45 mm
  - 54 mm
- Number of tap-offs
  - 2: GV2G245, GV2G254, GV2G272
  - 3: GV2G345, GV2G354, GV2G372
  - 4: GV2G445, GV2G454, GV2G472
  - 5: GV2G54

#### Protective end cover
- For unused busbar outlets: GV1G10

#### Terminal blocks
- For supply to one or more GV2G busbar sets: GV1G09, GV1G05
- Connection from the top can be fitted with current limiter GV1L3 (GV2ME and GV2P)

#### Padlockable external operator for GV2P (150 to 290 mm)
- Padlocking: In “On” and “Off” position
  - Handle: black
  - Legend plate: blue
- Padlocking: In “Off” position
  - Handle: red
  - Legend plate: yellow
- IP 54: GV2AP01, GV2AP02

#### Padlocking device
- For all GV2 devices: GV2V03
  - For use with up to 6 padlocks (padlocks not supplied): Ø 6 mm shank max

### Add-on blocks

#### Contact blocks

#### Instantaneous auxiliary contacts
- Mounting: front
  - N.O. or N.C.: GVAE1
  - N.O. + N.C.: GVAE11
  - N.O. + N.O.: GVAE20
- LH side
  - N.O. or N.C.: GVAE1
  - N.O. + N.C.: GVAE11
  - N.O. + N.O.: GVAE20

#### Fault signalling contact + instantaneous auxiliary contact
- LH side
  - GVAE1010, GVAE1001, GVAE0110

#### Short-circuit signalling contact
- LH side
  - GVAE0110

### Electric trips

#### Undervoltage or shunt trips (1)
- Side mounting (1 block on RH side of circuit-breaker)
- Voltage (AC)
  - 24 V: GVA025
  - 48 V: GVA055
  - 100 V: GVA107
  - 100–110 V: GVA115
  - 120–127 V: GVA125
  - 127 V: GVA207
  - 200 V: GVA207
  - 200–220 V: GVA225
  - 380–400 V: GVA386
  - 415–440 V: GVA415

- Voltage (AC)
  - 50 Hz: GVA026
  - 60 Hz: GVA056
  - GVA107
  - GVA116
  - GVA115
  - GVA207
  - GVA226
  - GVA386
  - GVA416

(1) Undervoltage trips: replace the • with U, shunt trips: replace the • with S
Manual motor starters GV3ME for connection by screw clamp terminals

### Pushbutton control

<table>
<thead>
<tr>
<th>Horsepower ratings of 3-phase motors 50/60 Hz</th>
<th>Setting range of thermal trips</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 V</td>
<td>A</td>
<td>GV3ME06</td>
</tr>
<tr>
<td>230 V</td>
<td>1–1.6</td>
<td>GV3ME07</td>
</tr>
<tr>
<td>480 V</td>
<td>1.6–2.5</td>
<td>GV3ME08</td>
</tr>
<tr>
<td>575 V</td>
<td>2.5–4</td>
<td>GV3ME10</td>
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<tr>
<td>200 V</td>
<td>4–6</td>
<td>GV3ME14</td>
</tr>
<tr>
<td>230 V</td>
<td>6–10</td>
<td>GV3ME20</td>
</tr>
<tr>
<td>480 V</td>
<td>10–16</td>
<td>GV3ME25</td>
</tr>
<tr>
<td>575 V</td>
<td>16–25</td>
<td>GV3ME40</td>
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<tr>
<td>200 V</td>
<td>25–40</td>
<td>GV3ME63</td>
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<td>230 V</td>
<td>40–63</td>
<td>GV3ME80</td>
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<tr>
<td>480 V</td>
<td>56–80</td>
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### Add-on blocks

#### Contact blocks

**Instantaneous auxiliary contacts** (1 per breaker)

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<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>GV3A01</td>
<td>GV3A02</td>
<td>GV3A03</td>
<td>GV3A05</td>
<td>GV3A06</td>
<td>GV3A07</td>
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**Fault signalling contact**

<table>
<thead>
<tr>
<th>Normal early break type contacts</th>
<th>N.C.</th>
<th>N.O.</th>
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<tr>
<td>GV3A08</td>
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**Electric trips**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Setting range of thermal trips</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>110, 120, 127 V</td>
<td>GV3B11</td>
</tr>
<tr>
<td>60 Hz</td>
<td>120, 127 V</td>
<td>GV3B22</td>
</tr>
<tr>
<td></td>
<td>220, 240 V</td>
<td>GV3B38</td>
</tr>
<tr>
<td></td>
<td>277 V</td>
<td>GV3D22</td>
</tr>
<tr>
<td></td>
<td>380, 415 V</td>
<td>GV3D38</td>
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<tr>
<td></td>
<td>440, 480 V</td>
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</tbody>
</table>

**Undervoltage trip**

<table>
<thead>
<tr>
<th>Shunt trip</th>
<th>Catalog Number</th>
</tr>
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<tbody>
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<td>GV3D11</td>
<td>GV3D22</td>
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<tr>
<td>GV3D38</td>
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**Padlocking device**

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<thead>
<tr>
<th>Start button (for bare device)</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>GV1V02</td>
<td></td>
</tr>
</tbody>
</table>

(1) 2 volt free terminals
Manual motor starters

1–120 Hp

TeSys

Type GV7R

Manual motor starters GV7R for connection by screw clamp terminals

Control by rocker lever

<table>
<thead>
<tr>
<th>Horsepower ratings of 3-phase motors 50/60 Hz</th>
<th>Setting range of thermal trips</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>230 V</td>
<td>480V</td>
<td>575 V</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>7.5</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>7.5</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>10</td>
<td>30</td>
<td>30</td>
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<td>10</td>
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<td>30</td>
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<tr>
<td>15</td>
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<td>40</td>
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<td>30</td>
<td>60</td>
<td>75</td>
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<tr>
<td>30</td>
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<td>30</td>
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<td>100</td>
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<tr>
<td>30</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>50</td>
<td>100</td>
<td>150</td>
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<tr>
<td>50</td>
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<td>75</td>
<td>150</td>
<td>200</td>
</tr>
<tr>
<td>75</td>
<td>150</td>
<td>200</td>
</tr>
</tbody>
</table>

Add-on blocks

Contact blocks

<table>
<thead>
<tr>
<th>Auxiliary contacts</th>
<th>Contact type</th>
<th>C.O.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>GV7AE11</td>
</tr>
<tr>
<td>Thermal or magnetic fault discrimination</td>
<td>24–48 VAC/DC or 24–72 VDC</td>
<td>GV7AD111</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GV7AD112</td>
</tr>
</tbody>
</table>

Electric trips

<table>
<thead>
<tr>
<th>Voltage 50/60 Hz</th>
<th>Undervoltage trip (1)</th>
<th>Shunt trip (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>GV7AU055</td>
<td>GV7AS055</td>
</tr>
<tr>
<td>48 V</td>
<td>GV7AU107</td>
<td>GV7S107</td>
</tr>
<tr>
<td>110–130 V</td>
<td>GV7AU207</td>
<td>GV7S207</td>
</tr>
<tr>
<td>200–240 V</td>
<td>GV7AU387</td>
<td>GV7S387</td>
</tr>
<tr>
<td>380–440 V</td>
<td>GV7AU525</td>
<td>GV7S525</td>
</tr>
<tr>
<td>525 V</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) For mounting of a GV7AD or a GV7AU or AS

Accessories

*Terminal shields IP 405
Supplied with the sealing accessory*  
GV7AC01

*Phase barriers
used when fitting of shields is impossible*  
GV7AC04

*Insulating screens
Ensure insulation between the connections and the backplate*  
GV7AC05

*Kit for combination with contactor
Allowing link between the circuit-breaker and the contactor*  
LC1F115 to F185  
LC1F225 and F26  
LC1D115 and D150  
GV7AC06  
GV7AC07  
GV7AC08

*Rotary handles
Handle*  
black  
red

*Legend plate
black  
yellow

*Conversion accessory
for mounting on enclosure door*  
IP 43  
GV7AP05

*Locking device
For starter not fitted with a rotary handle*  
GV7V01
GS1 fusible disconnect switch 30–800 A

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>GS1DDU3</th>
<th>GS1DU3</th>
<th>GS1EERU20</th>
<th>GS1EERU30</th>
<th>GS1EEU3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch Type</td>
<td>Compact fused</td>
<td>Compact fused</td>
<td>Fused</td>
<td>Fused</td>
<td>Fused</td>
</tr>
<tr>
<td>Fuses</td>
<td>CC</td>
<td>J</td>
<td>CC</td>
<td>CC</td>
<td>CC</td>
</tr>
<tr>
<td>Amps</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Poles</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Operator Style</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Side handle</td>
<td>Side handle</td>
<td>Thru-the-door</td>
</tr>
<tr>
<td>Max. HP 3 Phase:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>kW/hp at 240V</td>
<td>5.5/7.5</td>
<td>5.5/7.5</td>
<td>n/a</td>
<td>5.5/7.5</td>
<td>5.5/7.5</td>
</tr>
<tr>
<td>kW/hp at 480V</td>
<td>11/15</td>
<td>11/15</td>
<td>n/a</td>
<td>11/15</td>
<td>11/15</td>
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<tr>
<td>kW/hp at 600V</td>
<td>15/20</td>
<td>15/20</td>
<td>n/a</td>
<td>15/20</td>
<td>15/20</td>
</tr>
</tbody>
</table>

LK3 non-fused disconnect switch 30–1200 A

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>LK3GU3</th>
<th>LK3GU3</th>
<th>LK3JU3</th>
<th>LK3MU3 (1)</th>
<th>LK3QU3 (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch Type</td>
<td>Compact Non-fused</td>
<td>Non-fused</td>
<td>Non-fused</td>
<td>Non-fused</td>
<td>Non-fused</td>
</tr>
<tr>
<td>Amps</td>
<td>30</td>
<td>60</td>
<td>100</td>
<td>200</td>
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<tr>
<td>Poles</td>
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<td>3</td>
</tr>
<tr>
<td>Operator Style</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
</tr>
<tr>
<td>Max. HP 3 Phase:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>kW/hp at 240V</td>
<td>5.5/7.5</td>
<td>11/15</td>
<td>22/30</td>
<td>45/60</td>
<td>90/125</td>
</tr>
<tr>
<td>kW/hp at 480V</td>
<td>11/15</td>
<td>22/30</td>
<td>45/60</td>
<td>90/125</td>
<td>185/250</td>
</tr>
<tr>
<td>kW/hp at 600V</td>
<td>15/20</td>
<td>37/50</td>
<td>55/75</td>
<td>110/150</td>
<td>250/350</td>
</tr>
</tbody>
</table>

(1) Terminal lugs must be ordered separately.

Auxiliary early break and/or signalling contacts

<table>
<thead>
<tr>
<th>Switch rating</th>
<th>30–200 A</th>
<th>50–400 A</th>
<th>600–800A</th>
<th>50–400 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact type</td>
<td>1 N.O.</td>
<td>1 N.C.</td>
<td>2 C.O.</td>
<td>2 C.O.</td>
</tr>
<tr>
<td></td>
<td>1 N.C.</td>
<td>1 C.O.</td>
<td>2 C.O.</td>
<td>2 N.C.</td>
</tr>
<tr>
<td>Standard contacts</td>
<td>GS1AM110</td>
<td>GS1AM101</td>
<td>GS1AM1</td>
<td>GS1AM2</td>
</tr>
<tr>
<td></td>
<td>GS1AM3</td>
<td>GS1AMU3</td>
<td>GS1AMU4</td>
<td>GS1AN11</td>
</tr>
<tr>
<td></td>
<td>GS1AN22</td>
<td></td>
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</tbody>
</table>

For other versions, please consult with your local Schneider Electric / Square D sales office.
<table>
<thead>
<tr>
<th>GS1EU3</th>
<th>GS1GU3</th>
<th>GS1JU3 (1)</th>
<th>GS1MU3 (1)</th>
<th>GS1QU3 (1)</th>
<th>GS1SU3 (1)</th>
<th>GS1TU3 (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fused</td>
<td>Fused</td>
<td>Fused</td>
<td>Fused</td>
<td>Fused</td>
<td>Fused</td>
<td>Fused</td>
</tr>
<tr>
<td>J</td>
<td>J</td>
<td>J</td>
<td>J</td>
<td>J</td>
<td>J</td>
<td>J</td>
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<td>60</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
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<td>3</td>
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<td>3</td>
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<tr>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
</tr>
<tr>
<td>5.5/7.5</td>
<td>11/15</td>
<td>22/30</td>
<td>45/60</td>
<td>90/125</td>
<td>185/250</td>
<td>185/250</td>
</tr>
<tr>
<td>11/15</td>
<td>22/30</td>
<td>45/60</td>
<td>90/125</td>
<td>185/250</td>
<td>370/500</td>
<td>370/500</td>
</tr>
<tr>
<td>15/20</td>
<td>37/50</td>
<td>55/75</td>
<td>110/150</td>
<td>250/350</td>
<td>370/500</td>
<td>370/500</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LK3SU3 (1)</th>
<th>LK3TU3 (1)</th>
<th>LK3UU3 (1)</th>
<th>LK3WU3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-fused</td>
<td>Non-fused</td>
<td>Non-fused</td>
<td>Non-fused</td>
</tr>
<tr>
<td>600</td>
<td>600</td>
<td>1000</td>
<td>1200</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
<td>Thru-the-door</td>
</tr>
<tr>
<td>150/200</td>
<td>185/250</td>
<td>185/250</td>
<td>185/250</td>
</tr>
<tr>
<td>300/400</td>
<td>370/500</td>
<td>370/500</td>
<td>370/500</td>
</tr>
<tr>
<td>250/350</td>
<td>370/500</td>
<td>370/500</td>
<td>370/500</td>
</tr>
</tbody>
</table>

(1) Terminal lugs must be ordered separately.
Thermal overload relays, model k
Adjustable from 0.11 to 12 A
Connection by screw clamp terminals, direct mounting on contactors LC1K, manual or automatic reset

<table>
<thead>
<tr>
<th>Relay setting range</th>
<th>Fuses to be used with selected relay (international applications only)</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 10 A</td>
<td>aM</td>
<td></td>
</tr>
<tr>
<td>0.11–0.16 A</td>
<td>0.25 A</td>
<td>LR2K0301</td>
</tr>
<tr>
<td>0.16–0.23 A</td>
<td>0.25 A</td>
<td>LR2K0302</td>
</tr>
<tr>
<td>0.23–0.36 A</td>
<td>0.5 A</td>
<td>LR2K0303</td>
</tr>
<tr>
<td>0.36–0.54 A</td>
<td>1 A</td>
<td>LR2K0304</td>
</tr>
<tr>
<td>0.54–0.8 A</td>
<td>1 A</td>
<td>LR2K0305</td>
</tr>
<tr>
<td>0.8–1.2 A</td>
<td>2 A</td>
<td>LR2K0306</td>
</tr>
<tr>
<td>1.2–1.8 A</td>
<td>2 A</td>
<td>LR2K0307</td>
</tr>
<tr>
<td>1.8–2.6 A</td>
<td>2 A</td>
<td>LR2K0308</td>
</tr>
<tr>
<td>2.6–3.7 A</td>
<td>4 A</td>
<td>LR2K0310</td>
</tr>
<tr>
<td>3.7–5.5 A</td>
<td>6 A</td>
<td>LR2K0312</td>
</tr>
<tr>
<td>5.5–8 A</td>
<td>8 A</td>
<td>LR2K0314</td>
</tr>
<tr>
<td>8–11.5 A</td>
<td>10 A</td>
<td>LR2K0316</td>
</tr>
<tr>
<td></td>
<td>12 A</td>
<td></td>
</tr>
</tbody>
</table>

Thermal overload relays for use on class 10 A unbalanced loads: for above catalog numbers LR2K0305 to LR2K0316 only, replace the prefix LR2 with LR7. Example LR7K0310.

Accessories

Prewiring kit
Allowing direct connection of the N.C. contact of relay LR01–35 or LR3D01–D35 to the contactor

<table>
<thead>
<tr>
<th>For use on</th>
<th>LAD7C1</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC1D09–D18</td>
<td></td>
</tr>
<tr>
<td>LC1D25–D38</td>
<td></td>
</tr>
</tbody>
</table>

Terminal blocks (1)

For clip-on mounting on 35 mm mounting rail (AM1-DP200) or screw fixing

<table>
<thead>
<tr>
<th>LRD3***, LR3D3***, LR3D5**</th>
<th>LAD7B10</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRD01–35 and LR3D01–D35</td>
<td></td>
</tr>
</tbody>
</table>

For independent mounting of the relay LR2K***

<table>
<thead>
<tr>
<th>LA7D3064</th>
</tr>
</thead>
</table>

Terminal block adapter

For mounting a relay beneath an LC1D115 or D150 contactor

<table>
<thead>
<tr>
<th>LA7D305B</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRD3***, LR3D3***, LR3D5**</td>
</tr>
</tbody>
</table>

Stop or electrical reset

Remote (3)

<table>
<thead>
<tr>
<th>LR01–35 and LR3D01–D35</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRD3***, LR3D3***, LR3D5**</td>
</tr>
<tr>
<td>LA7D03</td>
</tr>
</tbody>
</table>

Tipping or electrical reset device

Remote (3)

<table>
<thead>
<tr>
<th>All relays except LR01–35 and LR3D01–D35</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAD7D03+</td>
</tr>
</tbody>
</table>

(1) Terminal blocks are supplied with terminals protected against direct finger contact and screws in the open “ready-to-tighten” position.
(2) To order a terminal block for connection by lug-clamps, the catalog number becomes LA7D3064.
(3) The time for which the coil of remote tripping or electrical resetting device LA76D03 or LAD703 can remain energized depends on its rest time: 1 s pulse duration with 9 s rest time; maximum pulse duration of 20 s with a rest time of 300 s. Minimum pulse time 200 ms.
(4) Catalog number to be completed by adding the code indicating the control circuit voltage.
(5) Short circuit protection for U.S. applications: circuit breakers selected in accordance with NEC and local codes; fuses selected with maximum of 400% full load current.

Standard control circuit voltages

<table>
<thead>
<tr>
<th>AC supply</th>
<th>12</th>
<th>24</th>
<th>48</th>
<th>96</th>
<th>110</th>
<th>220/230</th>
<th>380/400</th>
<th>415/440</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50/60 Hz</td>
<td>Consumption, inrush and sealed &lt; 100 VA</td>
<td>B</td>
<td>E</td>
<td>F</td>
<td>M</td>
<td>Q</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>DC supply</td>
<td>Consumption, inrush and sealed &lt; 100 W</td>
<td>J</td>
<td>B</td>
<td>E</td>
<td>DD</td>
<td>F</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>
### Thermal overload relays, model d

#### adjustable from 0.1 to 140 A

Compensated relays with manual or automatic reset, with relay trip indicator, for AC or DC

<table>
<thead>
<tr>
<th>Relay setting range</th>
<th>Fuses to be used with selected relay (international applications only) (5)</th>
<th>With contactor</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class 10 A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.10–0.16 A</td>
<td>0.25 A</td>
<td>2 A</td>
<td>-</td>
</tr>
<tr>
<td>0.16–0.25 A</td>
<td>0.5 A</td>
<td>2 A</td>
<td>-</td>
</tr>
<tr>
<td>0.25–0.40A</td>
<td>1 A</td>
<td>2 A</td>
<td>-</td>
</tr>
<tr>
<td>0.40–0.63 A</td>
<td>1 A</td>
<td>1.6 A</td>
<td>-</td>
</tr>
<tr>
<td>0.63–1 A</td>
<td>2 A</td>
<td>4 A</td>
<td>-</td>
</tr>
<tr>
<td>1–1.7 A</td>
<td>2 A</td>
<td>4 A</td>
<td>6 A</td>
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<td>1.6–2.5 A</td>
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<td>10 A</td>
</tr>
<tr>
<td>2.5–4 A</td>
<td>6 A</td>
<td>10 A</td>
<td>16 A</td>
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<td>4–6 A</td>
<td>8 A</td>
<td>16 A</td>
<td>16 A</td>
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<tr>
<td>5.5–8 A</td>
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<td>20 A</td>
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<tr>
<td>7–10 A</td>
<td>12 A</td>
<td>20 A</td>
<td>20 A</td>
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<td>9–13 A</td>
<td>16 A</td>
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<tr>
<td>12–18 A</td>
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<td>16–24 A</td>
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<tr>
<td>23–32 A</td>
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<td>63 A</td>
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<td>30–38 A</td>
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<td>80 A</td>
<td>80 A</td>
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<td>37–50 A</td>
<td>83 A</td>
<td>100 A</td>
<td>100 A</td>
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<tr>
<td>48–65 A</td>
<td>63 A</td>
<td>100 A</td>
<td>100 A</td>
</tr>
<tr>
<td>55–70 A</td>
<td>80 A</td>
<td>125 A</td>
<td>125 A</td>
</tr>
<tr>
<td>63–80 A</td>
<td>80 A</td>
<td>125 A</td>
<td>125 A</td>
</tr>
<tr>
<td>80–104 A</td>
<td>100 A</td>
<td>160 A</td>
<td>160 A</td>
</tr>
<tr>
<td>95–120 A</td>
<td>125 A</td>
<td>200 A</td>
<td>200 A</td>
</tr>
<tr>
<td>110–140 A</td>
<td>160 A</td>
<td>250 A</td>
<td>200 A</td>
</tr>
<tr>
<td><strong>Class 20 A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 A</td>
<td>10 A</td>
<td>16 A</td>
<td>LRD100</td>
</tr>
<tr>
<td>4–6 A</td>
<td>8 A</td>
<td>16 A</td>
<td>LRD11</td>
</tr>
<tr>
<td>5.5–8 A</td>
<td>12 A</td>
<td>20 A</td>
<td>LRD12</td>
</tr>
<tr>
<td>7–10 A</td>
<td>16 A</td>
<td>20 A</td>
<td>LRD13</td>
</tr>
<tr>
<td>9–13 A</td>
<td>16 A</td>
<td>25 A</td>
<td>LRD14</td>
</tr>
<tr>
<td>12–18 A</td>
<td>25 A</td>
<td>35 A</td>
<td>LRD15</td>
</tr>
<tr>
<td>17–25 A</td>
<td>32 A</td>
<td>50 A</td>
<td>LRD16</td>
</tr>
<tr>
<td>23–28 A</td>
<td>40 A</td>
<td>63 A</td>
<td>LRD17</td>
</tr>
<tr>
<td>25–32 A</td>
<td>40 A</td>
<td>63 A</td>
<td>LRD18</td>
</tr>
<tr>
<td>28–37 A</td>
<td>50 A</td>
<td>100 A</td>
<td>LRD19</td>
</tr>
<tr>
<td>37–50 A</td>
<td>63 A</td>
<td>100 A</td>
<td>LRD20</td>
</tr>
<tr>
<td>48–65 A</td>
<td>80 A</td>
<td>125 A</td>
<td>LRD21</td>
</tr>
<tr>
<td>55–70 A</td>
<td>100 A</td>
<td>125 A</td>
<td>LRD22</td>
</tr>
<tr>
<td>63–80 A</td>
<td>100 A</td>
<td>160 A</td>
<td>LRD23</td>
</tr>
</tbody>
</table>
| (1) Separate mounting. Screw clamp terminal connections or connectors. For spring terminal connections on LRD01 to LRD22, add 3 to the end of the catalog number. Example: LRD01 becomes LRD013. For lug- clamp connections, add 6 to the end of the catalog number. Example: LRD01 becomes LRD016. For thermal overload relays for use with class 10 A unbalanced loads, with connection by screw clamp terminals, change the prefix in the catalog numbers above from LRD (except LRD4−−−) to LR3D. Example LRD01 becomes LR3D01.

(5) Short circuit protection for U.S. applications: circuit breakers selected in accordance with NEC and local codes; fuses selected with maximum of 400% full load current.
For use with contactor LC1D LC1F
Motor current 60–150 A 30–630 A
Catalog number, to be completed LR9D LR9F

<table>
<thead>
<tr>
<th>Relay setting range</th>
<th>Fuse to be used with selected relay (international application) (3)</th>
<th>For mounting</th>
<th>Compensated and differential beneath contactor LC1 or not with alarm</th>
</tr>
</thead>
<tbody>
<tr>
<td>aM</td>
<td>gG</td>
<td>Class 10</td>
<td>Class 20</td>
</tr>
<tr>
<td>60–100</td>
<td>100 160</td>
<td>LR9D5367</td>
<td>LR9D5567</td>
</tr>
<tr>
<td>90–150</td>
<td>160 250</td>
<td>LR9D5369</td>
<td>LR9F5569</td>
</tr>
<tr>
<td>30–50</td>
<td>50 80</td>
<td>LR9F5357</td>
<td>LR9F5557</td>
</tr>
<tr>
<td>48–80</td>
<td>80 125</td>
<td>LR9F5363</td>
<td>LR9F5563</td>
</tr>
<tr>
<td>60–100</td>
<td>100 200</td>
<td>LR9F5367</td>
<td>LR9F5567</td>
</tr>
<tr>
<td>90–150</td>
<td>160 250</td>
<td>LR9F5369</td>
<td>LR9F5569</td>
</tr>
<tr>
<td>132–220</td>
<td>250 315</td>
<td>LR9F5371</td>
<td>LR9F557</td>
</tr>
<tr>
<td>200–330</td>
<td>400 500</td>
<td>LR9F7375</td>
<td>LR9F757</td>
</tr>
<tr>
<td>300–500</td>
<td>500 800</td>
<td>LR9F7379</td>
<td>LR9F757</td>
</tr>
<tr>
<td>380–630</td>
<td>630 800</td>
<td>LR9F7381</td>
<td>LR9F7581</td>
</tr>
</tbody>
</table>

Accessories

Remote control

Function | Reset | Stop and/or Reset
---|---|---
Electrical reset (1) | LA7D03(2) | | LA7D03
Reset by flexible cable (length 0.5 m) | LA7D305 |
Adapter for door interlock mechanism | LA7D1020 |

Operating head for pushbutton

Spring return | ZA28L639 |
Rod with snap-off end | ZA28L432 |

Adjustable from 17 to 120 mm | ZA28Z13 |

Insulated terminal blocks


1. The time for which the coil of remote electrical reset device LA7D03 can remain energized depends on its rest time: 1 s pulse with 9 s rest time; 5 s pulse duration with 30 s rest time; 10 s pulse duration with 90 s rest time; maximum pulse duration 20 s with rest time of 300 s. Minimum pulse time: 200 ms.
2. Catalog number to be completed by adding the coil voltage code, see page 5/27.
3. Short circuit protection for U.S. applications: circuit breakers selected in accordance with NEC and local codes; fuses selected with maximum of 400% full load current.
### Electronic protection relays for use with PTC thermistor probes

#### TeSys

**LT3, LT6**

- For use with contactor: LC1-D or LC1-F
- Motor current: No limit
- **Basic reference, to be completed:** LT3S

### 3-pole multifunction protection relays

<table>
<thead>
<tr>
<th>Operational current</th>
<th>A</th>
<th>0.2–1, 1–5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td></td>
<td>LT6P0M005FM</td>
</tr>
</tbody>
</table>

### Protection units with automatic reset with thermistor short-circuit detection

#### without fault memory

<table>
<thead>
<tr>
<th>Connection by cage connectors</th>
<th>Voltage</th>
<th>Output contact</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 50/60 Hz</td>
<td>115 V</td>
<td>N.C.</td>
<td>LT3SE00F</td>
</tr>
<tr>
<td></td>
<td>230 V</td>
<td>N.C.</td>
<td>LT3SE00M</td>
</tr>
<tr>
<td>DC</td>
<td>24 V</td>
<td>N.C.</td>
<td>LT3SE00F</td>
</tr>
</tbody>
</table>

#### On front panel: fault and voltage signalling indicator

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Output contact</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 50/60 Hz</td>
<td>N.C. + N.O.</td>
<td>LT3SA00M</td>
</tr>
<tr>
<td>24/48 V</td>
<td>N.C. + N.O.</td>
<td>LT3SA00ED</td>
</tr>
<tr>
<td>AC 50/60 Hz or DC</td>
<td>2 C.O.</td>
<td>LT3SA00MW</td>
</tr>
</tbody>
</table>

#### with fault memory

#### On front panel: fault and voltage signalling indicator, Test and Reset button

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Output contact</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 50/60 Hz</td>
<td>N.C. + N.O.</td>
<td>LT3SM00V</td>
</tr>
<tr>
<td>24/48 V</td>
<td>N.C. + N.O.</td>
<td>LT3SM00E</td>
</tr>
<tr>
<td>115/230 V</td>
<td>N.C. + N.O.</td>
<td>LT3SM00M</td>
</tr>
<tr>
<td>DC</td>
<td>N.C. + N.O.</td>
<td>LT3SM00ED</td>
</tr>
<tr>
<td>AC 50/60 Hz or DC</td>
<td>2 C.O.</td>
<td>LT3SM00MW</td>
</tr>
<tr>
<td>Type</td>
<td>Mini-Vario for standard applications</td>
<td>Vario for high performance applications</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Mounting door</td>
<td>Mounting door</td>
</tr>
<tr>
<td></td>
<td>Backplate mounting in enclosure</td>
<td>Backplate mounting in enclosure</td>
</tr>
<tr>
<td>Handle color / Front plate</td>
<td>Red / Yellow</td>
<td>Red / Yellow</td>
</tr>
<tr>
<td>Front plate dimensions (mm)</td>
<td>Black / Black</td>
<td>Black / Black</td>
</tr>
<tr>
<td>Mounting</td>
<td>Ø 22.5 mm</td>
<td>Ø 22.5 mm</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 20</td>
<td>IP 20</td>
</tr>
<tr>
<td>Rated operational voltage (Ue)</td>
<td>600 V</td>
<td>600 V</td>
</tr>
<tr>
<td>Thermal current in open air (A)</td>
<td>10/12 A VCDN12 VBDN12 VCCDN12</td>
<td>10/12 A VCD02 VBD02 VBF02 VBF01 VCCD02 VCCF02</td>
</tr>
<tr>
<td></td>
<td>16/20 A VCDN20 VBDN20 VCCDN20</td>
<td>16/20 A VCD01 VBD01 VCF01 VBF01 VCCD01 VCCF01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20/25 A VCD0 VBD0 VCF0 VBF0 VCCD0 VCCF0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20/32 A VCD1 VBD1 VCF1 VBF1 VCCD1 VCCF1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25/40 A VCD2 VBD2 VCF2 VBF2 VCCD2 VCCF2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45/83 A – – VCF3 VBF3 – – VCCF3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>63/80 A – – VCF4 VBF4 – – VCCF4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100/125 A – – VCF5 – – VCCF5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>110/175 A – – VCF6 – – VCCF6</td>
</tr>
</tbody>
</table>
### Add-on modules

