TURCK
Industrial I/O AS-interface® Products
AS-interface System Description

AS-interface (commonly referred to as AS-I) is a low-level I/O interface system. It was originally intended to be a simple, low cost system that would be easy to install and maintain. With that philosophy in mind, the original developers designed AS-I as a discrete-only two-wire system. It incorporated features like automatic station addressing, and power and data were carried on a single untwisted pair of wires.

As the demand for AS-I grew, so did the demand for more complex devices. The next major version of AS-I, v2.1, extended the protocol to include seamless transfer of analog data, transmission of simple diagnostic data and an extended addressing scheme that effectively doubled the number of stations allowed on the network. The newest version of AS-I, v3.0, has gone even further, allowing more options for analog data and much more detailed diagnostic information to be communicated.

New versions of AS-I are backward compatible and support slaves from earlier versions. Additionally, AS-I was one of the first network systems to incorporate a safety protocol, allowing emergency-stop and machine-stop systems to be seamlessly integrated with the network.

AS-I can be used as a stand alone network or can be connected to a higher level system, such as DeviceNet™ or PROFIBUS®-DP, through a gateway. The gateway acts as a slave to the higher system and a master to the AS-I system.

Typical System Configuration

Basic Parts List

A typical AS-I system consists of the following parts:

A = Master
B = AS-I Power Supply
C = AS-I Cable (See N2)
D = AS-I I/O Modules (or Slaves)

AS-I stations require a network master (also called a scanner) to interface the stations to the host controller. In some cases the scanner and controller are packaged as a single unit; in other cases the scanner acts as a gateway to a higher level network or to a PLC. TURCK AS-I stations are designed to be fully compatible with AS-I equipment from other manufacturers.
TURCK & Bihl+Wiedemann

Bihl+Wiedemann, considered the “AS-I masters”, is the leading supplier of AS-I master and gateway products. Their broad product range enables users to select from a wide variety of higher level fieldbuses or PC/PLC control solutions. Additionally, Bihl+Wiedemann provides a wide variety of analog AS-I slaves, PC-board level devices for OEMs and sophisticated AS-I accessory products. TURCK has partnered with Bihl+Wiedemann to distribute and support their products in North America.

Cordsets

TURCK offers a complete line of molded AS-I cordsets to facilitate network installation, resulting in a faster start-up and fewer wiring errors. The bus and drop cables are specially designed foil-shielded, high-flex cables with very low inductance and capacitance to minimize propagation delay time. AS-I cables consist of a single untwisted and unshielded wire pair that carries both 30 VDC power and the network data. AS-I was originally designed for use with flat cable using an insulation displacement connection technology, but the use of round cables with sealed connectors has become more common. TURCK provides both cable options.

Diagnostics

AS-I has limited field diagnostic capability, due to the limited amount of data transferred in each message. Although with v2.1, a peripheral fault bit can be reported by an AS-I station to indicate a fault with a field device. This allows the user to easily determine the location of a system fault down to the station level. AS-I v3.0 has even more diagnostic capabilities, allowing asynchronous “mailbox” messaging to receive more detailed error information.

Bihl+Wiedemann AS-I masters provide comprehensive information about the status of each station on the network by using register based tables to display each occupied network address.

Addressing

The original AS-I system allowed only 4 bits of data to be transferred in each message for a fast and efficient data transfer system. Slaves could be addressed from one to 31, but with the growth of the network more than 31 stations were often required. Beginning with AS-I v2.1 stations were available with “AB” addressing. This scheme allows the station to be addressed from 1A to 31A or 1B to 31B, with 62 total slaves with four discrete inputs and three discrete outputs each. The extended address range (and the three outputs) is achieved by using one output bit as an AB address.

When both A and B addressed slaves are on the same network, they are scanned on alternating cycles (first all the A slaves are scanned, then all the B slaves). Both AB and single-address slaves can be on the same network. In this case the single-address (non AB style) slaves are scanned every cycle. It’s important to note that not all v2.1 slaves use this addressing scheme, although it is often referred to as v2.1 addressing.

Analog Data

Although the original AS-I version only allowed discrete data transfer, v2.1 and higher support seamless analog data transfer. This is accomplished by sending a portion of the analog data on each of several consecutive network cycles; for example, a 16-bit word of data requires seven network cycles. Further, AS-I v3.0 allows analog data to be transferred in a single cycle by consuming more than one address for the analog slave.

Communication Rate/Cycle Time

AS-I communicates at a fixed data rate of 167 kbps. The system’s cycle time is very predictable because of the simple communication scheme and fixed data rate. For example, a network with 31 slaves will have a cycle time of less than 5 ms. A network with 62 slaves (all A and B addresses used) will have a cycle time of less than 10 ms. If analog slaves are being used, the cycle time will change to account for the fact that an analog word takes multiple network cycles to transmit.

Maximum Ratings

The AS-I system uses a freeform layout topology. Up to 100 m of cable can be used on a segment before a repeater or tuner needs to be installed to allow the network to be extended beyond the 100 m limit. No terminating resistors are required.
Industrial Automation

AS-interface Masters and Gateways

TURCK offers a wide variety of AS-I masters and gateways manufactured by Bihl+Wiedemann. These devices control communication on the AS-I network and provide a logical connection from the slave and I/O devices in the field to the host. The terms “master” and “gateway” as used here differ in the following way: A master is an AS-I controller that provides a direct link to the host (PLC, PC, DCS etc.); a gateway is an AS-I master, while also being a slave to a higher-level system (such as DeviceNet™, PROFIBUS®-DP or Ethernet). In the case of a gateway, the AS-I information is compiled by the AS-I master and communicated through the higher-level system as a standard slave data map.

AS-I masters and gateways are available in several different designs. The latest gateway versions incorporate stainless steel housing, support DeviceNet, EtherNet/IP™, Modbus-TCP, PROFIBUS-DP, CANopen and Modbus as higher-level networks, and are available with one or two AS-I masters. These gateways also feature AS-I v3.0 software, and a graphical display for configuration and maintenance with no need for a PC. Other new features include a direct serial connection to the AS-I Control Tools software (requires a connection cable that can be ordered with the software: part number ASI-CT-SS BW1602), ground fault detection and duplicate address detection.

Gateways for some higher-level systems are also available with nylon housing. Some of these feature a graphical display, while others contain a two-digit display for configuration. These gateways may be connected to the AS-I Control Tools software through the higher-level network interface by using a “master simulator”.

Masters are available as cards for Allen-Bradley® ControlLogix®, CompactLogix and MicroLogix 1500 PLCs, as well as in several different PC control form factors. Stand-alone masters with RS232, RS485 and RS422 serial connections are also available.
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Features
AS-I masters and gateways are available with one or two supported AS-I networks, referred to as “single masters” and “double masters”. Double masters can be used to save cost and cabinet space where the system being installed is too large (physically or due to the number of slaves) for one AS-I network. The master and power supply may be connected anywhere along the network, but should be located next to each other. Slaves and repeaters should not be connected between the master and the power supply, as doing so disables some diagnostic features (such as duplicate address detection and ground fault detection). An example of a system with the “A-style” power supply (gateway is powered from the AS-I power supply) is shown here.
Alternatively, two AS-I networks could be connected to one dual master, as shown. The dual master consists of two AS-I masters and one connection to the higher-level system (or backplane). Note that each AS-I network has its own power supply, but combining the two masters into one unit conserves cabinet space. This is the “A2” power supply configuration (gateway is powered from the AS-I supplies for each network).
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A third option is to use a dual master with a single power supply (E-style power configuration). In this case, the master contains the necessary AS-I power supply decoupling circuit for each network. Therefore one 30 VDC power supply can be used for both networks saving even more space and product cost. More than one of these double masters can be supplied from the same 30 VDC source.

**Addressing**

Network addresses for all AS-I gateways are programmed via the push buttons on the face of the gateway. For more details, please consult the user manual for the specific gateway in question. Manuals can be downloaded from www.turck.com.
TURCK Inc. 3000 Campus Drive  Minneapolis, MN 55441   Application Support: 1-800-544-7769 Fax: (763) 553-0708 www.turck.com

Industrial Automation

TURCK’s USA website is your most complete and up-to-date source for product documentation, CAD files and more. Search results produce downloadable documentation or request for quote (RFQ). Additional product information or CAD files are easily requested and promptly filled.

Visit our site for new product releases, approvals, white papers, application support and more.
# TURCK Industrial I/O AS-interface® Products

## AS-interface Selection Guide

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# AS-interface Selection Guide

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TURCK Industrial I/O AS-interface® Products

AS-I Masters for AB PLCs

- PLC AS-I Masters
- Fit Standard Allen-Bradley Backplanes
- Analog and Discrete Data Support
- Integrated AS-I Diagnostics

**Electrical**
- Operating Current: 70 mA from each AS-I supply, 390 mA from 5.1 V backplane supply, 150 mA from 24 V backplane supply (BW1488, BW1611) 100 mA from AS-I supply, 450 mA from 5 V backplane supply (BW1416, BW1610)

**Power Distribution**
- Power is drawn both from AS-I and the backplane

**Mechanical**
- Operating Temperature: 0 to +55 °C (+32 to +131°F)
- Protection: IP 20

**Diagnostics (Logical)**
- AS-I I/O faults are reported via the peripheral fault bit for each slave (v2.1 and higher)

**Diagnostics (Physical)**
- LEDs to indicate status of AS-I and backplane communication and power supply

Note: BW1610 is BW1416 with configuration software. BW1611 is BW1488 with configuration software.
### Industrial Automation

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#### Input/Output Connectors

**A**

\[
\begin{align*}
&+ \quad -PE \quad + \quad - \\
&AS_{-i_1} \quad AS_{-i_2}
\end{align*}
\]

**B**

\[
\begin{align*}
&+ \quad -PE \quad + \quad - \\
&AS_{-i_1}
\end{align*}
\]
TURCK
Industrial I/O AS-interface® Products

AS-I Gateways in Stainless Steel

- AS-I v3.0 Supported
- Graphical Display
- Integrated Ground-Fault Detection
- Integrated AS-I Diagnostics

Electrical
- Operating Current: 200 mA from VAS-I (Power Supply A)
  200 mA from VAS-I1, 70mA from VAS-I2 (Power Supply A2)
  250 mA from VAUX (Power Supply E)

Power Distribution
- From AS-I supply for each network (Power Supply A, A2)
- From external supply (Power Supply E)

Mechanical
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20
- Vibration: According to EN 61131-2

Material
- Housing: Stainless Steel

Diagnostics (Logical)
- AS-I diagnostic data is available via Network interface

Diagnostics (Physical)
- LEDs to indicate status of network and AS-I communication and power supply

ASI-DNG-SS BW1818*
ASI-DNG-SS BW1819*
ASI-DNG-SS BW1820*
ASI-DNG-SS-C1D2 BW1824
ASI-DNG-SS-C1D2 BW1825
ASI-DNG-SS-C1D2 BW1826
* not ETL Listed
### Industrial Automation

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* Approved for use in Class 1, Division 2 areas

### Input/Output Connectors

- **A** - Single AS-I network is powered by and AS-I power supply
- **A2** - Dual AS-I networks are each powered by their own AS-I power supply
- **E** - Dual AS-I networks are both powered by a single 30 VDC supply, decoupled through the gateway
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Industrial I/O AS-interface® Products

AS-I v3.0 Supported
Graphical Display
Integrated Ground-Fault Detection
Integrated AS-I Diagnostics

Modbus TCP Gateways in Stainless Steel

ASI-ENG-SS BW1650*
ASI-ENG-SS BW1651*
ASI-ENG-SS BW1652*
ASI-ENG-SS-C1D2 BW1659
ASI-ENG-SS-C1D2 BW1660
ASI-ENG-SS-C1D2 BW1661
* not ETL Listed

Electrical
- Operating Current: 200 mA from \( V_{AS-I} \) (Power Supply A)
  200 mA from \( V_{AS-I} \) 70mA from \( V_{AS-II} \) (Power Supply A2)
  250 mA from \( V_{AS-II} \) (Power Supply E)

Power Distribution
- From AS-I supply for each network (Power Supply A, A2)
- From external supply (Power Supply E)

Mechanical
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

Material
- Housing: Stainless Steel

Diagnostics (Logical)
- Health of AS-I network is available via Network interface

Diagnostics (Physical)
- LED to indicate status of network and AS-I communication and power supply

Power Distribution
- From AS-I supply for each network (Power Supply A, A2)
- From external supply (Power Supply E)


RJ45 Ethernet Standard

1 = WH/or (+TX)
2 = OR (-TX)
3 = WH/GN (+RX)
4 = BU
5 = WH/BU
6 = GN (-RX)
7 = WH/VIN
8 = RN
## AS-Interface

### Part Number

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<td>* Approved for use in Class 1, Division 2 areas</td>
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### Input/Output Connectors

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- **E** - Dual AS-I networks are both powered by a single 30 VDC supply, decoupled through the gateway.

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**Courtesy of Steven Engineering, Inc.**

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Main Office: (650) 588-9200
Outside Local Area: (800) 258-9200
www.stevenengineering.com
TURCK Industrial I/O AS-interface® Products

**AS-I Ethernet/IP Gateways in Stainless Steel**

- **AS-I v3.0 Supported**
- **Graphical Display**
- **Integrated Ground-Fault Detection**
- **Integrated AS-I Diagnostics**

**Electrical**
- Operating Current:
  - 300 mA from VAS₁ (Power Supply A)
  - 200 mA from VAS₂ to 70 mA from VAS₁₂ (Power Supply A2)
  - 250 mA from VAS₁₂ (Power Supply E)

**Power Distribution**
- From AS-I supply for each network (Power Supply A, A2)
- From external supply (Power Supply E)

**Mechanical**
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

**Material**
- Housing: Stainless Steel

**Diagnostics (Logical)**
- Health of AS-I network is available via Network interface

**Diagnostics (Physical)**
- LED to indicate status of network and AS-I communication and power supply

**ASI-EIPG-SS BW1828**
**ASI-EIPG-SS BW1829**
**ASI-EIPG-SS BW1833**
**ASI-EIPG-SS-C1D2 BW1834**
**ASI-EIPG-SS-C1D2 BW1835**
**ASI-EIPG-SS-C1D2 BW1836**
* not ETL listed

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**RJ45 Ethernet Standard**

![RJ45 Ethernet Standard Diagram](image)

1 = WH/or (+TX)
2 = OR (-TX)
3 = WH/GN (+RX)
4 = BU
5 = WH/BU
6 = GN (-RX)
7 = WH/BN
8 = BN

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Courtesy of Steven Engineering, Inc., 230 Ryan Way, South San Francisco, CA 94080-6370
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www.stevenengineering.com
## Industrial Automation

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<td>3.0</td>
<td>2</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ASI-EIPG-SS-EI2 BW1834*</td>
<td>Ethernet/IP</td>
<td>A</td>
<td>3.0</td>
<td>1</td>
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<tr>
<td>ASI-EIPG-SS-EI2 BW1835*</td>
<td>Ethernet/IP</td>
<td>A2</td>
<td>3.0</td>
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<tr>
<td>ASI-EIPG-SS-EI2 BW1836*</td>
<td>Ethernet/IP</td>
<td>E</td>
<td>3.0</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Approved for use in Class 1, Division 2 areas

### Input/Output Connectors

A - Single AS-I network is powered by and AS-I power supply
A2 - Dual AS-I networks are each powered by their own AS-I power supply
E - Dual AS-I networks are both powered by a single 30 VDC supply, decoupled through the gateway
TURCK
Industrial I/O AS-interface® Products

AS-I Profinet Gateways in Stainless Steel

- AS-I v3.0 Supported
- Graphical Display
- Integrated Ground-Fault Detection
- Integrated AS-I Diagnostics

Electrical
- Operating Current: 300 mA from VAS-I (Power Supply A)

Power Distribution
- From AS-I supply

Mechanical
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

Material
- Housing: Stainless Steel

Diagnostics (Logical)
- Health of AS-I network is available via Network interface

Diagnostics (Physical)
- LED to indicate status of network and AS-I communication and power supply

ASI-PNG-SS BW1912

RJ45 Ethernet Standard

1 = WH/or (+TX)
2 = OR (-TX)
3 = WH/GN (+RX)
4 = BU
5 = WH/BU
6 = GN (-RX)
7 = WH/BN
8 = BN
### Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Module Type/Number</th>
<th>Power Supply</th>
<th>AS-I Function</th>
<th># of Modules</th>
<th>Dynamic Address Detection</th>
<th>Programming Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-PNG-SS BW1912</td>
<td>PROFNET</td>
<td>A</td>
<td>3.0</td>
<td>1</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Input/Output Connectors

![Input/Output Connectors Diagram](image)

A - Single AS-I network is powered by and AS-I power supply
TURCK Industrial I/O AS-interface® Products

- **AS-I v3.0 Supported**
- **Graphical Display**
- **Integrated Ground-Fault Detection**
- **Integrated AS-I Diagnostics**

**Electrical**
- Operating Current: 200 mA from \( V_{AS-I} \) (Power Supply A)
  - 200 mA from \( V_{AS-I1} \) and 70 mA from \( V_{AS-I2} \) (Power Supply A2)
  - 250 mA from \( V_{VAUX} \) (Power Supply E)

**Power Distribution**
- From AS-I supply for each network (Power Supply A, A2)
- From external supply (Power Supply E)

**Mechanical**
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

**Material**
- Housing: Stainless Steel

**Diagnostics (Logical)**
- Health of AS-I network is available via Proximus-DP interface

**Diagnostics (Physical)**
- LED to indicate status of network and AS-I communication and power supply

**ASI-DPG-SS BW1567**
**ASI-DPG-SS BW1568**
**ASI-DPG-SS BW1569**
**ASI-DPG-SS-SE BW1773**
**ASI-DPG-SS-SE BW1774**
**ASI-DPG-SS-C1D2 BW1653**
**ASI-DPG-SS-C1D2 BW1654**
**ASI-DPG-SS-C1D2 BW1655**
* Not ETL Listed

---

**PROFIBUS-DP Connector**

1 = Shield
3 = BUS_B
5 = DGnd
6 = +5 VDC
8 = BUS_A

---

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<table>
<thead>
<tr>
<th>Part Number</th>
<th>Network Type</th>
<th>Power Style</th>
<th>AS-I Function</th>
<th>No. of Masters</th>
<th>Dynamic Address Option</th>
<th>Programming Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-DPG-SS BW1567</td>
<td>PROFIBUS-DP</td>
<td>A</td>
<td>2.1</td>
<td>1</td>
<td>X</td>
<td>X</td>
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<tr>
<td>ASI-DPG-SS BW1568</td>
<td>PROFIBUS-DP</td>
<td>A2</td>
<td>2.1</td>
<td>2</td>
<td>X</td>
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<tr>
<td>ASI-DPG-SS BW1569</td>
<td>PROFIBUS-DP</td>
<td>E</td>
<td>2.1</td>
<td>2</td>
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<td>ASI-DPG-SS-SE BW1573</td>
<td>PROFIBUS-DP</td>
<td>A</td>
<td>2.1</td>
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<td>PROFIBUS-DP</td>
<td>A2</td>
<td>2.1</td>
<td>2</td>
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<td></td>
</tr>
<tr>
<td>ASI-DPG-SS-C102 BW1563*</td>
<td>PROFIBUS-DP</td>
<td>A</td>
<td>3.0</td>
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</tr>
<tr>
<td>ASI-DPG-SS-C102 BW1564*</td>
<td>PROFIBUS-DP</td>
<td>A2</td>
<td>3.0</td>
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<tr>
<td>ASI-DPG-SS-C102 BW1565*</td>
<td>PROFIBUS-DP</td>
<td>E</td>
<td>3.0</td>
<td>2</td>
<td></td>
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</tr>
</tbody>
</table>

* Approved for use in Class 1, Division 2 areas

A - Single AS-I network is powered by and AS-I power supply
A2 - Dual AS-I networks are each powered by their own AS-I power supply
E - Dual AS-I networks are both powered by a single 30 VDC supply, decoupled through the gateway
TURCK
Industrial I/O AS-interface® Products

AS-I PROFIBUS-D Economy Gateways

- AS-I v3.0 Supported
- LED Display
- PROFIBUS-DP Support
- Integrated AS-I Diagnostics

Electrical
- Operating Current: <300 mA from AS-I

Power Distribution
- From AS-I supply

Mechanical
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

Material
- Housing: Stainless Steel

Diagnostics (Logical)
- AS-I diagnostic data is available via Network interface

Diagnostics (Physical)
- LEDs to indicate status of network and AS-I communication and power supply

ASI-DPG-SS-B BW1746

PROFIBUS-DP Connector

1 = Shield
2 = BUS_B
5 = Gnd
6 = +5VDC
8 = BUS_A
## Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Higher-Level Protocol</th>
<th>Power-Supply</th>
<th>ASI Version</th>
<th>Connection Options</th>
<th># of AS-I Masters</th>
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</thead>
<tbody>
<tr>
<td>ASI-DPB-SS BW1746</td>
<td>PROFIBUS-DP</td>
<td>A</td>
<td>2.1</td>
<td>A</td>
<td>1</td>
</tr>
</tbody>
</table>

### Input/Output Connectors

A

![Input/Output Connectors Diagram](AS-interface)
TURCK
Industrial I/O AS-interface® Products

AS-I CANopen Gateways in Stainless Steel

- AS-I v3.0 Supported
- Integrated Ground-Fault Detection
- Graphical Display
- Integrated AS-I Diagnostics

Electrical
- Operating Current:
  - 200 mA from VAS-I (Power Supply A)
  - 200 mA from VAS-I1, 70mA from VAS-I2 (Power Supply A2)
  - 250 mA from VAUX (Power Supply E)

Power Distribution
- From AS-I supply for each network (Power Supply A, A2)
- From external supply (Power Supply E)

Mechanical
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

Material
- Housing: Stainless Steel

Diagnostics (Logical)
- Health of AS-I network is available via CANopen interface

Diagnostics (Physical)
- LED to indicate status of network and AS-I communication and power supply

ASI-COG-SS BW1821
ASI-COG-SS BW1822
ASI-COG-SS BW1823
### Input/Output Connectors

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Node Level</th>
<th>Power Style</th>
<th>AS-I Version</th>
<th># of Masters</th>
<th>Diagnostics Available</th>
<th>Programming Interface</th>
</tr>
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<tbody>
<tr>
<td>ASI-COG-SS BW1821</td>
<td>CANopen</td>
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<td>3.0</td>
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<td>X</td>
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</tr>
<tr>
<td>ASI-COG-SS BW1822</td>
<td>CANopen</td>
<td>A2</td>
<td>3.0</td>
<td>2</td>
<td>X</td>
<td>X</td>
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<tr>
<td>ASI-COG-SS BW1823</td>
<td>CANopen</td>
<td>E</td>
<td>3.0</td>
<td>2</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

A - Single AS-I network is powered by and AS-I power supply
A2 - Dual AS-I networks are each powered by their own AS-I power supply
E - Dual AS-I networks are both powered by a single 30 VDC supply, decoupled through the gateway
TURCK
Industrial I/O AS-interface® Products

AS-I Modbus Gateways in Stainless Steel

- AS-I v3.0 Supported
- Graphical Display
- Integrated Ground-Fault Detection
- Integrated AS-I Diagnostics

**Electrical**
- Devices: 200 mA from Vᵦᵣᵢ (Power Supply A)
- Additional 200 mA from Vᵦᵣᵢ, 70 mA from Vᵦᵢ (Power Supply A2)
- 250 mA from Vᵦᵢ (Power Supply E)

**Power Distribution**
- From AS-I supply for each network (Power Supply A, A2)
- From external supply (Power Supply E)

**Mechanical**
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

**Material**
- Housing: Stainless Steel

**Diagnostics (Logical)**
- Health of AS-I network available via Modbus interface

**Diagnostics (Physical)**
- LED to indicate status of network and AS-I communication and power supply

ASI-MBG-SS BW1641*
ASI-MBG-SS BW1642*
ASI-MBG-SS BW1643*
ASI-MBG-SS-C1D2 BW1656
ASI-MBG-SS-C1D2 BW1657
ASI-MBG-SS-C1D2 BW1658
* not ETL listed

---

RS485 Connector

3 = BUS_A
8 = BUS_B

---

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### Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Modbus</th>
<th>Power Style</th>
<th>AS-I Version</th>
<th># of Min-Max</th>
<th>Dual-line Adaptive Detection</th>
<th>Programming Interface</th>
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<td>X</td>
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<td>ASI-MBG-SS BW1642</td>
<td>Modbus</td>
<td>A2</td>
<td>3.0</td>
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<td>ASI-MBG-SS BW1643</td>
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<td>E</td>
<td>3.0</td>
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<td>A</td>
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</table>

* Approved for use in Class 1, Division 2 areas

### Input/Output Connectors

#### A

- Single AS-I network is powered by and AS-I power supply

#### A2

- Dual AS-I networks are each powered by their own AS-I power supply

#### E

- Dual AS-I networks are both powered by a single 30 VDC supply, decoupled through the gateway

---

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TURCK Industrial I/O AS-interface® Products

AS-I Gateways

- Connect to Higher-Level Network
- 2-Digit Display
- Multiple Networks Supported
- Integrated AS-I Diagnostics

Electrical
- Operating Current: 200 mA from V_{AS-I} (Power Supply A)

Power Distribution
- From AS-I supply for each network

Mechanical
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

Material
- Housing: Plastic

Diagnostics (Logical)
- Health of AS-I network is available via Network interface

Diagnostics (Physical)
- LEDs to indicate status of network and AS-I communication and power supply

ASI-MBPG BW1583

Modbus Plus Connector

1 = Shield
2 = Data
3 = Data
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Modbus Plus</th>
<th>Power Supply</th>
<th>AS-I Version</th>
<th># of AS-I Masters</th>
<th>Diagnostics &amp; Troubleshooting</th>
<th>Programming Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-MBUS BW1583</td>
<td>Modbus Plus</td>
<td>A</td>
<td>2.1</td>
<td>1</td>
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</tbody>
</table>

**AS-I Connectors**

A - Single AS-I network is powered by and AS-I power supply
TURCK
Industrial I/O AS-interface® Products

**AS-I Gateways**
- AS-I v2.1 Supported
- 2-Digit Display
- IP 65 Protection
- Integrated AS-I Diagnostics

**Electrical**
- Operating Current: 200 mA from V_{AS-I}

**Power Distribution**
- From AS-I supply for each network

**Mechanical**
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 65

**Material**
- Housing: Plastic

**Diagnostics (Logical)**
- Health of AS-I network is available via Network interface

**Diagnostics (Physical)**
- LEDs to indicate status of network and AS-I communication and power supply

---

**ASI-DPG BW1253**
**ASI-DPG BW1371**
**ASI-CCG BW1435**

---

**Profibus eurofast® Pinouts**

1 = 5 VDC*
2 = BUS_A
3 = Gnd
4 = BUS_B
5 = Shield
* Female connector only

---

**ASI-DPG BW1171 only**

---

**ASI-DPG BW1253 only**

---

**ASI-DPG BW1371 only**

---

**ASI-DPG BW1435 only**

---
## Industrial Automation

### ASI-DPG BW1253
- **Part Number**: ASI-DPG BW1253
- **PROFIBUS-DP**
- **A 2.1**
- **1**
- **1**

### ASI-DPG BW1371
- **Part Number**: ASI-DPG BW1371
- **PROFIBUS-DP**
- **A 2.1**
- **1**
- **1**

### ASI-CCG BW1435
- **Part Number**: ASI-CCG BW1435
- **CC-Link**
- **A 2.1**
- **2**
- **1**

---

**A - Single AS-I network is powered by and AS-I power supply**

### Input/Output Connectors

1. **BUS_A**
2. **BUS_B**
3. **BUS_A**
4. **BUS_B**
5. **0V**
6. **Shield**
7. **FG (Function Gnd)**
8. **FG (Function Gnd)**
9. **Shield**
10. **+5V**

2. **FG (Function Gnd)**
3. **Shield**
4. **DA**
5. **DB**
6. **FG (Function Gnd)**
7. **Shield**
8. **DA**
9. **DB**
10. **DB**

---

**Note**: AS-I connections are made via standard AS-I base modules ASI-BM BW1180 or ASI-BM BW1182 (see pages E110-116).
TURCK Industrial I/O AS-interface® Products