<table>
<thead>
<tr>
<th>Main pole modules</th>
<th>For mini-Vario</th>
<th>For Vario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating: UL/IEC (A)</td>
<td>10/12 A</td>
<td>16/20 A</td>
</tr>
<tr>
<td>Catalog number</td>
<td>VZN12</td>
<td>VZN20</td>
</tr>
</tbody>
</table>

### Neutral pole module with early make and late break contacts

| Rating | 12–20 A | 12–40 A | 63 and 80 A | 125 and 175 A |
| Catalog number | VZN11 | VZ11 | VZ12 | VZ13 |

### Earthing module

| Catalog number | VZN14 | VZ14 | VZ15 | VZ16 |

### Auxiliary contact block modules

<table>
<thead>
<tr>
<th>Contact types</th>
<th>N.O.</th>
<th>N.C.</th>
<th>N.O. + N.C.</th>
<th>N.O. + N.O.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>VZN05</td>
<td>VZN06</td>
<td>VZ7</td>
<td>VZ20</td>
</tr>
</tbody>
</table>
## Power base for D.O.L. starter

<table>
<thead>
<tr>
<th>Connection by screw clamp terminals</th>
<th>Operational voltage</th>
<th>Horsepower rating (UL ratings)</th>
<th>Current rating</th>
<th>Catalog number</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>200/208 V</td>
<td>3</td>
<td>12 A</td>
<td>LUB12</td>
<td>LU2B12--</td>
</tr>
<tr>
<td></td>
<td>230/240 V</td>
<td>3</td>
<td>12 A</td>
<td>LU2B12--</td>
<td>12 A</td>
</tr>
<tr>
<td></td>
<td>460 V</td>
<td>7.5</td>
<td>32 A</td>
<td>LUB232</td>
<td>LU2B32--</td>
</tr>
<tr>
<td></td>
<td>575/600 V</td>
<td>10</td>
<td>32 A</td>
<td>LUB232</td>
<td>32 A</td>
</tr>
</tbody>
</table>

## Add-on blocks

### Contact blocks

<table>
<thead>
<tr>
<th>Signalling</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>status of starter-controller power poles</td>
<td>N.O. (53-54)</td>
</tr>
<tr>
<td>fault</td>
<td>N.C. (95-96)</td>
</tr>
<tr>
<td>control handle in position O</td>
<td>N.O. (17-18)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connection</th>
<th>Item</th>
<th>N.O. (97-98)</th>
</tr>
</thead>
<tbody>
<tr>
<td>screw clamp terminals</td>
<td>1 + 2</td>
<td>LUFN20</td>
</tr>
<tr>
<td>without connections</td>
<td>1</td>
<td>LUFN02</td>
</tr>
</tbody>
</table>

### Auxiliary contact blocks

<table>
<thead>
<tr>
<th>Connection</th>
<th>Item</th>
<th>N.O.</th>
<th>N.C.</th>
<th>N.O.</th>
<th>N.C.</th>
<th>N.O.</th>
<th>N.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>screw clamp terminals</td>
<td>3</td>
<td>LUFN20</td>
<td>LUFN11</td>
<td>LUFN02</td>
<td>LUFN11</td>
<td>LUFN02</td>
<td>LUFN02</td>
</tr>
</tbody>
</table>

## Modules

<table>
<thead>
<tr>
<th>Module</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>parallel wiring</td>
<td>LUFC00</td>
</tr>
<tr>
<td>alarm</td>
<td>LUFV10</td>
</tr>
<tr>
<td>communication</td>
<td>Modbus</td>
</tr>
<tr>
<td>indication of motor load</td>
<td>LULC032</td>
</tr>
<tr>
<td>fault differentiation and reset</td>
<td>LUFV2</td>
</tr>
<tr>
<td>manual reset</td>
<td>LUFDA10</td>
</tr>
<tr>
<td>automatic reset</td>
<td>LUFDA10</td>
</tr>
</tbody>
</table>
### Standard control circuit voltages

<table>
<thead>
<tr>
<th>Volts</th>
<th>DC</th>
<th>AC</th>
<th>AC/DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>BL</td>
<td>B</td>
<td>-</td>
</tr>
<tr>
<td>48–72</td>
<td>-</td>
<td>-</td>
<td>ES(1)</td>
</tr>
<tr>
<td>110–240</td>
<td>-</td>
<td>-</td>
<td>FU(2)</td>
</tr>
</tbody>
</table>

(1) 48–72 VDC, 48 VAC (2) 110–220 VDC, 110–240 VAC.

---

### Control units

#### Standard

<table>
<thead>
<tr>
<th>Setting range</th>
<th>Clip-in mounting on power base</th>
<th>Volts</th>
<th>Class 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15–0.6</td>
<td>12 and 32</td>
<td>24</td>
<td>LUCAX6–</td>
</tr>
<tr>
<td>0.35–1.4</td>
<td>12 and 32</td>
<td>48–72</td>
<td>LUCAX6–</td>
</tr>
<tr>
<td>1.25–5</td>
<td>12 and 32</td>
<td>110–240</td>
<td>LUCAX6–</td>
</tr>
<tr>
<td>3–12</td>
<td>12 and 32</td>
<td>110–240</td>
<td>LUCAX6–</td>
</tr>
<tr>
<td>4.5–18</td>
<td>32</td>
<td></td>
<td>LUCAX6–</td>
</tr>
<tr>
<td>8–32</td>
<td>32</td>
<td></td>
<td>LUCAX6–</td>
</tr>
</tbody>
</table>

#### Advanced

<table>
<thead>
<tr>
<th>For motor type</th>
<th>Class 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-phase</td>
<td>LUCB6X–</td>
</tr>
<tr>
<td>3-phase</td>
<td>LUCC6X–</td>
</tr>
<tr>
<td>3-phase</td>
<td>LUCD6X–</td>
</tr>
<tr>
<td>12 and 32</td>
<td>LUCBX6–</td>
</tr>
<tr>
<td>12 and 32</td>
<td>LUCB1X–</td>
</tr>
<tr>
<td>12 and 32</td>
<td>LUCB05–</td>
</tr>
<tr>
<td>12 and 32</td>
<td>LUCB12–</td>
</tr>
<tr>
<td>32</td>
<td>LUCB16–</td>
</tr>
<tr>
<td>32</td>
<td>LUCB32–</td>
</tr>
</tbody>
</table>

#### Multifunction

<table>
<thead>
<tr>
<th>Class 5 to 35</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 and 32</td>
</tr>
<tr>
<td>12 and 32</td>
</tr>
<tr>
<td>12 and 32</td>
</tr>
<tr>
<td>12 and 32</td>
</tr>
<tr>
<td>32</td>
</tr>
<tr>
<td>32</td>
</tr>
</tbody>
</table>

Basic catalog number to be completed by adding the voltage code (1)

Parameter entry, monitoring of parameter values and consultation of logs are carried out:
- either on the front panel, using the built-in display window/keypad,
- or via an operator terminal,
- or via a PC or a PDA with PowerSuite software
- or remotely, via a Modbus communication bus.

Programming of the product via the keypad requires a 24 Vdc auxiliary power supply.
Above 32 A, the U-line Solid state overload relay system provides a motor starter management solution identical to that provided by TeSys U-line starter-controller. Used in conjunction with a short-circuit protection device and a contactor, it provides a motor starter whose functions are the same as those of a TeSys U-line self protected starter and, in particular, provides motor starter overload protection and control functions.

It consists of a control unit whose adjustment range is compatible with the secondary of current transformers, plus a control base which also allows fitment of a function module or a communication module. It requires a 24 VDC external power supply.

### Control bases

<table>
<thead>
<tr>
<th>Current transformers (auxiliary supply voltage 24 VDC)</th>
<th>For use with contactors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection screw</td>
<td>LUTM10BL TeSys model D</td>
</tr>
<tr>
<td>Control screw</td>
<td></td>
</tr>
</tbody>
</table>

### Control units

<table>
<thead>
<tr>
<th>For 3-phase motors</th>
<th>Class 10</th>
<th>Class 20</th>
<th>Class 5 to 30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting range</td>
<td>0.35–1.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>advanced</td>
<td>LUCBT1BL</td>
<td>LUCDT1BL</td>
<td>LUCMT1BL</td>
</tr>
<tr>
<td>multifunction</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Accessories

<table>
<thead>
<tr>
<th>Module</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>alarm</td>
<td>LUFW10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>communication</td>
<td></td>
<td>LULC033</td>
<td>Modbus</td>
</tr>
<tr>
<td>indication of motor load</td>
<td></td>
<td>4–20 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LUFV2</td>
</tr>
</tbody>
</table>

### Current transformers

<table>
<thead>
<tr>
<th>Operational current</th>
<th>Primary</th>
<th>30</th>
<th>50</th>
<th>100</th>
<th>200</th>
<th>400</th>
<th>800</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>secondary</td>
<td>LUTC0301</td>
<td>LUTC0501</td>
<td>LUTC1001</td>
<td>LUTC2001</td>
<td>LUTC4001</td>
<td>LUTC8001</td>
</tr>
</tbody>
</table>
# IEC type industrial control relays

## TeSys Type CA2K, CA3K and CA4K

### CA2-K control relays (0.8–1.15 Uc) (0.85–1.1UC)

<table>
<thead>
<tr>
<th>Volts AC, 50/60 Hz</th>
<th>12</th>
<th>24</th>
<th>36</th>
<th>48</th>
<th>60</th>
<th>72</th>
<th>110</th>
<th>120</th>
<th>127</th>
<th>208</th>
<th>220/230</th>
<th>230</th>
<th>230/240</th>
<th>380/400</th>
<th>400</th>
<th>400/415</th>
<th>440</th>
<th>480</th>
<th>500</th>
<th>600</th>
<th>690</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>J7</td>
<td>B7</td>
<td>C7</td>
<td>D7</td>
<td>E7</td>
<td>F7</td>
<td>FC7</td>
<td>L7</td>
<td>M7</td>
<td>P7</td>
<td>U7</td>
<td>Q7</td>
<td>N7</td>
<td>R7</td>
<td>T7</td>
<td>S7</td>
<td>Y7</td>
<td>Q7</td>
<td>N7</td>
<td>T7</td>
<td>S7</td>
</tr>
</tbody>
</table>

Up to and including 240V. Coil with integral suppression device available: add 2 to the code required. Example: J72.

### CA3-K control relays (0.8–1.15 Uc)

<table>
<thead>
<tr>
<th>Volts DC</th>
<th>12</th>
<th>24</th>
<th>36</th>
<th>48</th>
<th>60</th>
<th>72</th>
<th>100</th>
<th>110</th>
<th>125</th>
<th>200</th>
<th>220</th>
<th>230</th>
<th>240</th>
<th>250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>JD</td>
<td>ZD</td>
<td>BD</td>
<td>CD</td>
<td>ED</td>
<td>ND</td>
<td>SD</td>
<td>KD</td>
<td>PD</td>
<td>GD</td>
<td>LD</td>
<td>MD</td>
<td>MPD</td>
<td>MUD</td>
</tr>
</tbody>
</table>

Coil with integral suppression device available: add 3 to the code required. Example: JD3.

### CA4-K, low consumption control relays (wide range coil: 0.7–1.3 Uc)

<table>
<thead>
<tr>
<th>Volts DC</th>
<th>12</th>
<th>24</th>
<th>48</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>JW3</td>
<td>BW3</td>
<td>EW3</td>
<td>SW3</td>
</tr>
</tbody>
</table>

For additional options and information, reference catalog 8501CT0101.
### Instantaneous auxiliary contact blocks

<table>
<thead>
<tr>
<th>Type of Connection</th>
<th>Contact Configuration</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw clamp</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>LA1KN20</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>LA1KN02</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>LA1KN11</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>LA1KN40</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>LA1KN31</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>LA1KN22</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>LA1KN13</td>
</tr>
<tr>
<td>0</td>
<td>4</td>
<td>LA1KN04</td>
</tr>
</tbody>
</table>

| Spring terminals   |                       |                |
| 2                  | 0                     | LA1KN203       |
| 0                  | 2                     | LA1KN023       |
| 1                  | 1                     | LA1KN113       |
| 4                  | 0                     | LA1KN40(1)     |
| 3                  | 1                     | LA1KN31(1)     |
| 2                  | 2                     | LA1KN223(1)    |
| 1                  | 3                     | LA1KN133(1)    |
| 0                  | 4                     | LA1KN043(1)    |

| Slip-on 1 x 6.35 or 2 x 2.8 |                       |                |
| 2                  | 0                     | LA1KN207       |
| 0                  | 2                     | LA1KN027       |
| 1                  | 1                     | LA1KN117       |
| 4                  | 0                     | LA1KN407(1)    |
| 3                  | 1                     | LA1KN317(1)    |
| 2                  | 2                     | LA1KN227(1)    |
| 1                  | 3                     | LA1KN137(1)    |
| 0                  | 4                     | LA1KN047(1)    |

(1) Not to be used on CA4KN relays

### Electronic time delay contact blocks

- Relay output, with common point changeover contact, 240 VAC / VDC, 2 A maximum.
- Control voltage: 0.85–1.1 Uc.
- Maximum switching capacity: 250 VA or 150 W.
- Operating temperature: -10 to +60 °C (+14° F to 140° F).
- Reset time: 1.5 sec. during the time delay period, 0.5 sec. after the time delay.
- Clip-on front mounting, 1 block per control relay

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Type</th>
<th>Timing Range</th>
<th>Composition C.O.</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>24–48 VAC / VDC</td>
<td>On-delay</td>
<td>1–30 seconds</td>
<td>1</td>
<td>LA2KT2E</td>
</tr>
<tr>
<td>110–240 VAC</td>
<td>On-delay</td>
<td>1–30 seconds</td>
<td>1</td>
<td>LA2KT2U</td>
</tr>
</tbody>
</table>
## IEC type industrial control relays

### TeSys Type CAD

![CAD32-](image)

![CAD503-](image)

![CAD326-](image)

#### Instantaneous control relays

<table>
<thead>
<tr>
<th>Terminal Type</th>
<th>Number of Contacts</th>
<th>Contact Configuration</th>
<th>Catalog number (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>screw clamp</td>
<td>5</td>
<td>5 N.O. 0 N.C.</td>
<td>CAD50-</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3 N.O. 2 N.C.</td>
<td>CAD32-</td>
</tr>
<tr>
<td>spring terminal</td>
<td>5</td>
<td>5 N.O. 0 N.C.</td>
<td>CAD503-</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3 N.O. 2 N.C.</td>
<td>CAD323-</td>
</tr>
<tr>
<td>ring tongue</td>
<td>5</td>
<td>5 N.O. 0 N.C.</td>
<td>CAD506-</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3 N.O. 2 N.C.</td>
<td>CAD326-</td>
</tr>
</tbody>
</table>

(1) Complete the catalog number by adding the proper voltage code from the table below. Example: CAD50G7.

#### AC 50/60 Hz coil

<table>
<thead>
<tr>
<th>Volts</th>
<th>12</th>
<th>24</th>
<th>48</th>
<th>120</th>
<th>208</th>
<th>240</th>
<th>277</th>
<th>480</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>J7</td>
<td>E7</td>
<td>E7</td>
<td>G7</td>
<td>LE7</td>
<td>U7</td>
<td>W7</td>
<td>T7</td>
<td>X7</td>
</tr>
</tbody>
</table>

#### DC coil (coils have built in suppression as standard)

<table>
<thead>
<tr>
<th>Volts</th>
<th>12</th>
<th>24</th>
<th>36</th>
<th>48</th>
<th>60</th>
<th>72</th>
<th>110</th>
<th>125</th>
<th>220</th>
<th>250</th>
<th>440</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>JD</td>
<td>BD</td>
<td>CD</td>
<td>ED</td>
<td>ND</td>
<td>SD</td>
<td>FD</td>
<td>GD</td>
<td>MD</td>
<td>UD</td>
<td>RD</td>
</tr>
</tbody>
</table>

#### DC low consumption coil (coils have built in suppression as standard)

<table>
<thead>
<tr>
<th>Volts</th>
<th>5</th>
<th>12</th>
<th>24</th>
<th>48</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>AL</td>
<td>JL</td>
<td>BL</td>
<td>EL</td>
<td>GL</td>
</tr>
</tbody>
</table>

For additional options and information, reference catalog 8501CT0101.
### Instantaneous auxiliary contact blocks (for use in normal operation environments)

<table>
<thead>
<tr>
<th>Number of Contacts</th>
<th>Max. Number per Device (clip-on mounting)</th>
<th>Termination Type</th>
<th>Contact Composition N.O.</th>
<th>Contact Composition N.C.</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Front Left Side Only</td>
<td>Screw Clamp</td>
<td>2</td>
<td>0</td>
<td>LADN20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>LADN11</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>2</td>
<td>LADN02</td>
</tr>
<tr>
<td>2</td>
<td>1 – 2</td>
<td>Spring Terminal</td>
<td>2</td>
<td>0</td>
<td>LADN203</td>
</tr>
<tr>
<td></td>
<td>1 – 1</td>
<td></td>
<td>1</td>
<td>1</td>
<td>LADN113</td>
</tr>
<tr>
<td></td>
<td>0 – 2</td>
<td></td>
<td>0</td>
<td>2</td>
<td>LADN023</td>
</tr>
<tr>
<td>2</td>
<td>1 (not for DC devices)</td>
<td>Screw Clamp</td>
<td>2</td>
<td>0</td>
<td>LADN802</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>LADN811</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>2</td>
<td>LADN802</td>
</tr>
<tr>
<td>4</td>
<td>1 – 2</td>
<td>Screw Clamp</td>
<td>4</td>
<td>0</td>
<td>LADN40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
<td>LADN31</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>LADN22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>3</td>
<td>LADN13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>4</td>
<td>LADN04</td>
</tr>
<tr>
<td>4</td>
<td>1 – 2</td>
<td>Spring Terminal</td>
<td>4</td>
<td>0</td>
<td>LADN403</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
<td>LADN313</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>LADN223</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>3</td>
<td>LADN133</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>4</td>
<td>LADN043</td>
</tr>
<tr>
<td>4</td>
<td>1 – 2</td>
<td>Screw Clamp</td>
<td>4</td>
<td>0</td>
<td>LADC22 (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>1</td>
<td>LADC22 (4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>LADC22 (4)</td>
</tr>
</tbody>
</table>

### Instantaneous auxiliary contact blocks with dust and damp protected contacts (for use in particularly harsh industrial environments)

<table>
<thead>
<tr>
<th>Number of Contacts</th>
<th>Max. Number per Device (Front Mounting)</th>
<th>Contact Composition Sealed N.O. (1)</th>
<th>Normal N.O.</th>
<th>Normal N.C.</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>LA1DX20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 – 2</td>
<td></td>
<td></td>
<td>LA1DX02</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 – 2</td>
<td></td>
<td></td>
<td>LA1DY20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 – 2</td>
<td></td>
<td></td>
<td>LA1DZ40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 – 2</td>
<td></td>
<td></td>
<td>LA1DZ31</td>
</tr>
</tbody>
</table>

(1) Grounding terminal points (2 terminals jumpered together; see diagram on page 8 of Catalog 8501CT0101).

### Time delay auxiliary contact blocks

<table>
<thead>
<tr>
<th>Number and Type of Contacts</th>
<th>Max. Number per Device (Front Mounting)</th>
<th>Time Delay Type</th>
<th>Termination Type</th>
<th>Range</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 N.C. and 1 N.O.</td>
<td>1</td>
<td>On-Delay</td>
<td>screw clamp</td>
<td>0.1 to 3 sec. (2)</td>
<td>LADT0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1 to 30 sec.</td>
<td>LADT2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 to 180 sec.</td>
<td>LADT4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 to 30 sec. (3)</td>
<td>LADS2</td>
</tr>
<tr>
<td>1 N.C. and 1 N.O.</td>
<td>1</td>
<td>On-Delay</td>
<td>spring terminal</td>
<td>0.1 to 3 sec. (2)</td>
<td>LADT03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1 to 30 sec.</td>
<td>LADT23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 to 180 sec.</td>
<td>LADT43</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 to 30 sec. (3)</td>
<td>LADS23</td>
</tr>
<tr>
<td>1 N.C. and 1 N.O.</td>
<td>1</td>
<td>Off-Delay</td>
<td>screw clamp</td>
<td>0.1 to 3 sec. (2)</td>
<td>LADR0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1 to 30 sec.</td>
<td>LADR2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 to 180 sec.</td>
<td>LADR4</td>
</tr>
<tr>
<td>1 N.C. and 1 N.O.</td>
<td>1</td>
<td>Off-Delay</td>
<td>spring terminal</td>
<td>0.1 to 3 sec. (2)</td>
<td>LADR03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.1 to 30 sec.</td>
<td>LADR23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 to 180 sec.</td>
<td>LADR43</td>
</tr>
</tbody>
</table>

(2) With extended scale from 0.1 to 0.6 s.

(3) With switching time of 40 ms ± 15 ms between opening of the N.C. contact and closing of the N.O. contact.

(4) Includes 1 N.O. & 1 N.C. overlapping contact.

For additional options and information, reference catalog 8501CT0101.
NEMA Type

(1) Standard control circuit voltages:

<table>
<thead>
<tr>
<th>Volts</th>
<th>24</th>
<th>110</th>
<th>120</th>
<th>208</th>
<th>220</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>V02</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>V03</td>
</tr>
<tr>
<td>60 Hz</td>
<td>V01 (4)</td>
<td>–</td>
<td>–</td>
<td>V02</td>
<td>V08</td>
</tr>
</tbody>
</table>

For 24 V and 120 V coils add the letter “S” for separate control. Example: 8502SAO12 V01S.

Contactors and starters

3-pole contactors and starters, open style

<table>
<thead>
<tr>
<th>Type</th>
<th>Starters 3-pole, open style</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Basic catalog number complete with code indicating control circuit voltage (1) and optional Forms (2)</td>
</tr>
<tr>
<td></td>
<td>Basic catalog number complete with code indicating control circuit voltage (1) optional Forms (2) and “H” code (3)</td>
</tr>
</tbody>
</table>

Motor voltage 200 V 230 V 460 V 575 V Hp kW Hp kW Hp kW Hp kW A

- 00 1.5 1.1 1.5 1.1 2 1.5 2 1.5 9 8502SAO12 ppp 8536SAO12 ppp
- 0 3 2.2 3 2.2 5 3.7 5 3.7 18 8502SB02 ppp 8536 SB02 ppp
- 1 7.5 5.5 10 7.5 10 7.5 27 8502SC02 ppp 8536 SC03 ppp
- 2 10 7.5 15 11 25 18.5 25 18.5 45 8502SD02 ppp 8536 SD01 ppp
- 3 25 18.5 30 22 50 37 50 37 90 8502SED02 ppp 8536 SE01 ppp
- 4 40 30 50 37 100 75 100 75 135 8502SF02 ppp 8536 SF01 ppp
- 5 75 55 100 75 200 150 200 150 270 8502SG02 ppp 8536 SG01 ppp
- 6 150 110 200 150 400 300 400 300 540 8502SH02 ppp 8536 SH02 ppp
- 7 – – 300 220 600 450 600 450 810 8502SJ02 ppp 8536 SJ02 ppp

Solid State Overload Relays

(6) Standard current ranges dependent on starter size:

<table>
<thead>
<tr>
<th>Size</th>
<th>00</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current ranges A</td>
<td>1.5–4.5 (8)</td>
<td>6–18</td>
<td>9–27</td>
<td>15–45</td>
<td>30–90</td>
</tr>
<tr>
<td>Size</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Current ranges A</td>
<td>45–135</td>
<td>90–270</td>
<td>180–540 (8)</td>
<td>270–810 (9)</td>
<td></td>
</tr>
</tbody>
</table>

Form adders

<table>
<thead>
<tr>
<th>Description</th>
<th>Current range</th>
<th>For use with</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip class 10</td>
<td>Base unit, (6)</td>
<td>8736 Spp</td>
</tr>
<tr>
<td>Base unit, Trip class 20</td>
<td>(6)</td>
<td>8536 Spp</td>
</tr>
<tr>
<td>Feature unit</td>
<td>(6)</td>
<td>8536 Spp</td>
</tr>
</tbody>
</table>

Motor Logic® solid state relays Without additional auxiliary contact

<table>
<thead>
<tr>
<th>Description</th>
<th>Current range</th>
<th>For use with</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip class 10</td>
<td>Base unit, (6)</td>
<td>8736 Spp</td>
</tr>
<tr>
<td>Base unit, Trip class 20</td>
<td>(6)</td>
<td>8536 Spp</td>
</tr>
<tr>
<td>Feature unit</td>
<td>(6)</td>
<td>8536 Spp</td>
</tr>
</tbody>
</table>

Suffix to be added to the starter catalog number (7)

| Motor Logic® solid state relays With additional auxiliary contact |
|----------------------|----------------------|
| Suffix to be added to the starter catalog number (7) |

(7) Example: 8536SAO12V01H10.

(8) Only available with feature units.

(9) Only available with feature units with auxiliary contact.

For additional information, reference catalog 8502CT9701.
3-pole reversing contactors and reversing starters, open style

<table>
<thead>
<tr>
<th>Type</th>
<th>Reversing contactors 3-pole, open style</th>
<th>Reversing starters 3-pole, open style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEMA Standard power ratings of 3-phase motors 50/60 Hz</td>
<td>Maximum continuous current</td>
<td>Basic catalog number complete with code indicating control circuit voltage (1) and optional Forms (2)</td>
</tr>
<tr>
<td>Motor voltage</td>
<td>200 V</td>
<td>230 V</td>
</tr>
<tr>
<td>00</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>0</td>
<td>3</td>
<td>2.2</td>
</tr>
<tr>
<td>1</td>
<td>7.5</td>
<td>5.5</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>7.5</td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td>18.5</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>5</td>
<td>75</td>
<td>55</td>
</tr>
<tr>
<td>6</td>
<td>150</td>
<td>110</td>
</tr>
<tr>
<td>7</td>
<td>–</td>
<td>300</td>
</tr>
</tbody>
</table>

For 24 V and 120 V coils add the letter “S” for separate control. Example: 8702SAO4 V01S.

(1) Standard control circuit voltages:

<table>
<thead>
<tr>
<th>Volts</th>
<th>24</th>
<th>110</th>
<th>120</th>
<th>208</th>
<th>220</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>–</td>
<td>V02</td>
<td>–</td>
<td>–</td>
<td>V03</td>
</tr>
<tr>
<td>60 Hz</td>
<td>V01</td>
<td>–</td>
<td>V02</td>
<td>V08</td>
<td>–</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Volts</th>
<th>240</th>
<th>380</th>
<th>440</th>
<th>480</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>–</td>
<td>V05</td>
<td>V06</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>60 Hz</td>
<td>V03</td>
<td>–</td>
<td>V06</td>
<td>V07</td>
<td>–</td>
</tr>
</tbody>
</table>

For 24 V and 120 V coils add the letter “S” for separate control. Example: 8702SAO4 V01S.

For additional information, reference catalog 8502CT9701.
## Combination starters

### 3-pole disconnect switch starters

**NEMA Type**

- **NEMA 1 general purpose enclosure**
- **NEMA 12 dust-tight and drip-tight industrial use enclosure**

<table>
<thead>
<tr>
<th>Type</th>
<th>3-pole starters non-reversing with Class H fuses</th>
<th>3-pole starters, non-reversing with Class R fuses</th>
<th>3-pole starters, non-reversing with Class H fuses</th>
<th>3-pole starters, non-reversing with Class R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuses</td>
<td>Basic catalog number complete with code indicating control circuit voltage (1) and optional Forms (2) and H code (3)</td>
<td>Basic catalog number complete with code indicating control circuit voltage (1) and optional Forms (2)</td>
<td>Basic catalog number complete with code indicating control circuit voltage (1) and optional Forms (2) and H code (3)</td>
<td>Basic catalog number complete with code indicating control circuit voltage (1) and optional Forms (2)</td>
</tr>
<tr>
<td>Characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>Standard power ratings</td>
<td>Fuse size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEMA of 3-phase motors 50/60 Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor voltage (starter voltage)</td>
<td>200 V (208 V)</td>
<td>230 V (240 V)</td>
<td>460 V (480 V)</td>
<td>575 V (600 V)</td>
</tr>
</tbody>
</table>

### Table

<table>
<thead>
<tr>
<th>Volts</th>
<th>24</th>
<th>110</th>
<th>120</th>
<th>208</th>
<th>220</th>
<th>240</th>
<th>380</th>
<th>440</th>
<th>480</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>V01</td>
<td>V02</td>
<td>V03</td>
<td>V05</td>
<td>V06</td>
<td>V07</td>
<td>V08</td>
<td>V09</td>
<td>V10</td>
<td>V11</td>
</tr>
<tr>
<td>60 Hz</td>
<td>V01</td>
<td>V02</td>
<td>V03</td>
<td>V05</td>
<td>V06</td>
<td>V07</td>
<td>V08</td>
<td>V09</td>
<td>V10</td>
<td>V11</td>
</tr>
</tbody>
</table>

For 24 V and 120 V coils add the letter “S” for separate control. Example: 8538SBG12V01S.

For other versions, please consult your nearest Schneider Electric sales office.

(1) Standard control circuit voltages:

For additional information, reference catalog 8538CT9701.
## Solid state overload Relays

### Form adders

<table>
<thead>
<tr>
<th>For use with</th>
<th>Current range</th>
<th>Description</th>
<th>Suffix to be added to the starter catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>8538SBG12/13, (except 8538 SDG16/SDA16/SDA26)</td>
<td>(8) 3–9 A</td>
<td>Base unit, Trip Class 10</td>
<td>H10</td>
</tr>
<tr>
<td>8538SBA12/22/13/23</td>
<td>(8) 3–9 A</td>
<td>Base unit, Trip Class 20</td>
<td>H20</td>
</tr>
<tr>
<td>8538SCG12/14,</td>
<td>(8) 1.5–4.5 A</td>
<td>Feature unit</td>
<td>H30</td>
</tr>
<tr>
<td>8538SCA12/22/14/24,</td>
<td>(8) 3–9 A</td>
<td>Feature unit</td>
<td>H30</td>
</tr>
<tr>
<td>8538SDG16, 8538SDA16/26</td>
<td>(9) 6–18 A</td>
<td>Base unit, Trip Class 10</td>
<td>H100</td>
</tr>
<tr>
<td>8538SBA12/22/14/24,</td>
<td>(9) 6–18 A</td>
<td>Base unit, Trip Class 20</td>
<td>H200</td>
</tr>
<tr>
<td>8538SCG12/14,</td>
<td>(9) 6–18 A</td>
<td>Feature unit</td>
<td>H300</td>
</tr>
<tr>
<td>8538SDG16, 8538SDA16/26</td>
<td>(9) 9–27 A</td>
<td>Base unit, Trip Class 10</td>
<td>H101</td>
</tr>
<tr>
<td>8538SDA16/26</td>
<td>(9) 9–27 A</td>
<td>Base unit, Trip Class 20</td>
<td>H201</td>
</tr>
<tr>
<td>8538SDA16/26</td>
<td>(9) 9–27 A</td>
<td>Feature unit</td>
<td>H301</td>
</tr>
</tbody>
</table>

(8) Standard current ranges dependent on starter size.