AS-I Masters

- AS-I v3.0 Supported
- Graphical Display
- Integrated Ground-Fault Detection
- Integrated AS-I Diagnostics

Electrical

- Operating Current: 200 mA from $V_{AS-I}$ (Power Supply A)
  70mA from $V_{AS-i1}$ (Power Supply A2)

Power Distribution

- From AS-I supply for each network

Mechanical

- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

Material

- Housing: Stainless Steel

Diagnostics (Logical)

- Health of AS-I network is available via serial interface

Diagnostics (Physical)

- LED to indicate status of serial and AS-I communication and power supply

ASI-MM232-SS BW1955
ASI-MM232-SS BW1944
ASI-MM232-SS-CTL BW1986
### ASI-MM232-SS BW1955
**Part Number:** ASI-MM232-SS BW1955  
**Power Style:** RS232  
**AS-I Version:** A  
**Signal Inputs:** 1  
**Signal Outputs:** X  
**Duplicate Address Detection:** X  
**Programming Interface:** AXI

### ASI-MM232-SS BW1944
**Part Number:** ASI-MM232-SS BW1944  
**Power Style:** RS232  
**AS-I Version:** A2  
**Signal Inputs:** 2  
**Signal Outputs:** X  
**Duplicate Address Detection:** X  
**Programming Interface:** AXI

### ASI-MM232-SS-CTL BW1986
**Part Number:** ASI-MM232-SS-CTL BW1986  
**Power Style:** RS232  
**AS-I Version:** A  
**Signal Inputs:** 1  
**Signal Outputs:** X  
**Duplicate Address Detection:** X  
**Programming Interface:** AXI

---

**Input/Output Connectors**

![ASI Interface](image)

A - Single AS-I network is powered by and AS-I power supply  
A2 - Dual AS-I networks are each powered by their own AS-I power supply
TURCK
Industrial I/O AS-interface® Products

AS-I Masters for PC Control

- AS-I v2.1, 3.0 Supported
- Masters for PC Control
- Selection of Form Factors
- Integrated AS-I Diagnostics

Electrical
- Operating Current: 200 mA from PC (except BW1922 draws 300 mA @ 5 V, 100 mA @ 3.3 V)

Power Distribution
- From AS-I supply for each network
- From PC power supply

Mechanical
- Operating Temperature: 0 to +55°C (+32 to +131°F)

Diagnostics (Logical)
- Health of AS-I network is available via PC interface

ASI-MMPCI BW1195 shown
ASI-MMPCI-V3 BW1922
ASI-MMPCI-V3 BW1911
ASI-MMPCI BW1195
ASI-MMISA BW1228
ASI-MMPC104 BW1229
## Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Higher Speed Network</th>
<th>Power-Sink</th>
<th>ASI Version</th>
<th>Connection Diameter</th>
<th># of Red Mlns</th>
<th>Duplicate Address Detection</th>
<th>Ground Fault Detection</th>
<th>Connection Type</th>
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<tbody>
<tr>
<td>ASI-M0PC1-V3 Bk1922</td>
<td>PCI</td>
<td>PC</td>
<td>3.00</td>
<td>4</td>
<td>2</td>
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<tr>
<td>ASI-M0PC1-V3 Bk1911</td>
<td>Compact PCI</td>
<td>PC</td>
<td>3.00</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>ASI-M0PC1 Bk1995</td>
<td>PCI</td>
<td>PC</td>
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<td>1</td>
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<tr>
<td>ASI-M0ISA Bk1228</td>
<td>ISA</td>
<td>PC</td>
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<td>PC</td>
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<td>3</td>
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</tbody>
</table>

### Input/Output Connectors

![Input/Output Connectors Diagram](https://via.placeholder.com/150)

---

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TURCK
Industrial I/O AS-interface® Products

Input Station

- Rugged, Fully Potted Stations
- IP 67 Protection
- Flat and Round Cable Support
- AS-I Version 2.1

Electrical
- Operating Current: <75 mA plus input currents (from AS-I)
- Sensor Current: <200 mA sum of all inputs (from AS-I)

Power Distribution
- Inputs: AS-I power supply

Mechanical
- Operating Temperature: -25 to +70°C (-25 to +158°F)
- Protection: IEC IP 67
- Vibration: 50 g @ 10-500 Hz

Material
- Connectors: Nickel-plated brass
- Housing: Nylon 6

Diagnostics (Logical)
- I/O faults are reported via the AS-I peripheral fault bit.

FAS4-S0400

---

AS-I eurofast® Pinout

1. = AS-I+
2. = NC
3. = AS-I
4. = NC

---

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### Industrial Automation

#### Inputs

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AS Version</th>
<th>Module Style</th>
<th>Input Count</th>
<th>Connector</th>
<th>Plane</th>
<th>Inputs Per Connector</th>
<th>Status &amp; Diagnostics</th>
<th>Error Diagnostics</th>
<th>Wire-Break Detection</th>
<th>Slave Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAS4-50400</td>
<td>2.1</td>
<td>AB</td>
<td>4</td>
<td>0-1</td>
<td>S</td>
<td>1</td>
<td>PNP</td>
<td>X</td>
<td>0-A-E</td>
<td></td>
</tr>
</tbody>
</table>

#### Input/Output Connectors

![Input/Output Connectors Diagram](M38)

Mating cordset:
- RK 4.4T-^-RS 4.4T

---

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TURCK
Industrial I/O AS-interface® Products

Input/Output Stations

- Rugged, Fully Potted Stations
- IP 67 Protection
- Flat and Round Cable Support
- AS-I Version 2.1

Electrical

- Operating Current: ≤ 50 mA plus I/O currents (from AS-I)
- I/O Current: ≤ 200 mA sum of all inputs and outputs (from AS-I)
  (FAS4-CSG43) ≤ 400 mA sum of all inputs and outputs from AS-I (FAS4-CSG44)

Power Distribution

- Inputs: AS-I power supply
- Outputs: AS-I power supply

Mechanical

- Operating Temperature: -25 to +70 °C (-25 to +158°F)
- Protection: IEC IP 67
- Vibration: 50 g @ 10-500 Hz

Material

- Connectors: Nickel-plated brass
- Housing: Nylon 6

Diagnostics (Logical)

- I/O faults are reported via the AS-I peripheral fault bit

FAS4-CSG44
FAS4-CSG43*
* Not UL

Female
4-Pin
AS-I eurofast® Pinout

1 = AS-I+
2 = NC
3 = AS-I
4 = NC

M39
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### Industrial Automation

<table>
<thead>
<tr>
<th>Part</th>
<th>AS-Interface Version</th>
<th>Connector</th>
<th>Pinout</th>
<th>Sensor Style</th>
<th>Group</th>
<th>Individual Diagnostics</th>
<th>Wire-Break Detection</th>
<th>Output Pinout</th>
<th>Current</th>
<th>Glue Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAS4-CSG44</td>
<td>2.1 Single</td>
<td>4</td>
<td>CS</td>
<td>PNP</td>
<td>X</td>
<td>4</td>
<td>CS</td>
<td>0.4 A*</td>
<td>7.E</td>
<td></td>
</tr>
<tr>
<td>FAS4-CSG43</td>
<td>2.1 AB</td>
<td>4</td>
<td>CS</td>
<td>PNP</td>
<td>X</td>
<td>3</td>
<td>CS</td>
<td>0.2 A*</td>
<td>7.E</td>
<td></td>
</tr>
</tbody>
</table>

* Total current is shared by all I/O on station

#### Input/Output Connectors

<table>
<thead>
<tr>
<th>CS</th>
<th>Input/Output Connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>RX</td>
<td>4.4T-*</td>
</tr>
</tbody>
</table>

Mating cordset:
RX 4.4T-* RS 4.4T
Splitter:
VB2-RS 4.4T-1/2RX 4.4T-*/*S651

---

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Input/Output Stations
- Rugged, Fully Potted Stations
- IP 67 Protection
- Auxiliary Powered Outputs
- AS-I Version 2.1

Electrical
- Operating Current: <50 mA plus input currents (from AS-I)
- I/O Current: <200 mA sum of all inputs from AS-I (FAS4-CSG43-A)
- <400 mA sum of all inputs from AS-I Power (FAS4-CSG44-A)
- Output Current: <700 mA per output (from Aux. power)

Power Distribution
- Inputs: AS-I power supply
- Outputs: AS-I power supply

Mechanical
- Operating Temperature: -25 to +70 °C (-25 to +158°F)
- Protection: IEC IP 67
- Vibration: 50 g @ 10-500 Hz

Material
- Connectors: Nickel-plated brass
- Housing: Nylon 6

Diagnostics (Logical)
- I/O faults are reported via the AS-I peripheral fault bit

<table>
<thead>
<tr>
<th>FAS4-CSG44-A</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAS4-CSG43-A*</td>
</tr>
<tr>
<td>* Not UL</td>
</tr>
</tbody>
</table>

AS-I eurofast® Pinout
- 1. = AS-I+
- 2. = NC
- 3. = AS-I
- 4. = NC

Aux. Power Pinout
- 1. = V_{aux}^+
- 2. = NC
- 3. = V_{aux}^–
- 4. = NC
### Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Addressing Style</th>
<th>Inputs</th>
<th>Outputs</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAS4-CSG44-A</td>
<td>Single</td>
<td>4</td>
<td>0-3 CS PNP</td>
<td>X</td>
</tr>
<tr>
<td>FAS4-CSG43-A</td>
<td>AB</td>
<td>4</td>
<td>0-2 CS PNP</td>
<td>X</td>
</tr>
</tbody>
</table>

### Input/Output Connectors

- **Mating cordset:**
  - RX 4.4T-* RS 4.4T

- **Splitter:**
  - VB2-RS 4.4T-1/2RK 4.4T-*/*/5653
TURCK Industrial I/O AS-interface® Products

Input/Output Stations

- Rugged, Fully Potted Stations
- IP 67 Protection
- Auxiliary Powered Outputs
- AS-I Version 2.1

Electrical

- Operating Current: ≤50 mA plus Input currents (from AS-I)
- Input Current: ≤200 mA sum of all inputs (from AS-I)
- Output Current: ≤400 mA sum of all outputs (from Aux. power)

Power Distribution

- Inputs: AS-I power supply
- Outputs: AS-I power supply

Mechanical

- Operating Temperature: -25 to +70°C (-25 to +158°F)
- Protection: IEC IP 67
- Vibration: 50 g @ 10-500 Hz

Power Distribution

- Material
  - Connectors: Nickel-plated brass
  - Housing: Nylon 6

Diagnostics (Logical)

- I/O faults are reported via the AS-I peripheral fault bit

FAS4-S0202G-A

Electrical

- Operating Current: <50 mA plus Input currents (from AS-I)
- Input Current: <200 mA sum of all inputs (from AS-I)
- Output Current: <400 mA sum of all outputs (from Aux. power)

Power Distribution

- Inputs: AS-I power supply
- Outputs: AS-I power supply

Mechanical

- Operating Temperature: -25 to +70°C (-25 to +158°F)
- Protection: IEC IP 67
- Vibration: 50 g @ 10-500 Hz

Power Distribution

- Material
  - Connectors: Nickel-plated brass
  - Housing: Nylon 6

Diagnostics (Logical)

- I/O faults are reported via the AS-I peripheral fault bit

AS-I eurofast® Pinout

1 = AS-I+
2 = NC
3 = AS-I
4 = NC

Aux. Power eurofast Pinout

1 = VAUX+
2 = NC
3 = VAUX
4 = NC
## Industrial Automation

### AS-interface Inputs Outputs Data

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AS-I Version</th>
<th>Addressing</th>
<th>Style</th>
<th>Count</th>
<th>Connectors</th>
<th>Pinout</th>
<th>Sensor Style</th>
<th>Group</th>
<th>Diagnostics</th>
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</thead>
<tbody>
<tr>
<td>FAS4-S02GG-A</td>
<td>2.1</td>
<td>AB</td>
<td>2-1</td>
<td>5</td>
<td>PNP</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Input/Output Connectors**

**Mating cordset:**
- RK 4.4T *- RS 4.4T

**Mating cordset:**
- RK 4.4T *- RS 4.4T
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Output Station

- Rugged, Fully Potted Stations
- IP 67 Protection
- Auxiliary Powered Outputs
- AS-I Version 2.1

Electrical

- Operating Current: <50 mA (from AS-I)
- Output Current: <700 mA per output (from Aux. power)

Power Distribution

- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -25 to +70°C (-25 to +158°F)
- Protection: IEC IP 67
- Vibration: 50 g @ 10-500 Hz

Material

- Connectors: Nickel-plated brass
- Housing: Nylon 6

Diagnostics (Logical)

- I/O faults are reported via the AS-I peripheral fault bit

FAS4-S0003G-A

AS-I eurofast® Pinout

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AS-I+</td>
</tr>
<tr>
<td>2</td>
<td>NC</td>
</tr>
<tr>
<td>3</td>
<td>AS-I</td>
</tr>
<tr>
<td>4</td>
<td>NC</td>
</tr>
</tbody>
</table>

Aux. Power eurofast Pinout

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VAUX+</td>
</tr>
<tr>
<td>2</td>
<td>NC</td>
</tr>
<tr>
<td>3</td>
<td>VAUX-</td>
</tr>
<tr>
<td>4</td>
<td>NC</td>
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</table>
## Outputs

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AS-I Version</th>
<th>Addressing Style</th>
<th>Output Count</th>
<th>Connection</th>
<th>Panel</th>
<th>Current</th>
<th>Individual Diagnostics</th>
<th>Wire-Break Detection</th>
<th>Slave Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAS4-S003G-A</td>
<td>2.1</td>
<td>AB</td>
<td>3</td>
<td>GS</td>
<td>0.7 A</td>
<td></td>
<td></td>
<td></td>
<td>RA-E</td>
</tr>
</tbody>
</table>

### Output Connectors

![Diagram of GS connector](image)

**Mating cordset:**
RK 4.4T - RS 4.4T
TURCK Industrial I/O AS-interface® Products

AS-I Conduit Adapter Slave

- Slave Right in Conduit
- Fits Crouse-Hinds Bodies
- Ideal Where Conduit Is Required
- Bus Powered I/O

Electrical
- Operating Current: <200 mA including all I/O current (from AS-I)
- Output Current: <80 mA sum of all outputs (from AS-I)

Power Distribution
- Inputs: AS-I power supply
- Outputs: AS-I power supply

Mechanical
- Operating Temperature: -25 to +70°C (-25 to +158°F)
- Protection: IEC IP 67

Material
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon (other materials available on request)

Diagnostics (Logical)
- I/O faults are reported via the AS-I peripheral fault bit

BCS-ASI-CSG22

AS-I Connector
Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AS-I Version</th>
<th>Input Count</th>
<th>Connectors</th>
<th>Output Count</th>
<th>Connectors</th>
<th>Pinout</th>
<th>Current</th>
<th>Individual Diagnostics</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCI-ASI-C5622</td>
<td>2.1 AB 2</td>
<td>0-1 CS</td>
<td>PNP X</td>
<td>2</td>
<td>0-1 CS</td>
<td>80 mA</td>
<td>BA-E</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Input/Output Connectors

CS

Mating cordset:
RK 4.4T-***RS 4.4T
**TURCK**

**Industrial I/O AS-interface® Products**

**Analog Input Stations**

- Analog on AS-I
- IP 20 for In-the-Cabinet
- Powered by AS-I or Auxiliary Supply

**Electrical**

- Operating Current: <80 mA (from AS-I)
- Sensor Current: <40 mA per input

**Power Distribution**

- Inputs: AS-I or Auxiliary supply, selectable by user
  - BW1345, BW1447 default sensor current from AS-I
  - BW1726 default sensor current from auxiliary supply

**Mechanical**

- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 20

**Diagnostics (Logical)**

- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

**Diagnostics (Physical)**

- One LED indicates an I/O fault (over or under-range for each channel)
- LEDs to indicate status of AS-I communication and power supply

---

**ASI-AI-2 BW1345**

**ASI-AI-2 BW1447**

**ASI-AI-2A BW1726**

---

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## Industrial Automation

### Inputs Data

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AI Type</th>
<th>AI Version</th>
<th>Modifying Bit</th>
<th>In Count</th>
<th>Style</th>
<th>Center Diagnostic</th>
<th>Individual Diagnostic</th>
<th>OCD</th>
<th>Slave Profile</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AI-2 BW1345</td>
<td>2.1</td>
<td>Single</td>
<td>2</td>
<td>4 to 20 mA/O to 10 V</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.3-O</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ASI-AI-2 BW1447</td>
<td>2.1</td>
<td>Single</td>
<td>2</td>
<td>4 to 20 mA/O to 10 V</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.3-O</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ASI-AI-2A BW1726</td>
<td>2.1</td>
<td>Single</td>
<td>2</td>
<td>4 to 20 mA/O to 10 V</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.3-O</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

#### Input/Output Connectors

![Input/Output Connectors Diagram]

#### I/O Data Map 1

<table>
<thead>
<tr>
<th>In</th>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (LSB)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (MSB)</td>
</tr>
</tbody>
</table>

* Notes: Data map applies to each channel of analog data used. Resolution is 1 uA/bit in current mode and 1 mV/bit in voltage mode. BW1345 and BW1726 use range of 4000...20000 for current and 0...10000 for voltage inputs. BW1447 uses range of 0...27648 (0x0000...0x6C00) for compatibility with existing Siemens based programs.
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Analog Input Stations

- Analog on AS-I
- IP 65 Protection

Electrical
- Operating Current: <80 mA from AS-I
- Sensor Current: <40 mA per input

Power Distribution
- Inputs: AS-I or Auxiliary supply, selectable by user

Mechanical
- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 65
- Connections: Cage clamp block through gland fittings

Material
- Housing: Plastic

Diagnostics (Logical)
- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

Diagnostics (Physical)
- LEDs indicate I/O faults (over- and under-current or voltage for each channel)
- LEDs to indicate status of AS-I communication and power supply
## Industrial Automation

### Inputs

<table>
<thead>
<tr>
<th>Part Number</th>
<th>ASI Version</th>
<th>Addressing Style</th>
<th>By Count</th>
<th>Type</th>
<th>Group</th>
<th>Individual Diagnostic</th>
<th>Error Code</th>
<th>General Failure</th>
<th>Edge</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AI-2 BW1232</td>
<td>2.1</td>
<td>Single</td>
<td>2</td>
<td>4 to 20 mA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.3-D</td>
<td>1</td>
</tr>
<tr>
<td>ASI-AI-2 BW1233</td>
<td>2.1</td>
<td>Single</td>
<td>2</td>
<td>0 to 10 V</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.3-D</td>
<td>1</td>
</tr>
</tbody>
</table>

### Input/Output Connectors

1. **In**
   - Byte Bit 7 Bit 6 Bit 5 Bit 4 Bit 3 Bit 2 Bit 1 Bit 0
   - 0 Analog Value (LSB)
   - 1 Analog Value (MSB)

### I/O Data Map 1

<table>
<thead>
<tr>
<th>In</th>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (LSB)</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (MSB)</td>
</tr>
</tbody>
</table>

Note: Data map applies to each channel of analog data used. Resolution is 1 uA/bit in current mode and 1 mV/bit in voltage mode. BW1232 range of values is 4000-20000. BW1233 range of values is 0-10000. AS-I connections are made via standard AS-I base modules (ASI-BM BW1180, ASI-BM BW1182) if I/O is powered by AS-I or auxiliary supply base modules (ASI-BM BW1181, ASI-BM BW1183) if I/O is powered by auxiliary power (see pages E105-106).
TURCK
Industrial I/O AS-interface® Products

Analog Input Stations

- Analog on AS-I
- IP 20 for In-The-Cabinet
- Powered by AS-I or Auxiliary Supply
- Voltage, Current or Temperature Inputs

Electrical

- Operating Current: <80 mA from AS-I
- Sensor Current: <40 mA per input (BW1364 and BW1365)

Power Distribution

- Inputs: AS-I or Auxiliary supply

Mechanical

- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 20

Diagnostics (Logical)

- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

Diagnostics (Physical)

- LEDs indicate faults for each input
- LEDs to indicate status of AS-I communication and power supply

ASI-AI-4 BW1364
ASI-AI-4 BW1365
ASI-AI-4PT100 BW1368

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### Industrial Automation

#### Inputs Data

<table>
<thead>
<tr>
<th>Part Number</th>
<th>ASI Version</th>
<th>Addressing Style</th>
<th>Channels</th>
<th>Style</th>
<th>Current Diagnostic</th>
<th>Analog Diagnostic</th>
<th>CPO</th>
<th>Slave Profile</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AI-4 BW1364</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>1</td>
<td>4 to 20 mA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.3-E</td>
<td>1</td>
</tr>
<tr>
<td>ASI-AI-4 BW1365</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>1</td>
<td>0 to 10 V</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.3-E</td>
<td>1</td>
</tr>
<tr>
<td>ASI-AI-4PT100 BW1368</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>2</td>
<td>RTD</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.3-5</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Inputs Data Map 1

<table>
<thead>
<tr>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Analog Value (LSB)</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>0</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Analog Value (MSB)</td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Note: Data map applies to each channel of analog data used. Resolution is 1 uA/bit in current mode, 1 mV/bit in voltage mode and 0.1 °C in temperature mode (range is -200 to +850°C).
## TURCK Industrial I/O AS-interface® Products

### Temperature Input Stations
- Analog on AS-I
- IP 20 for In-The-Cabinet
- Powered by AS-I or Auxiliary Supply
- Relay Output Option

#### Electrical
- Operating Current: $<80$ mA from AS-I

#### Power Distribution
- Inputs: AS-I or Auxiliary supply (BW1368 is only powered from AS-I)

#### Mechanical
- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 65
- Connections: Cage clamp block through gland fittings

#### Material
- Housing: Plastic

#### Diagnostics (Logical)
- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

#### Diagnostics (Physical)
- LEDs indicate faults for each input
- LEDs to indicate status of AS-I communication and power supply

---

![Diagram of Temperature Input Stations]
Industrial Automation

Input/Output Connectors

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AS-I Version</th>
<th>Addressing Style</th>
<th>I/O Count</th>
<th>Channel 1</th>
<th>Channel 2</th>
<th>Analog Value (LSB)</th>
<th>Interface</th>
<th>Power</th>
<th>Current</th>
<th>Diagnostics</th>
<th>I/O Data Map 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AI-4PT100 BW1254</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>1</td>
<td>RTD</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASI-AI/DO-2RTD/2R BW1552</td>
<td>2.1</td>
<td>Single</td>
<td>2</td>
<td>2</td>
<td>RTD</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Data map applies to each channel of analog data used. Resolution is 0.1 °C/bit in RTD mode (range is -200 to +850 °C).

For BW1552 relay outputs are set via parameter bits 2 and 3.

AS-I connections are made via standard AS-I base modules (ASI-BM BW1180, ASI-BM BW1182) if I/O is powered by AS-I or auxiliary supply base modules (ASI-BM BW1181, ASI-BM BW1183) if I/O is powered by auxiliary power (see pages E105-106).
TURCK
Industrial I/O AS-interface® Products

Analog Output Stations

- Analog on AS-I
- IP 20 for In-The-Cabinet
- Powered by AS-I or Auxiliary Supply
- Voltage and Current Outputs

Electrical
- Operating Current: <80 mA from AS-I

Power Distribution
- Outputs: AS-I or Auxiliary supply, selectable by switch inside housing
  BW1412 default from AS-I
  BW1727 default from auxiliary supply

Mechanical
- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 20

Diagnostics (Logical)
- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

Diagnostics (Physical)
- LEDs indicates an I/O fault (over- or under-range for each channel)
- LEDs to indicate status of AS-I communication and power supply
Industrial Automation

I/O Data Map 1

<table>
<thead>
<tr>
<th></th>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (L,8)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (H,8)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Data map applies to each channel of analog data used. Resolution is 1 uA/bit (0-20mA) in current mode and 1 mV/bit (0-10V) in voltage mode.
TURCK Industrial I/O AS-interface® Products

Analog Output Stations

- Analog on AS-I
- IP 65 Protection
- Powered by AS-I or Auxiliary Supply
- Voltage or Current Outputs

Electrical

- Operating Current: <80 mA from AS-I

Power Distribution

- Outputs: AS-I or Auxiliary supply, selectable by internal jumpers

Mechanical

- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 65
- Connections: Cage clamp block through gland fittings

Material

- Housing: Plastic

Diagnostics (Logical)

- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

Diagnostics (Physical)

- LEDs indicates an I/O fault (over- or under-range for each channel)
- LEDs to indicate status of AS-I communication and power supply
## Outputs | Data

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Addressing Style</th>
<th>Output Count</th>
<th>Style</th>
<th>Analog Diagnostics</th>
<th>OCD</th>
<th>Slave Profile</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AO-2 BW1234</td>
<td>2.1</td>
<td>Single</td>
<td>2</td>
<td>0 to 20 mA</td>
<td>X</td>
<td>X</td>
<td>7.3-5</td>
</tr>
<tr>
<td>ASI-AO-2 BW1235</td>
<td>2.1</td>
<td>Single</td>
<td>2</td>
<td>0 to 10 V</td>
<td>X</td>
<td>X</td>
<td>7.3-5</td>
</tr>
</tbody>
</table>

### Input/Output Connectors

1

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>V_WAIT+</td>
</tr>
<tr>
<td>2</td>
<td>Signal1+</td>
</tr>
<tr>
<td>3</td>
<td>V_WAIT-</td>
</tr>
<tr>
<td>4</td>
<td>Signal1-</td>
</tr>
<tr>
<td>5</td>
<td>Shield</td>
</tr>
<tr>
<td>6</td>
<td>Shield</td>
</tr>
<tr>
<td>7</td>
<td>V_AUX+</td>
</tr>
<tr>
<td>8</td>
<td>Signal0+</td>
</tr>
<tr>
<td>9</td>
<td>V_AUX-</td>
</tr>
<tr>
<td>10</td>
<td>Signal0-</td>
</tr>
<tr>
<td>11</td>
<td>FG (Function Gnd)</td>
</tr>
<tr>
<td>12</td>
<td>FG (Function Gnd)</td>
</tr>
</tbody>
</table>

#### I/O Data Map 1

<table>
<thead>
<tr>
<th>In</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (LSB)</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (MSB)</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Data map applies to each channel of analog data used. Resolution is 1 μA/bit in current mode and 1 mV/bit in voltage mode. BW1234 range of values is 0-20000. BW1235 range of values is 0-10000. AS-I connections are made via standard AS-I base modules (ASI-BM BW1180, ASI-BM BW1182) if I/O is powered by AS-I or auxiliary supply base modules (ASI-BM BW1181, ASI-BM BW1183) if I/O is powered by auxiliary power (see pages E105-106).
TURCK Industrial I/O AS-interface® Products

Analog Output Stations

- Analog on AS-I
- IP 20 Protection
- Powered by AS-I or Auxiliary Supply
- Voltage or Current Outputs

Electrical
- Operating Current: <80 mA from AS-I

Power Distribution
- Outputs: AS-I or Auxiliary supply

Mechanical
- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 20

Diagnostics (Logical)
- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

Diagnostics (Physical)
- LEDs indicates an I/O fault (over- or under-range for each channel)
- LEDs to indicate status of AS-I communication and power supply

ASI-AO-4 BW1366
ASI-AO-4 BW1367

1,000 [25.4] REF
Outputs 1-3 connectors
Diagnostic LEDs
Addressing port
I/O LEDs
3,937 [100.0] REF
Output 4 connector
AS-I and Aux., Power connector
## Outputs

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Input Count</th>
<th>Output Count</th>
<th>Style</th>
<th>Individual Diagnostics</th>
<th>OCD</th>
<th>Slave Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AO-4 BW1366</td>
<td>2.1 Single</td>
<td>4</td>
<td>0 to 20 mA</td>
<td>X</td>
<td>X</td>
<td>7.3-6</td>
</tr>
<tr>
<td>ASI-AO-4 BW1367</td>
<td>2.1 Single</td>
<td>4</td>
<td>0 to 10 V</td>
<td>X</td>
<td>X</td>
<td>7.3-6</td>
</tr>
</tbody>
</table>

### Input/Output Connectors

Note: Data map applies to each channel of analog data used. Resolution is 1 uA/bit in current mode and 1 mV/bit in voltage mode. BW1366 range of values is 4000-20000. BW1367 range of values is 0-10000.