### Current ranges A

<table>
<thead>
<tr>
<th>Size</th>
<th>00</th>
<th>01</th>
<th>02</th>
<th>03</th>
<th>04</th>
<th>05</th>
<th>06</th>
<th>07</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>00</th>
<th>01</th>
<th>02</th>
<th>03</th>
<th>04</th>
<th>05</th>
<th>06</th>
<th>07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current ranges A</td>
<td>270–810</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(9) Example: 8538SBG12V01H10.
(10) Only available with feature units.
(11) Only available with feature units with auxiliary contact.

For additional information, reference catalog 9065CT9701.
# NEMA Type

## Combination starters

**Mag-Gard® circuit-breaker starters**

**NEMA 1 general purpose enclosure**

### Standard control circuit voltages:

<table>
<thead>
<tr>
<th>Volts</th>
<th>24</th>
<th>110</th>
<th>120</th>
<th>208</th>
<th>220</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>V02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 Hz</td>
<td>V01</td>
<td>V03</td>
<td>V04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Volts</th>
<th>240</th>
<th>380</th>
<th>440</th>
<th>480</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>V05</td>
<td>V06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60 Hz</td>
<td>V03</td>
<td>V07</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For 24 V and 120 V coils add the letter "S" for separate control. Example: 8539SCG41V02H10S.

## Characteristics

<table>
<thead>
<tr>
<th>NEMA Motor voltage (star ter voltage)</th>
<th>Hp kW</th>
<th>Hp kW</th>
<th>Hp kW</th>
<th>Hp kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 V (208 V)</td>
<td>0.3 0.2</td>
<td>0.3 0.2</td>
<td>1 0.75</td>
<td>1 0.75</td>
</tr>
<tr>
<td>230 V (240 V)</td>
<td>0.2 0.2</td>
<td>0.2 0.2</td>
<td>1 0.75</td>
<td>1 0.75</td>
</tr>
<tr>
<td>460 V (480 V)</td>
<td>2.2 2.2</td>
<td>2.2 2.2</td>
<td>5 3.7</td>
<td>5 3.7</td>
</tr>
<tr>
<td>575 V (800 V)</td>
<td>7.5 7.5</td>
<td>7.5 7.5</td>
<td>10 7.5</td>
<td>10 7.5</td>
</tr>
</tbody>
</table>

### Circuit-breaker starters

Basic catalog number complete with code indicating control circuit voltage (1), optional Forms (2) and "H" code (3).

- 8539SBG41 ppp
- 8539BG42 ppp
- 8539BG43 ppp
- 8539SCG41 ppp
- 8539SCG42 ppp
- 8539SCG43 ppp
- 8539SCG44 ppp
- 8539SCG45 ppp
- 8539SDG41 ppp
- 8539SDG42 ppp
- 8539SDG43 ppp
- 8539SDG44 ppp
- 8539SGG41 ppp
- 8539SGG42 ppp
- 8539SGG43 ppp
- 8539SGG44 ppp
- 8539SHG41 ppp
- 8539SHG42 ppp
- 8539SHG43 ppp
- 8539SHG44 ppp
- 8539SJG41 ppp
- 8539SJG42 ppp
- 8539SJG43 ppp

(2) For optional Forms, please consult your nearest Schneider Electric/Square D sales office.

(3) Add the letter "H" for Motor Logic® solid state overload relays, see page 1-30. Motor Logic® PLUS solid state overload relays are not available on combination starters.

(4) For this voltage code, add the letter "S" (separate control).

(5) 24 V coil not available for sizes 4 to 6. Available for sizes 0 to 3, specify letter "S" (separate control).

For additional information, reference catalog 8538CT9701.

---

For other versions, please consult with your local Schneider Electric/Square D sales office.
## Thermal-magnetic circuit-breaker starters

### NEMA Type

#### NEMA 1 general purpose enclosure

- **Standard control circuit voltages:**
  - **Volts: 24**
    - 24, 110, 120, 208, 220
  - **60 Hz Volts:**
    - 240, 380, 440, 480, 600

#### Characteristics

<table>
<thead>
<tr>
<th>NEMA size</th>
<th>Standard power ratings of 3-phase motors 50/60 Hz</th>
<th>Circuit-breaker</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Motor voltage (starter voltage)</td>
<td>Basic catalog number complete with code indicating control circuit voltage (1), optional Forms (2) and “H” code (3)</td>
</tr>
<tr>
<td></td>
<td>200 V (208 V)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>230 V (240 V)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>460 V (480 V)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>575 V (600 V)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type</td>
<td>Current rating</td>
</tr>
<tr>
<td></td>
<td>Hp kW</td>
<td>A</td>
</tr>
<tr>
<td>0</td>
<td>2 1.5</td>
<td>FAL 15</td>
</tr>
<tr>
<td></td>
<td>– – –</td>
<td>8S39SBG1 ppp</td>
</tr>
<tr>
<td></td>
<td>5 3.7</td>
<td>FAL 20</td>
</tr>
<tr>
<td>1</td>
<td>5 3.7</td>
<td>FAL 35</td>
</tr>
<tr>
<td></td>
<td>7.5 5.5</td>
<td>FAL 50</td>
</tr>
<tr>
<td></td>
<td>– – –</td>
<td>8S39SCG5 ppp</td>
</tr>
<tr>
<td>2</td>
<td>10 7.5</td>
<td>FAL 60</td>
</tr>
<tr>
<td></td>
<td>– – 15 11</td>
<td>8S39SDG1 ppp</td>
</tr>
<tr>
<td>3</td>
<td>15 11</td>
<td>FAL 80</td>
</tr>
<tr>
<td></td>
<td>20 15 25 18.5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>30 22</td>
<td>KAL 110</td>
</tr>
<tr>
<td></td>
<td>50 37</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>50 37</td>
<td>KAL 150</td>
</tr>
<tr>
<td></td>
<td>100 75</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>100 75</td>
<td>KAL 200</td>
</tr>
<tr>
<td></td>
<td>250 185</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>– – 250 185</td>
<td></td>
</tr>
</tbody>
</table>

(1) Standard control circuit voltages:

- **Volts 24:**
  - V02
- **Volts 60 Hz:**
  - V01 (4), V02 (4), V08

For 24 V and 120 V coils add the letter “S” for separate control. Example: 8S39SBG1V02H10S.

(2) For optional Forms, please consult your nearest Schneider Electric/Square D sales office.

(3) Add the letter “H” for Motor Logic® solid state overload relays, see page 5/30.

Motor Logic® PLUS solid state overload relays are not available on combination starters.

(4) For this voltage code, add the letter “S” (separate control).

(5) 24 V coil not available for sizes 4 to 6. Available for sizes 0 to 3, specify letter “S” (separate control).
## Solid State Overload Relays
### Motor Logic®
#### Base units

<table>
<thead>
<tr>
<th>Type</th>
<th>Base units for separate mounting</th>
<th>Base units for retrofit to Type S starters (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEMA Size Full load current range</td>
<td>Catalog number</td>
<td>Catalog number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Designation</th>
<th>Full load current range</th>
<th>Type</th>
<th>Catalog number</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>00C (1)</td>
<td>3–9 A</td>
<td>Trip Class 10</td>
<td>9065SSC10</td>
<td>9065SSC10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trip Class 20</td>
<td>9065SSC20</td>
<td>9065SSC20</td>
</tr>
<tr>
<td>0 (1)</td>
<td>6–18 A</td>
<td>Trip Class 10</td>
<td>9065SS010</td>
<td>9065SS010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trip Class 20</td>
<td>9065SS020</td>
<td>9065SS020</td>
</tr>
<tr>
<td>1 (1)</td>
<td>9–27 A</td>
<td>Trip Class 10</td>
<td>9065SS110</td>
<td>9065SS110</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Trip Class 20</td>
<td>9065SS120</td>
<td>9065SS120</td>
</tr>
<tr>
<td>2</td>
<td>15–45 A</td>
<td>Trip Class 10</td>
<td>9065SS210</td>
<td>9065SR210</td>
</tr>
<tr>
<td>3</td>
<td>30–90 A</td>
<td>Trip Class 10</td>
<td>9065SS310</td>
<td>9065SR310</td>
</tr>
<tr>
<td>4</td>
<td>45–135 A</td>
<td>Trip Class 10</td>
<td>9065SS410</td>
<td>9065SR410</td>
</tr>
</tbody>
</table>

#### Motor Logic feature units

<table>
<thead>
<tr>
<th>Type</th>
<th>Feature units for separate mounting</th>
<th>Feature units for retrofit to Type S starters (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEMA Size Full load current range</td>
<td>Catalog number</td>
<td>Catalog no.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Designation</th>
<th>Full load current range</th>
<th>Type</th>
<th>Catalog number</th>
<th>Catalog no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>00B (1)</td>
<td>1.5–4.5 A</td>
<td>Trip Class 10/20</td>
<td>9065SFB20</td>
<td>9065SFB20</td>
</tr>
<tr>
<td>00C (1)</td>
<td>3–9 A</td>
<td>Trip Class 10/20</td>
<td>9065SFC20</td>
<td>9065SFC20</td>
</tr>
<tr>
<td>0 (1)</td>
<td>6–18 A</td>
<td>Trip Class 10/20</td>
<td>9065SF020</td>
<td>9065SF020</td>
</tr>
<tr>
<td>1 (1)</td>
<td>9–27 A</td>
<td>Trip Class 10/20</td>
<td>9065SF120</td>
<td>9065SF120</td>
</tr>
<tr>
<td>2</td>
<td>15–45 A</td>
<td>Trip Class 10/20</td>
<td>9065SF220</td>
<td>9065ST220</td>
</tr>
<tr>
<td>3</td>
<td>30–90 A</td>
<td>Trip Class 10/20</td>
<td>9065SF320</td>
<td>9065ST320</td>
</tr>
<tr>
<td>4</td>
<td>45–135 A</td>
<td>Trip Class 10/20</td>
<td>9065SF420</td>
<td>9065ST420</td>
</tr>
<tr>
<td>5 (3)</td>
<td>90–270 A</td>
<td>Trip Class 10/20</td>
<td>–</td>
<td>9065ST520</td>
</tr>
<tr>
<td>6 (3)</td>
<td>180–540 A</td>
<td>Trip Class 10/20</td>
<td>–</td>
<td>9065ST620</td>
</tr>
<tr>
<td>7 (3)</td>
<td>270–810 A</td>
<td>Trip Class 10/20</td>
<td>–</td>
<td>9065ST720</td>
</tr>
</tbody>
</table>

(1) For power connection kit, see table on page opposite.
(2) For Type S starter catalog numbers, see page 5/30.
(3) Replacement for existing Type S starters with an existing Motor Logic® solid state overload relay. Does not include primary current transformer or additional components.

For additional information, reference catalog 9065CT9701.
## Motor Logic PLUS programmable units

![Motor Logic PLUS programmable units](image)

### Type

<table>
<thead>
<tr>
<th>NEMA Size 3-phase</th>
<th>Current range (A)</th>
<th>Voltage (V)</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.5–2.3</td>
<td>200–480</td>
<td>9065SPB4</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td></td>
<td>9065SPB6</td>
</tr>
<tr>
<td>0</td>
<td>2–9</td>
<td>200–480</td>
<td>9065SPC4</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td></td>
<td>9065SPC6</td>
</tr>
<tr>
<td>1</td>
<td>6–27</td>
<td>200–480</td>
<td>9065SP14</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td></td>
<td>9065SP16</td>
</tr>
<tr>
<td>2</td>
<td>10–45</td>
<td>200–480</td>
<td>9065SP24</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td></td>
<td>9065SP26</td>
</tr>
<tr>
<td>3</td>
<td>20–90</td>
<td>200–480</td>
<td>9065SP34</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td></td>
<td>9065SP36</td>
</tr>
<tr>
<td>4 (1)</td>
<td>60–135</td>
<td>200–480</td>
<td>9065SP36</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td></td>
<td>9065SP44</td>
</tr>
<tr>
<td>5 (2)</td>
<td>120–270</td>
<td>200–480</td>
<td>9065SP54</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td></td>
<td>9065SP56</td>
</tr>
<tr>
<td>6 (3)</td>
<td>240–540</td>
<td>200–480</td>
<td>9065SP64</td>
</tr>
<tr>
<td></td>
<td>600</td>
<td></td>
<td>9065SP66</td>
</tr>
</tbody>
</table>

(1) Size 4 requires the use of an external current transformer. Ratio of 150:5 recommended.
(2) Size 5 requires the use of an external current transformer. Ratio of 300:5 recommended.
(3) Size 6 requires the use of an external current transformer. Ratio of 600:5 recommended.

### Accessories

#### Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>For use on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lug connector kits</td>
<td>For separate mounting</td>
<td>9065 Sp (Sizes 00B/00C/0/1)</td>
</tr>
<tr>
<td></td>
<td>For mounting on Type 5 starters</td>
<td>9065 Sp (Sizes 00B/00C/0/1)</td>
</tr>
<tr>
<td>Power connection kits</td>
<td>Catalog number</td>
<td></td>
</tr>
<tr>
<td>9999LLO</td>
<td>9999LBO</td>
<td></td>
</tr>
</tbody>
</table>

For additional information, reference catalog 9065CT9701.
## Definite purpose contactors

### Compact contactors, single-pole and 2-pole

#### NEMA Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Compact contactors single-pole</th>
<th>Compact contactors 2-pole (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full load current</td>
<td>Load locked rotor Resistive Motor power</td>
<td>115V 230V 230V460/575V</td>
</tr>
<tr>
<td>277V 480V 575V V</td>
<td>single-phase single-phase 3-phase 3-phase</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>20</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>25</td>
<td>125</td>
<td>125</td>
</tr>
<tr>
<td>30</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>40</td>
<td>240</td>
<td>200</td>
</tr>
</tbody>
</table>

(1) 3 hp (2.2 kW) for 1-pole device; 5 hp (3.7 kW) for 2-pole device.

### 2, 3 and 4-pole, contactors

#### Type

<table>
<thead>
<tr>
<th>Type</th>
<th>2, 3 and 4-pole, contactors (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full load current</td>
<td>Load locked rotor Resistive Motor power</td>
</tr>
<tr>
<td>277V 480V 575V V</td>
<td>single-phase single-phase 3-phase 3-phase</td>
</tr>
<tr>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>20</td>
<td>120</td>
</tr>
<tr>
<td>25</td>
<td>150</td>
</tr>
<tr>
<td>30</td>
<td>180</td>
</tr>
<tr>
<td>40</td>
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<tr>
<td>50</td>
<td>300</td>
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<td>60</td>
<td>360</td>
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<tr>
<td>75</td>
<td>450</td>
</tr>
<tr>
<td>90</td>
<td>540</td>
</tr>
<tr>
<td>120</td>
<td>720</td>
</tr>
</tbody>
</table>

For additional information, reference catalog 8910CT9301R6/97.
# 4-pole contactors

## Accessories

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>8910DPA</td>
<td>1 N.O. contact</td>
<td>9999D10</td>
</tr>
<tr>
<td>8910DPA</td>
<td>1 N.C. contact</td>
<td>9999D01</td>
</tr>
<tr>
<td>8910DPA122/123</td>
<td>1 N.O. and 1 N.C. contacts</td>
<td>9999D11</td>
</tr>
<tr>
<td>8910DPA</td>
<td>2 N.O. contacts</td>
<td>9999D20</td>
</tr>
<tr>
<td>8910DPA</td>
<td>1 N.O. contact</td>
<td>9999S6X</td>
</tr>
<tr>
<td>8910DPA</td>
<td>1 N.C. contact</td>
<td>9999S7X</td>
</tr>
<tr>
<td>8910DPA122/123</td>
<td>1 N.O. and 1 N.C. isolated contacts</td>
<td>9999S8X</td>
</tr>
<tr>
<td>8910DPA</td>
<td>1 N.O. overlapping contact</td>
<td>9999S9X</td>
</tr>
<tr>
<td>8910DPA</td>
<td>1 N.C. overlapping contact</td>
<td>9999S10X</td>
</tr>
</tbody>
</table>

(1) Standard control circuit voltages for 8910DP/DPA.

<table>
<thead>
<tr>
<th>Volts</th>
<th>24</th>
<th>110</th>
<th>120</th>
<th>208-240</th>
<th>220</th>
<th>277</th>
<th>440</th>
<th>480</th>
<th>550</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>V14</td>
<td>V02</td>
<td>–</td>
<td>–</td>
<td>V09</td>
<td>–</td>
<td>V06 (4)</td>
<td>–</td>
<td>V07 (5)</td>
<td>–</td>
</tr>
<tr>
<td>60 Hz</td>
<td>V14</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>V02</td>
<td>V09</td>
<td>–</td>
<td>V04</td>
<td>–</td>
<td>V06 (4)</td>
</tr>
</tbody>
</table>

(2) 50 A resistive limited to 277 V (single pole device only). All other contactors rated 40 A resistive (above 277 V).

(3) Above 240 V, all lines must be switched.

(4) Not available for type 8910DP11 to 8910DP31 single-pole devices.

(5) Not available for type 8910DP single and 2-pole devices.

(6) Only available on types 8910DPA122/DPA123.

(7) N.C. poles on outside. N.C. poles “open” before N.O. poles “close”.

For additional information, reference catalog 8910CT9301R6/97.
NEMA Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Multipole contactors, open style, electrically held</th>
<th>Multipole contactors, open style, mechanically held</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal operating current (A)</td>
<td>Number of poles</td>
<td>Basic catalog number complete with code indicating control circuit voltage (1)</td>
</tr>
<tr>
<td>20</td>
<td>2</td>
<td>8903LO20</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>8903LO30</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>8903LO40</td>
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<tr>
<td></td>
<td>6</td>
<td>8903LO60</td>
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<tr>
<td></td>
<td>8</td>
<td>8903LO80</td>
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<td></td>
<td>10</td>
<td>8903LO100</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>8903LO1200</td>
</tr>
</tbody>
</table>

(1) Standard control circuit voltages:

- 50 Hz: 240, 277, 440, 480
- 60 Hz: 208, 220

For other versions, please consult your nearest Square D/Schneider Electric sales office.

---

Multipole contactors Type S

<table>
<thead>
<tr>
<th>Type</th>
<th>Multipole contactors, open style, electrically held</th>
<th>Multipole contactors, open style, mechanically held</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal operating current (A)</td>
<td>Number of poles</td>
<td>Basic catalog number complete with code indicating control circuit voltage (1)</td>
</tr>
<tr>
<td>30</td>
<td>2</td>
<td>8903SMO1</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>8903SMO2</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>8903SMO3</td>
</tr>
<tr>
<td>60</td>
<td>2</td>
<td>8903SMO4</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>8903SPO1</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>8903SPO2</td>
</tr>
<tr>
<td>100</td>
<td>2</td>
<td>8903SPO3</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>8903SPO4</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>8903SPO5</td>
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<tr>
<td>120</td>
<td>2</td>
<td>8903SPO6</td>
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<td></td>
<td>3</td>
<td>8903SPO7</td>
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<td>5</td>
<td>8903SPO8</td>
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<td>180</td>
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<td>8903SPO9</td>
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<td></td>
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<td>8903SPO10</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>8903SPO11</td>
</tr>
</tbody>
</table>

(1) Standard control circuit voltages:

- 50 Hz: 240, 277, 440, 480
- 60 Hz: 208, 220

For other versions, please consult your nearest Square D/Schneider Electric sales office.

---

(2) All lighting contactors are provided with separate control as standard, except electrically held 400, 600 and 800 A devices. Electrically held 400, 600 and 800 A devices are provided with common control.

(3) For factory conversion of N.O. contacts to N.C., order following this example: for 2 N.O. + 2 N.C., order catalog 8903L022.

(4) 24 V coils are not available for 200–800 A devices.

(5) Form F4T is provided as standard on electrically held devices 400–800 A; include line voltage when ordering. Control voltage is 120–60. For 400–800 A devices—must specify line voltage, not control voltage.
## Manual starters and switches

### NEMA Type

**Manual starters Type F, general purpose surface mounting enclosure (NEMA 1)**

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Number of poles</th>
<th>Maximum power of single-phase motors 115-230 Vac</th>
<th>Maximum power of single-phase motors 115-230 Vdc</th>
<th>Maximum power of single-phase motors 277 Vac</th>
<th>Maximum current</th>
<th>Features</th>
<th>Catalog number</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toggle operator</strong></td>
<td>1</td>
<td>0.75</td>
<td>-</td>
<td>-</td>
<td>0.75</td>
<td>16</td>
<td>Standard</td>
<td>2510FG1</td>
</tr>
<tr>
<td>(1)</td>
<td>2</td>
<td>0.75</td>
<td>0.75</td>
<td>0.55</td>
<td>0.75</td>
<td>16</td>
<td>Standard</td>
<td>2510FG2</td>
</tr>
<tr>
<td><strong>Removable key</strong></td>
<td>1</td>
<td>0.75</td>
<td>-</td>
<td>-</td>
<td>0.75</td>
<td>16</td>
<td>Standard</td>
<td>2510FG3</td>
</tr>
<tr>
<td>(1)</td>
<td>2</td>
<td>0.75</td>
<td>0.75</td>
<td>0.55</td>
<td>0.75</td>
<td>16</td>
<td>Standard</td>
<td>2510FG4</td>
</tr>
</tbody>
</table>

### Duplex units, 1 starter in duplex enclosure

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Number of poles</th>
<th>Maximum power of single-phase motors 115-230 Vac</th>
<th>Maximum power of single-phase motors 115-230 Vdc</th>
<th>Maximum power of single-phase motors 277 Vac</th>
<th>Maximum current</th>
<th>Features</th>
<th>Catalog number</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toggle operator</strong></td>
<td>2 (3)</td>
<td>0.75</td>
<td>0.75</td>
<td>0.55</td>
<td>0.75</td>
<td>16</td>
<td>Standard</td>
<td>2510FG02</td>
</tr>
<tr>
<td>(1) (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>With red pilot light</td>
<td>2510FG02P</td>
</tr>
<tr>
<td><strong>Removable key</strong></td>
<td>2 (3)</td>
<td>0.75</td>
<td>0.75</td>
<td>0.55</td>
<td>0.75</td>
<td>16</td>
<td>With red pilot light</td>
<td>2510FG04P</td>
</tr>
<tr>
<td>(1) (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Duplex units, 2 starters in one enclosure

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>Number of poles</th>
<th>Maximum power of single-phase motors 115-230 Vac</th>
<th>Maximum power of single-phase motors 115-230 Vdc</th>
<th>Maximum power of single-phase motors 277 Vac</th>
<th>Maximum current</th>
<th>Features</th>
<th>Catalog number</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toggle operator</strong></td>
<td>2</td>
<td>0.75</td>
<td>-</td>
<td>-</td>
<td>0.75</td>
<td>16</td>
<td>Standard</td>
<td>2510FG71</td>
</tr>
<tr>
<td>(1)</td>
<td>2</td>
<td>0.75</td>
<td>0.75</td>
<td>0.55</td>
<td>0.75</td>
<td>16</td>
<td>Standard</td>
<td>2510FG72</td>
</tr>
<tr>
<td><strong>Removable key</strong></td>
<td>2</td>
<td>0.75</td>
<td>0.75</td>
<td>0.55</td>
<td>0.75</td>
<td>16</td>
<td>With red pilot light</td>
<td>2510FG74P</td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) One thermal unit is required
(2) For two starters in one enclosure, two thermal units are required.
(3) Two poles for each starter.

For additional information, reference catalog 2570CT9701.
## Manual starters and switches

### Manual switches Type K, in general purpose surface mounting enclosure (NEMA 1)

<table>
<thead>
<tr>
<th>Type</th>
<th>No. of poles</th>
<th>Maximum motor powers Hp kW</th>
<th>Non-reversing</th>
<th>Features</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toggle operator</strong></td>
<td>2</td>
<td>1.5 1.5 3 2.2 3 2.2 1 0.75 2 1.5 1.5 1.1 30</td>
<td>Standard</td>
<td>2510KG1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.5 1.5 3 2.2 3 2.2 1 0.75 2 1.5 1.5 1.1 30</td>
<td>(1) 115 Vac</td>
<td>2510KG1A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2 1.5 7.5 5.6 10 7.5 10 7.5 1 0.75 2 1.5 1.5 1.1 30</td>
<td>Standard</td>
<td>2510KG2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.5 1.5 3 2.2 3 2.2 1 0.75 2 1.5 1.5 1.1 30</td>
<td>(1) 208–277 Vac</td>
<td>2510KG2B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.5 1.5 3 2.2 3 2.2 1 0.75 2 1.5 1.5 1.1 30</td>
<td>(1) 440–600 Vac</td>
<td>2510KG2C</td>
<td></td>
</tr>
<tr>
<td><strong>Removable key</strong></td>
<td>2</td>
<td>1.5 1.5 3 2.2 3 2.2 1 0.75 2 1.5 1.5 1.1 30</td>
<td>Standard</td>
<td>2510KG3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.5 1.5 3 2.2 3 2.2 1 0.75 2 1.5 1.5 1.1 30</td>
<td>(1) 115 Vac</td>
<td>2510KG3A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2 1.5 7.5 5.6 10 7.5 10 7.5 1 0.75 2 1.5 1.5 1.1 30</td>
<td>Standard</td>
<td>2510KG4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.5 1.5 3 2.2 3 2.2 1 0.75 2 1.5 1.5 1.1 30</td>
<td>(1) 208–277 Vac</td>
<td>2510KG4B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.5 1.5 3 2.2 3 2.2 1 0.75 2 1.5 1.5 1.1 30</td>
<td>(1) 440–600 Vac</td>
<td>2510KG4C</td>
<td></td>
</tr>
</tbody>
</table>

(1) With red pilot light.
## Manual switches Types T and M, in general purpose surface mounting enclosure (NEMA 1)

<table>
<thead>
<tr>
<th>Type of operator</th>
<th>No. of poles</th>
<th>NEMA Size</th>
<th>Non-reversing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DC</td>
<td>3-phase</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Motor voltage</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>V</td>
<td>Hp</td>
</tr>
<tr>
<td>Toggle operator</td>
<td>AC 2</td>
<td>M-0</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td></td>
<td>230</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M-1</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td></td>
<td>230</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M-1P</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td></td>
<td>230</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>AC 3</td>
<td>M-0</td>
<td>200–230</td>
</tr>
<tr>
<td></td>
<td></td>
<td>380–575</td>
<td>–</td>
</tr>
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(2) Value for 230 V.
(3) Value for 575 V.

For additional information, reference catalog 2510CT9701.

For other versions, please consult your local Schneider Electric/Square D sales office; visit www.us.telemcanique.com.
## NEMA Type Accessories
### Replacement parts kits

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>For use with</th>
<th>Class</th>
<th>Type</th>
<th>NEMA Size or current</th>
<th>Number of poles in the kit</th>
<th>Replacement parts kits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Replacement parts kits</strong></td>
<td>(the kit contains the moving and stationary contacts, contact springs and necessary hardware)</td>
<td>8502, 8536, 8538, 8539, 8702, 8736</td>
<td>SA (Series B)</td>
<td>00</td>
<td>3</td>
<td>9998SJ1</td>
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<td></td>
<td></td>
<td></td>
<td>SB</td>
<td>0</td>
<td>3</td>
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<td></td>
<td></td>
<td>SB, SC (power pole adder)</td>
<td>0 and 1</td>
<td>1</td>
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<td>SC</td>
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<td>SD</td>
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<td>3</td>
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<td>SD (power pole adder)</td>
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<td>L (Series C) and LX (Series B)</td>
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<td>DPA 1p</td>
<td>25 A</td>
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<td>40 A</td>
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<td>9996DRC4</td>
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<td>9996DRC5</td>
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<td>90 A</td>
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<td>DPA 123</td>
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For additional information, reference catalog 8502CT9701.
# External auxiliary contacts

### External convertible contact kits

<table>
<thead>
<tr>
<th>Description</th>
<th>For use with</th>
<th>Type</th>
<th>NEMA size or current</th>
<th>Type of contact</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>External convertible contact kits</td>
<td>8502, 8702, 8536, 8736, 8903 (Type S only)</td>
<td>SA to SJ, SM to SJ</td>
<td>00 to 7, 30–800 A</td>
<td>1 N.O. contact, 1 N.C. contact, 2 isolated contacts 1 N.O. and 1 N.C. contact, 1 N.O. overlapping contact, 1 N.C. overlapping contact</td>
<td>9999SX6, 9999SX7, 9999SX8, 9999SX9 (1), 9999SX10 (1)</td>
</tr>
</tbody>
</table>

(1) These products must be used together and must be mounted on the same side of the contactor. They are suitable for applications where it is necessary for a N.O. contact to overlap a N.C. contact.

### External non-convertible contact kits

<table>
<thead>
<tr>
<th>Description</th>
<th>For use with</th>
<th>Type</th>
<th>NEMA size or current</th>
<th>Type of contact</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>External non-convertible contact kits</td>
<td>8502, 8702, 8536, 8736, 8903 (Type S only)</td>
<td>SA to SJ, SM to SJ</td>
<td>00 to 7, 30–800 A</td>
<td>1 N.O. contact, 1 N.C. contact, 2 isolated contacts 1 N.O. and 1 N.C. contact, 1 N.O. overlapping contact, 1 N.C. overlapping contact</td>
<td>9999SX13, 9999SX14, 9999SX15, 9999SX16 (1), 9999SX17 (1)</td>
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</table>

### External auxiliary contacts

<table>
<thead>
<tr>
<th>Description</th>
<th>For use with</th>
<th>Type</th>
<th>Type of contact</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>External auxiliary contacts</td>
<td>8910, DPA, DPA122/123</td>
<td>1 N.O. contact, 1 N.C. contact, 2 isolated contacts 1 N.O. and 1 N.C. contact, 2 N.O. contacts, 1 N.C. overlapping contact, 1 N.O. overlapping contact</td>
<td>9999D10, 9999D01, 9999D11, 9999D20, 9999SX6, 9999SX7, 9999SX8, 9999SX9, 9999SX10</td>
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</table>
**Industrial control relays**

### AC relays

**NEMA Type**

(1) Standard AC control circuit voltages:

<table>
<thead>
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<th>Volts</th>
<th>24</th>
<th>110</th>
<th>120</th>
<th>208</th>
<th>220</th>
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</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>V12</td>
<td>V02</td>
<td>–</td>
<td>–</td>
<td>V03</td>
</tr>
<tr>
<td>60 Hz</td>
<td>V01</td>
<td>–</td>
<td>V02</td>
<td>V08</td>
<td>–</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Volts</th>
<th>240</th>
<th>440</th>
<th>480</th>
<th>550</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 Hz</td>
<td>–</td>
<td>V06</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>60 Hz</td>
<td>V03</td>
<td>–</td>
<td>V06</td>
<td>–</td>
<td>V07</td>
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</table>

Example: 8501XO20 V02

<table>
<thead>
<tr>
<th>Continuous Load Rating</th>
<th>Normally Open Convertible Contacts</th>
<th>Basic catalog number complete with code indicating control circuit voltage (1)</th>
<th>Basic catalog number complete with code indicating control circuit voltage (1)</th>
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<tbody>
<tr>
<td>Inductive / resistive</td>
<td>10 A / 10 A</td>
<td>8501XO20 ppp</td>
<td>8501XO20XL ppp</td>
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<td>10</td>
<td>8501XO30 ppp</td>
<td>8501XO30XL ppp</td>
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<tr>
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<td></td>
<td>10</td>
<td>8501XO1000 ppp</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>8501XO1200 ppp</td>
<td>–</td>
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</tbody>
</table>

A maximum of 8 N.C contacts is allowed on 9–12 pole relays.

**Note:** Unlatch coil is rated for intermittent duty and should be connected through a N.O. contact of the relay if the input signal is maintained. Order one more N.O. contact than the application requires to use as a coil clearing contact.

### DC relays

(2) Standard DC control circuit voltages:

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<th>Volts</th>
<th>12</th>
<th>24</th>
<th>46</th>
<th>72</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>V51</td>
<td>V53</td>
<td>V56</td>
<td>V54</td>
</tr>
<tr>
<td>Volts</td>
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<tr>
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<td>V62</td>
<td>V62</td>
<td>V66</td>
<td>V66</td>
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</table>

Example: 8501XDO80V53.

<table>
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<th>Continuous Load Rating</th>
<th>Normally Open Convertible Contacts</th>
<th>Basic catalog number complete with code indicating control circuit voltage (2)</th>
<th>Basic catalog number complete with code indicating control circuit voltage (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inductive / resistive</td>
<td>5 A / 5 A</td>
<td>8501XDO20 ppp</td>
<td>8501XDO20XL ppp</td>
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<td>5</td>
<td>8501XDO40 ppp</td>
<td>8501XDO40XL ppp</td>
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<td>5</td>
<td>8501XDO60 ppp</td>
<td>8501XDO60XL ppp</td>
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<td>5</td>
<td>8501XDO80 ppp</td>
<td>8501XDO80XL ppp</td>
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</tbody>
</table>

**Note:** Unlatch coil is rated for intermittent duty and should be connected through a N.O. contact of the relay if the input signal is maintained. Order one more N.O. contact than the application requires to use as a coil clearing contact.

For additional information, reference catalog 8501CT9601.
# Circuit breaker operating mechanisms

## Door mounted kits

<table>
<thead>
<tr>
<th>Complete kit</th>
<th>Std. shaft /std. handle</th>
<th>Long shaft /std. handle</th>
<th>Long shaft / short handle</th>
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</thead>
<tbody>
<tr>
<td>Does not include circuit breaker</td>
<td>Includes: Operating mechanism Standard 6” handle Standard shaft kit</td>
<td>Includes: Operating mechanism Standard 6” handle Long shaft kit</td>
<td>Includes: Operating mechanism Short 3” handle Long shaft kit</td>
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**Use with:**

<table>
<thead>
<tr>
<th>Circuit breaker or interrupter type</th>
<th>Number of poles</th>
<th>Frame size (A)</th>
<th>Catalog number</th>
<th>Mounting depth min.-max. (1)</th>
<th>Catalog number</th>
<th>Mounting depth min.-max. (1)</th>
<th>Catalog number</th>
<th>Mounting depth min.-max. (1)</th>
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<tbody>
<tr>
<td>GJL</td>
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<td>75, 100</td>
<td>9421LG1</td>
<td>5-1/2–10-1/4</td>
<td>9421LG4</td>
<td>5-1/2–20-7/8</td>
<td>9421LG3</td>
<td>5-1/2–20-7/8</td>
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<td>FAL, FCL, FHL</td>
<td>2–3</td>
<td>100</td>
<td>9421LN1</td>
<td>5-1/2–10-7/16</td>
<td>9421LN4</td>
<td>5-1/2–21</td>
<td>9421LN3</td>
<td>5-1/2–21</td>
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<td>KAL, KCL, KHL</td>
<td>2–3</td>
<td>250</td>
<td>9421LP1</td>
<td>6-1/4–11-3/16</td>
<td>9421LP4</td>
<td>6-1/4–21-3/4</td>
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<td>6-1/4–21-3/4</td>
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<td>LAL, LHL, Q4L</td>
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<td>400</td>
<td>9421LR1</td>
<td>6-5/16–10-7/8</td>
<td>9421LR4</td>
<td>6-5/16–21-1/2</td>
<td>9421LR5</td>
<td>6-5/16–21-1/2</td>
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<td>2–3</td>
<td>800</td>
<td>9421LT1 (2)</td>
<td>7-3/16–11-5/8</td>
<td>9421LT4 (2)</td>
<td>7-3/16–22-1/4</td>
<td>9421LT6 (3)</td>
<td>7-3/16–22-1/4</td>
</tr>
<tr>
<td>MAL, MHL</td>
<td>2–3</td>
<td>1000</td>
<td>9421LT1 (2)</td>
<td>7-3/16–11-5/8</td>
<td>9421LT4 (2)</td>
<td>7-3/16–22-1/4</td>
<td>9421LT6 (3)</td>
<td>7-3/16–22-1/4</td>
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<tr>
<td>Powerpact D, H and J</td>
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</tr>
</tbody>
</table>

1. Mounting depth measured from circuit breaker mounting surface (control panel) to outside of enclosure door in inches.
2. Types LT1, LT4, LX1, and LX4 include an 8” handle rather than a 6” handle.
3. 3” handles are not recommended for use with these circuit breakers.

### Handles

#### Use With

<table>
<thead>
<tr>
<th>Circuit breaker or interrupter type</th>
<th>Number of poles</th>
<th>Frame size (A)</th>
<th>Type 1, 3R, 12 (Painted)</th>
<th>Type 3R, 4 (Painted)</th>
<th>Type 3R, 4, 4X (Chrome Plated)</th>
<th>Type 1, 3R, 12 (Painted)</th>
<th>Type 3R, 4 (Painted)</th>
<th>Type 3R, 4, 4X (Chrome Plated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GJL</td>
<td>3</td>
<td>75</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
</tr>
<tr>
<td>FAL, FCL, FHL</td>
<td>2–3</td>
<td>100</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
</tr>
<tr>
<td>KAL, KCL, KHL</td>
<td>2–3</td>
<td>250</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
</tr>
<tr>
<td>LAL, LHL, Q4L</td>
<td>2–3</td>
<td>400</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
</tr>
<tr>
<td>MEL, MXL</td>
<td>2–3</td>
<td>800</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
</tr>
<tr>
<td>MAL, MHL</td>
<td>2–3</td>
<td>1000</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
</tr>
<tr>
<td>NAL, NCL, NEL, NXL</td>
<td>2–3</td>
<td>1200</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
<td>9421LH6</td>
<td>9421LH46</td>
<td>9421LC46</td>
</tr>
</tbody>
</table>

(3) 3” handles are not recommended for use with these circuit breakers.

For additional information, reference catalog 9420CT9701.

For other versions, please consult with your local Schneider Electric/Square D sales office: visit [www.us.telematique.com](http://www.us.telematique.com).
### Disconnect switches

<table>
<thead>
<tr>
<th>Disconnect switch size</th>
<th>Variable depth range (minimum-maximum)</th>
<th>Maximum horsepower ratings (1)</th>
<th>DC Using 2 poles 250 V max.</th>
<th>Fuse clip rating (amperes)</th>
<th>Switch and operating mechanism (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 A</td>
<td>6-5/8”–18”</td>
<td>7.5</td>
<td>5</td>
<td>30</td>
<td>H, K, J, R, 9421TCF30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.5</td>
<td></td>
<td>60</td>
<td>9421TCF33</td>
</tr>
<tr>
<td>60 A</td>
<td>6-5/8”–18”</td>
<td>15</td>
<td>10</td>
<td>None</td>
<td>9421TDN60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td></td>
<td>60</td>
<td>9421TDN600</td>
</tr>
<tr>
<td>100 A</td>
<td>6-5/8”–18”</td>
<td>25</td>
<td>20</td>
<td>None</td>
<td>9421TEF1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30</td>
<td></td>
<td>60</td>
<td>9421TEF10</td>
</tr>
<tr>
<td>200 A</td>
<td>9-1/8–19-1/4 (2)</td>
<td>40</td>
<td>40</td>
<td>None</td>
<td>9421TEF3</td>
</tr>
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<td></td>
<td></td>
<td>60</td>
<td></td>
<td>400</td>
<td>9421TEF33</td>
</tr>
<tr>
<td>400 A Fixed Depth (4)</td>
<td>11.38 (A5 or A6 Handle)</td>
<td>75</td>
<td>50</td>
<td>None</td>
<td>9421TG1(6) (7)</td>
</tr>
<tr>
<td>400 A Adj. Depth (4)</td>
<td>15.87–19 (5) (A7 or A8 Handle)</td>
<td>75</td>
<td>50</td>
<td>400</td>
<td>9421TG2(6)(7)</td>
</tr>
</tbody>
</table>

1. Refers to rating of switch only.
2. 9422 R2 will extend maximum mounting depth 7”.
3. Accommodates Class J fuses only.
4. Switches are either fixed-depth or adjustable; the handle will determine installation.
5. In steps of 0.63 inches.
6. Commercially available enclosures may not accept type TG operating mechanisms. Contact enclosure manufacturer for availability of enclosures for use with these switches.
7. Right hand flange mounting only.

### Cable operator and handles

#### Cable Mechanisms (8)

<table>
<thead>
<tr>
<th>Disconnect Switch Size</th>
<th>Switch Type</th>
<th>Cable Length</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 A, 60 A, 100 A</td>
<td>TCF, TCN, TDF, TDN, TEF, TEN</td>
<td>36”</td>
<td>9421CFT30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48”</td>
<td>9421CFT40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60”</td>
<td>9421CFT50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>120”</td>
<td>9421CFT10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cable Mechanisms with A1 Handle for Types 1, 3, 3R, 4 and 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>9421CFT30</td>
</tr>
<tr>
<td>9421CFT40</td>
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<tr>
<td>9421CFT10</td>
</tr>
</tbody>
</table>

8. Must purchase handle mechanism separately (9422, A1, A2, A3 or A4).

#### Handle NEMA Type Enclosure

<table>
<thead>
<tr>
<th>Handle Type</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>6” HANDLE (9)</td>
<td>9421A1</td>
</tr>
<tr>
<td>4” HANDLE (9)</td>
<td>9421A3</td>
</tr>
<tr>
<td>12” HANDLE (fixed depth) (11)</td>
<td>9421A5</td>
</tr>
<tr>
<td>12” HANDLE (variable depth) (11)</td>
<td>9421A7</td>
</tr>
<tr>
<td>10” HANDLE (12)</td>
<td>9421A9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Handle</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>6” HANDLE (9)</td>
<td>9421A1</td>
</tr>
<tr>
<td>4” HANDLE (9)</td>
<td>9421A3</td>
</tr>
<tr>
<td>12” HANDLE (fixed depth) (11)</td>
<td>9421A5</td>
</tr>
<tr>
<td>12” HANDLE (variable depth) (11)</td>
<td>9421A7</td>
</tr>
<tr>
<td>10” HANDLE (12)</td>
<td>9421A9</td>
</tr>
</tbody>
</table>

For additional information, reference catalog 9420CT9701.
Circuit breaker operating mechanisms

Flange mounted

Use with:

<table>
<thead>
<tr>
<th>Circuit breaker frame size</th>
<th>Number of poles</th>
<th>Frame size (A)</th>
<th>Variable depth (in.)</th>
<th>Operating mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square D circuit breakers</td>
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<tr>
<td>GJL 3</td>
<td>100</td>
<td>6.00–17.75</td>
<td></td>
<td>9422RG1</td>
</tr>
<tr>
<td>FAL, FHL 2–3</td>
<td>100</td>
<td>5.38–17.75</td>
<td></td>
<td>9422RRN1</td>
</tr>
<tr>
<td>KAL, KHL 2–3</td>
<td>250</td>
<td>6.38–17.88</td>
<td></td>
<td>9422RP1</td>
</tr>
<tr>
<td>LAL, LHL, Q4L 2–3</td>
<td>400</td>
<td>7.44–18.25</td>
<td></td>
<td>9422RRR1</td>
</tr>
<tr>
<td>MEL, MXL 2–3</td>
<td>800</td>
<td>9.00–18.38</td>
<td></td>
<td>9422RT1</td>
</tr>
<tr>
<td>MAL, MHL 2–3</td>
<td>1200</td>
<td>9.00–18.38</td>
<td></td>
<td>9422RT1</td>
</tr>
<tr>
<td>NAL, NCL, NEL, NXL 2–3</td>
<td>1200</td>
<td>11.00–18.37</td>
<td></td>
<td>9422RX1</td>
</tr>
<tr>
<td>Merlin Gerin NSF, NSJ, Powerpact D, Hand J Circuit Breakers</td>
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<tr>
<td>FG-NSF, Powerpact D, Hand J 3</td>
<td>250</td>
<td>5.88–17.75</td>
<td></td>
<td>9422RG1</td>
</tr>
<tr>
<td>MG-NSJ 3</td>
<td>600</td>
<td>9.00–17.75</td>
<td></td>
<td>9422RS1</td>
</tr>
</tbody>
</table>

(1) Class 9422 Type R2 will extend mounting depth 7 inches.
(2) For handle information, see page 5/48.

Cable operators

<table>
<thead>
<tr>
<th>Circuit breaker type</th>
<th>No. of poles</th>
<th>Frame size</th>
<th>Cable length</th>
<th>Cable mechanism</th>
<th>Cable mechanisms with A1 handle for Types 1, 3, 3R, 4, 12 (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GJL</td>
<td>3</td>
<td>100</td>
<td>36&quot;</td>
<td>9422CGJ30</td>
<td>9422CGJ31</td>
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<td>48&quot;</td>
<td>9422CGJ40</td>
<td>9422CGJ41</td>
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<td>60&quot;</td>
<td>9422CGJ50</td>
<td>9422CGJ51</td>
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<td>120&quot;</td>
<td>9422CGJ10</td>
<td>9422CGJ11</td>
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<tr>
<td>FAL, FHL</td>
<td>2–3</td>
<td>100</td>
<td>36&quot;</td>
<td>9422CKA30</td>
<td>9422CKA31</td>
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<td>120&quot;</td>
<td>9422CKA10</td>
<td>9422CKA11</td>
</tr>
<tr>
<td>KAL, KHL</td>
<td>2–3</td>
<td>250</td>
<td>36&quot;</td>
<td>9422CLA30</td>
<td>9422CLA31</td>
</tr>
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<td>9422CLA51</td>
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<td>9422CLA10</td>
<td>9422CLA11</td>
</tr>
<tr>
<td>LAL, LHL, Q4L</td>
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<td>400</td>
<td>36&quot;</td>
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<td>MG-NSF, Powerpact D, Hand J</td>
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<td>9422CSJ10</td>
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<tr>
<td>MG-NSF, Powerpact D, Hand J</td>
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<td>250</td>
<td>36&quot;</td>
<td>9422CSJ30</td>
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<td>120&quot;</td>
<td>9422CSJ10</td>
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<tr>
<td>MG-NSJ</td>
<td>3</td>
<td>600</td>
<td>36&quot;</td>
<td>9422CSJ30</td>
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<tr>
<td>MG-NSJ</td>
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<td>600</td>
<td>36&quot;</td>
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<td>9422CSJ10</td>
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</tr>
</tbody>
</table>

For additional information, reference catalog 9420CT9701.

For other versions, please consult with your local Schneider Electric/Square D sales office: visit www.telemannique.com.
Power supplies to keep you running

Phaseo™ Creator of energy

Regulated switch mode power supplies ABL1 / ABL7

Designed to supply the voltage required for control and power circuits of automation system equipment from 0.3 to 40 A.

With its dual upstream/downstream display for quick diagnostics, an output voltage that can be adjusted to compensate for voltage drops on the line, protection against overloads and short-circuits, the range of Phaseo power supplies is quite simply efficient.

Compact power supplies ABL7CEM

Universal power supplies ABL7RE/RP

Modular power supplies ABL7RM

Process power supplies ABL7U/REQ

Switch mode power supplies ABL1REM/RPM
Switch mode power supplies
Phaseo ABL1
- Power supplies for single-phase 110–230 V dedicated automation systems
- Regulated single-phase 12 and 24 V DC
- Wide offer: power 60 to 240 W
- Anti harmonic filter
- Certification: UL and CSA

Switch mode power supplies
Phaseo ABL7
- Compact, modular and universal power supplies for single-phase 100–240 V applications
- 2-phase/3-phase 380–520 V process power supplies
- Dual LED display
- Guaranteed output voltage
- Wide voltage range
- Book format
- Conformity to UL/CSA standards

Contents

b Power supplies for control circuits
Phaseo ABL7, ABL1, ABL6

6/2 to 6/3
### Power supplies

#### For control circuits

<table>
<thead>
<tr>
<th>Type of power supply</th>
<th>Compact, 1-phase regulated switch mode, wide range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input voltage</strong></td>
<td>100–240 V AC, 110–220 V DC (compatible)</td>
</tr>
<tr>
<td><strong>Output voltage</strong></td>
<td>24 V DC</td>
</tr>
<tr>
<td><strong>Nominal Power / Current</strong></td>
<td>7 W / 0.3 A</td>
</tr>
<tr>
<td><strong>Certifications</strong></td>
<td>cUulS, TÜV</td>
</tr>
<tr>
<td><strong>Conformity to standards</strong></td>
<td>UL508, IEC/EN 60950</td>
</tr>
<tr>
<td><strong>Emission</strong></td>
<td>Conducted and radiated</td>
</tr>
<tr>
<td><strong>Dimensions W x D x H</strong></td>
<td>45 x 70 x 75 mm</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>ABL7CEM24003 ABL7CEM24006 ABL7CEM24012</td>
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#### Modular, 1-phase regulated switch mode

<table>
<thead>
<tr>
<th>Type of power supply</th>
<th>Modular, 1-phase regulated switch mode</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input voltage</strong></td>
<td>100–240 V AC</td>
</tr>
<tr>
<td><strong>Output voltage</strong></td>
<td>12 V DC, 24 V DC</td>
</tr>
<tr>
<td><strong>Nominal Power / Current</strong></td>
<td>22 W / 1.9 A</td>
</tr>
<tr>
<td><strong>Certifications</strong></td>
<td>UL, CSA, TÜV</td>
</tr>
<tr>
<td><strong>Conformity to standards</strong></td>
<td>IEC/EN 60950</td>
</tr>
<tr>
<td><strong>Emission</strong></td>
<td>Conducted and radiated</td>
</tr>
<tr>
<td><strong>Dimensions W x D x H</strong></td>
<td>72 x 70 x 110 mm</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>ABL7RM1202 ABL7RM2401 ABL7RM24025</td>
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</table>

#### Universal, 1-phase regulated switch mode

<table>
<thead>
<tr>
<th>Type of power supply</th>
<th>Universal, 1-phase regulated switch mode</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input voltage</strong></td>
<td>100–240 V AC, 110–230 V DC (version ABL7RP-)</td>
</tr>
<tr>
<td><strong>Output voltage</strong></td>
<td>24 V DC</td>
</tr>
<tr>
<td><strong>Nominal Power / Current</strong></td>
<td>48 W / 2 A</td>
</tr>
<tr>
<td><strong>Certifications</strong></td>
<td>UL, CSA, TÜV, Ctick</td>
</tr>
<tr>
<td><strong>Conformity to standards</strong></td>
<td>IEC/EN 60950</td>
</tr>
<tr>
<td><strong>Emission</strong></td>
<td>Conducted and radiated</td>
</tr>
<tr>
<td><strong>Low frequency harmonic currents</strong></td>
<td>EN 61000-3-2</td>
</tr>
<tr>
<td><strong>Dimensions W x D x H</strong></td>
<td>27 x 120 x 120 mm</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>ABL7RE2402 ABL7RE2403 ABL7RE2405 ABL7RP2405</td>
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</table>

(1) AUTO/MAN reset of automatic protection.

For additional information, reference Catalog 8440CT0001R4/04.
## Type of power supply

### Industrial, regulated switch mode

<table>
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<tr>
<th></th>
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<tbody>
<tr>
<td>Output voltage</td>
<td>12 V DC</td>
<td>24 V DC</td>
</tr>
<tr>
<td>Nominal Power / Current</td>
<td>60 W / 5 A</td>
<td>60 W / 2.5 A</td>
</tr>
<tr>
<td>Certifications</td>
<td>UL, c CSA us, CE, Ctick</td>
<td>IEC/EN 60950-1, SELV</td>
</tr>
<tr>
<td>Conformity to standards</td>
<td>Safety</td>
<td>EMC</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>150 x 38 x 98</td>
<td>200 x 38 x 98</td>
</tr>
<tr>
<td>Catalog number</td>
<td>ABL1REM12050</td>
<td>ABL1REM24025</td>
</tr>
</tbody>
</table>

(1) Anti harmonic IEC/EN 61000-3-2.

For additional information, reference Catalog 8440CT0001R4/04.

## Type of power supply

### Industrial, 3-phase regulated switch mode, wide range

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>3 x 400–520 V AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output voltage</td>
<td>24 V DC</td>
</tr>
<tr>
<td>Nominal Power / Current</td>
<td>120 W / 5 A</td>
</tr>
<tr>
<td>Certifications</td>
<td>cULus, c CSA us</td>
</tr>
<tr>
<td>Conformity to standards</td>
<td>Safety</td>
</tr>
<tr>
<td>Low frequency harmonic currents</td>
<td>EN 50081-1, EN 50082-2</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>68 x 171 x 127 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>ABL7UES24050</td>
</tr>
</tbody>
</table>

For additional information, reference Catalog 8440CT0001R4/04.
Pre-wired system and distributed I/O solutions to help you put **everything together**

**Advantys™**

**IP20: from the heart of the enclosure…**

*Simple, quick, reliable* and **powerful**. It enables quick connection of inputs/outputs to the operative parts. It eliminates unnecessary cabling by replacing the use of PLC terminals and conventional terminal blocks. It comprises a connection cable and 3 types of connection sub-base.

**Advantys Telefast ABE7**

**Distributed inputs/outputs**

**Advantys OTB**

*Open* and **modular**, this optimized block solution enables the creation of separate groups of industrial I/Os, each positioned as near to the machine as possible, that are managed by a master controller (PLC, PC or variable speed drive) via a fieldbus or communication network.

**Advantys STB**

This *open* I/O modular system integration solution is an I/O platform that also provides a very modular wiring solution and a power supply management system. Right from the start, you will appreciate its powerful and intelligent configuration software, its networking capabilities, its ease of setting-up and its wealth of parametering features.

**IP67: ...to the heart of the machine, put them to the test...**

**Pre-wired system**

**Distributed inputs/outputs**

**Passive splitter boxes**

**Advantys ABE9**

*Compact,* they eliminate the need for long and difficult cable runs.

b 4 or 8 channel version with M12 connections

**Monobloc splitter boxes**

**Advantys FTB**

**Modular splitter boxes**

**Advantys FTM**

They enable sensors and actuators to be connected in distributed automation systems via fieldbus or communication networks using pre-assembled cables, thus reducing wiring time and costs while at the same time, increasing the operational availability of the installation.

*Simple, robust* and **configurable**.

b Wide range of I/O combinations (16 I, 8 I 8 O, 12 I 4 O, 16 I/O configurable)

*Powerful, compact* and **modular**.

b Up to 256 discrete I/Os per bus module

---

**Also see:**

b Advantys AS-Interface IP20 and IP67 cabling system

(Chapter 8 “AS-Interface cabling system”)

---

Courtesy of Steven Engineering, Inc. ● 230 Ryan Way, South San Francisco, CA 94080-6370 ● General Inquiries: (800) 670-4183 ● www.stevenengineering.com
The intelligence integrated in Advantys STB and its software responds perfectly to your needs by simplifying the implementation of your automation systems. Simplicity: Plug-in connectors accelerate and simplify installation and commissioning; removable memory cards enable bus configurations to be copied in a few seconds. Adaptability: The modular and evolutionary design of the range, I/O modules, network interfaces and options available enable you to design a system suited to your needs. Open: Advantys STB can be interfaced with the main fieldbuses: CANopen, DeviceNet, Ethernet, Fipio, INTERBus, Modbus Plus, Profibus DP.

## Distributed I/O solution

**Advantys STB**

### Interface and pre-wired system

- **b** IP20 plug-in relays, Zelio® Relay (see Chapter 3 “Automation”)
- **b** IP20 pre-wired system
  - Advantys Telefast ABE7 ...................................................... 7/6 to 7/7
- **b** IP20 connection interfaces for Twido™
  - Advantys Telefast ABE7 ...................................................... 7/8
- **b** IP67 passive splitter boxes
  - Advantys ABE9 .............................................................................. 7/9

### Distributed inputs/outputs

- **b** IP20 distributed I/O
  - Modicon Momentum™ with processor (see Chapter 3 “Automation”)
- **b** IP20 distributed I/O, optimized block
  - Advantys OTB .............................................................................. 7/10
- **b** IP67 distributed I/O, optimized block
  - Advantys FTB .............................................................................. 7/11
- **b** IP20 distributed I/O, modular system
  - Advantys STB .............................................................................. 7/12 to 7/15
- **b** IP67 distributed I/O, modular system
  - Advantys FTM .............................................................................. 7/16 to 7/19

### AS-Interface cabling system

- **b** IP20 interfaces
  - Advantys AS-Interface (see Chapter 8 “AS-Interface cabling system”)
- **b** IP67 interfaces
  - Advantys AS-Interface (see Chapter 8 “AS-Interface cabling system”)

---

**Contents**

- Connection
  - Terminal blocks AB1 .......................................................... 7/2
  - Cable ends DZ5/AZ5 .......................................................... 7/3
  - 9080 Terminal blocks .......................................................... 7/4 to 7/5
  - Cabling accessories XZ for sensors/actuators, IP67 (see Chapter 1 “Detection”)

- Interfaces and pre-wired system
  - IP20 plug-in relays, Zelio® Relay (see Chapter 3 “Automation”)
  - IP20 pre-wired system
    - Advantys Telefast ABE7 ...................................................... 7/6 to 7/7
  - IP20 connection interfaces for Twido™
    - Advantys Telefast ABE7 ...................................................... 7/8
  - IP67 passive splitter boxes
    - Advantys ABE9 .............................................................................. 7/9

- Distributed inputs/outputs
  - IP20 distributed I/O
    - Modicon Momentum™ with processor (see Chapter 3 “Automation”)
  - IP20 distributed I/O, optimized block
    - Advantys OTB .............................................................................. 7/10
  - IP67 distributed I/O, optimized block
    - Advantys FTB .............................................................................. 7/11
  - IP20 distributed I/O, modular system
    - Advantys STB .............................................................................. 7/12 to 7/15
  - IP67 distributed I/O, modular system
    - Advantys FTM .............................................................................. 7/16 to 7/19

- AS-Interface cabling system
  - IP20 interfaces
    - Advantys AS-Interface (see Chapter 8 “AS-Interface cabling system”)
  - IP67 interfaces
    - Advantys AS-Interface (see Chapter 8 “AS-Interface cabling system”)

---

**Courtesy of Steven Engineering, Inc. ● 230 Ryan Way, South San Francisco, CA 94080-6370 ● General Inquiries: (800) 670-4183 ● www.stevenengineering.com**
### Terminal blocks

**Insulation displacement technology**

**Clip-on mounting on 35 mm rails**

<table>
<thead>
<tr>
<th>#30-18 AWG</th>
<th>#18-14 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal block</td>
<td>Terminal block</td>
</tr>
<tr>
<td>AB1AA35U2GR</td>
<td>AB1AA35U2GR</td>
</tr>
<tr>
<td>Grounding terminal block</td>
<td>Grounding terminal block</td>
</tr>
<tr>
<td>AB1AAP13SU2</td>
<td>AB1AAP13SU2</td>
</tr>
</tbody>
</table>

2-way terminal blocks (sold in lots of 100)

<table>
<thead>
<tr>
<th>#30-18 AWG</th>
<th>#18-14 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB1AAC122GR</td>
<td>AB1AAC122GR</td>
</tr>
<tr>
<td>AB1ARR22</td>
<td>AB1ARR22</td>
</tr>
</tbody>
</table>

**Spring clamp technology**

**Clip-on mounting on 35 mm rails**

<table>
<thead>
<tr>
<th>#22-12 AWG</th>
<th>#22-10 AWG</th>
<th>#22-8 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal block</td>
<td>Terminal block</td>
<td>Terminal block</td>
</tr>
<tr>
<td>AB1VR235U</td>
<td>AB1VR435U</td>
<td>AB1VR635U</td>
</tr>
<tr>
<td>Grounding terminal block</td>
<td>Grounding terminal block</td>
<td>Grounding terminal block</td>
</tr>
<tr>
<td>AB1VPC24</td>
<td>AB1VPC24</td>
<td>AB1VPC24</td>
</tr>
</tbody>
</table>

End barrier (sold in lots of 100)

<table>
<thead>
<tr>
<th>#22-12 AWG</th>
<th>#22-10 AWG</th>
<th>#22-8 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB1VRAC24</td>
<td>AB1VRAC24</td>
<td>AB1VRAC24</td>
</tr>
<tr>
<td>AB1VR102</td>
<td>AB1VR102</td>
<td>AB1VR102</td>
</tr>
</tbody>
</table>

2-pole jumper (sold in lots of 10)

<table>
<thead>
<tr>
<th>#22-12 AWG</th>
<th>#22-10 AWG</th>
<th>#22-8 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB1VR103</td>
<td>AB1VR103</td>
<td>AB1VR103</td>
</tr>
<tr>
<td>AB1VR103</td>
<td>AB1VR103</td>
<td>AB1VR103</td>
</tr>
</tbody>
</table>

**Screw clamp technology**

**Clip-on mounting on 35 mm rails**

<table>
<thead>
<tr>
<th>#22-12 AWG</th>
<th>#22-10 AWG</th>
<th>#22-8 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal block</td>
<td>Terminal block</td>
<td>Terminal block</td>
</tr>
<tr>
<td>AB1V235U</td>
<td>AB1V435U</td>
<td>AB1V635U</td>
</tr>
<tr>
<td>Grounding terminal block</td>
<td>Grounding terminal block</td>
<td>Grounding terminal block</td>
</tr>
<tr>
<td>AB1VPC24</td>
<td>AB1VPC24</td>
<td>AB1VPC24</td>
</tr>
</tbody>
</table>

End barrier (sold in lots of 50)

<table>
<thead>
<tr>
<th>#22-12 AWG</th>
<th>#22-10 AWG</th>
<th>#22-8 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB1AC24</td>
<td>AB1AC24</td>
<td>AB1AC24</td>
</tr>
<tr>
<td>AB1ALN22</td>
<td>AB1ALN42</td>
<td>AB1ALN62</td>
</tr>
</tbody>
</table>

2-pole jumper (sold in lots of 10)

<table>
<thead>
<tr>
<th>#22-12 AWG</th>
<th>#22-10 AWG</th>
<th>#22-8 AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB1VL22</td>
<td>AB1VL42</td>
<td>AB1VL62</td>
</tr>
</tbody>
</table>

(1) For a 3, 4, 5 or 10-pole jumper replace the last number of the catalog number (2) by 3, 4, 5 or 10 respectively. (Example: AB1RAL22 becomes AB1RAL23.)