### I/O Data Map 1

<table>
<thead>
<tr>
<th>In</th>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Analog Value (LSB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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TURCK
Industrial I/O AS-interface® Products

Scale Input Station

- Analog on AS-I
- IP 65 Protection
- Power from AS-I
- Unique I/O Configurations

**Electrical**
- Operating Current: <80 mA from AS-I

**Power Distribution**
- Inputs: AS-I power supply

**Mechanical**
- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 65
- Connections: Cage clamp block through gland fittings

**Material**
- Housing: Plastic

**Diagnostics (Logical)**
- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

**Diagnostics (Physical)**
- LEDs indicate I/O faults
- LEDs to indicate status of AS-I communication and power supply

Note: This station is designed for connecting a load cell to AS-I.

---

ASI-AI-1SCALE BW1465

©

3.574 [90.8]

3.149 [80.0]

Diagnostic LEDs

Analog connectors

---

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**Industrial Automation**

### Inputs Data

<table>
<thead>
<tr>
<th>Part Number</th>
<th>ASI Version</th>
<th>Address Style</th>
<th>Address Mode</th>
<th>Count</th>
<th>Group</th>
<th>Individual Group</th>
<th>OCD</th>
<th>Slave Profile Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AI-SCALE BW1465</td>
<td>2.1</td>
<td>Single</td>
<td>Scale</td>
<td>1</td>
<td></td>
<td></td>
<td>7.3-C</td>
<td>5</td>
</tr>
</tbody>
</table>

### Input/Output Connectors

- 1, 7 V+
- 2, 8 Signal1+
- 3, 9 Output+
- 4, 10 Output-
- 5, 11 Signal-
- 6, 12 V-

### I/O Data Map 1

<table>
<thead>
<tr>
<th>In</th>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (Lsb)</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (Msib)</td>
</tr>
</tbody>
</table>

Note: Resolution is 16 bits.

Calibration is done via Windows software and the special BW1260 master.

AS-I connections are made via standard AS-I base modules (ASI-BM BW1180, ASI-BM BW1182) (see pages E105-106).
TURCK
Industrial I/O AS-interface® Products

Analog Input Stations

- Analog on AS-I
- IP 65 Protection
- Power from AS-I
- Current or PT100 Inputs

**Electrical**
- Operating Current: <200 mA (BW1893, BW1894) or <80 mA (BW1895) from AS-I
- Sensor Current: <40 mA per input (BW1893, BW1894)

**Power Distribution**
- Outputs: AS-I power supply

**Mechanical**
- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 65

**Material**
- Housing: Plastic

**Diagnostics (Logical)**
- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

**Diagnostics (Physical)**
- LEDs indicate an I/O fault (over- or under-range for each channel)
- LEDs to indicate status of AS-I communication and power supply

---

TURCK Inc. 3000 Campus Drive Minneapolis, MN 55441 Application Support: 1-800-544-7769 Fax: (763) 553-0708 www.turck.com

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Industrial Automation

### Inputs Data

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AS-I Version</th>
<th>Base COntact</th>
<th>Polarity</th>
<th>Range</th>
<th>Current</th>
<th>D6</th>
<th>D5</th>
<th>D4</th>
<th>D3</th>
<th>D2</th>
<th>D1</th>
<th>D0</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AI-02-M12-V3</td>
<td>3.0</td>
<td>All</td>
<td>2</td>
<td>1</td>
<td>4 to 20 mA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.A-9</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASI-AI-02-M12-V3</td>
<td>2.1</td>
<td>Single</td>
<td>2</td>
<td>1</td>
<td>4 to 20 mA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.3-D</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASI-AI-02-M12-V3</td>
<td>3.0</td>
<td>All</td>
<td>2</td>
<td>2</td>
<td>RTD</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.A-9</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Input/Output Connectors

1. **Input/Output Connectors**

   ![Input/Output Connectors Diagram]

   - **1**: V+
   - **2**: Signal +
   - **3**: 0 V
   - **4**: Signal -
   - **5**: Shield

   ![Input/Output Connectors Diagram]

   - **2**: E+
   - **3**: Signal +
   - **4**: E-
   - **5**: Signal -
   - **6**: Shield

### I/O Data Map 1

<table>
<thead>
<tr>
<th>In</th>
<th>Bit 0</th>
<th>Bit 1</th>
<th>Bit 2</th>
<th>Bit 3</th>
<th>Bit 4</th>
<th>Bit 5</th>
<th>Bit 6</th>
<th>Bit 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>7.A-9</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>7.7-D</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Data map applies to each channel of analog data used. Resolution is 1 uA/bit in current mode and 0.1 dC/bit in RTD mode.

BW1893 and BW1894 default range of values is 4000-20000 (can be configured for 0-27648). BW1895 default range of values is -200...+850 C (can be configured for -120 to +130 C).

AS-I connections are made via standard AS-I base modules (ASI-BM BW1180, ASI-BM BW1182) (see pages E105-106).
TURCK
Industrial I/O AS-interface® Products

Analog Input Stations

- Analog on AS-I
- IP 65 Protection
- Current, Voltage or PT100 Inputs
- Powered by AS-I or Auxiliary Supply

ASI-AI-4-M12 BW1359
ASI-AI-4-M12 BW1360
ASI-AI-4-M12 BW1742
ASI-AI-4PT100-M12 BW1363

Electrical
- Operating Current: <200 mA (except BW1363 is <80 mA) from AS-I
- Sensor Current: <40 mA per input (BW1359, BW1360, BW1742)

Power Distribution
- Inputs: AS-I or Auxiliary power supply

Mechanical
- Operating Temperature: 0 to +70°C (+32 to +158°F)
  (except BW1742 is -20 to +70°C (-4 to +158°F))
- Protection: IP 65

Material
- Housing: Nylon

Diagnostics (Logical)
- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

Diagnostics (Physical)
- LEDs indicates an I/O fault (over or under-range for each channel)
- LEDs to indicate status of AS-I communication and power supply

IP 65 Protection
Current, Voltage or PT100 Inputs
Powered by AS-I or Auxiliary Supply
### Inputs Data

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Key System</th>
<th>Mating Code</th>
<th>Wire Count</th>
<th>Style</th>
<th>Connect, Diagnostic</th>
<th>Isolated, Diagnostic</th>
<th>OC &amp; D</th>
<th>Drive Profile</th>
<th>Idx</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AI-4-M12 BW1359</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.1E-1</td>
<td>1</td>
</tr>
<tr>
<td>ASI-AI-4-M12 BW1360</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.1E-1</td>
<td>1</td>
</tr>
<tr>
<td>ASI-AI-4-M12 BW1742</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>7.1E-1</td>
<td>1</td>
</tr>
<tr>
<td>ASI-AI-4PT100-M12 BW1363</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>2</td>
<td>RTD</td>
<td>X</td>
<td>X</td>
<td>7.1E-1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Input/Output Connectors

```
1 = V+
2 = Signal +
3 = 0 V-
4 = Signal -
5 = Shield
```

```
1 = E+
2 = Signal +
3 = E-
4 = Signal -
5 = Shield
```

### I/O Data Map 1

<table>
<thead>
<tr>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>In</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (Lsb)</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analog Value (msb)</td>
</tr>
</tbody>
</table>

Note: Data map applies to each channel of analog data used. Resolution is 1 uA/bit in current mode, 1 mV/bit in voltage mode and 0.1 C/bit in temperature mode.

BW1359 range of values is 4000-20000. BW1360, BW1742 range of values is 0-10000. BW1363 range is -200 to +850 C.

AS-I connections are made via standard AS-I base modules (ASI-BM BW1180, ASI-BM BW1182) if I/O is powered by AS-I or auxiliary supply base modules (ASI-BM BW1181, ASI-BM BW1183) if I/O is powered by auxiliary power (see pages E105-106).
TURCK
Industrial I/O AS-interface® Products

Analog Output Stations

- Analog on AS-I
- IP 65 Protection
- Voltage or Current Outputs
- Powered by AS-I or Auxiliary Supply

Electrical
- Operating Current: <200 mA (except BW1722 is <100 mA) from AS-I
- Output Current: 1.1 A per output from auxiliary power (BW1722 only)

Power Distribution
- Outputs: AS-I power supply (except BW1722 is auxiliary power supply)

Mechanical
- Operating Temperature: 0 to +70°C (+32 to +158°F) (except BW1736 is -20 to +70°C (-4 to +158°F)
- Protection: IP 65

Material
- Housing: Plastic

Diagnostics (Logical)
- I/O errors are indicated by the AS-I peripheral fault bit (v2.1 and higher)

Diagnostics (Physical)
- LEDs indicate an I/O fault for each channel
- LEDs to indicate status of AS-I communication and power supply

Note: ASI-AO-4-M12 BW1722 supplies up to 1.1 A for powering output devices.
### Outputs

<table>
<thead>
<tr>
<th>Part Number</th>
<th>ASI Version</th>
<th>Addressing Style</th>
<th>Out Count</th>
<th>Style</th>
<th>Pinout</th>
<th>OCD</th>
<th>Slave Profile Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AO-4-M12 BW1361</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>0 to 20 mA</td>
<td>1</td>
<td>X</td>
<td>7.3-6</td>
</tr>
<tr>
<td>ASI-AO-4-M12 BW1362</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>0 to 10 V</td>
<td>1</td>
<td>X</td>
<td>7.3-6</td>
</tr>
<tr>
<td>ASI-AO-4E-M12 BW1722</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>0 to 20 mA</td>
<td>2</td>
<td>X</td>
<td>7.3-6</td>
</tr>
<tr>
<td>ASI-AO-4-M12 BW1736</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>0 to 10 V</td>
<td>1</td>
<td>X</td>
<td>7.3-6</td>
</tr>
</tbody>
</table>

### Input/Output Connectors

1. **Input/Output Connectors**
   - **1**: Signal +
   - **2**: NC
   - **3**: Signal -
   - **4**: NC
   - **5**: Shield

2. **Input/Output Connectors**
   - **1**: Signal +
   - **2**: V+
   - **3**: Signal -/V-
   - **4**: NC
   - **5**: Shield

### I/O Data Map 1

<table>
<thead>
<tr>
<th>In</th>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note**: Data map applies to each channel of analog data used. Resolution is 1 uA/bit in current mode and 1 mV/bit in voltage mode. BW1361, BW1722 range of values is 0-20000. BW1362, BW1736 range of values is 0-10000. AS-I connections are made via standard AS-I base modules (ASI-BM BW1180, ASI-BM BW1182) if I/O is powered by AS-I or auxiliary supply base modules (ASI-BM BW1181, ASI-BM BW1183) if I/O is powered by auxiliary power (see pages E105-106).
TURCK
Industrial I/O AS-interface® Products

AS-I Counter Stations

- Count Signals Over AS-I
- 1 to 4 Channels
- IP 65 Protection
- Powered by AS-I or Auxiliary Supply

Electrical
- Operating Current: <200 mA (from U_B)
- Sensor Current: <150 mA from AS-I (except BW1723 is <700 mA from aux. supply)

Power Distribution
- Inputs: AS-I supply (except BW1723 from auxiliary supply)

Mechanical
- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 65

Material
- Housing: Plastic

Diagnostics (Logical)
- Overflow and underflow errors are reported via the AS-I peripheral fault bit (except BW1711)

Diagnostics (Physical)
- LEDs indicate the status of each I/O point
- LEDs to indicate status of AS-I communication and power supply
### Inputs

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AS-I Version</th>
<th>Addressing Style</th>
<th>Channel</th>
<th>Style</th>
<th>Resolution</th>
<th>Slave Profile</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-AI-2C BW1574</td>
<td>2.1</td>
<td>Single</td>
<td>2</td>
<td>Counter</td>
<td>16-bit</td>
<td>7.3-C</td>
<td>1</td>
</tr>
<tr>
<td>ASI-AI-4C BW1710</td>
<td>2.1</td>
<td>Single</td>
<td>4</td>
<td>Counter</td>
<td>16-bit</td>
<td>7.3-D</td>
<td>1</td>
</tr>
<tr>
<td>ASI-AI-1C BW1723</td>
<td>2.1</td>
<td>Single</td>
<td>1</td>
<td>Counter</td>
<td>16-bit</td>
<td>7.3-C</td>
<td>1</td>
</tr>
<tr>
<td>ASI-AI-1C BW1711</td>
<td>2.1</td>
<td>Single</td>
<td>1</td>
<td>Counter</td>
<td>4-bit</td>
<td>0-F-F-E</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: Data map applies to each counter channel. Range is -32768…+32767.

### I/O Data Map 1

<table>
<thead>
<tr>
<th>In</th>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Data map applies to each counter channel. Range is -32768…+32767.

### I/O Data Map 2

<table>
<thead>
<tr>
<th>In</th>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Range is 0…15.

AS-I connections are made via standard AS-I base modules (ASI-BM BW1180, ASI-BM BW1182) if I/O is powered by AS-I or auxiliary supply base modules (ASI-BM BW1181, ASI-BM BW1183) if I/O is powered by auxiliary power (BW1723 only) (see pages E105-106).
TURCK
Industrial I/O AS-interface® Products

AS-I Code Block

- Provides a Fixed Value
- IP 67 Protection
- Use to Code Tools or Machine Components
- Powered by AS-I

Electrical
- Operating Current: <50 mA from AS-I

Mechanical
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 65

Material
- Housing: Plastic

Diagnostics (Logical)
- Faults are reported via the AS-I peripheral fault bit (v2.1 and higher)

Diagnostics (Physical)
- LEDs indicate I/O faults
- LEDs to indicate status of AS-I communication and power supply

ASI-CODEBLK BW1527

![Diagram of ASI-CODEBLK BW1527](image.jpg)
### Industrial Automation

#### ASI-CODEBLK BW1527

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Key</th>
<th>System</th>
<th>Addressing Style</th>
<th>By Count</th>
<th>Addresses Occupied</th>
<th>Style</th>
<th>Range</th>
<th>Group</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-CODEBLK BW1527</td>
<td>2.1</td>
<td>AB</td>
<td>8 bits</td>
<td>2</td>
<td>Code</td>
<td>O to 255</td>
<td>0.A-F-E</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Note: This station occupies two AS-I addresses, each with four inputs. The input values are fixed by two rotary switches to provide a code value.