(2) Sold in lots of 50.
### Insulated cable ends

Conforming to DIN 46228

#### Single cable ends

<table>
<thead>
<tr>
<th>AWG</th>
<th>Color</th>
<th>Without marking flag (Sold in lots of 1000)</th>
<th>With marking flag (Sold in lots of 1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#22</td>
<td>White</td>
<td>DZ5CE005</td>
<td>DZ5CA005</td>
</tr>
<tr>
<td>#20</td>
<td>Blue</td>
<td>DZ5CE007</td>
<td>DZ5CA007</td>
</tr>
<tr>
<td>#18</td>
<td>Red</td>
<td>DZ5CE010</td>
<td>DZ5CA010</td>
</tr>
<tr>
<td>#16</td>
<td>Black</td>
<td>DZ5CE015</td>
<td>DZ5CA015</td>
</tr>
<tr>
<td>#14</td>
<td>Grey</td>
<td>DZ5CE025</td>
<td>DZ5CA025</td>
</tr>
</tbody>
</table>

#### Double cable ends

<table>
<thead>
<tr>
<th>AWG</th>
<th>Color</th>
<th>(Sold in lots of 500)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#22</td>
<td>White</td>
<td>AZ5DE005</td>
</tr>
<tr>
<td>#20</td>
<td>Blue</td>
<td>AZ5DE007</td>
</tr>
<tr>
<td>#18</td>
<td>Red</td>
<td>AZ5DE010</td>
</tr>
<tr>
<td>#16</td>
<td>Black</td>
<td>AZ5DE015</td>
</tr>
<tr>
<td>#14</td>
<td>Blue</td>
<td>AZ5DE025 (1)</td>
</tr>
</tbody>
</table>

(1) Sold in lots of 250.

### Cabling accessories

#### Type

<table>
<thead>
<tr>
<th>Functions</th>
<th>Pliers/cutters</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWG</td>
<td>Stripping</td>
</tr>
<tr>
<td>20–12</td>
<td>AT1PA7</td>
</tr>
</tbody>
</table>

For additional information, reference catalog 9080CT9701.
## Terminal blocks

### Screw clamp technology

<table>
<thead>
<tr>
<th>Mounting on 35mm 7 or Square D track</th>
<th>Terminal block (Sold in lots of 50)</th>
<th>End barrier (Sold in lots of 10)</th>
<th>2-pole jumper (Sold in lots of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#22–10 AWG</td>
<td>9080GM6</td>
<td>9080GM6B</td>
<td>9080GH700 (3)</td>
</tr>
<tr>
<td>#22–8 AWG</td>
<td>9080GR6</td>
<td>9080GR6B</td>
<td>9080GH72</td>
</tr>
<tr>
<td>#22–10 AWG</td>
<td>9080GK6</td>
<td>9080GK6B (1)</td>
<td>9080GH72</td>
</tr>
<tr>
<td>#18–4 AWG</td>
<td>9080GC6</td>
<td>9080GC6B</td>
<td>9080GH74</td>
</tr>
<tr>
<td>#12 AWG–1/0</td>
<td>9080GD6 (2)</td>
<td>9080GD6B</td>
<td>9080GH76</td>
</tr>
<tr>
<td>#6 AWG–250 kcmil</td>
<td>9080GE6 (2)</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

(1) Sold in lots of 50.
(2) Sold in lots of 10.
(3) Sold in lots of 20.

### Thermal-magnetic circuit protectors

<table>
<thead>
<tr>
<th>Mounting on 35mm 7 track.</th>
<th>Thermal Rating</th>
<th>Single-pole (4)</th>
<th>Single-pole (Sold in lots of 6)</th>
<th>2-pole (Sold in lots of 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>0.1 A</td>
<td>9080GC0B01</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>0.5 A</td>
<td>9080GC0B05</td>
<td>GB2CB05</td>
<td>GB2CD05</td>
</tr>
<tr>
<td></td>
<td>0.8 A</td>
<td>9080GC0B08</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>1.0 A</td>
<td>9080GC0B10</td>
<td>GB2CB06</td>
<td>GB2CD06</td>
</tr>
<tr>
<td></td>
<td>1.2 A</td>
<td>9080GC0B12</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>1.5 A</td>
<td>9080GC0B15</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>2.0 A</td>
<td>9080GC0B20</td>
<td>GB2CB07</td>
<td>GB2CD07</td>
</tr>
<tr>
<td></td>
<td>2.5 A</td>
<td>9080GC0B25</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>3.0 A</td>
<td>9080GC0B30</td>
<td>GB2CB08</td>
<td>GB2CD08</td>
</tr>
<tr>
<td></td>
<td>4.0 A</td>
<td>9080GC0B40</td>
<td>GB2CB09</td>
<td>GB2CD09</td>
</tr>
<tr>
<td></td>
<td>5.0 A</td>
<td>9080GC0B50</td>
<td>GB2CB10</td>
<td>GB2CD10</td>
</tr>
<tr>
<td></td>
<td>6.0 A</td>
<td>–</td>
<td>GB2CB12</td>
<td>GB2CD12</td>
</tr>
<tr>
<td></td>
<td>7.0 A</td>
<td>9080GC0B70</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>8.0 A</td>
<td>–</td>
<td>GB2CB14</td>
<td>GB2CD14</td>
</tr>
<tr>
<td></td>
<td>10.0 A</td>
<td>9080GC0B100</td>
<td>GB2CB16</td>
<td>GB2CD16</td>
</tr>
<tr>
<td></td>
<td>12.0 A</td>
<td>–</td>
<td>GB2CB20</td>
<td>GB2CD20</td>
</tr>
<tr>
<td></td>
<td>15.0 A</td>
<td>9080GC0B150</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

(4) Can also be mounted on Square D track.

For additional information, reference catalog 9080CT9901RS/02.
### Terminal blocks—NEMA Fuseholders

#### Fuse Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Type M</th>
<th>Class CC</th>
<th>Class H</th>
<th>Class H</th>
<th>Class R</th>
<th>Class R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum voltage rating</td>
<td>600</td>
<td>600</td>
<td>250</td>
<td>600</td>
<td>250</td>
<td>600</td>
</tr>
<tr>
<td>Maximum current rating</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1-pole</th>
<th>9080FB1611M</th>
<th>9080FB1611CC</th>
<th>9080FB1211</th>
<th>9080FB1611</th>
<th>9080FB1211R</th>
<th>9080FB1611R</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pole</td>
<td>9080FB2611M</td>
<td>9080FB2611CC</td>
<td>9080FB2211</td>
<td>9080FB2611</td>
<td>9080FB2211R</td>
<td>9080FB2611R</td>
</tr>
<tr>
<td>3-pole</td>
<td>9080FB3611M</td>
<td>9080FB3611CC</td>
<td>9080FB3211</td>
<td>9080FB3611</td>
<td>9080FB3211R</td>
<td>9080FB3611R</td>
</tr>
</tbody>
</table>

### Power Distribution Blocks

#### Splitter Blocks

| Main wire (Number of wires in) | (1)#14-2 AWG | (1)#14-20 AWG | (1)#6-350 kcmil | (1)#6-600 kcmil | (1)#18-10 AWG | (1)#6-250 kcmil |
| Branch wire (Number of wires out) | (1)#14-2 AWG | (1)#14-20 AWG | (1)#6-350 kcmil | (1)#6-600 kcmil | (1)#18-10 AWG | (1)#6-250 kcmil |
| Maximum voltage rating | 600    | 600      | 600     | 600     | 600     | 600     |
| Maximum current rating—Cu wire | 115    | 175      | 310     | 420     | 150     | 255     |

<table>
<thead>
<tr>
<th>1-pole</th>
<th>9080LBA161101</th>
<th>9080LBA162101</th>
<th>9080LBA163101</th>
<th>9080LBA164101</th>
<th>9080LBC162101</th>
<th>9080LBC163101</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pole</td>
<td>–</td>
<td>9080LBA262101</td>
<td>9080LBA263101</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>3-pole</td>
<td>9080LBA361101</td>
<td>9080LBA362101</td>
<td>9080LBA363101</td>
<td>9080LBA364101</td>
<td>9080LBC362101</td>
<td>9080LBC363101</td>
</tr>
</tbody>
</table>

#### Distribution Blocks

| Main wire (Number of wires in) | (1)#14-2 AWG | (1)#14-20 AWG | (1)#6-400 kcmil | (1)#6-400 kcmil | (1)#6-400 kcmil | (1)#4-500 kcmil |
| Branch wire (Number of wires out) | (4)#14-10 AWG | (4)#14-4 AWG | (4)#14-2 AWG | (4)#14-2 AWG | (4)#14-2 AWG | (12)#14-2 AWG |
| Maximum voltage rating | 600    | 600      | 600     | 600     | 600     | 600     |
| Maximum current rating—Cu wire | 115    | 175      | 335     | 335     | 335     | 380     |

<table>
<thead>
<tr>
<th>1-pole</th>
<th>9080LBA161014</th>
<th>9080LBA162104</th>
<th>9080LBA163104</th>
<th>9080LBA164104</th>
<th>9080LBA165112</th>
<th>9080LBA166112</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pole</td>
<td>9080LBA261014</td>
<td>9080LBA262104</td>
<td>9080LBA263104</td>
<td>9080LBA264104</td>
<td>9080LBA265112</td>
<td>9080LBA266112</td>
</tr>
<tr>
<td>3-pole</td>
<td>9080LBA361014</td>
<td>9080LBA362104</td>
<td>9080LBA363104</td>
<td>9080LBA364104</td>
<td>9080LBA365112</td>
<td>9080LBA366112</td>
</tr>
</tbody>
</table>
**Advantys ABE7**

**Telefast® pre-wired system**

**Passive I/O sub-bases «Discrete»**

<table>
<thead>
<tr>
<th><strong>Type of connection sub-base</strong></th>
<th><strong>Optimum</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of channels</strong></td>
<td>16</td>
</tr>
<tr>
<td><strong>Max. current per channel</strong></td>
<td>0.5 A</td>
</tr>
<tr>
<td><strong>Control voltage / output voltage</strong></td>
<td>24 VDC / 24 VDC</td>
</tr>
<tr>
<td><strong>LED per channel</strong></td>
<td>With</td>
</tr>
<tr>
<td><strong>Number of terminals per channel/on row number</strong></td>
<td>1/1</td>
</tr>
<tr>
<td><strong>Dimensions W x D x H</strong></td>
<td>55 x 59 x 67 mm</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>–</td>
</tr>
</tbody>
</table>

- **Cable L = 1 m**: ABE7H20E100 (1)
- **Cable L = 2 m**: ABE7H20E200 (1)
- **Cable L = 3 m**: ABE7H20E300 (1)

*Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m (2)*

(1) Connection cable supplied for PLCs.

(2) For a 2 m length cable, replace the number 1 in the catalog number by 2, and for a 3 m length, by 3. (Example: ABE7H20H100 becomes ABE7H20H200).

---

**Type of connection sub-base**

<table>
<thead>
<tr>
<th><strong>Universal</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of channels</strong></td>
</tr>
<tr>
<td><strong>Max. current per channel</strong></td>
</tr>
<tr>
<td><strong>Control voltage / output voltage</strong></td>
</tr>
<tr>
<td><strong>LED per channel</strong></td>
</tr>
<tr>
<td><strong>Number of terminals per channel/on row number</strong></td>
</tr>
<tr>
<td><strong>Dimensions W x D x H</strong></td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
</tr>
</tbody>
</table>

*Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m (2)*

(2) For a 2 m length cable, replace the number 1 in the catalog number by 2, and for a 3 m length, by 3. (Example: ABE7H20H100 becomes ABE7H20H200).

---

**Type of connection sub-base**

<table>
<thead>
<tr>
<th><strong>For counter and analog channels</strong></th>
<th><strong>Passive distribution with shielding continuity</strong></th>
<th><strong>Distribution and supply of analog channels</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of channels</strong></td>
<td>1 counter channel (3)</td>
<td>8</td>
</tr>
<tr>
<td><strong>Max. current per channel</strong></td>
<td>25 mA</td>
<td>25 mA</td>
</tr>
<tr>
<td><strong>Control voltage / output voltage</strong></td>
<td>24 VDC / 24 VDC</td>
<td></td>
</tr>
<tr>
<td><strong>Number of terminals per channel</strong></td>
<td>2</td>
<td>2 or 4</td>
</tr>
<tr>
<td><strong>Dimensions W x D x H (mm/in)</strong></td>
<td>143 x 58 x 70 mm</td>
<td>125 x 58 x 70 mm</td>
</tr>
<tr>
<td><strong>Catalog number</strong></td>
<td>ABE7CPM01</td>
<td>ABE7CPA02</td>
</tr>
</tbody>
</table>

*Connection cable recommended for Modicon PLCs (4)*

(3) Or 8 inputs + 2 outputs, analog.

(4) Connection cables available for other PLCs, please refer to your Schneider Electric agency.
## Advantys ABE7

### Sockets with plug-in relays and terminals

![Image of Advantys ABE7 socket](image)

<table>
<thead>
<tr>
<th>Type of connection sub-base</th>
<th>With soldered solid-state relay inputs</th>
<th>With soldered solid-state relay outputs</th>
<th>With soldered electromechanical relay outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Max. current per channel</td>
<td>12 mA</td>
<td>0.5 A</td>
<td>2 A</td>
</tr>
<tr>
<td>Input voltage / output voltage</td>
<td>24 VDC / -</td>
<td>110 VAC / -</td>
<td>- / 24 VDC</td>
</tr>
<tr>
<td>Number of contacts</td>
<td>-</td>
<td>-</td>
<td>1 N/O</td>
</tr>
<tr>
<td>Polarity distribution</td>
<td>-</td>
<td>-</td>
<td>(1) Volt-free</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>206 x 58 x 77 mm</td>
<td>206 x 58 x 77 mm</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>ABE7S16E2B1</td>
<td>ABE7S16E2F0</td>
<td>ABE7S16S2B02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ABE7S16S1B2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ABE7R16S111</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ABE7R16S210</td>
</tr>
</tbody>
</table>

Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: ABFH20H100 (3)

1. Contact common per group of 8 channels.
2. With fault detection signal (can only be used with modules with protected outputs).
3. For a 2 m length cable, replace the number 1 in the catalog number by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H20).

<table>
<thead>
<tr>
<th>Type of connection sub-base</th>
<th>With plug-in electromechanical relays</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>16</td>
</tr>
<tr>
<td>Max. current per channel</td>
<td>5 A</td>
</tr>
<tr>
<td>Control voltage / output voltage</td>
<td>24 VDC / 5–24 VDC, 230 VAC</td>
</tr>
<tr>
<td>Number of contacts</td>
<td>1 N/O</td>
</tr>
<tr>
<td>Polarity distribution</td>
<td>(4) Volt-free</td>
</tr>
<tr>
<td>Number of terminals per channel</td>
<td>2</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>110 x 54 x 89 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>ABE7R16T111</td>
</tr>
<tr>
<td></td>
<td>ABE7R16T212</td>
</tr>
<tr>
<td></td>
<td>ABE7R16T210</td>
</tr>
<tr>
<td></td>
<td>ABE7R16T230</td>
</tr>
<tr>
<td></td>
<td>ABE7R16T330</td>
</tr>
<tr>
<td></td>
<td>ABE7R16T370</td>
</tr>
</tbody>
</table>

Connection cable recommended for Modicon, TSX Micro and Premium PLCs, L = 1 m: ABFH20H100 (6)

4. Contact common per group of 4 channels.
5. Common on both poles.
6. For a 2 m length cable, replace the number 1 in the catalog number by 2, and for a 3 m length, by 3. (Example: ABFH20H100 becomes ABFH20H20).

#### Connection cables for PLCs (7)

<table>
<thead>
<tr>
<th>Input/Output Functions</th>
<th>Discrete</th>
<th>Analog</th>
<th>Analog and counter</th>
<th>Counter</th>
<th>Axis control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable L = 1 m</td>
<td>ABFH20H100</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Cable L = 2 m</td>
<td>ABFH20H200</td>
<td>ABFY25S200</td>
<td>–</td>
<td>–</td>
<td>TSXCP213</td>
</tr>
<tr>
<td>Cable L = 2.5 m</td>
<td>–</td>
<td>–</td>
<td>TSXCCPS15</td>
<td>TSXCCPH15</td>
<td>–</td>
</tr>
<tr>
<td>Cable L = 3 m</td>
<td>ABFH20H300</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Cable L = 6 m</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>TSXCP613</td>
</tr>
</tbody>
</table>

(7) Modicon, TSX Micro and Premium PLCs.

For other connection cables and accessories, please refer to your local Schneider Electric/Square D sales office.
Advantys ABE7

Telefast connection interfaces
Sub-bases for Twido controllers

<table>
<thead>
<tr>
<th>Type of connection sub-base</th>
<th>Discrete inputs/outputs</th>
<th>Solid-state and relay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Number of inputs</td>
<td>12 I (1 common for 12 channels)</td>
<td>8 O, fuse protected (1 common for 8 channels)</td>
</tr>
<tr>
<td>Number of outputs</td>
<td>8 O</td>
<td>2 O, solid-state</td>
</tr>
<tr>
<td>Voltage / current of inputs</td>
<td>24 VDC / 5–7 mA</td>
<td>6 O, relay (1 common for 6 channels)</td>
</tr>
<tr>
<td>Voltage / current of outputs</td>
<td>24 VDC / 0.3 A</td>
<td>Solid-state: 24 VDC / 2 A</td>
</tr>
<tr>
<td>LED per channel</td>
<td>–</td>
<td>Relay: 5–30 VDC, 250 VAC / 3 A</td>
</tr>
<tr>
<td>Number of terminals per channel/row number</td>
<td>2/2</td>
<td>–</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>130 x 62.5 x 83 mm</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>ABE7B20MPN20</td>
<td>ABE7B20MPN22</td>
</tr>
</tbody>
</table>

Sub-base for input/output module

<table>
<thead>
<tr>
<th>Type of connection sub-base</th>
<th>Discrete outputs</th>
<th>Relay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Type of outputs</td>
<td>16 I (1 common for 16 channels)</td>
<td>16 O</td>
</tr>
<tr>
<td>Voltage / current of outputs</td>
<td>24 VDC / 5 mA</td>
<td>24 VDC / 0.1 A</td>
</tr>
<tr>
<td>LED per channel</td>
<td>–</td>
<td>With</td>
</tr>
<tr>
<td>Number of terminals per channel/row number</td>
<td>2/2</td>
<td>–</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>106 x 60 x 49 mm</td>
<td>130 x 62.5 x 83 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>ABE7E16EPN20</td>
<td>ABE7E16SPN22</td>
</tr>
</tbody>
</table>

Connection cables for Twido

<table>
<thead>
<tr>
<th>Type of cable</th>
<th>For linking Twido and Telefast sub-base</th>
</tr>
</thead>
<tbody>
<tr>
<td>For use with</td>
<td>TW0LMDA20DTK/40DTK</td>
</tr>
<tr>
<td>Type of connectors</td>
<td>HE10, 26-pin, at either end</td>
</tr>
<tr>
<td>Catalog number</td>
<td>ABFT26B100</td>
</tr>
<tr>
<td>L = 0.5 m</td>
<td>ABFT26B100</td>
</tr>
<tr>
<td>L = 1 m</td>
<td>ABFT26B200</td>
</tr>
<tr>
<td>L = 2 m</td>
<td>ABFT26B200</td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>Type of accessory</th>
<th>Optional clip-in terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of linked terminals</td>
<td>20</td>
</tr>
<tr>
<td>Catalog number</td>
<td>ABE7BV20</td>
</tr>
<tr>
<td></td>
<td>ABE7BV20TB</td>
</tr>
</tbody>
</table>
### Passive splitter boxes **Advantys** ABE9

**IP67**

<table>
<thead>
<tr>
<th>Type of connection</th>
<th>To PLC using multicore cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>4</td>
</tr>
<tr>
<td>Type of female connector</td>
<td>M12, 5-pin</td>
</tr>
<tr>
<td>Max. number of signals</td>
<td>8</td>
</tr>
<tr>
<td>Max. current per channel</td>
<td>4 A</td>
</tr>
<tr>
<td>Max. current per splitter box (supply wire size)</td>
<td>16 A (1 mm² / #18 AWG)</td>
</tr>
<tr>
<td>Product certification</td>
<td>cULus</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>50.2 x 42 x 92.2 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Without LEDs</td>
</tr>
<tr>
<td>Cable L = 5 m</td>
<td>ABE9C1240L05</td>
</tr>
<tr>
<td>Cable L = 10 m</td>
<td>ABE9C1240L10</td>
</tr>
</tbody>
</table>

(1) Green LED: power supply status, yellow LED: channel status.

### Type of connection

| Number of channels | 4 | 8 |
| Type of female connector | M12, 5-pin | M12, 5-pin |
| Max. number of signals | 8 | 16 |
| Max. current per channel | 4 A | |
| Max. current per splitter box (supply wire size) | 16 A (1 mm² / #18 AWG) | |
| Product certification | cULus | |
| Dimensions W x D x H | 50.2 x 36.5 x 92.2 mm | 50.2 x 36.5 x 149.2 mm |
| Catalog number | Without LEDs | With LEDs (1) |
| Cable L = 5 m | ABE9C1240C23 | ABE9C1241C23 |
| Cable L = 10 m | ABE9C1240C23 | ABE9C1241C23 |

(1) Green LED: power supply status, yellow LED: channel status.

### Accessories

<table>
<thead>
<tr>
<th>Type of accessory</th>
<th>Splitter boxes w/o cable</th>
<th>Terminal connectors</th>
<th>Sealing plugs (sold in lots of 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4-channel</strong></td>
<td>ABE9C1240M</td>
<td>ABE9XCA1405</td>
<td>ABE9XCA1410</td>
</tr>
<tr>
<td><strong>8-channel</strong></td>
<td>ABE9C1280M</td>
<td>ABE9XCA1805</td>
<td>ABE9XCA1810</td>
</tr>
</tbody>
</table>

For other versions, consult with your local Schneider Electric/Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
# Advantys OTB

## IP 20 distributed I/O, optimized block Interface modules

### Discrete Type of bus

<table>
<thead>
<tr>
<th>CANopen Fieldbus</th>
<th>Ethernet TCP/IP network</th>
<th>Modbus Serial network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of I/Os</td>
<td>20 I/O</td>
<td></td>
</tr>
<tr>
<td>Number of inputs</td>
<td>12 inputs 24 VDC IEC type 1</td>
<td></td>
</tr>
<tr>
<td>Number of outputs</td>
<td>6 relay outputs and 2 solid state 24 VDC outputs</td>
<td></td>
</tr>
<tr>
<td>Connection method</td>
<td>Removable terminal block</td>
<td></td>
</tr>
<tr>
<td>Number of I/O expansion modules</td>
<td>7 discrete or analog input/output modules, or connection accessories</td>
<td></td>
</tr>
<tr>
<td>Maximum I/O configuration</td>
<td>With interface module base: 132 with screw terminal I/O expansion; 244 with HE10 connector I/O expansion; up to 48 analog channels</td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24 VDC</td>
<td></td>
</tr>
<tr>
<td>Counting</td>
<td>5 kHz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 channels, 32 bits (0–4,294,967,295 points)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>dedicated discrete inputs - up counting/down counting with preset</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20 kHz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 channels, 32 bits (0–4,294,967,295 points)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>up/down counting, up counting, down counting, frequency meter</td>
<td></td>
</tr>
<tr>
<td>Pulse generator, 7 kHz</td>
<td>2 PWM function channels (output with pulse width modulation)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or PLS function (pulse generator output)</td>
<td></td>
</tr>
<tr>
<td>Dimension W x D x H</td>
<td>55 x 70 x 90 mm</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>OTB1C0DM9LP</td>
<td>OTB1E0DM8LP</td>
</tr>
<tr>
<td></td>
<td>OTB1S0DM9LP</td>
<td></td>
</tr>
</tbody>
</table>

(1) For the catalog numbers of discrete I/O and analog expansion modules, refer to the Twido or Advantys OTB catalogs.

### Accessories

**Type of accessory**

<table>
<thead>
<tr>
<th>Commoning modules</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>For grouping input or output commons, max 8 A</td>
<td>User guides for hardware &amp; software</td>
</tr>
<tr>
<td>Inter-module (2)</td>
<td>FTXES00</td>
</tr>
</tbody>
</table>

(2) Commoning module not required to configure an island.
## Advantys FTB Interface modules, plastic enclosure

<table>
<thead>
<tr>
<th>Type of module</th>
<th>CANopen Fieldbus</th>
<th>DeviceNet Fieldbus</th>
<th>ProfiBus-DP Fieldbus</th>
<th>InterBus Fieldbus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of female connector</td>
<td>M12, 5-pin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. voltage / current of inputs</td>
<td>24 VDC type 2 (conforming to IEC 1131-2) / 200 mA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. voltage / current of outputs</td>
<td>24 VDC / 1.6 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. current per splitter box</td>
<td>8 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product certification</td>
<td></td>
<td></td>
<td>cULus</td>
<td></td>
</tr>
<tr>
<td>Dimensions, W x D x H</td>
<td>63 x 50.5 x 220 mm</td>
<td>63 x 69 x 220 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagnostics</td>
<td>Splitter boxes</td>
<td>By LED for: bus and I/O undervoltage + I/O short-circuit + I/O power supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Channels</td>
<td>By LED for: I/O short-circuit + wire breakage fault + I/O fault</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>16 inputs</td>
<td>FTB1CN16EP0</td>
<td>FTB1DN16EP0</td>
<td>FTB1DP16EP0</td>
</tr>
<tr>
<td></td>
<td>8 inputs/8 outputs</td>
<td>FTB1CN08E08SP0</td>
<td>FTB1DN08E08SP0</td>
<td>FTB1DP08E08SP0</td>
</tr>
<tr>
<td></td>
<td>12 inputs/4 outputs</td>
<td>FTB1CN12E04SP0</td>
<td>FTB1DN12E04SP0</td>
<td>FTB1DP12E04SP0</td>
</tr>
<tr>
<td></td>
<td>16 configurable inputs/outputs</td>
<td>FTB1CN16CP0</td>
<td>FTB1DN16CP0</td>
<td>FTB1DP16CP0</td>
</tr>
</tbody>
</table>

## Interface modules, metal enclosure

<table>
<thead>
<tr>
<th>Type of module</th>
<th>CANopen</th>
<th>DeviceNet</th>
<th>ProfiBus-DP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of female connector</td>
<td>M12, 5-pin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. voltage / current of inputs</td>
<td>24 VDC type 2 (conforming to IEC 1131-2) / 200 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. voltage / current of outputs</td>
<td>24 VDC / 1.6 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. current per splitter box</td>
<td>8 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product certification</td>
<td></td>
<td>cULus</td>
<td></td>
</tr>
<tr>
<td>Dimensions, W x D x H</td>
<td>62.7 x 38.9 x 224.7 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diagnostics</td>
<td>Splitter boxes</td>
<td>By LED for: bus and I/O undervoltage + I/O short-circuit + I/O power supply</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Channels</td>
<td>By LED for: I/O short-circuit + wire breakage fault + I/O fault</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>16 inputs</td>
<td>FTB1CN16EM0</td>
<td>FTB1DN16EM0</td>
</tr>
<tr>
<td></td>
<td>8 inputs/8 outputs/configurable outputs</td>
<td>FTB1CN08E08CM0</td>
<td>FTB1DN08E08CM0</td>
</tr>
<tr>
<td></td>
<td>16 configurable inputs/outputs</td>
<td>FTB1CN16CM0</td>
<td>FTB1DN16CM0</td>
</tr>
</tbody>
</table>
## Advantys STB

### IP20 Distributed I/O, modular system

#### Communication modules

<table>
<thead>
<tr>
<th>Type of module NIM</th>
<th>Ethernet TCP/IP network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud rate</td>
<td>10 Mbit/s</td>
</tr>
<tr>
<td>Protocol</td>
<td>Modbus TCP/IP</td>
</tr>
<tr>
<td>Transparent Ready</td>
<td>Class B20</td>
</tr>
<tr>
<td>Embedded Web server</td>
<td>Standard services</td>
</tr>
<tr>
<td>Ethernet services</td>
<td>SNMP agent, FDR client (replacement of faulty equipment), BOOF (allocation of IP addresses by a server)</td>
</tr>
<tr>
<td>Max. number of addressable I/O modules</td>
<td>32 per island</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>40 x 70 x 128.3 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>STBNIP2212</td>
</tr>
</tbody>
</table>

**Type of module NIM**

<table>
<thead>
<tr>
<th>Fieldbus CANopen</th>
<th>Fieldbus Fipio</th>
<th>INTERBus</th>
<th>Proibus DP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. number of addressable I/O modules</td>
<td>32 per island (1) (2)</td>
<td>32 per island (1) (2)</td>
<td>32 per island (1) (2)</td>
</tr>
<tr>
<td>Baud rate</td>
<td>10 Kbit/s – 1 Mbit/s</td>
<td>1 Mbit/s</td>
<td>0.5 Mbit/s</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>40 x 70 x 128.3 mm</td>
<td></td>
<td>9.6 K– 12 Mbit/s</td>
</tr>
<tr>
<td>Catalog number</td>
<td>STBNCO2212</td>
<td>STBNFP2212</td>
<td>STBNIB2212</td>
</tr>
<tr>
<td></td>
<td>STBNCO1010</td>
<td></td>
<td>STBNIB1010</td>
</tr>
</tbody>
</table>

(1) On 7 segments max.
(2) 12 per island on 1 segment max for basic versions.