#### I/O Data Map 1

<table>
<thead>
<tr>
<th>In</th>
<th>Byte</th>
<th>Bit 7</th>
<th>Bit 6</th>
<th>Bit 5</th>
<th>Bit 4</th>
<th>Bit 3</th>
<th>Bit 2</th>
<th>Bit 1</th>
<th>Bit 0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Code (High 8/16)</td>
<td>Code (Low 8/16)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AS-I connections are made via standard AS-I base modules (ASI-BM BW1180, ASI-BM BW1182) (see pages E105-106).
TURCK Industrial I/O AS-interface® Products

AS-I Repeaters

- Extend AS-I Network Length
- IP 20 for In-The-Cabinet
- Isolate AS-I Power Segments
- Fault LED Aids in Diagnostics

Electrical
- Operating Current: <60 mA from each AS-I segment (<120 mA total)

Power Distribution
- Each isolated segment is powered from it’s respective AS-I power supply

Mechanical
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

Diagnostics (Physical)
- LEDs to indicate status of AS-I communication and power supply

REP-ASI BW1855

![AS-I Repeater Image]
Enclosure Mounted AS-interface Repeater

The REP-ASI BW1855 is an IP 20, DIN-rail mountable repeater for use an enclosure mounted AS-I extension solution. Network segments attached by a repeater are considered separate physical networks (trunk and drop lengths for each segment are determined as if the other segments are not present), but one logical network (addresses cannot be duplicated; the scanner and configuration tools work as a single network).

The repeater does not consume an address and is invisible to all the other devices on the network. The repeater supports a network extension of one full segment (an additional 100 m of AS-I cable). The REP-ASI BW1855 can be used in conjunction with an AS-I Tuner (ASI-TUNER BW1648 or ASI-TUNER-DIAG BW1843) to extend the network with segment lengths greater than 100 m. Repeaters can also be used to isolate power supplies on networks with multiple supplies, allowing greater than 8 A on the entire AS-I system (no individual segment may carry more than 8 A).

Up to two repeaters are allowed between any slave and the master. Placing the master in the middle of the system allows a maximum linear system of 500 m (if standard repeaters are used) or potentially 1000 m (if terminators and advanced repeaters are used), as shown in the diagram below.

A  = Power supply
B  = Master
C  = Repeaters
TURCK Industrial I/O AS-interface® Products

AS-I Repeater

- Extend AS-I Network Length
- Isolate AS-I Power Segments
- IP65 Protection
- Fault LED Aids in Diagnostics

Electrical
- Operating Current: <60 mA from each segment (<120 mA total)

Power Distribution
- Each isolated segment is powered from it's respective AS-I power supply

Mechanical
- Operating Temperature: -10 to +55°C (+14 to +131°F)
- Protection: IP65
- Connection: Via standard AS-I base module (flat or round cable)

Material
- Housing: Plastic

Diagnostics (Physical)
- LEDs to indicate status of AS-I communication and power supply

REP-ASI BW1273*
REP-ASI-C1D2 BW1712
* Not ETL listed
Machine Mounted AS-interface® Repeater

The REP-ASI BW1273 is an IP 65 repeater for machine mounted AS-I extensions. Network segments attached by a repeater are considered separate physical networks (trunk and drop lengths for each segment are determined as if the other segments are not present), but one logical network (addresses cannot be duplicated; the scanner and configuration tools work as a single network).

The repeater does not consume an address and is invisible to all the other devices on the network. The REP-ASI BW1273 supports network extension of one full segment (an additional 100 m of AS-I cable). Repeaters can also be used to isolate power supplies on networks with multiple supplies, allowing greater than 8 A on the entire AS-I system (no individual segment may carry more than 8 A).

Up to two repeaters are allowed between any slave and the master. Placing the master in the middle of the system allows a maximum linear system of 500 m.

The REP-ASI BW1273 physical wiring connections are made via standard AS-I base modules with two isolated ports (ASI-BM BW1181 for flat cable or ASI-BM BW1183 for round cable with screw terminal connections).

A = Power supplies
B = Master
C = Repeaters
TURCK
Industrial I/O AS-interface® Products

ASI-TUNER BW1648*
ASI-TUNER-DIAG BW1843*
ASI-TUNER-C1D2 BW1715
* Not ETL listed

Electrical
- Operating Current: <60 mA (from AS-I)

Power Distribution
- AS-I Power supply

Mechanical
- Operating Temperature: 0 to +55 °C (+32 to +131°F)
- Protection: IP65

Material
- Housing: Plastic

Diagnostics (Logical)
- BW1843 can be configured to be a slave on the AS-I network and report system and station health

Diagnostics (Physical)
- LEDs to indicate status of AS-I communication and power supply

---

Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com
Machine Mounted AS-interface® Tuners

The ASI-TUNER BW1648 and ASI-TUNER-DIAG BW1843 are IP 65 tuners for machine mounted AS-I extension solutions. Tuners are active circuits designed to affect the impedance of an AS-I network so the system can communicate without errors at lengths longer than 100 m. The tuners are configured for the system by placing them in a "teach" mode where they "listen to" AS-I network traffic. In this mode, tuners cycle through LRC impedance values to find the setting where the errors are minimized. Once this value is found, tuners operate in the "run" mode. The tuners also provide a green/yellow/red LED indicating network status, so potential errors can be found early and corrected before they become critical.

The ASI-TUNER BW1648 does not consume an address and is invisible to all the other devices on the network. The ASI-TUNER-DIAG BW1843 may be configured as an AS-I slave to allow more detailed diagnostic information to be available as standard I/O data, as well as mailbox information per the AS-I v3.0 specification. The status of all AS-I slaves on the system, as well as the voltage level at the tuner, can be obtained in this mode. Tuners can be used to extend the network length up to 300 m for a single segment (without the need for a repeater). Ideal placement of the tuner on the network is at the furthest point from the power supply.

Tuners connect to the network via standard AS-I base modules (ASI-BM BW1180 for flat cable and ASI-BM BW1182 for round cable with screw terminal connections).
TURCK
Industrial I/O AS-interface® Products

AS-I Masters for OEM Applications

- Board-level Masters
- Advanced AS-I Diagnostics
- Small Form Factor

Electrical
- Operating Current: <70 mA from AS-I, 100 mA from external supply (5 VDC)

Power Distribution
- AS-I and external supplies

Mechanical
- Operating Temperature: 0 to +55 °C (+32 to +131°F)

Diagnostics (Logical)
- AS-I I/O errors can be reported via the peripheral fault bit for each slave (v2.1 and higher)

Diagnostics (Physical)
- LEDs to indicate status of AS-I communication and power supply (BW1554 only)

Electrical
- Operating Current: <70 mA from AS-I, 100 mA from external supply (5 VDC)

AS-I Masters for OEM Applications

- Board-level Masters
- Advanced AS-I Diagnostics
- Small Form Factor

Power Distribution
- AS-I and external supplies

Mechanical
- Operating Temperature: 0 to +55 °C (+32 to +131°F)

Diagnostics (Logical)
- AS-I I/O errors can be reported via the peripheral fault bit for each slave (v2.1 and higher)

Diagnostics (Physical)
- LEDs to indicate status of AS-I communication and power supply (BW1554 only)
<table>
<thead>
<tr>
<th>Part Number</th>
<th>AS-I Version</th>
<th>AS-I Connection</th>
<th>Design</th>
<th># of AS-I Masters</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-MM-PCB BW1670*</td>
<td>2.1</td>
<td>Solder</td>
<td>A</td>
<td>1</td>
</tr>
<tr>
<td>ASI-MM-PCB BW1588</td>
<td>2.1</td>
<td>Solder</td>
<td>B</td>
<td>1</td>
</tr>
<tr>
<td>ASI-MM-PCB BW1554</td>
<td>2.1</td>
<td>Connector</td>
<td>C</td>
<td>1</td>
</tr>
</tbody>
</table>

*A Note: ASI-MM-PCB BW1670 is intended for use with the evaluation kit ASI-EVAL-KIT BW1656 (MT08).*
## TURCK Industrial I/O AS-interface® Products

### OEM AS-I Slaves

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC-board Level Slaves</td>
<td>Various I/O Configurations</td>
</tr>
<tr>
<td>Connection Options</td>
<td>Powered by AS-I</td>
</tr>
</tbody>
</table>

### Electrical
- Operating Current: <200 mA from AS-I (including all I/O)

### Power Distribution
- Inputs: AS-I supply
- Outputs: AS-I supply

### Mechanical
- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Vibration: 15 g @ 10...55 Hz

### Diagnostics (Logical)
- I/O faults are indicated by the peripheral fault bit

### Diagnostics (Physical)
- One LED indicates an I/O fault for the slave

---

*Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com*
### Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type</th>
<th>Output Count</th>
<th>Current Output</th>
<th>Current Output (per Output)</th>
<th>S/P</th>
<th>Address</th>
<th>Slave Profile</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-IOM-0202-PCB BW1421</td>
<td>2</td>
<td>2</td>
<td>80 mA</td>
<td>80 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 1 B.A-E</td>
<td>A</td>
</tr>
<tr>
<td>ASI-IOM-0202-PCB BW1443</td>
<td>2</td>
<td>2</td>
<td>80 mA</td>
<td>80 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 1 B.A-E</td>
<td>A</td>
</tr>
<tr>
<td>ASI-IOM-0202-PCB BW1444</td>
<td>2</td>
<td>2</td>
<td>80 mA</td>
<td>80 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 1 B.A-E</td>
<td>A</td>
</tr>
<tr>
<td>ASI-IOM-0403-PCB BW1386</td>
<td>4</td>
<td>2</td>
<td>80 mA</td>
<td>80 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 1 7.A-E</td>
<td>C</td>
</tr>
<tr>
<td>ASI-IOM-0403-PCB BW1387</td>
<td>4</td>
<td>2</td>
<td>80 mA</td>
<td>80 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 1 7.A-E</td>
<td>C</td>
</tr>
<tr>
<td>ASI-IOM-0404-PCB BW1442</td>
<td>4</td>
<td>2</td>
<td>80 mA</td>
<td>80 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 1 7.A-E</td>
<td>C</td>
</tr>
<tr>
<td>ASI-IOM-0404-PCB BW1443</td>
<td>4</td>
<td>2</td>
<td>80 mA</td>
<td>80 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 1 7.A-E</td>
<td>C</td>
</tr>
<tr>
<td>ASI-IOM-0404-PCB BW1444</td>
<td>4</td>
<td>2</td>
<td>80 mA</td>
<td>80 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 1 7.A-E</td>
<td>C</td>
</tr>
<tr>
<td>ASI-IOM-0404-PCB BW1445</td>
<td>4</td>
<td>2</td>
<td>80 mA</td>
<td>80 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 1 7.A-E</td>
<td>C</td>
</tr>
<tr>
<td>ASI-IOM-0404-PCB BW1446</td>
<td>4</td>
<td>2</td>
<td>80 mA</td>
<td>80 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 1 7.A-E</td>
<td>C</td>
</tr>
<tr>
<td>ASI-IOM-0006-PCB BW1627</td>
<td>0</td>
<td>6</td>
<td>100 mA</td>
<td>180 mA</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 2 8.A-0</td>
<td>E</td>
</tr>
<tr>
<td>ASI-IOM-0800-PCB BW1351</td>
<td>8</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 2 0.A-2</td>
<td>D</td>
</tr>
<tr>
<td>ASI-IOM-0800-PCB BW1352</td>
<td>8</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>AS-I</td>
<td>N/A</td>
<td>Y 2 0.A-2</td>
<td>D</td>
</tr>
</tbody>
</table>

Note: SCR=Screw Terminal connection, PIN=Edge Pin connection

---

**Diagram Notes:**

- **A:**
  - AS-I signal input
  - LED indicates status

- **B:**
  - AS-I signal input
  - LED indicates status

- **C:**
  - AS-I signal input
  - LED indicates status

- **D:**
  - AS-I signal input
  - LED indicates status

- **E:**
  - AS-I signal input
  - LED indicates status

---

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Industrial I/O AS-interface® Products

OEM AS-I Slaves

- PC-board Level Slaves
- Connection Options
- A/B Address Support
- Powered by Auxiliary Power

**Electrical**
- Operating Current: <20 mA from AS-I
- Input Current: <180 mA from AS-I (BW1628 only)
- Output Current: see table on facing page

**Power Distribution**
- Inputs: AS-I supply (BW1628)
  Auxiliary supply (BW1388, BW1389)
- Outputs: Auxiliary supply

**Mechanical**
- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Vibration: 15 g at 10 to 55 Hz

**Diagnostics (Logical)**
- I/O faults are indicated by the peripheral fault bit

---

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### Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Input</th>
<th>Output</th>
<th>AS-i/Aux</th>
<th>Address</th>
<th>Slave Profile</th>
<th>Drawing</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-IOM-0400A-PCB-L-BW1628</td>
<td>4</td>
<td>4</td>
<td>150 mA</td>
<td>500 mA</td>
<td>AS-i/Aux</td>
<td>X</td>
<td>SCR</td>
</tr>
<tr>
<td>ASI-IOM-0400A-PCB-BW1388</td>
<td>4</td>
<td>4</td>
<td>100 mA</td>
<td>200 mA</td>
<td>Aux</td>
<td>PP</td>
<td>N</td>
</tr>
<tr>
<td>ASI-IOM-0400A-PCB-BW1389</td>
<td>4</td>
<td>4</td>
<td>100 mA</td>
<td>200 mA</td>
<td>Aux</td>
<td>SCR</td>
<td>N</td>
</tr>
</tbody>
</table>

Note: SCR=Screw Terminal connection, PIN=Edge Pin connection

---

F

G

AS-i interface
TURCK
Industrial I/O AS-interface® Products

OEM AS-I Slaves
- PC-board Level Slaves
- Multiple Slaves on One Board
- I/O Count Choices
- Powered by AS-I

Electrical
- Operating Current: <400 mA (BW1898, BW1899), <500 mA (BW1900, BW1901) from AS-I (including all I/O)

Power Distribution
- Inputs: AS-I supply
- Outputs: AS-I supply

Mechanical
- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Vibration: 15 g @ 10 to 55 Hz