**Type of module NIM**

<table>
<thead>
<tr>
<th>Other networks Modbus Plus</th>
<th>DeviceNet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. number of addressable I/O modules</td>
<td>32 per island</td>
</tr>
<tr>
<td>Baud rate</td>
<td>1 Mbit/s</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>40 x 70 x 128.3 mm</td>
</tr>
<tr>
<td>Catalog number</td>
<td>STBNMP2212</td>
</tr>
<tr>
<td>Basic</td>
<td>STBNDN2212</td>
</tr>
<tr>
<td></td>
<td>STBNDN1010</td>
</tr>
</tbody>
</table>

**Connection accessories**

<table>
<thead>
<tr>
<th>Type of accessory</th>
<th>Removable terminals for 24 VDC power supply</th>
<th>DeviceNet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td>All communication modules</td>
<td>Network link DeviceNet module</td>
</tr>
<tr>
<td>Catalog number</td>
<td>STBXTS1120 (1)</td>
<td>STBXTS1111</td>
</tr>
<tr>
<td></td>
<td>STBXTS2128 (1)</td>
<td>STBXTS2111</td>
</tr>
</tbody>
</table>

(1) To be ordered separately, sold in lots of 10.

**Connection accessories**: See www.telemecanique.com
## Power distribution modules (1)

<table>
<thead>
<tr>
<th>Type of module</th>
<th>PDM</th>
<th>Auxiliary Power supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection by removable terminals</td>
<td>Screw STBXTS1130 (2) Spring STBXTS2130 (2)</td>
<td>Screw STBXTS1120 (2) Spring STBXTS2120 (2)</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>24 VDC</td>
<td>115–230 VAC</td>
</tr>
<tr>
<td>Maximum current</td>
<td>Inputs 4 A at 30°C, 2.5 A at 60°C</td>
<td>Outputs 8 A at 30°C, 5 A at 60°C</td>
</tr>
<tr>
<td></td>
<td>Inputs/Outputs 4 A at 30°C, 2.5 A at 60°C</td>
<td>...</td>
</tr>
<tr>
<td></td>
<td>Internal logic 5 V DC</td>
<td>–</td>
</tr>
<tr>
<td>Sensor/actuator bus voltage range</td>
<td>19.2–30 VDC</td>
<td>85–265 VAC</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>18.4 x 70 x 128.3 mm</td>
<td>–</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Module STBPDT3100 Base STBXBA2200</td>
<td>Module STBPDT2100 Base STBXBA2200</td>
</tr>
</tbody>
</table>

(1) Process power supplies see chapter 6 “Power supply.”
(2) To be ordered separately, sold in lots of 10.

## Bus extension modules for standard range

<table>
<thead>
<tr>
<th>Type of module</th>
<th>“EOS” End of segment</th>
<th>“BOS” Beginning of segment</th>
<th>Extension for CANopen connection devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection by removable terminals</td>
<td>–</td>
<td>–</td>
<td>Screw STBXTS1120 (2) Spring STBXTS2120 (2)</td>
</tr>
<tr>
<td>Use</td>
<td>For placing at end of segment (except for the last)</td>
<td>For placing at head of each extension segment</td>
<td>For placing at end of last segment</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>18.4 x 70 x 128.3 mm</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Module STBXBE1000 Base STBXBA2400</td>
<td>Module STBXBE1200 Base STBXBA2300</td>
<td>Module STBXBE2100 Base STBXBA2000</td>
</tr>
</tbody>
</table>

(2) To be ordered separately, sold in lots of 10.
(3) To be ordered separately, sold in lots of 20.

## Software and memory card

<table>
<thead>
<tr>
<th>Type</th>
<th>Advantys configuration software</th>
<th>Removable memory card</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
<td>Single station</td>
<td>–</td>
</tr>
<tr>
<td>Memory size</td>
<td>STBSPU1000</td>
<td>32 Kb</td>
</tr>
<tr>
<td>Catalog number</td>
<td>STBXMP4440 (4)</td>
<td></td>
</tr>
</tbody>
</table>

(4) Application backup memory for standard network interface modules only.

## Connection accessories

<table>
<thead>
<tr>
<th>Type of accessory</th>
<th>Island bus extension cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>0.3 m 1 m 4.5 m 10 m 14 m</td>
</tr>
<tr>
<td>Catalog number</td>
<td>STBXCA1001 STBXCA1002 STBXCA1003 STBXCA1004 STBXCA1006</td>
</tr>
</tbody>
</table>

Connection accessories: See www.us.telemecanique.com
Advantys STB

IP20 Distributed I/O, modular system

Discrete modules

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Discrete inputs</th>
</tr>
</thead>
</table>
| Connection by removable terminals (1) | Screw STBXTS1100  
Screw STBXTS2100  
Spring STBXTS1110  
Spring STBXTS2110 |
| Number of channels | 2  
4  
6  
2 |
| Input voltage | 24 VDC  
115 VAC  
230 VAC |
| Dimensions W x D x H | 13.9 x 70 x 128.3 mm  
18.4 x 70 x 128.3 mm |
| Catalog number | STBDDI3230  
STBDDI3420  
STBDDI3610  
STBDAI5230  
STBDAI7220  
STBDAI/220 |
| Basic | –  
–  
–  
–  
–  
– |
| STBDDI3425  
STBDDI3615 | –  
–  
–  
–  
–  
– |
| Base | STBXBA1000  
STBXBA2000 |

(1) To be ordered separately, sold in lots of 20.

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Discrete solid state outputs</th>
</tr>
</thead>
</table>
| Connection by removable terminals (1) | Screw STBXTS1100  
Screw STBXTS2100 |
| Number of channels | 2  
4  
6 |
| Output voltage | 24 VDC  
24 VDC  
24 VDC |
| Output current | 0.5 A  
2 A  
0.25 A  
0.5 A  
0.25 A  
0.5 A |
| Dimensions W x D x H | 13.9 x 70 x 128.3 mm  
18.4 x 70 x 128.3 mm |
| Catalog number | STBDDO3200  
STBDDO3230  
STBDDO3290  
STBDDO3410  
STBDDO3600  
STBDDO3605 |
| Basic | –  
–  
–  
–  
–  
– |
| STBDDO3415  
STBDDO3615 | –  
–  
–  
–  
–  
– |
| Base | STBXBA1000 |

(1) To be ordered separately, sold in lots of 20.

<table>
<thead>
<tr>
<th>Type of module</th>
<th>Discrete outputs</th>
</tr>
</thead>
</table>
| Connection by removable terminals (1) | Screw STBXTS1110  
Screw STBXTS2110 |
| Number of channels | 2  
2 NC/NO  
2 NC+NO |
| Output voltage | 115–230 VAC  
24 VDC or 115–230 VAC  
24 VDC |
| Output current | 2 A at 30°C, 1 A at 60°C  
2 A per contact  
7 A per contact |
| Dimensions W x D x H | 18.4 x 70 x 128.3 mm  
28.1 x 70 x 128.3 mm |
| Catalog number | STBDAC0210  
STBDRC3210  
STBDRA3290  
STBDRA3290 |
| Triac | –  
STBXBA2000  
STBXBA2000  
– |
| Relay | –  
STBXBA3000  
STBXBA3000  
– |

(1) To be ordered separately, sold in lots of 20.

Connection accessories: See www.us.telemecanique.com
**Analog modules**

**Type of module (3)**

<table>
<thead>
<tr>
<th>Connection by removable terminals</th>
<th>Analog inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td></td>
</tr>
<tr>
<td>Input signal</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td></td>
</tr>
</tbody>
</table>

**Catalog number**

<table>
<thead>
<tr>
<th>Module Standard</th>
<th>Basic</th>
<th>STBAVI1270</th>
<th>STBAVI1275</th>
<th>STBAVI1220</th>
<th>STBAVI1225</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module Standard</th>
<th>STBACI1230</th>
<th>STBACI1230</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module Standard</th>
<th>STBTART0200</th>
<th>STBTART0200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Type of module (3)**
- **Analog outputs**
- **Application-specific modules**

**Type of module (3)**

<table>
<thead>
<tr>
<th>Connection by removable terminals</th>
<th>Analog inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels</td>
<td></td>
</tr>
<tr>
<td>Output signal</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td></td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module Standard</th>
<th>STBAVO1250</th>
<th>STBAVO1255</th>
<th>STBAVO1265</th>
<th>STBAVO1265</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module Standard</th>
<th>STBACO120</th>
<th>STBACO1210</th>
<th>STBACO1220</th>
<th>STBACO1225</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Type of module (3)**
- **For motor starters**
- **TeSys model U**
- **Counter (1)**

<table>
<thead>
<tr>
<th>Connection by connector</th>
<th>Tego Power</th>
<th>TeSys model U</th>
<th>Counter (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of inputs/outputs</td>
<td>16 I / 8 O</td>
<td>12 I / 8 O</td>
<td>4 I / 2 O</td>
</tr>
<tr>
<td>Input voltage</td>
<td>24 VDC</td>
<td>24 VDC</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Output voltage/current</td>
<td>24 VDC / 0.1 A per channel</td>
<td>24 VDC / 0.5 A</td>
<td>24 VDC / 0.5 A</td>
</tr>
<tr>
<td>Number of channels</td>
<td>8 non reversing motor starters</td>
<td>4 starters-controllers</td>
<td>1 counter channel 40 kHz</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>16.4 x 70 x 128.3 mm</td>
<td>28.1 x 70 x 128.3 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Module Standard</th>
<th>STBEP11145</th>
<th>STBEP12145</th>
<th>STBEHC3020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>STBEXBA2000</td>
<td>STBEXBA3000</td>
<td>STBEXBA3000</td>
</tr>
<tr>
<td>Connection cables</td>
<td>STBKC3002 (L= 1 m)</td>
<td>490NTW00002 (L= 2 m)</td>
<td>490NTW00005 (L= 5 m)</td>
</tr>
<tr>
<td>STBKC3003 (L= 2 m)</td>
<td>490NTW00005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **(1)** For 2/3-wire PNP/NPN 24 VDC sensors, 24 VDC incremental encoders, mechanical contacts.
- **(2)** To be ordered separately.
- **(3)** Required grounding kit (considered for counter<40 kHz): STBXS3000 (connecting support) + STBXS3010 (1.5–6 mm² terminals) + STBXS3020 terminals.

*Connection accessories: See www.us.telemecanique.com*

For other versions, consult your local Schneider Electric/Square D sales office: visit www.us.telemecanique.com
### Advantys FTM

**IP67 distributed I/O, modular system**

**Interface modules**

<table>
<thead>
<tr>
<th>Type of bus module</th>
<th>CANopen Fieldbus</th>
<th>DeviceNet Fieldbus</th>
<th>Profibus Fieldbus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. number of Discrete I/O</td>
<td>256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. number of splitter boxes</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus module supply voltage</td>
<td>24 V DC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus module max. supply current</td>
<td>9 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product certification</td>
<td>UL/CSA CULus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>50 x 50.3 x 151 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>FTM1CN10</td>
<td>FTM1DN10</td>
<td>FTM1DP10</td>
</tr>
</tbody>
</table>

### Splitter boxes

#### Type of splitter box

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>24 VDC / type 2 (conforming to IEC 1131-2) / 200 mA</th>
<th>24 VDC / type 2 (conforming to IEC 1131-2) / 200 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output voltage</td>
<td>24 V DC</td>
<td>24 V DC</td>
</tr>
<tr>
<td>Type of output</td>
<td>Solid-state</td>
<td>Solid-state</td>
</tr>
<tr>
<td>Output current</td>
<td>0.5 A</td>
<td>0.5 A</td>
</tr>
<tr>
<td>Maximum supply current by internal bus</td>
<td>4 A</td>
<td>4 A</td>
</tr>
<tr>
<td>Diagnostics</td>
<td>Short-circuit on I/O, wire breakage fault, sensor/actuator fault</td>
<td></td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>30 x 34.5 x 126 mm</td>
<td>30 x 34.5 x 151 mm</td>
</tr>
</tbody>
</table>

**Discrete inputs/outputs**

<table>
<thead>
<tr>
<th>I/O connection</th>
<th>M8 connector</th>
<th>M12 connector</th>
<th>M8 connector</th>
<th>M12 connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>FTM1DE08C08</td>
<td>FTM1DE08C12</td>
<td>FTM1DE08C08E</td>
<td>FTM1DE08C12E</td>
</tr>
<tr>
<td>8 inputs</td>
<td>FTM1DD08C08</td>
<td>FTM1DD08C12</td>
<td>FTM1DD08C08E</td>
<td>FTM1DD08C12E</td>
</tr>
<tr>
<td>16 inputs</td>
<td></td>
<td>FTM1DE16C12</td>
<td>(1)</td>
<td>FTM1DE16C12E</td>
</tr>
<tr>
<td>16 configurable inputs/outputs</td>
<td></td>
<td>FTM1DD16C12(1)</td>
<td></td>
<td>FTM1DD16C12E(1)</td>
</tr>
</tbody>
</table>

(1) Dimensions: 50 x 34.5 x 126 mm.

#### Type of splitter box

<table>
<thead>
<tr>
<th>Analog inputs/outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of inputs/outputs</td>
</tr>
<tr>
<td>Measuring range</td>
</tr>
<tr>
<td>Diagnostics</td>
</tr>
<tr>
<td>Conversion time</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
</tr>
<tr>
<td>Resolution</td>
</tr>
<tr>
<td>Catalog number</td>
</tr>
</tbody>
</table>
### Internal bus connection cables

For sensor/actuator cabling accessories, see page 8/8.

<table>
<thead>
<tr>
<th>Type of cable</th>
<th>For linking bus module and splitter boxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of connector</td>
<td>Catalog number</td>
</tr>
<tr>
<td>Cable</td>
<td>Elbowed M12, 6-pin, at either end</td>
</tr>
<tr>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Auxiliary power supply connection cables

For connection of 24 V DC auxiliary power supply

<table>
<thead>
<tr>
<th>Type of cable</th>
<th>For connection of 24 V DC auxiliary power supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of connector</td>
<td>Catalog number</td>
</tr>
<tr>
<td>Cable</td>
<td>Elbowed M12, 6-pin, at either end</td>
</tr>
<tr>
<td></td>
<td>Elbowed M12, 6-pin, at one end (other end free)</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Accessories

<table>
<thead>
<tr>
<th>Type</th>
<th>Line terminator for end of internal bus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of connector</td>
<td>Catalog number</td>
</tr>
<tr>
<td>M12</td>
<td>FTXCBTL12</td>
</tr>
</tbody>
</table>
### Bus connection cables

(1) For sensor and actuator cabling accessories:
see page 8/8.

<table>
<thead>
<tr>
<th>Type of bus</th>
<th>CANopen fieldbus</th>
<th>DeviceNet fieldbus</th>
<th>ProfiBus fieldbus</th>
<th>INTERBus fieldbus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of female connector</td>
<td>M12, 5-pin, at either end</td>
<td>A encoded</td>
<td>B encoded</td>
<td>–</td>
</tr>
<tr>
<td>Connector coding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>Cable</td>
<td>L = 0.3 m</td>
<td>FTXCN3203</td>
<td>FTXDP3203</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L = 0.6 m</td>
<td>FTXCN3206</td>
<td>FTXDP3206</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L = 1 m</td>
<td>FTXCN3210</td>
<td>FTXDP3210</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L = 2 m</td>
<td>FTXCN3220</td>
<td>FTXDP3220</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L = 3 m</td>
<td>FTXCN3230</td>
<td>FTXDP3230</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L = 5 m</td>
<td>FTXCN3250</td>
<td>FTXDP3250</td>
</tr>
</tbody>
</table>

(2) Catalog number includes the Bus connection cable + the power supply cable.

### Power supply connection cables

<table>
<thead>
<tr>
<th>Type of bus</th>
<th>CANopen fieldbus</th>
<th>DeviceNet fieldbus</th>
<th>ProfiBus fieldbus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of female connector</td>
<td>Type 7/8, 5-pin, at either end</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>Cable</td>
<td>L = 0.6 m</td>
<td>FTXDP2206</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L = 1 m</td>
<td>FTXDP2210</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L = 2 m</td>
<td>FTXDP2220</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L = 5 m</td>
<td>FTXDP2250</td>
</tr>
<tr>
<td>Type of female connector</td>
<td>Type 7/8, 5-pin, at one end (other end free)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>Cable</td>
<td>L = 1.5 m</td>
<td>FTXDP2115</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L = 3 m</td>
<td>FTXDP2130</td>
</tr>
<tr>
<td></td>
<td></td>
<td>L = 5 m</td>
<td>FTXDP2150</td>
</tr>
</tbody>
</table>

### Accessories

<table>
<thead>
<tr>
<th>Type of bus</th>
<th>CANopen fieldbus</th>
<th>DeviceNet fieldbus</th>
<th>ProfiBus fieldbus</th>
<th>INTERBus fieldbus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>Configuration CD-ROM</td>
<td>FTXES00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diagnostics M12 adaptor</td>
<td>FTXDG12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Power supply T-connector</td>
<td>FTXCNCT1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Line terminator</td>
<td>FTXCNTL12</td>
<td>FTXDPTL12</td>
<td>–</td>
</tr>
</tbody>
</table>
## Accessories for sensors/actuators

### M12 / M12 jumper cables

<table>
<thead>
<tr>
<th>Type</th>
<th>Male / Female jumper cables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of male connector, interface side</td>
<td>M12, 3-pin, straight, screw thread</td>
</tr>
<tr>
<td>Type of female connector, sensor side</td>
<td>M12, 3-pin, straight, screw thread</td>
</tr>
<tr>
<td>Cable</td>
<td>PUR, black</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Cable L = 1 m</td>
</tr>
<tr>
<td></td>
<td>XZCR1511040A1</td>
</tr>
<tr>
<td></td>
<td>XZCR1511040A2</td>
</tr>
<tr>
<td></td>
<td>XZCR1511041C1</td>
</tr>
<tr>
<td></td>
<td>XZCR1511041C2</td>
</tr>
<tr>
<td></td>
<td>XZCR1511064D1</td>
</tr>
<tr>
<td></td>
<td>XZCR1511064D2</td>
</tr>
<tr>
<td>L = 2 m</td>
<td>XZCR1511040A1</td>
</tr>
<tr>
<td></td>
<td>XZCR1511040A2</td>
</tr>
<tr>
<td></td>
<td>XZCR1511041C1</td>
</tr>
<tr>
<td></td>
<td>XZCR1511041C2</td>
</tr>
<tr>
<td></td>
<td>XZCR1511064D1</td>
</tr>
<tr>
<td></td>
<td>XZCR1511064D2</td>
</tr>
</tbody>
</table>

### M8/M8, M8/M12 and M12/DIN jumper cables

<table>
<thead>
<tr>
<th>Type</th>
<th>Male / Female jumper cables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of male connector, interface side</td>
<td>M8, 3-pin, straight, screw thread</td>
</tr>
<tr>
<td>Type of female connector, sensor side</td>
<td>M8, 3-pin, straight, screw thread</td>
</tr>
<tr>
<td>Cable</td>
<td>PUR, black</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Cable L = 1 m</td>
</tr>
<tr>
<td></td>
<td>XZCR2705037R1</td>
</tr>
<tr>
<td></td>
<td>XZCR1501040G1</td>
</tr>
<tr>
<td></td>
<td>XZCR1509040H1</td>
</tr>
<tr>
<td></td>
<td>XZCR1523062K1</td>
</tr>
<tr>
<td></td>
<td>XZCR2705037R2</td>
</tr>
<tr>
<td></td>
<td>XZCR1501040G2</td>
</tr>
<tr>
<td></td>
<td>XZCR1509040H2</td>
</tr>
<tr>
<td></td>
<td>XZCR1523062K2</td>
</tr>
<tr>
<td>L = 2 m</td>
<td>XZCR2705037R1</td>
</tr>
<tr>
<td></td>
<td>XZCR1501040G1</td>
</tr>
<tr>
<td></td>
<td>XZCR1509040H1</td>
</tr>
<tr>
<td></td>
<td>XZCR1523062K1</td>
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<tr>
<td></td>
<td>XZCR2705037R2</td>
</tr>
<tr>
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<td>XZCR1501040G2</td>
</tr>
<tr>
<td></td>
<td>XZCR1509040H2</td>
</tr>
<tr>
<td></td>
<td>XZCR1523062K2</td>
</tr>
</tbody>
</table>

### Pre-wired connectors and splitter box

<table>
<thead>
<tr>
<th>Type</th>
<th>Connectors</th>
<th>Pre-wired connectors</th>
<th>Splitter box “Y”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of male connector, interface side</td>
<td>M12, 4-pin</td>
<td>M12, 5-pin, straight, screw thread</td>
<td>1 x M12</td>
</tr>
<tr>
<td>Type of female connector, sensor side</td>
<td>M8, 3-pin</td>
<td>2 x M12</td>
<td></td>
</tr>
<tr>
<td>Cable</td>
<td>Straight connector, screw thread</td>
<td>PUR, black</td>
<td>2 x M8</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Elbowed connector, screw thread</td>
<td>XZCR1509040H1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cable L = 0.5 m</td>
<td>XZCR1523062K1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>XZCR1523062K2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cable L = 2 m</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The cabling system that meets your needs for industrial automation systems

**AS-Interface**

With the “Smart Cable” opt for:

- **Simplicity**
  - A quick and expandable cabling system:
    > Only 1 bus cable for connecting all the components of an automation system
    > Management of communications integrated in the products

- **Maximum security**
  - AS-Interface significantly improves the reliability, availability and safety of your machine:
    > Wiring errors are eliminated
    > Risk of electrical connection failure greatly reduced
    > High immunity to electromagnetic interference (EMC)
    > The machine's safety function is fully integrated with AS-Interface Safety at Work.

- **Up to 40% savings in costs**
  > Savings in time for design, installation, setting-up and commissioning
  > Savings in space required in enclosures due to smaller products and elimination of intermediate boxes
  > Control wiring and the need for cable trays are reduced if not eliminated

---

The “Smart Cable”

1. IP20 interface
2. IP67 interface
3. Dedicated control components
4. Dedicated dialogue components
5. Safety monitor
6. Safety interface
7. Power supply units (AS-i and power) and ground fault detection
8. AS-Interface master
9. AS-interface sleeves

---

Courtesy of Steven Engineering, Inc. ● 230 Ryan Way, South San Francisco, CA 94080-6370 ● General Inquiries: (800) 670-4183 ● www.stevenengineering.com
These IP20 or IP67 interfaces allow any standard automation component to be connected to the AS-Interface cable.

These handle automation functions and can be connected directly to the AS-Interface cable. An integrated circuit (ASIC) built into the products manages all interfacing functions and communication.

The incorporation of safety functions in the AS-Interface system is achieved by adding a safety monitor and safety interfaces, connected together with other standard AS-Interface components on the same yellow cable.

Sensors and actuators are connected to the processing unit by the AS-Interface system. This system comprises a cable, accessories, a master module and a power supply unit.

The terminals enable the assigning of an address to each interface and component in the system and diagnostics of the installation.

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b IP67 interfaces

Dedicated components ........................................ 8/4

b For control

b For operator interface

Safety solutions (see Chapter 9 “Machine safety”) ............................ 8/6 to 8/8

b Safety monitors

b Safety interfaces

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b Master modules, power supply units

b Cables, repeaters

b Accessories

Tools .................................................. 8/9

b Adjustment and addressing terminals
### Modular Interface, Width 25 mm

<table>
<thead>
<tr>
<th>V2.1 with Standard Addressing</th>
<th>Analog</th>
<th>Digital</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Inputs</strong></td>
<td>2 (0–10V)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Number of Outputs</strong></td>
<td>–</td>
<td>4 relay, 2A</td>
</tr>
<tr>
<td><strong>Type of Addressing</strong></td>
<td>Standard</td>
<td>4 solid state, 0.5A</td>
</tr>
<tr>
<td><strong>Supply by AS-Interface</strong></td>
<td>Inputs and sensor supply (200 mA max.)</td>
<td>–</td>
</tr>
<tr>
<td><strong>AS-Interface Profile</strong></td>
<td>S.7.3.F.D</td>
<td>S.7.3.F.D</td>
</tr>
<tr>
<td><strong>Maximum Consumption from AS-Interface</strong></td>
<td>60 mA</td>
<td>110 mA</td>
</tr>
<tr>
<td><strong>Dimensions W x D x H</strong></td>
<td>25 x 77 x 87 mm</td>
<td>25 x 77 x 87 mm</td>
</tr>
<tr>
<td><strong>Catalog Number</strong></td>
<td>ASI20MA2VU</td>
<td>ASI20MA2VI</td>
</tr>
<tr>
<td><strong>Accessory</strong> (1) for connection to flat cables</td>
<td>XZCG0122</td>
<td>XZCG0122</td>
</tr>
</tbody>
</table>

(1) Or direct screw terminal connection (without accessory), (other accessories, see page 8/9).

<table>
<thead>
<tr>
<th>V2.1 with Extended (A/B) Addressing</th>
<th>Digital</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of Inputs</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>Number of Outputs</strong></td>
<td>1 triac, 2A</td>
</tr>
<tr>
<td><strong>Type of Addressing</strong></td>
<td>Extended (A/B)</td>
</tr>
<tr>
<td><strong>Supply by AS-Interface</strong></td>
<td>Inputs and sensor supply (200 mA max.)</td>
</tr>
<tr>
<td><strong>AS-Interface Profile</strong></td>
<td>S.0.A.7.0</td>
</tr>
<tr>
<td><strong>Maximum Consumption from AS-Interface</strong></td>
<td>50 mA</td>
</tr>
<tr>
<td><strong>Dimensions W x D x H</strong></td>
<td>25 x 77 x 87 mm</td>
</tr>
<tr>
<td><strong>Catalog Number</strong></td>
<td>ASI20MT4IE</td>
</tr>
<tr>
<td><strong>Accessory</strong> (1) for connection to flat cables</td>
<td>XZCG0122</td>
</tr>
</tbody>
</table>

(1) Or direct screw terminal connection (without accessory), (other accessories, see page 8/9).

(2) Inputs, outputs and sensor supply (200 mA max.).

(3) Except ASI20MT4I3ORE (170 mA max.).
# IP67 for mounting on machine

## AS-Interface

### Interface Digital V2.1 with extended (A/B) addressing

<table>
<thead>
<tr>
<th>Number of inputs</th>
<th>4</th>
<th>Standard (1 x M12 input)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of addressing</td>
<td>Extended (A/B)</td>
<td>Dual &quot;Y&quot; (2 x M12 inputs)</td>
</tr>
<tr>
<td>Supply by AS-Interface</td>
<td>Inputs and sensor supply (200 mA max. except ASI67FFP22+ : 100 mA)</td>
<td></td>
</tr>
<tr>
<td>AS-Interface profile (I/O code, ID code, ID1, ID2)</td>
<td>S.0.A.7.0</td>
<td>S.7.A.7.0</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>45 x 42 x 80 mm</td>
<td>60 x 30.5 x 151 mm</td>
</tr>
<tr>
<td>Connection IDC Interface</td>
<td>ASI67FFP40E</td>
<td>ASI67FFP40EY</td>
</tr>
</tbody>
</table>

(1) A connection base with mounting holes that are compatible with the ASIB4VM12 connection base is available. Catalog number ASI67FFB02.

(2) Interfaces with integrated connection base. These do not require a separate connection base.

### Interface Digital V2.1 with standard addressing

<table>
<thead>
<tr>
<th>Number of inputs</th>
<th>4</th>
<th>Standard (1 x M12 input)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of addressing</td>
<td>Standard</td>
<td>Dual &quot;Y&quot; (2 x M12 inputs)</td>
</tr>
<tr>
<td>Supply by AS-Interface</td>
<td>Inputs and sensor supply (200 mA max. except ASI67FFP22+ : 100 mA)</td>
<td></td>
</tr>
<tr>
<td>AS-Interface profile (I/O code, ID code, ID1, ID2)</td>
<td>S.0.0.F.E</td>
<td>S.7.0.F.E</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>45 x 42 x 80 mm</td>
<td>60 x 30.5 x 151 mm</td>
</tr>
<tr>
<td>Connection IDC Interface</td>
<td>ASI67FFP40A</td>
<td>ASI67FFP40AY</td>
</tr>
</tbody>
</table>

(1) A connection base with mounting holes that are compatible with the ASIB4VM12 connection base is available. Catalog number ASI67FFB02.

(2) Interfaces with integrated connection base. These do not require a separate connection base.

### Interface Digital V2.1 (V1 compatible) with standard addressing

<table>
<thead>
<tr>
<th>Number of inputs</th>
<th>4</th>
<th>Standard (1 x M12 input)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of addressing</td>
<td>Standard</td>
<td>Dual &quot;Y&quot; (2 x M12 inputs)</td>
</tr>
<tr>
<td>Supply by AS-Interface</td>
<td>Inputs and sensor supply (200 mA max. except ASI67FFP22+ : 100 mA)</td>
<td></td>
</tr>
<tr>
<td>AS-Interface profile (I/O code, ID code, ID1, ID2)</td>
<td>S.0.0.F.F</td>
<td>S.7.0.F.F</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>45 x 42 x 80 mm</td>
<td>60 x 30.5 x 151 mm</td>
</tr>
<tr>
<td>Connection IDC Interface</td>
<td>ASI67FFP40A</td>
<td>ASI67FFP40A</td>
</tr>
</tbody>
</table>

For other versions, please consult with your local Schneider Electric/ Square D sales office: visit www.us.telemecanique.com
AS-Interface

Dedicated components
For control

<table>
<thead>
<tr>
<th>Starter in metal enclosure V1</th>
<th>Control by Black rotary knob (blue bkgrnd.)</th>
<th>Push buttons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of addressing</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td>Supply by AS-Interface</td>
<td>Inputs, sensor supply (2)</td>
<td></td>
</tr>
<tr>
<td>Supply by 24 VDC external source (black AUX cable)</td>
<td>(1)</td>
<td>(1)</td>
</tr>
<tr>
<td>AS-Interface profile (I/O code, ID code, ID1, ID2)</td>
<td>S.7.D</td>
<td>S.7.D</td>
</tr>
<tr>
<td>Maximum consumption from AS-Interface</td>
<td>120 mA</td>
<td></td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>175 x 175 x 195 mm</td>
<td>175 x 175 x 195 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catalog number (2)</th>
<th>Non reversing</th>
<th>Reversing</th>
</tr>
</thead>
<tbody>
<tr>
<td>(see table below)</td>
<td>LF1MpppD</td>
<td>LF1MMpppD</td>
</tr>
<tr>
<td></td>
<td>LF2MpppD</td>
<td>LF2MMpppD</td>
</tr>
</tbody>
</table>

Connection to AS-Interface and external supply (AUX) by accessory for flat cable: ASIDCPFM12D03 (AS-Interface and AUX cables) or XZCG01205D (AS-Interface cable).

(1) Contactors supplied by AS-Interface or external source, configurable directly on terminal block.

(2) To complete the catalog number, replace pp by the numbers indicated in the table below. (Example: LF1MpppD becomes LF1MP00D).

<table>
<thead>
<tr>
<th>kW</th>
<th>A</th>
<th>pp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>without MCB</td>
<td>00</td>
</tr>
<tr>
<td>0.06</td>
<td>0.16–0.25</td>
<td>02</td>
</tr>
<tr>
<td>0.09</td>
<td>0.25–0.40</td>
<td>03</td>
</tr>
<tr>
<td>0.12 / 0.18</td>
<td>0.40–0.63</td>
<td>04</td>
</tr>
<tr>
<td>0.25</td>
<td>0.63–1</td>
<td>05</td>
</tr>
<tr>
<td>0.37 / 0.55</td>
<td>1–1.6</td>
<td>06</td>
</tr>
</tbody>
</table>

kW= Motor power ratings in category AC-3, 400/415V in kilowatts.
A= Adjustable range of circuit-breaker thermal trips, in amperes.

Communication interface for TeSys Model U V2.1

<table>
<thead>
<tr>
<th>Type of addressing</th>
<th>Supply by AS-Interface</th>
<th>Supply by external source (AUX)</th>
<th>AS-Interface profile</th>
<th>Maximum consumption from AS-Interface</th>
<th>Dimensions W x D x H</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Standard</td>
<td></td>
<td>S.7.D.F.0</td>
<td>30 mA</td>
<td>depending on LU model</td>
<td>ASILUFC05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>35 x 129 x 254 mm</td>
<td>APPYCAS2</td>
</tr>
</tbody>
</table>

Recommended accessory for connection to AS-Interface cable (4)

ASIDCPFIL20

(4) Or direct screw terminal connection to AS-Interface and external supply (AUX), (other accessories, see page 8/9).
### Keypads and Control stations

**V2.1**

<table>
<thead>
<tr>
<th>Type of addressing</th>
<th>Supply by AS-Interface</th>
<th>Supply by external source (AUX)</th>
<th>AS-Interface profile</th>
<th>Consumption from AS-Interface</th>
<th>Dimensions W x D x H</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black and white</td>
<td>Standard</td>
<td>–</td>
<td>S.3.F</td>
<td>&lt; 40 mA</td>
<td>68 x 62 x 128 mm</td>
<td>XALS2001E</td>
</tr>
<tr>
<td>Green and red</td>
<td>Standard</td>
<td>–</td>
<td>S.3.F</td>
<td>&lt; 40 mA</td>
<td>68 x 62 x 128 mm</td>
<td>XALS2002E</td>
</tr>
<tr>
<td>Illuminated</td>
<td>Buttons and pilot lights</td>
<td>–</td>
<td>S.3.F</td>
<td>&lt; 80 mA</td>
<td>68 x 68 x 128 mm</td>
<td>XALS2003E</td>
</tr>
</tbody>
</table>

**Recommended accessory for connection to AS-Interface cable (4)**

<table>
<thead>
<tr>
<th></th>
<th>ASIDCPM12D03</th>
</tr>
</thead>
</table>

(4) Or direct screw terminal connection to AS-Interface and external supply (AUX), (other accessories, see page 8/9).

### Interface

**V2.1**

<table>
<thead>
<tr>
<th>Number of pages available</th>
<th>Number of inputs</th>
<th>Number of outputs</th>
<th>Type of addressing</th>
<th>Supply by AS-Interface</th>
<th>AS-Interface profile</th>
<th>Maximum consumption from AS-Interface</th>
<th>Dimensions W x D x H</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>2</td>
<td>2 solid state, 0.5A</td>
<td>Standard</td>
<td>Inputs and pilot lights</td>
<td>S.3.F</td>
<td>80 mA</td>
<td>52 x 15 x 38 mm</td>
<td>XALS21E</td>
</tr>
</tbody>
</table>

Direct screw terminal connection to AS-Interface or by accessory for flat cable: XZCG0122, (other accessories, see page 8/9).

### Indicator banks, Ø 70 mm

**V1**

<table>
<thead>
<tr>
<th>Type of addressing</th>
<th>Connection to AS-Interface cable and AUX (male M12 connector)</th>
<th>Supply by AS-Interface</th>
<th>Supply by external source (AUX)</th>
<th>AS-Interface profile</th>
<th>Consumption from AS-Interface</th>
<th>Light source</th>
<th>Buzzer</th>
<th>Catalog number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>Side entry</td>
<td>(5)</td>
<td>(5)</td>
<td>S.8.F</td>
<td>250 / 30 mA</td>
<td>-</td>
<td>-</td>
<td>XVBC21A</td>
</tr>
<tr>
<td>Audible</td>
<td>Side entry</td>
<td>(5)</td>
<td>(5)</td>
<td>S.8.F</td>
<td>250 / 30 mA</td>
<td>5 Joule LED</td>
<td>-</td>
<td>XVBC9B</td>
</tr>
</tbody>
</table>

**Recommended accessory for connection to AS-Interface cable & AUX**

<table>
<thead>
<tr>
<th></th>
<th>ASIDCPM12D03</th>
</tr>
</thead>
</table>

(5) Illuminated units supplied by AS-Interface or externally, configurable by shunt.

(6) To complete the catalog number, replace the **p** by the following number designating the color: green: 3, red: 4, orange: 5, blue: 6, clear: 7, yellow: 8.

(7) To obtain a complete indicator bank, order a base unit + the illuminated or audible units (5 units maximum).
## AS-Interface

### Installation system

### Master modules

<table>
<thead>
<tr>
<th>Platform</th>
<th>Twido</th>
<th>Premium</th>
<th>Micro</th>
<th>Quantum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum number of master modules per PLC</td>
<td>2</td>
<td>2, 4 or 8 depending on processor</td>
<td>1</td>
<td>8 (1)</td>
</tr>
<tr>
<td>Compatibility with AS-Interface interfaces and components</td>
<td>V1 / V2.1</td>
<td>V1 / V2.1</td>
<td>V1</td>
<td>V1</td>
</tr>
<tr>
<td>Direct connection to AS-Interface cable</td>
<td>by terminal block</td>
<td>by terminal block</td>
<td>by terminal block</td>
<td>by terminal block</td>
</tr>
<tr>
<td>Maximum number of addresses</td>
<td>62</td>
<td>62</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Compatibility with analog interfaces</td>
<td>Yes</td>
<td>Yes</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Compatibility with safety interfaces</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>AS-Interface profile</td>
<td>M.3</td>
<td>M.2.E</td>
<td>M.2</td>
<td>M.2</td>
</tr>
<tr>
<td>Catalog number</td>
<td>TWDNOI10M3</td>
<td>TSXSAY1000</td>
<td>TSXSAZ10</td>
<td>140EIA92100</td>
</tr>
</tbody>
</table>

(1) 4 per local rack, 4 per remote I/O, 2 per distributed I/O.

### Power supply units

<table>
<thead>
<tr>
<th>Type of supply</th>
<th>AS-Interface</th>
<th>AS-Interface + Auxiliary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>100–240 VAC</td>
<td>100–240 VAC</td>
</tr>
<tr>
<td>Auxiliary output voltage</td>
<td>30 VDC</td>
<td>30 VDC</td>
</tr>
<tr>
<td>Auxiliary output voltage</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Auxiliary nominal power</td>
<td>73 W</td>
<td>146 W</td>
</tr>
<tr>
<td>Auxiliary nominal power</td>
<td>24 VDC</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Direct connection to AS-Interface cable</td>
<td>by terminal block</td>
<td>by terminal block</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>61 x 120 x 120 mm</td>
<td>225 x 135 x 151.5 mm</td>
</tr>
<tr>
<td>Catalog number without ground fault detection</td>
<td>ASIABLB3002</td>
<td>ASIABLB3004</td>
</tr>
<tr>
<td>Catalog number with ground fault detection</td>
<td>ASIABLD3002</td>
<td>ASIABLD3004</td>
</tr>
<tr>
<td>AUX nominal current</td>
<td>3 A</td>
<td>7 A (2)</td>
</tr>
</tbody>
</table>

(2) Power supply unit with constant maximum output, see curve above.
### Cables and repeater

#### Type

<table>
<thead>
<tr>
<th>Wire size (gauge)</th>
<th>Yellow AS-Interface cable</th>
<th>Black Auxiliary cable</th>
<th>Repeater (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 X 5 mm² (# 16 AWG)</td>
<td>1 X 5 mm² (# 16 AWG)</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

#### Catalog number

| Cable L | Cable number | | |
|---------|--------------|| |
| 20 m | XZCB10201 (3) | XZCB10202 (3) | – |
| 50 m | XZCB10501 (3) | XZCB10502 (3) | – |
| 100 m | XZCB11001 (3) | XZCB11002 (3) | – |

#### Catalog number of repeater

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>ASIRPT01</td>
</tr>
</tbody>
</table>

(3) Standard cable. For TPE cable (oil and vapor resistant) add the letter H to the end of the catalog number, example: XZCB10201 becomes XZCB10201H.

(4) Enables an AS-Interface network to be extended by 100 m. Direct connection to the AS-Interface yellow cable by IDC.

### Tap-offs for flat cable

(For connecting interfaces and components)

#### Connection to cable by IDC

<table>
<thead>
<tr>
<th>Cable extremity</th>
<th>AS-Interface IP54</th>
<th>AS-Interface + Auxiliary IP67</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12 connector (5)</td>
<td>Bare wires (6)</td>
<td>M12 connector (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>XZCG0120</td>
<td>XZCG0120D</td>
</tr>
<tr>
<td></td>
<td>XZCG0122</td>
<td>ASIDCPM12D20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female 5-pin M12 end connector, screw threaded for connection with M12 male connector.</td>
<td>#22 AWG for product with terminal block.</td>
<td>#22 AWG for product with terminal block.</td>
</tr>
</tbody>
</table>

(5) Female 5-pin M12 end connector, screw threaded for connection with M12 male connector.

(6) #22 AWG for product with terminal block.

(7) #22 AWG for product with terminal block.

### Connection to cable by IDC

<table>
<thead>
<tr>
<th>Tap-off</th>
<th>1 x M12 connector 5-pin female, screw threaded</th>
<th>1 flat cable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>1 flat cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>XZCG0120</td>
<td>–</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IDC connection base</th>
<th>2 AS-Interface or 2 Auxiliary</th>
</tr>
</thead>
<tbody>
<tr>
<td>XZSDE1113</td>
<td>–</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cover</th>
<th>XZSDP (8)</th>
</tr>
</thead>
</table>

(8) For the complete product, include the connection base.
# AS-Interface

## Installation system

### Jumper cables M12 / M12

<table>
<thead>
<tr>
<th>Type</th>
<th>Male / Female jumper cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male connector type, interface side</td>
<td>M12, 3-pin, straight, screw thread. M12, 4-pin, straight, screw thread. M12, 5-pin, straight, screw thread.</td>
</tr>
<tr>
<td>Female connector type, sensor side</td>
<td>M12, 3-pin, straight, screw thread. M12, 4-pin, straight, screw thread. M12, 5-pin, straight, screw thread.</td>
</tr>
<tr>
<td>Cable</td>
<td>PUR, black</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Cable L = 1 m</td>
</tr>
<tr>
<td></td>
<td>XZCR1511040A1</td>
</tr>
<tr>
<td></td>
<td>XZCR1511040A2</td>
</tr>
<tr>
<td></td>
<td>L = 2 m</td>
</tr>
<tr>
<td></td>
<td>XZCR1511041C1</td>
</tr>
<tr>
<td></td>
<td>XZCR1511041C2</td>
</tr>
<tr>
<td></td>
<td>XZCR1511064D1</td>
</tr>
<tr>
<td></td>
<td>XZCR1511064D2</td>
</tr>
</tbody>
</table>

### Jumper cables M12 / M8 or DIN

<table>
<thead>
<tr>
<th>Type</th>
<th>Male / Female jumper cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male connector type, interface side</td>
<td>M12, 3-pin, straight, screw thread. M12, 3-pin, straight, screw thread. M12, 3-pin, straight, screw thread.</td>
</tr>
<tr>
<td>Female connector type, sensor side</td>
<td>M8, 3-pin, straight (1) M8, 3-pin, straight, screw thread. DIN 43650A, elbowed, screw thrd.</td>
</tr>
<tr>
<td>Cable</td>
<td>PUR, black</td>
</tr>
<tr>
<td>Catalog number</td>
<td>Cable L = 1 m</td>
</tr>
<tr>
<td></td>
<td>XZCR1501040G1</td>
</tr>
<tr>
<td></td>
<td>XZCR1509040H1</td>
</tr>
<tr>
<td></td>
<td>XZCR1523062K1</td>
</tr>
<tr>
<td></td>
<td>L = 2 m</td>
</tr>
<tr>
<td></td>
<td>XZCR1501040G2</td>
</tr>
<tr>
<td></td>
<td>XZCR1509040H2</td>
</tr>
<tr>
<td></td>
<td>XZCR1523062K2</td>
</tr>
</tbody>
</table>

(1) Clip together connector.

### Connectors, splitter box

<table>
<thead>
<tr>
<th>Type</th>
<th>Connectors</th>
<th>Pre-wired connectors</th>
<th>Splitter box</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male connector type, interface side</td>
<td>M12, 4-pin</td>
<td>M12, 5-pin, straight, screw thread. 1 x M12, 5-pin, straight, screw thrd. 2 x M12, 5-pin, straight, screw thrd.</td>
<td></td>
</tr>
<tr>
<td>Female connector type, sensor side</td>
<td>–</td>
<td>PUR, black</td>
<td>FTXCY1212</td>
</tr>
<tr>
<td>Cable</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>Straight connector, screw thread.</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XZCC12M4M0B</td>
<td>–</td>
<td>FTXCY1212</td>
</tr>
<tr>
<td></td>
<td>Elbowed connector, screw thread.</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XZCC12MCM40B</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Cable L = 0.5 m</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Cable L = 2 m</td>
<td>–</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XZCP1564L05</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XZCP1564L2</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>
## Tools
### Adjustment and addressing terminals

<table>
<thead>
<tr>
<th>Display</th>
<th>25 mm LCD screen</th>
<th>13 mm LCD screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP40</td>
<td>IP20</td>
</tr>
<tr>
<td>AS-Interface voltage / current measurement</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Addresses stored in memory</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Access to functions</td>
<td>direct by selector switch</td>
<td>by pull-down menu</td>
</tr>
<tr>
<td>Compatibility</td>
<td>V1/V2</td>
<td>V1/V2</td>
</tr>
<tr>
<td>Operating time</td>
<td>2500 addressing operations</td>
<td>250 read/write operations</td>
</tr>
<tr>
<td>Catalog number</td>
<td>ASITERV2</td>
<td>XZMC11</td>
</tr>
</tbody>
</table>

**Catalog number with set of 7 leads + protective cover for terminal**

ASITERV2SET

### Addressing accessories for terminals ASITERV2 and XZMC11

<table>
<thead>
<tr>
<th>Product connection</th>
<th>Infrared addressing</th>
<th>Socket</th>
</tr>
</thead>
<tbody>
<tr>
<td>For products</td>
<td>ASISSL</td>
<td>ASI8E− / APP1 / ASILUF− / XBSZ43 / ASI20M</td>
</tr>
<tr>
<td>Catalog number</td>
<td>ASITERIR1</td>
<td>XZMG12</td>
</tr>
</tbody>
</table>

**Product connection M12, male**

<table>
<thead>
<tr>
<th>For products</th>
<th>(2)</th>
<th>ASII7MP</th>
<th>ASI20M− / ASI67FFP−</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog number</td>
<td>ASITERACC1M</td>
<td>ASITERACC1F</td>
<td>ASITERACC</td>
</tr>
</tbody>
</table>

(2) Possibility to connect AS-Interface cable using T connector XZCG0120.
Since a perfect safety system does not exist, the latest standards relating to functional safety and voluntary application provide new risk management methods to be used from the design stage by applying principles such as the safety integrity level (SIL) as well as extensively using established operating safety concepts.

### Safety solutions using Preventa for better protection

**Preventa**

*Ingenious* and innovative, Preventa safety solutions provide maximum protection for all the safety functions of your automation system.

**Select Preventa:**
- To export your machines to any location in the world, you expect solutions that are both **approved** and **conform** to international standards.
- To maintain productivity, you need solutions **quickly** to assist you, irrespective of the circumstances.
- You seek **universal** solutions to respond to the diversity of your customers’ requirements and, at the same time, **optimize** your stock.

---

**Functional Safety and Safety Integrity Level (SIL)**

**Risk reduction according to EN/IEC 61508**

- **Safety** is achieved by risk reduction (for those hazards that cannot be designed-out).
- **Residual risk** is the risk remaining after protective measures have been taken.
- **Protective measures** realized by E/E/PE safety related systems contribute to risk reduction.

---

**Process**

- EN/IEC 61508
  - Functional safety of electrical / electronic / programmable electronic safety-related systems

**Machines**

- EN 954-1*
  - Safety related parts of control systems

**Software**

- EN/IEC 61511
- EN/IEC 61508-3
- EN/IEC 62061
- prEN/ISO 13849-1*

*Covering the non-electrical technologies e.g. hydraulics...

---

**Residual risk**

**Tolerable risk**

**equipment under control risk**

---

**Necessary risk reduction**

**Actual risk reduction**

**Increasing risk**

- **Practical risk covered by other technology safety-related systems**
- **Practical risk covered by electrical / electronic / programmable electronic safety-related systems (E/E/PE)**
- **Practical risk covered by external risk reduction facilities**

**Risk reduction achieved by all safety-related systems and external risk reduction facilities**
For machinery, the probability of dangerous failures per hour of a control system is denoted in EN/IEC 62061 as the PFH_{d}.

- The rate of failures \( \lambda \) can be expressed as follows:
  \[
  \lambda = \lambda_s + \lambda_{dd} + \lambda_{du}
  \]
- The calculation of the PFH_{d} for a system or subsystem depends on several parameters:
  - the dangerous failure rate (\( \lambda_d \)) of the subsystem elements
  - the fault tolerance (e.g. redundancy) of the system
  - the diagnostic test interval (T2)
  - the proof test interval (T1) or lifetime whichever is smaller
  - the susceptibility to common cause failures (\( \beta \))
- For each of the four different logical architectures A to D there is a different formula to calculate the PFH_{d} (see EN/IEC 62061). (The principal relationship is: \( \text{PFH}_{d} = \lambda_d \times 1h \))

### Machinery: Risk estimation and SIL assignment of EN/IEC 62061
Given as an example in an informative Annex

<table>
<thead>
<tr>
<th>Risk related to the identified hazard</th>
<th>Severity of the possible harm</th>
<th>Frequency and duration of exposure</th>
<th>Probability of occurrence of a hazardous event</th>
<th>Probability of avoiding or limiting harm</th>
<th>Probability of occurrence of that harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irreversible: death, losing an eye or arm</td>
<td>4</td>
<td>Fr</td>
<td>Pr</td>
<td>Av</td>
<td></td>
</tr>
<tr>
<td>Reversible: broken limb(s), losing a finger(s)</td>
<td>3</td>
<td>Fr</td>
<td>Pr</td>
<td>Av</td>
<td></td>
</tr>
<tr>
<td>Reversible: requiring attention from a medical practitioner</td>
<td>2</td>
<td>Fr</td>
<td>Pr</td>
<td>Av</td>
<td></td>
</tr>
<tr>
<td>Reversible: requiring first aid</td>
<td>1</td>
<td>Fr</td>
<td>Pr</td>
<td>Av</td>
<td></td>
</tr>
</tbody>
</table>

### Machinery: Determination of the required SIL.
Example according to EN/IEC 62061

<table>
<thead>
<tr>
<th>Serial no.</th>
<th>Hazard</th>
<th>Se</th>
<th>Fr</th>
<th>Pr</th>
<th>Av</th>
<th>Cl</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hazard A</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>Hazard B</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>12</td>
</tr>
</tbody>
</table>

### Product Information
- Issued by:
- Date:

### Risk assessment and safety measures

<table>
<thead>
<tr>
<th>Consequences</th>
<th>Severity (Se)</th>
<th>Class Cl</th>
<th>Frequency and duration</th>
<th>Probability of hazardous event</th>
<th>Avoidance</th>
<th>Safety Measure</th>
<th>Sale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death, losing an eye or arm</td>
<td>4</td>
<td>Sl. 2</td>
<td>Fr ≤ 0.5</td>
<td>Common</td>
<td>Likely</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent, losing fingers</td>
<td>3</td>
<td>SIl. 1</td>
<td>Fr &gt; 0.5 to ≤ 1 day</td>
<td>Likely</td>
<td>Possible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reversible, medical attention</td>
<td>2</td>
<td>SIl. 1</td>
<td>Fr &gt; 1 day to ≤ 2 weeks</td>
<td>Possible</td>
<td>Impossible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reversible, first aid</td>
<td>1</td>
<td>SIl. 1</td>
<td>Fr &gt; 2 weeks to ≤ 1 year</td>
<td>Impossible</td>
<td>Probable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Comments
Instead of a failure rate per hour ($\lambda$), prEN/ISO 13849-1 uses the mean time to failure (MTTF) as the parameter for the probability of failures.

- **MTTF** = mean time to failure [years]
  - The mean time after installation of devices to any first failure.
  - The relation between $\lambda$ and MTTF is: $\text{MTTF} = \frac{1}{\lambda}$

- **MTBF** = mean time between failures
  - Not relevant for devices which are not repaired.

- **MTTF$_d$** = mean time to dangerous failure
  - The MTTF$_d$ is defined in prEN/ISO 13849-1 as the expectation of the mean time to dangerous failure of a safety related part of a control system.

---

**Safety of Machinery: prEN/ISO 13849-1, definition of MTTF$_d$**

* standard project in process

---

**Safety of Machinery: prEN/ISO 13849-1 Risk graph and parameters**

* standard project in process

---

**S** = Severity of injury

- S1 = Slight (normally reversible injury)
- S2 = Serious (normally irreversible) injury including death

**F** = Frequency and/or exposure time to the hazard

- F1 = Seldom to less often and/or the exposure time is short
- F2 = Frequent to continuous and/or the exposure time is long

**P** = Possibility of avoiding the hazard or limiting the harm

- P1 = Possible under specific conditions
- P2 = Scarcely possible

---

**Diagnotic Coverage**

The rate of the probability of the detected dangerous failures to the probability of total dangerous failures.

**MTTF** = mean time to failure

**MTBF** = mean time between failures

**MTTF$_d$** = mean time to dangerous failure

---

**Required performance level (PL$_r$)**

Starting point for the evaluation of the contribution to the risk reduction of a safety function

---

**Low contribution to risk reduction**

**High contribution to risk reduction**
Contents

**Automation** ............................................................... 9/4 to 9/7
- Safety controllers
- Safety relays

**AS-Interface Safety at work** .................... 9/8 and 9/9
- Safety monitors and interfaces

**Detection** .............................................................. 9/10 to 9/13
- Safety interlock switches
- Non-contact safety interlock switches
- Safety limit switches
- Light curtains

**Dialog** ................................................................. 9/14
- Emergency stop–Cable pull switches
Preventa Automation

Safety controllers
Emergency stops and limit switches

<table>
<thead>
<tr>
<th>Maximum category of the solution</th>
<th>SIL3 per EN/IEC 61508</th>
<th>Category 4 per EN 954-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of circuits</td>
<td>Safety</td>
<td>2 x 2 N.O. + 6 solid-state</td>
</tr>
<tr>
<td></td>
<td>Additional</td>
<td>2 x 3 N.O. per function</td>
</tr>
<tr>
<td>Display (number of LEDs)</td>
<td>30</td>
<td>3 solid-state</td>
</tr>
<tr>
<td>Width of housing</td>
<td>74 mm</td>
<td>12</td>
</tr>
<tr>
<td>Communication interface</td>
<td>Modbus</td>
<td>Modbus, CANopen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Modbus, Proflbus DP</td>
</tr>
</tbody>
</table>

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

| Supply voltage | XPSMC32Z (1)(2) | XPSMC32ZZC (1)(2) | XPSMC32ZP (1)(2) | XPSMP11123P (3) |

Non-contact safety interlock switches

<table>
<thead>
<tr>
<th>Maximum category of the solution</th>
<th>SIL3 per EN/IEC 61508</th>
<th>Category 4 per EN 954-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>For monitoring</td>
<td>non-contact safety interlock switches</td>
<td></td>
</tr>
<tr>
<td>Number of circuits</td>
<td>Safety</td>
<td>2 x 2 N.O. + 6 solid-state</td>
</tr>
<tr>
<td></td>
<td>Additional</td>
<td>2 x 3 N.O. per function</td>
</tr>
<tr>
<td>Display (number of LEDs)</td>
<td>30</td>
<td>3 solid-state</td>
</tr>
<tr>
<td>Width of housing</td>
<td>74 mm</td>
<td>12</td>
</tr>
<tr>
<td>Communication interface</td>
<td>Modbus</td>
<td>Modbus, CANopen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Modbus, Proflbus DP</td>
</tr>
</tbody>
</table>

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

| Supply voltage | XPSMC32Z (1)(2) | XPSMC32ZZC (1)(2) | XPSMC32ZP (1)(2) | XPSMP11123P (3) |

Safety mats and safety edges

<table>
<thead>
<tr>
<th>Maximum category of the solution</th>
<th>SIL3 per EN/IEC 61508</th>
<th>Category 4 per EN 954-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of circuits</td>
<td>Safety</td>
<td>2 x 2 N.O. + 6 solid-state</td>
</tr>
<tr>
<td></td>
<td>Additional</td>
<td>2 x 3 N.O. per function</td>
</tr>
<tr>
<td>Display (number of LEDs)</td>
<td>30</td>
<td>3 solid-state</td>
</tr>
<tr>
<td>Width of housing</td>
<td>74 mm</td>
<td>12</td>
</tr>
<tr>
<td>Communication interface</td>
<td>Modbus</td>
<td>Modbus, CANopen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Modbus, Proflbus DP</td>
</tr>
</tbody>
</table>

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

| Supply voltage | XPSMC32Z (1)(2) | XPSMC32ZZC (1)(2) | XPSMC32ZP (1)(2) | XPSMP11123P (3) |

(1) Version with 32 inputs. For version with 16 inputs, replace 32 in the catalog number by 16 (example: XPSMC32Z becomes XPSMC16Z).
(2) XPSMCWIN configuration software, configuration cable TSXPCX1031, adaptor XPSMCCPC and a set of plug in connectors with screw terminals XPSMCTS16 or XPSMCTS32 or set of plug in connectors with spring terminals XPSMCTC16 or XPSMCTC32 to be ordered separately.
(3) For version with non-removable terminal block, delete the letter P from the end of the catalog number (example: XPSMP11123P becomes XPSMP11123).
Safety relays
Emergency stops and limit switches

<table>
<thead>
<tr>
<th>Maximum category of the solution (EN 954-1)</th>
<th>Category 3</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of circuits</td>
<td>Safety</td>
<td>3 N.O.</td>
</tr>
<tr>
<td></td>
<td>Additional</td>
<td>1 solid-state</td>
</tr>
<tr>
<td>Display (number of LEDs)</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Width of housing</td>
<td>22.5 mm</td>
<td>22.5 mm</td>
</tr>
</tbody>
</table>

Optimum solutions: safety modules (for monitoring 1 safety function)

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>24 VDC</th>
<th>24 VAC/DC</th>
<th>24 VDC/120 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>–</td>
<td>XPSACS1211P (1)</td>
<td>XPSAFS130P (1)</td>
</tr>
<tr>
<td></td>
<td>–</td>
<td>–</td>
<td>XPSAK311144P (1) XPSAR311144P (1) –</td>
</tr>
<tr>
<td></td>
<td>–</td>
<td>–</td>
<td>XPSAK3S1144P (1) XPSAR3S1144P (1) –</td>
</tr>
</tbody>
</table>

(1) For version with non-removable terminal block, delete the letter P from the end of the catalog number (example: XPSAV11113P becomes XPSAV11113).

Non-contact safety interlock switches

<table>
<thead>
<tr>
<th>Maximum category of the solution (EN 954-1)</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>For monitoring</td>
<td>2 non-contact safety interlock switches maximum</td>
</tr>
<tr>
<td>Number of circuits</td>
<td>Safety</td>
</tr>
<tr>
<td></td>
<td>Additional</td>
</tr>
<tr>
<td>Display (number of LEDs)</td>
<td>3</td>
</tr>
<tr>
<td>Width of housing</td>
<td>22.5 mm</td>
</tr>
</tbody>
</table>

Optimum solutions: safety modules (for monitoring 1 safety function)

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>24 VDC</th>
<th>XPSDM11213P (1)</th>
<th>XPSDME1132P (1)</th>
</tr>
</thead>
</table>

(1) For version with non-removable terminal block, delete the letter P from the end of the catalog number (example: XPSDMB1132P becomes XPSDMB1132).