Diagnostics (Logical)
- I/O faults are indicated by the peripheral fault bit
### Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Input Count</th>
<th>Output Count</th>
<th>Output Current (per Output)</th>
<th>Output Current (sum of all Outputs)</th>
<th>LEDs</th>
<th>Connector</th>
<th>Address</th>
<th>Slave Profile</th>
<th>Drawing</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-IOM-0808-PCB-BW1898</td>
<td>8</td>
<td>8</td>
<td>70</td>
<td>200 mA</td>
<td>CON</td>
<td>N</td>
<td>2</td>
<td>F-F-E</td>
<td>M</td>
<td>H</td>
</tr>
<tr>
<td>ASI-IOM-0808-PCB-V3-BW1899</td>
<td>8</td>
<td>8</td>
<td>70</td>
<td>200 mA</td>
<td>CON</td>
<td>Y</td>
<td>2</td>
<td>7-A-7-E</td>
<td>M</td>
<td>H</td>
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<tr>
<td>ASI-IOM-1616-PCB-BW1900</td>
<td>16</td>
<td>16</td>
<td>70</td>
<td>200 mA</td>
<td>CON</td>
<td>N</td>
<td>4</td>
<td>F-F-E</td>
<td>M2</td>
<td>1</td>
</tr>
<tr>
<td>ASI-IOM-1616-PCB-V3-BW1901</td>
<td>16</td>
<td>16</td>
<td>70</td>
<td>200 mA</td>
<td>CON</td>
<td>Y</td>
<td>4</td>
<td>7-A-7-E</td>
<td>M2</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: CON=Plug In connection

---

**AS-i Interface**

```
H

I
```

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OEM AS-I Slaves

- PC-board Level Slave
- Relay Outputs
- For AC Control
- Powered by AS-I

Electrical
- Operating Current: <85 mA from AS-I (including all I/O)
- Output Current: <10 A total (through relays)

Power Distribution
- Inputs: AS-I supply
- Outputs: AS-I supply (switching)

Mechanical
- Operating Temperature: 0 to +60°C (+32 to +140°F)

ASI-IOM-0202R-PCB BW1101

©
### Part Number: ASI-IOM-0202R-PCB BW1101

<table>
<thead>
<tr>
<th>Pinout</th>
<th>Key</th>
</tr>
</thead>
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<tr>
<td>AS+</td>
<td>L</td>
</tr>
<tr>
<td>AS−</td>
<td>N</td>
</tr>
<tr>
<td>AS+</td>
<td>N</td>
</tr>
<tr>
<td>AS−</td>
<td>N</td>
</tr>
<tr>
<td>V+</td>
<td>N</td>
</tr>
<tr>
<td>V−</td>
<td>PE</td>
</tr>
<tr>
<td>b</td>
<td>PE</td>
</tr>
<tr>
<td>a</td>
<td>PE</td>
</tr>
<tr>
<td>L</td>
<td>C₀ (Relay)</td>
</tr>
<tr>
<td>C₁ (Relay)</td>
<td></td>
</tr>
</tbody>
</table>
TURCK Industrial I/O AS-interface Products

**OEM Power Converter**
- Coated PC-board
- Aux. Power From AS-I
- Can Eliminate the Need for a Separate Auxiliary Supply

**Electrical**
- Operating Voltage: 20 to 30 VDC (from AS-I)
- Output Current: <1.5 A

**Mechanical**
- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Vibration: 15 g @ 10 to 55 Hz

**ASI-OEM-PWR BW1485**

**OEM AS-I Accessories**
- Carrier of OEM Slaves
- Supports Wiring Pin Connections
- Holds Up To 3 Boards

**ASI-PCB-CARRIER BW1484**
TURCK Industrial I/O AS-interface® Products

ASI-PS BW1649
ASI-PS-8A BW1997*

* Not UL listed

Electrical
- Input Voltage: 90 to 265 VAC (BW1649)
  115 VAC or 230 VAC, switchable (BW1997)
- Input Current: ~0.6 A @ 230 VAC (BW1649)
  ~1.2 A @ 230 VAC (BW1997)
- Output Current: 4 A (BW1649)
  8 A (BW1997)

Mechanical
- Operating Temperature: -10 to +55°C (-13 to +131°F)
- Protection: IP 20

Depth = 5.079 (128.0)
Depth = 5.945 (151.0)
Industrial Automation

AS-I Power Supply

- Provide Decoupled Power to AS-I
- DIN-rail Mounting
- Status LEDs
- Power from 24VDC Supply

Electrical

- Input Voltage: 20 to 32 VDC (24 VDC nominal)
- Input Current: <6.3 A (fused internally)
- Output Voltage: 29.5 to 31.6 VDC, AS-I decoupled
- Output Current: 2 A

Mechanical

- Operating Temperature: 0 to +55°C (32 to +131°F)
- Protection: IP 20

ASI-PS-24/30VDC-2A BW1760

CE
TURCK Industrial I/O AS-interface® Products

DC Power Supplies

- For Use With Stainless Steel AS-I Gateways
- 30 VDC Supplies

Electrical

- Input Voltage: 93 to 132 VAC / 187 to 265 VAC
- Input Current: 0.9 A @ 230 VAC / 2.2 A @ 115 VAC (BW1597)
  1.8 A @ 230 VAC / 4.2 A @ 115 VAC (BW1593, BW1598)
- Output Current: 4 A, limited at 6 A (BW1597)
  8 A, limited at 12 A (BW1593, BW1598)

Mechanical

- Operating Temperature: 0 to +60°C (+32 to +140°F)

PS-30VDC-8A BW1593
PS-30VDC-4A-C1D2 BW1597*
PS-30VDC-8A-C1D2 BW1598*

* Not UL

PS-30VDC-8A-C1D2 BW1598*
### Industrial Automation

**3-Phase Power Supply**

- For Use with AS-I Decoupling Products
- Power One or More AS-I Networks with One Supply
- 30 VDC Output

### Electrical

- Input Voltage: 3 x 340 to 550 VAC (3-phase)
- Input Current: 3 x 0.7 A @ 400 VAC
- Output Current: <8 A (DC)

### Mechanical

- Operating Temperature: 0 to +55°C (32 to +131°F)

---

**PS-30VDC-3PH BW1676**

- [Image: Diagram of the power supply]

---

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AS-I Power Extenders

- Convert Standard Power to AS-I
- 2.8 or 4 A Available
- IP 65 Protection
- Use One Supply for Multiple Segments

ASI-PE BW1197*
ASI-PE BW1477*
ASI-PE-2.8A-C1D2 BW1713
ASI-PE-4A-C1D2 BW1714

* Not ETL Listed

Electrical
- Input Voltage: 30 VDC
- Output Voltage: 30 VDC
- Output Current: 2.8 A, limited to 3 A (BW1197, BW1713)
  4 A, limited to 6 A (BW1477, BW1714)

Mechanical
- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Protection: IP 65

Material
- Housing: Plastic

Diagnostics (Physical)
- LEDs to indicate power supply status

Note: AS-I and power connections are made via standard AS-I base modules with two isolated ports (ASI-BM BW1181 for flat cable, ASI-BM BW1183 for round cable with screw terminals). See pages E105-106.
AS-I Power Decoupler

- Convert Standard Power to AS-I
- 4 A per Network
- IP 20 Protection
- Use One Supply for Multiple Segments

**Electrical**
- Input Voltage: 30 VDC
- Output Voltage: 30 VDC
- Output Current: 4 A max. For each of up to 2 isolated AS-I networks

**Mechanical**
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20

**Material**
- Housing: Plastic

**Diagnostics (Physical)**
- LEDs to indicate power supply status

ASI-PE-2 BW1943

---

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AS-I Safety Monitors

- AS-I Safety-at-Work
- 1 or 2 Safety Circuits
- Emergency Stop System over AS-I
- Fast Diagnosis of E-Stops

Electrical
- Operating Current: ~45 mA from AS-I
- ~150 mA (BW1764), ~200 mA (BW1765) from separate power
- Response Delay: <40 ms

Mechanical
- Operating Temperature: -20 to +60°C (+32 to +131°F)
- Protection: IP 20

Diagnostics (Logical)
- E-stop fault information is transmitted via the AS-I master

Diagnostics (Physical)
- LEDs to indicate status of AS-I communication and e-stop system

ASI-SM-1 BW1764
ASI-SM-2 BW1765
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Number of Safety Circuits</th>
<th>Connection Diagram</th>
<th>Configuration Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-SM-1 BW1764</td>
<td>1</td>
<td>A</td>
<td>X</td>
</tr>
<tr>
<td>ASI-SM-2 BW1765</td>
<td>2</td>
<td>B</td>
<td>X</td>
</tr>
</tbody>
</table>

**A**

- **L+** = +24 VDC
- **M** = Ref. Gnd
- **FE** = Earth Gnd
- **1.Y1** = EDM 1
- **1.Y2** = Start 1
- **1.13/1.14** = Output 1
- **1.23/1.24** = Output 2
- **1.32** = Indicator Output

**B**

- **L+** = +24 VDC
- **M** = Ref. Gnd
- **FE** = Earth Gnd
- **1.Y1** = EDM 1
- **1.Y2** = Start 1
- **1.13/1.14** = Output 1 (Circuit 1)
- **1.23/1.24** = Output 2 (Circuit 1)
- **1.32** = Indicator Output (Circuit 1)
- **2.Y1** = EDM 2
- **2.Y2** = Start 2
- **2.13/2.14** = Output 1 (Circuit 2)
- **2.23/2.24** = Output 2 (Circuit 2)
- **2.32** = Indicator Output (Circuit 2)

Note: AS-I safety monitors are programmed via the ASIMON BW1770 software (sold separately).
TURCK Industrial I/O AS-interface® Products

OEM AS-I Safety Slaves

- PC-board Slaves
- AS-I Safety-at-Work
- Emergency Stop System Over AS-I
- Ideal for Push Button Stations

Electrical
- Operating Current: <80 mA from AS-I
- Output Current: <100 mA per output from aux. power

Power Distribution
- Inputs: AS-I supply
- Outputs: Auxiliary supply

Mechanical
- Operating Temperature: 0 to +70°C (+32 to +158°F)
- Vibration: 15 g @ 10 to 55 Hz

Diagnostics (Logical)
- AS-I safety information can be accessed from the safety monitor
## Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Output Count</th>
<th>Output Current</th>
<th>COMBICON Style</th>
<th>Address</th>
<th>Slave Profile</th>
<th>Drawing</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-IOM-E0202A-PCB-ES BW1896</td>
<td>2</td>
<td>100 mA</td>
<td>REM</td>
<td>N</td>
<td>1</td>
<td>7.B-0</td>
<td>S</td>
</tr>
<tr>
<td>ASI-IOM-E0202A-PCB-ES BW1751</td>
<td>2</td>
<td>100 mA</td>
<td>SCR</td>
<td>N</td>
<td>1</td>
<td>7.B-0</td>
<td>S</td>
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<tr>
<td>ASI-IOM-E0202A-PCB-ES BW1801</td>
<td>2</td>
<td>100 mA</td>
<td>PIN</td>
<td>N</td>
<td>1</td>
<td>7.B-0</td>
<td>S</td>
</tr>
</tbody>
</table>

Note: REM=Pull-out COMBICON style connection; SCR=Screw Terminal connection, PIN=Edge Pin connection

---

![Diagram of ASI-IOM-E0202A-PCB-ES BW1896](attachment:image.png)
TURCK
Industrial I/O AS-interface® Products

AS-I Couplers
- Connect 2 AS-I Networks Together
- Communicate Via Internal Slaves

Electrical
- Operating Current: <80 mA per AS-I Network

Power Distribution
- From each AS-I network

Mechanical
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20 (BW1187), IP65 (BW1280)

Material
- Housing: Plastic

Diagnostics (Physical)
- LEDs to indicate status of AS-I communication and power supply

Note: ASI-CPL BW1280 makes connections to each AS-I network via standard base modules with two isolated ports (ASI-BM BW1181 for flat cable, ASI-BM BW1183 for round cable with screw terminals). See pages 105-106.
AS-interface® Couplers

AS-I Couplers provide a means to route data between two PLC’s using AS-I. The couplers (similar to a DeviceNet™ spanner) directly connect AS-I networks, eliminating the need for a high level control network pyramid. This simple approach is extremely powerful and economical. It is simple because the coupler appears as a standard AS-I slave to each PLC; any AS-I scanner can send I/O data to the coupler without additional software or complex configuration procedures. It is economical because it replaces the high level control network, eliminating two control cards, wiring, conduit and programming.

Theory of Operation

A coupler transfers data between PLC A and PLC B by appearing as I/O to each PLC. The coupler immediately copies the output data from PLC A to the input data for PLC B. Similarly, PLC B’s output data is copied to PLC A’s input data. The data transfer may be four bits in each direction (the maximum allowable data size for one slave on one AS-I scan cycle).

Electrically

The coupler optically isolates network A from network B; the networks do not interact electrically in any way. The coupler is powered internally by the AS-I power supply for the two connected networks.

Addressing

Because the coupler is essentially two AS-I devices, one on network A and one on network B, it must be addressed as a slave on each network. The addresses for the two networks are independent of each other and do not need to be set to the same value.

Coupler Topology

The coupler is typically used to correct and coordinate multiple work cells.
**TURCK Industrial I/O AS-interface® Products**

### Network Master Simulators

<table>
<thead>
<tr>
<th>MS-DP BW1257</th>
<th>MS-DP BW1258</th>
<th>MS-DP BW1131</th>
</tr>
</thead>
</table>

- **MS-DP BW1258** is a PROFIBUS-DP Master Simulator designed to connect PROFIBUS stations to a PC via the serial port. It is ideal for testing, troubleshooting and demonstrating PROFIBUS products. This version is powered from a separate 24 VDC supply, and communicates at rates up to 1.5 Mbaud.

- **MS-DP BW1257** is a PROFIBUS-DP Master Simulator designed to connect PROFIBUS stations to a PC via the serial port. It features DPV1 communication capability. It is ideal for testing, troubleshooting and demonstrating PROFIBUS products. It communicates at rates up to 19.2 kbaud.

- **MS-DP BW1131** is a PROFIBUS-DP Master Simulator designed to connect PROFIBUS stations to a PC via the serial port. It is ideal for testing, troubleshooting and demonstrating PROFIBUS products. It communicates at rates up to 19.2 kbaud.

---

**IC-232-485 BW1094**

- **IC-232-485 BW1094** is an interface converter that allows RS-485 devices to be connected to a PC RS232 serial port. It is used for connecting the RS-485 AS-I masters to the AS-I Control Tools software for configuration and maintenance.
MS-DN BW1420

MS-DN BW1420 is a DeviceNet™ Master Simulator designed to connect DeviceNet stations to a PC via the USB port. It is ideal for testing, troubleshooting and demonstrating DeviceNet products.