Safety mats and safety edges

<table>
<thead>
<tr>
<th>Maximum category of the solution (EN 954-1)</th>
<th>Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of circuits</td>
<td>Safety</td>
</tr>
<tr>
<td></td>
<td>Additional</td>
</tr>
<tr>
<td>Display (number of LEDs)</td>
<td>4</td>
</tr>
<tr>
<td>Width of housing</td>
<td>45 mm</td>
</tr>
</tbody>
</table>

Optimum solutions: safety modules (for monitoring 1 safety function)

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>24 VAC/DC</th>
<th>XPSAK311144P (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24 VDC/120 VAC</td>
<td>XPSAK3S1144P (1)</td>
</tr>
</tbody>
</table>

(1) For version with non-removable terminal block, delete the letter P from the end of the catalog number (example: XPSAK311144P becomes XPSAK311144).
## Preventa Automation

### Safety controllers

Two-hand control

<table>
<thead>
<tr>
<th>Maximum category of the solution</th>
<th>SIL 3 per EN/IEC 61508</th>
<th>Category 4 per EN 954-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of circuits</td>
<td>Safety</td>
<td>2 x 2 N.O. + 6 solid-state</td>
</tr>
<tr>
<td>Additional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display (number of LEDs)</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Width of housing</td>
<td>74 mm</td>
<td></td>
</tr>
<tr>
<td>Communication interface</td>
<td>Modbus, Modbus, CANopen</td>
<td>Modbus, Profibus DP</td>
</tr>
</tbody>
</table>

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>XPSMC32Z(1)(2)</th>
<th>XPSMC32ZC(1)(2)</th>
<th>XPSMC32ZP(1)(2)</th>
</tr>
</thead>
</table>

### Light curtains

<table>
<thead>
<tr>
<th>Maximum category of the solution</th>
<th>SIL 3 per EN/IEC 61508</th>
<th>Category 4 per EN 954-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of circuits</td>
<td>Safety</td>
<td>2 x 2 N.O. + 6 solid-state</td>
</tr>
<tr>
<td>Additional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display (number of LEDs)</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Width of housing</td>
<td>74 mm</td>
<td></td>
</tr>
<tr>
<td>Integral Mutling function</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Communication interface</td>
<td>Modbus, Modbus, CANopen</td>
<td>Modbus, Profibus DP</td>
</tr>
</tbody>
</table>

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>XPSMC32Z(1)(2)</th>
<th>XPSMC32ZC(1)(2)</th>
<th>XPSMC32ZP(1)(2)</th>
<th>XPSMP11123P (3)</th>
<th>XPSLCM1150</th>
</tr>
</thead>
</table>

### Zero speed and time delay

<table>
<thead>
<tr>
<th>Maximum category of the solution</th>
<th>SIL 3 per EN/IEC 61508</th>
<th>Category 4 per EN 954-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>For monitoring</td>
<td>Motor zero speed condition</td>
<td></td>
</tr>
<tr>
<td>Number of circuits</td>
<td>Safety</td>
<td>2 x 2 N.O. + 6 solid-state</td>
</tr>
<tr>
<td>Additional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display (number of LEDs)</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Width of housing</td>
<td>74 mm</td>
<td></td>
</tr>
<tr>
<td>Communication interface</td>
<td>Modbus, Modbus, CANopen</td>
<td>Modbus, Profibus DP</td>
</tr>
</tbody>
</table>

Universal solutions: safety controllers (for monitoring several safety functions simultaneously)

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>XPSMC32Z(1)(2)</th>
<th>XPSMC32ZC(1)(2)</th>
<th>XPSMC32ZP(1)(2)</th>
</tr>
</thead>
</table>

(1) Version with 32 inputs, for version with 16 inputs, replace 32 in the catalog number by 16 (example: XPSMC32Z becomes XPSMC16Z).
(2) XPSMCWIN configuration software, configuration cable TSXPCX1031, adaptor XPSMCCPC and a set of plug in connectors with screw terminals XPSMCTS16 or XPSMCTS32 or set of plug in connectors with spring terminals XPSMCTC16 or XPSMCTC32 to be ordered separately.
(3) For version with non-removable terminal block, delete the letter P from the end of the catalog number (example: XPSMP11123P becomes XPSMP11123).
**Safety relays**  
**Two-hand control**  

---

**Optimum solutions: safety modules (for monitoring 1 safety function)**

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>Category 2 (EN 954-1)</th>
<th>Category 4 (EN 954-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC</td>
<td>2 N.O.</td>
<td>3 N.O.</td>
</tr>
<tr>
<td>24 VAC/DC</td>
<td>4 solid-state</td>
<td>1 N.O. + 4 solid-state</td>
</tr>
<tr>
<td>120 VAC</td>
<td>45 mm</td>
<td>22.5 mm</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>Category 2 (EN 954-1)</th>
<th>Category 4 (EN 954-1)</th>
<th>Category 3 (EN 954-1)</th>
<th>Category 4 (EN 954-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC</td>
<td>XPSCM1144 (1)</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>24 VAC/DC</td>
<td>–</td>
<td>XPK51144 (1)</td>
<td>XPSCM1144 (1)</td>
<td>–</td>
</tr>
<tr>
<td>24 VDC/120 VAC</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

---

**Optimum solutions: safety modules (for monitoring 1 safety function)**

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>Category 2 (EN 954-1)</th>
<th>Category 3 (EN 954-1)</th>
<th>Category 4 (EN 954-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 VDC</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>24 VAC/DC</td>
<td>XPSTSA5142 (2)</td>
<td>XPSTSW5142 (2)</td>
<td>XPDS95142</td>
</tr>
<tr>
<td>120 VAC</td>
<td>XPSTSA3442 (2)</td>
<td>XPSTSW3442 (2)</td>
<td>XPDS93442</td>
</tr>
</tbody>
</table>

---

**For monitoring**

<table>
<thead>
<tr>
<th>Number of circuits</th>
<th>Motor zero speed</th>
<th>Safety time delay</th>
<th>1 N.O. pulse</th>
<th>2 N.O.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>1 N.O. + 1 N.C.</td>
<td>1 N.O. time delay</td>
<td>1 N.O.</td>
<td>2 N.O.</td>
</tr>
<tr>
<td>Additional</td>
<td>2 solid-state</td>
<td>2 N.C. + 2 solid-state</td>
<td>2 solid-state</td>
<td></td>
</tr>
<tr>
<td>Display (number of LEDs)</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Width of housing</td>
<td>90 mm</td>
<td>45 mm</td>
<td>45 mm</td>
<td>45 mm</td>
</tr>
</tbody>
</table>
Preventa
AS-Interface
safety at work

Safety monitors
Monitors

Maximum category of the solution

<table>
<thead>
<tr>
<th>Number of circuits</th>
<th>Safety</th>
<th>Auxiliary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 N.O.</td>
<td>1 solid-state</td>
</tr>
<tr>
<td></td>
<td>2 x 2 N.O.</td>
<td>2 solid-state</td>
</tr>
</tbody>
</table>

| Display (number of LEDs) | 5 | 8 |
| Width of housing | 45 mm | 45 mm |
| AS-Interface profile | S.7.F | S.7.F |
| Master module compatibility | V1 / V2.1 | V1 / V2.1 |
| Catalog number of monitor with enhanced functions | ASISAFEMON1B | ASISAFEMON2B |

Configuration software, adjustment terminal and AS-Interface analyser

<table>
<thead>
<tr>
<th>Type</th>
<th>Configuration software (1)</th>
<th>Adjustment terminal (2)</th>
<th>AS-Interface Analyser</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multilingual</td>
<td>EN / FR / DE / ES / IT / PT</td>
<td>–</td>
<td>b Analysis and diagnostics of AS-Interface</td>
</tr>
<tr>
<td>For use with</td>
<td>ASISAFEMON1B/2B</td>
<td>–</td>
<td>line and Safety at Work</td>
</tr>
<tr>
<td>Media</td>
<td>CD-ROM PC</td>
<td>–</td>
<td>b Complements the diagnostic functions of the local AS-Interface master</td>
</tr>
<tr>
<td>Environment</td>
<td>Windows</td>
<td>–</td>
<td>b Maintenance or validation of AS-Interface</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>–</td>
<td>IP 20</td>
<td>lines</td>
</tr>
<tr>
<td>Supply</td>
<td>–</td>
<td>4 x LR6 batteries</td>
<td>b Print-out of AS-Interface line tests</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>84 x 35 x 195 mm</td>
<td>92 x 28 x 139 mm</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>ASISWIN2</td>
<td>ASITERV2</td>
<td>ASISA01</td>
</tr>
</tbody>
</table>

(1) CD-ROM with hardware and software user guides.
(2) For addressing safety interfaces, use the infrared adaptor ASITERIR1 or the standard adaptor ASISAD1. (See accessories below.)

Accessories

<table>
<thead>
<tr>
<th>Type</th>
<th>Adaptor for the addressing of safety interfaces</th>
<th>Infrared adaptor for adjustment terminal</th>
<th>Tap-off for AS-Interface cable</th>
<th>Cable for sensor parametering, RS 232</th>
<th>Cable for monitor to monitor transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 67</td>
<td>IP 67</td>
<td>IP 20</td>
<td>IP 20</td>
<td></td>
</tr>
<tr>
<td>Cable length</td>
<td>–</td>
<td>1 m</td>
<td>2 m</td>
<td>0.2 m</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td>ASISAD1</td>
<td>ASITERIR1</td>
<td>XZCG0122</td>
<td>ASISPC</td>
<td>ASISCM</td>
</tr>
</tbody>
</table>
Safety interfaces
For Ø 22 Emergency stop

<table>
<thead>
<tr>
<th>Interface type</th>
<th>For mushroom head push buttons (3)</th>
<th>Control stations Plastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>Metal (1)</td>
<td>Plastic (1)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>IP 20</td>
<td>IP 20</td>
</tr>
<tr>
<td>AS-Interface profile</td>
<td>40 x 90 x 64 mm</td>
<td>40 x 90 x 40 mm</td>
</tr>
<tr>
<td>Consumption from AS-Interface</td>
<td>S.O.B.F.F</td>
<td>S.O.B.F.F</td>
</tr>
<tr>
<td>Infrared addressing</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Connection on AS-Interface</td>
<td>IDC (2)</td>
<td>IDC (2)</td>
</tr>
<tr>
<td>Catalog number with N.C. + N.C. contact (mushroom head push button not included)</td>
<td>ASISSL04</td>
<td>ASISSL04</td>
</tr>
<tr>
<td>Catalog number of mushroom head push button (Ø40 latching mushroom head push button, turn to release)</td>
<td>ASISSL04</td>
<td>ASISSL04</td>
</tr>
</tbody>
</table>

For other safety products with M12 connector outputs or ISO M16/20

<table>
<thead>
<tr>
<th>Type of entry</th>
<th>2 x M12 entries (6)</th>
<th>1 x M12 entry</th>
<th>1 x ISO M16 entry (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP 67</td>
<td>IP 67</td>
<td>IP 67</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>40 x 40 x 58 mm</td>
<td>40 x 40 x 58 mm</td>
<td>40 x 40 x 57.5 mm</td>
</tr>
<tr>
<td>AS-Interface profile</td>
<td>S.O.B.F.F</td>
<td>S.O.B.F.F</td>
<td>S.O.B.F.F</td>
</tr>
<tr>
<td>Consumption from AS-Interface</td>
<td>45 mA</td>
<td>45 mA</td>
<td>45 mA</td>
</tr>
<tr>
<td>Infrared addressing</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Connection on AS-Interface</td>
<td>IDC (2)</td>
<td>IDC (2)</td>
<td>IDC (2)</td>
</tr>
<tr>
<td>Catalog number</td>
<td>ASISSLC2</td>
<td>ASISSLC1</td>
<td>ASISSLLS</td>
</tr>
</tbody>
</table>

For other versions, please consult with your local Schneider Electric/Telemecanique sales office: visit www.telemecanique.com

For Ø 22 Emergency stop

Preventa
AS-Interface safety at work

For other safety products with M12 connector outputs or ISO M16/20

Accessories

<table>
<thead>
<tr>
<th>Type</th>
<th>Tap-off for AS-Interface cable</th>
<th>Connectors</th>
<th>Pre-wired connector</th>
<th>Adaptor (sold in lots of 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>M12 female, threaded</td>
<td>elbowed</td>
<td>straight</td>
<td>ISO M16/M20</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 67</td>
<td>IP 67</td>
<td>IP 67</td>
<td>IP 67</td>
</tr>
<tr>
<td>Length of cable</td>
<td>2 m</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Catalog number</td>
<td>XZCG0120</td>
<td>XZCC12MCM40B</td>
<td>XZCC12MDM40B</td>
<td>XZCP1541L2</td>
</tr>
</tbody>
</table>
For locking with power, refer to the Machine Safeguarding Products Catalog #9007CT0201.

(1) For locking with power, refer to the Machine Safeguarding Products Catalog #9007CT0201.

(2) With 1/2” NPT conduit adaptor.

Actuating keys and accessories

For safety switches XCSM

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Actuating keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>XCSZB1</td>
<td>Straight</td>
</tr>
<tr>
<td>XCSZB4</td>
<td>Right-angled</td>
</tr>
<tr>
<td>XCSZB3</td>
<td>Pivoting, RH door</td>
</tr>
<tr>
<td>XCSZB5</td>
<td>Pivoting, LH door</td>
</tr>
</tbody>
</table>

For safety switches XCSPA/TA/TE

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Actuators</th>
<th>Retaining device</th>
</tr>
</thead>
<tbody>
<tr>
<td>XCSZ11</td>
<td>Straight</td>
<td>Guard/door retainer</td>
</tr>
<tr>
<td>XCSZ12</td>
<td>Wide L=40 mm (1)</td>
<td></td>
</tr>
<tr>
<td>XCSZ14</td>
<td>Right-angled</td>
<td></td>
</tr>
<tr>
<td>XCSZ13</td>
<td>Pivoting</td>
<td></td>
</tr>
<tr>
<td>XCSZ21</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For safety interlock switches XCSA/B/C/E

<table>
<thead>
<tr>
<th>Catalog number</th>
<th>Actuating keys</th>
<th>Door lock</th>
</tr>
</thead>
<tbody>
<tr>
<td>XCSZ01</td>
<td>Straight</td>
<td></td>
</tr>
<tr>
<td>XCSZ02</td>
<td>Wide</td>
<td></td>
</tr>
<tr>
<td>XCSZ03</td>
<td>Pivoting</td>
<td></td>
</tr>
<tr>
<td>XCSZ05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Plastic, double insulated switches

<table>
<thead>
<tr>
<th>Type XCSMP</th>
<th>Actuation speed (mm/°/max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x1/2” NPT entry</td>
<td>0.05 m/s /1.5 m/s</td>
</tr>
<tr>
<td>2x11 mm entry (2)</td>
<td>0.1 m/s /0.5 m/s</td>
</tr>
</tbody>
</table>

Degree of protection

IP 67, Type 4, 4X indoor,12

Rated operational characteristics

(1) Rated operational characteristics (conforming to IEC/EN 60947-5-1)

AC 15, G 300
DC 13, G 300

AC 15, B 300
DC 13, B 300

Dimensions (body + head) W x D x H

30 x 15 x 87 mm
30 x 20 x 93.5 mm
52 x 30 x 114.5 mm
110 x 33 x 93.5 mm

Solenoide supply voltage

24 VAC/DC
120 VAC/DC
230 VAC/DC

Complete switch

N.C.+N.O. stag. (XCMP/PATE/N.C.+N.O.)(XCSTA)
N.C.+N.C. stag. (XCMP/PATE/N.C.+N.O.)(XCSTA)

(1) For locking with power, refer to the Machine Safeguarding Products Catalog #9007CT0201.
## Safety interlock switches with rotary lever or rotary shaft

### Preventa Detection

#### Plastic switches

<table>
<thead>
<tr>
<th><strong>Type XCSP</strong> with rotary lever or XCSPR with spindle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimum torque</strong> (actuation / positive opening)</td>
</tr>
<tr>
<td>1 x 1/2&quot; NPT conduit entry</td>
</tr>
<tr>
<td>0.88 in-lb / 2.2 in-lb</td>
</tr>
<tr>
<td><strong>Degree of protection</strong></td>
</tr>
<tr>
<td>IP67, Type 4, 4X indoor, 12</td>
</tr>
<tr>
<td><strong>Rated operational characteristics</strong></td>
</tr>
<tr>
<td>AC 15, A 300 / DC 13, Q 300 (conforming to IEC/EN 60947-5-1)</td>
</tr>
<tr>
<td><strong>Dimensions (body + head) W x D x H</strong></td>
</tr>
<tr>
<td>30 x 30 x 160 mm</td>
</tr>
<tr>
<td><strong>Tripping angle</strong></td>
</tr>
<tr>
<td>5°</td>
</tr>
<tr>
<td><strong>Complete switch</strong></td>
</tr>
<tr>
<td>N.C. + N.O., break before making</td>
</tr>
<tr>
<td>N.C. + N.C.</td>
</tr>
</tbody>
</table>

#### Plastic switches

<table>
<thead>
<tr>
<th><strong>Type XCSL</strong> with rotary lever or XCSLR with spindle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minimum torque</strong> (actuation / positive opening)</td>
</tr>
<tr>
<td>2 x 1/2&quot; NPT conduit entry</td>
</tr>
<tr>
<td>0.1 in-lb</td>
</tr>
<tr>
<td>0.1 in-lb</td>
</tr>
<tr>
<td>0.1 in-lb</td>
</tr>
<tr>
<td><strong>Degree of protection</strong></td>
</tr>
<tr>
<td>IP 67</td>
</tr>
<tr>
<td>IP 67</td>
</tr>
<tr>
<td>IP 67</td>
</tr>
<tr>
<td><strong>Rated operational characteristics</strong></td>
</tr>
<tr>
<td>AC 15, A 300 / DC 13, Q 300 (conforming to IEC/EN 60947-5-1)</td>
</tr>
<tr>
<td><strong>Dimensions (body + head) W x P x H</strong></td>
</tr>
<tr>
<td>52 x 30 x 180 mm</td>
</tr>
<tr>
<td><strong>Tripping angle</strong></td>
</tr>
<tr>
<td>5°</td>
</tr>
<tr>
<td><strong>Complete switch</strong></td>
</tr>
<tr>
<td>N.C.+N.O.+N.O., staggered</td>
</tr>
<tr>
<td>N.C.+N.O.+N.O., staggered</td>
</tr>
</tbody>
</table>

#### Plastic switches

<table>
<thead>
<tr>
<th><strong>Type XCSDM non-contact safety interlock switches</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-called, L = 2 m</strong></td>
</tr>
<tr>
<td>Switches for actuation</td>
</tr>
<tr>
<td>Face to face, face to side, side to side</td>
</tr>
<tr>
<td><strong>Degree of protection</strong></td>
</tr>
<tr>
<td>IP 66 + IP 67</td>
</tr>
<tr>
<td><strong>Type of contact</strong></td>
</tr>
<tr>
<td>REED</td>
</tr>
<tr>
<td><strong>Rated operational characteristics</strong></td>
</tr>
<tr>
<td>Ue = 24 Vdc, le = 100 mA</td>
</tr>
<tr>
<td><strong>Dimensions W x D x H</strong></td>
</tr>
<tr>
<td>16 x 7 x 51 mm</td>
</tr>
<tr>
<td>25 x 13 x 88 mm</td>
</tr>
<tr>
<td>M30 x 38.5 mm</td>
</tr>
<tr>
<td><strong>Operating zone (3)</strong></td>
</tr>
<tr>
<td>Saco: 0.20°, Sar: 0.59°</td>
</tr>
<tr>
<td>Saco: 0.31°, Sar: 0.79°</td>
</tr>
<tr>
<td>Saco: 30.1°, Sar: 0.79°</td>
</tr>
<tr>
<td><strong>Switch with coded magnet</strong></td>
</tr>
<tr>
<td>XCSDMC5912</td>
</tr>
<tr>
<td>XCSDMC7912</td>
</tr>
<tr>
<td>XCSDMC5912</td>
</tr>
<tr>
<td>XCSDMC7912</td>
</tr>
<tr>
<td>XCSDM5012</td>
</tr>
<tr>
<td>XCSDM7912</td>
</tr>
<tr>
<td>XCSDM5012</td>
</tr>
<tr>
<td>XCSDM7912</td>
</tr>
<tr>
<td>XCSDM7912</td>
</tr>
</tbody>
</table>

1. Contact states shown are with the magnet present.
2. For version without LED indicator, replace the last 1 in the catalog number by 0 (example: XCSDMC5912 becomes XCSDMC5902).

For additional information, reference catalog 9007CT0201.
### Preventa Detection

#### Limit switches

**Safety limit switches**

**Miniature switches**

<table>
<thead>
<tr>
<th>Type XCSM, metal</th>
<th>Type XCSM, metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum actuation speed (min/max)</td>
<td>19.7 ft/min. / 1.64 ft/sec.</td>
</tr>
<tr>
<td>Slow break</td>
<td>19.7 ft/min. / 1.64 ft/sec.</td>
</tr>
<tr>
<td>Snap action</td>
<td>0.39 in/min. / 1.64 ft/sec.</td>
</tr>
<tr>
<td>Minimum force or torque (actuation / positive opening)</td>
<td>1.9 in-lb / 9.5 in-lb</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 66 + IP 67, Type 4, 4X, 12</td>
</tr>
<tr>
<td>Dimensions (body + head) W x D x H</td>
<td>30 x 16 x 60 mm</td>
</tr>
<tr>
<td>Complete switch</td>
<td>N.C. + N.C. + N.O. snap action</td>
</tr>
<tr>
<td></td>
<td>N.C. + N.C. + N.O. slow break</td>
</tr>
</tbody>
</table>

(1) For a 5 m long cable, replace the last digit of the catalog number by 5 (example: XCSM3910L2 becomes XCSM3910L5).

**Compact switches**

<table>
<thead>
<tr>
<th>Type XCSD, metal</th>
<th>Type XCSP, plastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum actuation speed</td>
<td>1 x 1/2&quot; NPT conduit</td>
</tr>
<tr>
<td>Slow break</td>
<td>19.7 ft/min.</td>
</tr>
<tr>
<td>Snap action</td>
<td>1.64 ft/sec.</td>
</tr>
<tr>
<td>Minimum force or torque (actuation / positive opening)</td>
<td>0.39 in/min.</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>3.72 / 10.12 in-lb</td>
</tr>
<tr>
<td>Dimensions (body + head) W x D x H</td>
<td>34 x 34.5 x 89 mm</td>
</tr>
<tr>
<td>Complete switch</td>
<td>N.C. + N.C. + N.O. snap action</td>
</tr>
<tr>
<td></td>
<td>N.C. + N.C. + N.O. slow break</td>
</tr>
</tbody>
</table>

(2) For other conduit entries, refer to the Machine Safeguarding Products Catalog #9007CT0201.

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For other versions, please consult with your local Schneider Electric.

Square D sales office: visit [www.us.telemecanique.com](http://www.us.telemecanique.com)
Light curtains

Type 4 conforming to IEC/EN 61496-2

Light curtain functions
- Auto/Manual/Manual 1st cycle
- Monitoring of external switching devices (EDM: External Devices Monitoring),
- Test input (MTS: Monitoring/Test Signal),
- Alignment aid by LED display of each light beam broken,
- LED display of operating modes and alarms,
- Coding of the beams

<table>
<thead>
<tr>
<th>Type</th>
<th>Compact range</th>
<th>Single-beam and multi-beam, infrared transmission</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Transmitter/receiver</td>
</tr>
<tr>
<td>Sensing range</td>
<td></td>
<td>0.8–20 or 70 m (according to config)</td>
</tr>
<tr>
<td>Minimum object sensitivity (MOS)</td>
<td>Safety</td>
<td>2 solid-state PNP</td>
</tr>
<tr>
<td>Number of circuits</td>
<td>Auxiliary (alarm or following)</td>
<td>1 solid-state PNP</td>
</tr>
<tr>
<td>Response time (depending on model)</td>
<td>Connection</td>
<td>16–24 ms</td>
</tr>
<tr>
<td>Beam</td>
<td>Interval</td>
<td>Number</td>
</tr>
<tr>
<td></td>
<td>300 mm</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>400 mm</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>500 mm</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>600 mm</td>
<td>4</td>
</tr>
</tbody>
</table>

(1) Light curtain with M12 connector output, for terminal block output, replace M from the end of the catalog number by B. Example: XUSLPZ1AM becomes XUSLPZ1AB

Type 4 conforming to IEC/EN 61496-1

Light curtain functions
- Auto/Manual,
- Monitoring of external switching devices (EDM: External Devices Monitoring),
- Test input (MTS: Monitoring/Test Signal, XUSLT only),
- Blanking (ECS/B),
- Floating Blanking (FB),
- Blank LED, Floating blanking,
- Alignment aid by LED display of each light beam broken,
- LED display of operating modes and alarms

<table>
<thead>
<tr>
<th>Compact range</th>
<th>Type 4 conforming to IEC/EN 61496-1. Pre-wired with 0.25 m cable with connector.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensing range</td>
<td>0.3–7.5 m</td>
</tr>
<tr>
<td>Minimum object sensitivity (MOS)</td>
<td>14 mm finger protection</td>
</tr>
<tr>
<td>Number of circuits</td>
<td>Safety</td>
</tr>
<tr>
<td>Number of circuits</td>
<td>Additional</td>
</tr>
<tr>
<td>Response time</td>
<td>20–40 ms depending on model</td>
</tr>
<tr>
<td>Transmitter + receiver</td>
<td>Height protected (mm)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Connector Cables

<table>
<thead>
<tr>
<th>Cable length</th>
<th>Connector Cables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-wired connector for (shielded cable)</td>
<td>XUSLT receiver cable</td>
</tr>
<tr>
<td></td>
<td>XUSLT transmitter cable</td>
</tr>
<tr>
<td></td>
<td>XUSLP receiver cable</td>
</tr>
<tr>
<td></td>
<td>XUSLP transmitter cable</td>
</tr>
<tr>
<td></td>
<td>XUSLP receiver cable</td>
</tr>
<tr>
<td></td>
<td>XUSLP transmitter cable</td>
</tr>
<tr>
<td></td>
<td>XUSLP receiver cable</td>
</tr>
<tr>
<td></td>
<td>XUSLP transmitter cable</td>
</tr>
</tbody>
</table>

For additional information, reference catalog 9007C070201.
# Safety

## Emergency stop Cable pull switches

![Booted push button reset](image)

For operating cable length - 15 m

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical life (millions of operating cycles)</td>
<td>0.01</td>
</tr>
<tr>
<td>Shock / vibration resistance</td>
<td>50 gn / 10 gn</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 65, Type 4, 12</td>
</tr>
<tr>
<td>Rated operational characteristics</td>
<td>AC-15, A300 / DC-13, Q300 (conforming to IEC/EN 60947-5-1)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>201 x 71 x 68 mm</td>
</tr>
<tr>
<td>Operating cable length</td>
<td>≤15 m</td>
</tr>
<tr>
<td>Operating cable anchoring point</td>
<td>N.C. + N.O. slow break</td>
</tr>
<tr>
<td>Contact</td>
<td>XY2CH13150 Standard reset</td>
</tr>
<tr>
<td></td>
<td>XY2CH13170 Standard reset</td>
</tr>
</tbody>
</table>

![Booted push button reset](image)

For operating cable length - 50 m

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical life (millions of operating cycles)</td>
<td>0.01</td>
</tr>
<tr>
<td>Shock / vibration resistance</td>
<td>50 gn / 10 gn</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 65, Type 4, 12</td>
</tr>
<tr>
<td>Rated operational characteristics</td>
<td>AC-15, A300 / DC-13, Q300 (conforming to IEC/EN 60947-5-1)</td>
</tr>
<tr>
<td>Dimensions W x D x H</td>
<td>229 x 82 x 142 mm</td>
</tr>
<tr>
<td>Operating cable length</td>
<td>≤50 m</td>
</tr>
<tr>
<td>Operating cable anchoring point</td>
<td>N.C. + N.O. slow break</td>
</tr>
<tr>
<td>Contact</td>
<td>XY2CE1A150 (1) Standard reset</td>
</tr>
<tr>
<td></td>
<td>XY2CE1A250 (1) Std. reset with pilot light</td>
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<td></td>
<td>XY2CE1A190 (1) Booted reset</td>
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<td>XY2CE1A290 (1) Booted reset with pilot light</td>
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(1) Right cable mount listed. For left hand cable mount, replace the first 1 after the “CE” with a 2 (example: XY2CE1A150 becomes XY2CE2A150).

## Cable kits

<table>
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<tr>
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<tr>
<td>9007CT0201</td>
<td>1 cable - 34.4’ (10.5m) long, 1 cable clamp and 1 end spring</td>
<td>XY2CZ9310</td>
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<td>XY2CE</td>
<td>1 cable - 83.7’ (25.5m) long, 4 cable clamps, 1 turnbuckle, 3 cable end protectors, 1 cable support, 1 end spring</td>
<td>XY2CZ9325</td>
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<td>XY2C7</td>
<td>1 cable - 165.6’ (50.5m) long, 4 cable clamps, 1 turnbuckle, 3 cable end protectors, 1 cable support, 1 end spring</td>
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## Accessories

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<td>XY2C708</td>
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<td>Pulley support</td>
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<td>Cable clamp</td>
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For additional information, reference catalog 9007CT0201.
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<td>4300 San Mateo Boulevard, NE Suite B265</td>
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<td>505-888-8816</td>
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<td>961 Marcon Blvd Suite 302</td>
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<td>610-231-8950</td>
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<td>FO Alpharetta, GA</td>
<td>1252 Old Alpharetta Road</td>
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<td>FO Altoona, PA</td>
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<td>Charleston, SC</td>
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<tr>
<td>FO Jefferson City, MO</td>
<td>13515 Barrett Parkway Dr. Suite 170</td>
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<td>FO Las Vegas, NV</td>
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<td>911 Northwest Loop 281 Suite 317</td>
<td>Longview, TX</td>
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<tr>
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<td>21680 Gateway Center Drive Suite 300</td>
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<td>FO Louisville, KY</td>
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<td>FO Lubbock, TX</td>
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### US Field Offices

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<td>2960 Riverside Drive, Suite 220</td>
<td>Macon</td>
<td>GA 31204-1244</td>
<td>478-471-9033</td>
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<td>700 Rayovac Drive, Suite 212, 55 Oaks Bldg</td>
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<td>8410 NW 53rd Terrace, Suite 205, Monterey (04) Bldg.</td>
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## US Field Offices

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