MS-DN BW1625

MS-DN BW1625 is a DeviceNet Master Simulator designed to connect DeviceNet stations to a PC via the PCI backplane. It is ideal for testing and troubleshooting DeviceNet products.

MS-CO BW1453

MS-CO BW1453 is a CANopen Master Simulator designed to connect CANopen stations to a PC via the USB port. It is ideal for testing, troubleshooting and demonstrating CANopen products.

CORD-DSUB BW1097

CORD-DSUB BW1097 is an RS-485 compatible cord that connects IP 65 masters and gateways (i.e. ASI-DPG BW1253) to a PC for commissioning and programming.
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Industrial I/O AS-interface® Products

CORD-DSUB BW1058

CORD-DSUB BW1058 is a serial 9-in DSUB extension cord that connects masters and gateways to a PC for commissioning and programming.

CORD-DSUB BW1226

CORD-DSUB BW1226 is a CAN compatible cord that connects DeviceNet™ and CANopen gateways to the DeviceNet master simulators (BW1420, BW1625) for commissioning and programming.

ASI-PD BW1646

ASI-PD BW1646 is a handheld addressing tool for AS-I. It also allows the user to test I/O and slave functionality.

ASI-ANALYZER BW1415

The ASI-ANALYZER BW1415 is a diagnostic and troubleshooting tool for AS-I systems. The analyzer displays the status of each slave on the network, as well as other details (such as power supply level), and can be used to provide diagnostics for low level AS-I messages. It allows the user to track and observe potential communication failures before they become real problems.
Industrial Automation

ASI-MON BW1770

ASI-MON BW1770 is a Windows program for use in configuring and diagnosing AS-I Safety at Work systems using the AS-I Safety Monitors. Connection to the safety monitors is made via the PC serial port.

ASI-SIM-SW BW1902

ASI-SIM-SW BE1902 is a MS Windows program that allows simulation and download of AS-I control programs for supported AS-I masters (masters with mini PLC capability). The package includes the ASI-SIM software, ASI-CT BW1203 AS-I Control Tools program and a cable to connect to the stainless steel programming port.

ASI-CT-SS BW1602
ASI-CT-AB BW1563
ASI-CT BW1203

ASI-CT-SS BW1602 is a MS Windows program for commissioning and programming Bihl+Wiedemann AS-I masters and gateways. The program allows the user to set addresses of slaves, test and manipulate I/O and view diagnostic information.

The BW1602 package includes a cable to connect gateways in the stainless steel housing to a PC serial port.

The BW1563 package includes a cable to connect the ASI-SCAN-AB BW1416 and ASI-SCAN-AB BW1488 PLC cards to a PC serial port.

ASI-EVAL-KIT BW1565

The ASI-EVAL-KIT BW1565 enables easy commissioning of the AS-I OEM master module (ASI-MM-PCB BW1670, p. E79-80). The carrier board has a 5 V controller and an RS232 converter to communicate with the OEM module via the AS-I Control Tools software. The board also has a terminal connector for connection to the AS-I system.

The kit is designed to aid users in developing applications for the OEM AS-I masters.

ASI-TERM BW1644

ASI-TERM BW1644 is an AS-I terminator designed to allow an AS-I segment to be extended up to 200 m. It includes an LED for basic system diagnostic information. It is a passive device, used in a similar manner to the active AS-I tuner (pages E69-70).
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Industrial I/O AS-interface® Products

AS-I Standard Base Modules

ASI-BM BW1180

Standard AS-I base module with two AS-I flat cable ports.

ASI-BM BW1181

Standard AS-I base module with one AS-I flat cable port and one isolated flat cable port. For use with AS-I devices requiring two separate connections (i.e. repeaters, power extenders, couplers, slaves with auxiliary powered I/O).

ASI-BM BW1438

Standard AS-I base module with two AS-I flat cable ports. Includes addressing port for handheld device.
ASI-BM BW1182

Standard AS-I base module with two AS-I round cable ports. Connections are made via screw terminals.

ASI-BM BW1183

Standard AS-I base module with one AS-I round cable port and one isolated round cable port. For use with AS-I devices requiring two separate connections (i.e. repeaters, power extenders, couplers, slaves with auxiliary powered I/O). Connections are made via screw terminals.
TURCK Industrial I/O AS-interface® Products

AS-interface® Media
# AS-interface®, Selection Guide

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<th>Junctions</th>
<th>Conduit Adapters</th>
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<td>N9 - N27</td>
<td>N29</td>
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<table>
<thead>
<tr>
<th>Tees</th>
<th>Gender Changers</th>
<th>Field Wireable Tees</th>
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<tbody>
<tr>
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<td>N32</td>
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<table>
<thead>
<tr>
<th>Flat Cable and Adapters</th>
<th>Receptacles</th>
<th>Field Wireable Connectors</th>
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<tbody>
<tr>
<td>N34</td>
<td>N35 - N42</td>
<td>N43</td>
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</table>
Industrial Automation

AS-interface®, Cable Specifications

- AS-interface Cable that Meets the Requirements of EN50295e for Communication up to 167 Kbaud
- Maximum Cable Length per Segment is 100 Meters

<table>
<thead>
<tr>
<th>Type</th>
<th>Approvals</th>
<th>Data Pair</th>
<th>Outer Jacket</th>
<th>Bulk Cable</th>
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<td>DCR (1000 feet)</td>
<td>Material Color</td>
<td>Nominal O.D.</td>
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<tr>
<td></td>
<td></td>
<td>2/36.0 AWG</td>
<td>6.6 Ohms</td>
<td>PVC Black</td>
<td>6.0 mm/.235 in</td>
</tr>
<tr>
<td>252BK</td>
<td>NEC/ETC/ITC/CEC/CA/CG</td>
<td>BL/BN</td>
<td>PVC/Nylon</td>
<td>PVC Yellow</td>
<td>7.1 mm/.285 in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6/36.0 AWG</td>
<td>4.3 Ohms</td>
<td>PVC/Blue</td>
<td>7.1 mm/.285 in</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BL/BN</td>
<td>PVC/Blue</td>
<td>PVC/Blue</td>
<td></td>
</tr>
<tr>
<td>254</td>
<td>NEC/ETC/ITC/CEC/CA/CG</td>
<td>BL/BN</td>
<td>PVC/Nylon</td>
<td>PVC Blue</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2/36.0 AWG</td>
<td>4.3 Ohms</td>
<td>PVC/Blue</td>
<td></td>
</tr>
<tr>
<td>254G</td>
<td>NEC/ETC/ITC/CEC/CA/CG</td>
<td>BL/BN</td>
<td>PVC/Blue</td>
<td>PVC/Blue</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2/36.0 AWG</td>
<td>4.3 Ohms</td>
<td>PVC/Blue</td>
<td></td>
</tr>
<tr>
<td>255A</td>
<td>NEC/ETC/ITC/CEC/CA/CG</td>
<td>BL/BN</td>
<td>PVC/Blue</td>
<td>PVC/Blue</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2/36.0 AWG</td>
<td>4.3 Ohms</td>
<td>PVC/Blue</td>
<td></td>
</tr>
<tr>
<td>256</td>
<td>NEC/ETC/ITC/CEC/CA/CG</td>
<td>BL/BN</td>
<td>PVC/Blue</td>
<td>PVC/Blue</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2/36.0 AWG</td>
<td>4.3 Ohms</td>
<td>PVC/Blue</td>
<td></td>
</tr>
<tr>
<td>257</td>
<td>NEC/ETC/ITC/CEC/CA/CG</td>
<td>BL/BN</td>
<td>PVC/Blue</td>
<td>PVC/Blue</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2/36.0 AWG</td>
<td>4.3 Ohms</td>
<td>PVC/Blue</td>
<td></td>
</tr>
</tbody>
</table>

* Indicates length in meters.
Standard cable lengths are 1, 2, 4, 5, 6, 8, 10, 15, and in +5 meter increments from there. Consult factory for other lengths.
† See page A6 for flexlife-10 performance.
# AS-interface®, Cable and Cordset Selection Matrix

## minifast®

<table>
<thead>
<tr>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>Pin (Male)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSM</td>
<td>WSM</td>
<td>RSM</td>
</tr>
<tr>
<td>RSM</td>
<td>WSM</td>
<td>RSM</td>
</tr>
<tr>
<td>RSM</td>
<td>WSM</td>
<td>RSM</td>
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<tr>
<td>RSM</td>
<td>WSM</td>
<td>RSM</td>
</tr>
<tr>
<td>RSM</td>
<td>WSM</td>
<td>RSM</td>
</tr>
</tbody>
</table>

- **Bare**
- **1**
- **2**
- **3**
- **4**
- **5**

## eurofast®

<table>
<thead>
<tr>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSC</td>
<td>WSC</td>
</tr>
<tr>
<td>RSC</td>
<td>WSC</td>
</tr>
<tr>
<td>RSC</td>
<td>WSC</td>
</tr>
</tbody>
</table>

- **1**
- **2**
- **3**
- **4**

See pages N7-N8 for dimensional drawings.

* Indicates length in meters.

x Indicates cable type.

Refer to the Cordset Builder at www.turck.com for assistance with cordset/cable combinations.

Standard cable lengths are 1, 2, 4, 5, 6, 8, 10, 15, and in +5 meter increments from there. Consult factory for other lengths.

For stainless steel coupling nuts change part number RSM… to RSV, WSM… to WSV. For **eurofast armorfast®** change part number RSC… to RSA.

---

**minifast**

1. Brown (+ Voltage)
2. N/C
3. Blue (- Voltage)
4. N/C

**eurofast**
### AS-interface®, Cable and Cordset Selection Matrix

<table>
<thead>
<tr>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
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</thead>
<tbody>
<tr>
<td>WSC</td>
<td>RKC</td>
<td>WKC</td>
<td>RSFP</td>
<td>RKFP</td>
<td>FSFD</td>
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<tr>
<td>WSM</td>
<td>RSM</td>
<td>WKM</td>
<td>RSM</td>
<td>RSM</td>
<td></td>
</tr>
<tr>
<td>WKC</td>
<td>WKM</td>
<td>WSC</td>
<td>RSM</td>
<td>WSM</td>
<td></td>
</tr>
<tr>
<td>RSM</td>
<td>RSM</td>
<td>RKC</td>
<td>RKC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RSC</td>
<td>RSC</td>
<td>WSC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WSC</td>
<td>RKC</td>
<td>WKC</td>
<td>RSFP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Courtesy of Steven Engineering, Inc.*

230 Ryan Way, South San Francisco, CA 94080
Main Office: (650) 588-9200
Outside Local Area: (800) 258-9200
www.stevenengineering.com
TURCK
Industrial I/O AS-interface® Products

AS-interface®, minilast® Cordset and Receptacle Connector Dimensions

Specifications

Housing: PUR (Polyurethane)
Coupling Nut: Nickel Plated CuZn or Stainless Steel
Contact Carrier: TPU (Polyurethane)
Contacts: Gold Plated CuZn
Protection: NEMA 1, 3, 4, 6P and IEC IP 67
Rated Voltage: 300 V
Rated Current: 9 A
Ambient Temperature: -40° to +105°C (-40° to +221°F)

N7  TURCK Inc.  3000 Campus Drive  Minneapolis, MN 55441  Application Support: 1-800-544-7769  Fax: (763) 553-0708  www.turck.com

Spec Worksheet N5

Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com
Specifications

**Housing:** PUR (Polyurethane)

**Coupling Nut:** Nickel Plated CuZn or Stainless Steel

**Contact Carrier:** TPU (Polyurethane) or POM (Nylon)

**Contacts:** Gold Plated CuZn

**Protection:** NEMA 1, 3, 4, 6P and IEC IP 68

**Rated Voltage:** 250 V

**Rated Current:** 4 A

**Ambient Temperature:** -40°C to +105°C (-40° to +221°F)
### AS-interface®, minifast® to eurofast® Passive Multiport Junction (Brick)

- For Connecting I/O in Concentrated Areas
- Available in Standard and With Short-Circuit Protection

#### Part Number Application Wiring Diagram

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JBBS-25-E812</td>
<td>8-port Junction Tee</td>
</tr>
</tbody>
</table>

- 7/8-16UN minifast bus-in/bus-out connections
- Eight M12x1 eurofast device ports

![Wiring Diagram]

---

**Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com**
Industrial
Automation

Specifications

- Housing: POM (Nylon)
- Coupling Nut: Nickel Plated CuZn
- Contact Carrier: Nylon
- Contacts: Gold Plated CuZn
- Protection: NEMA 3, 3, 4, 6P and IEC IP 68
- Rated Voltage: 250 V
- Rated Current: 4 A
- Ambient Temperature: -40° to +75°C (-40° to +167°F)

Dimensions

8-port

Pinouts

<table>
<thead>
<tr>
<th>minifast</th>
<th>eurofast</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td><strong>Female</strong></td>
</tr>
<tr>
<td>1 = Voltage+</td>
<td>1 = Voltage+</td>
</tr>
<tr>
<td>2 = N/C</td>
<td>2 = N/C</td>
</tr>
<tr>
<td>3 = Voltage-</td>
<td>3 = Voltage-</td>
</tr>
<tr>
<td>4 = N/C</td>
<td>4 = N/C</td>
</tr>
</tbody>
</table>
## TURCK Industrial I/O AS-interface® Products

**AS-interface®, minifast®** Passive Multiport Junctions

- Rugged, Fully Encapsulated Enclosure
- For Connecting I/O in Concentrated Areas
- Suitable for Outdoor Applications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>JBBS-25-M414</td>
<td>No short-circuit protection</td>
<td>4-port Junction</td>
<td>![4-port Junction Wiring Diagram]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bus in/bus out connections (7/8-14UN) <strong>minifast</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Four <strong>minifast</strong> connections for field devices</td>
<td></td>
</tr>
<tr>
<td>JBBS-25-M613</td>
<td>No short-circuit protection</td>
<td>6-port Junction</td>
<td>![6-port Junction Wiring Diagram]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bus in/bus out connections (7/8-14UN) <strong>minifast</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Six <strong>minifast</strong> connections for field devices</td>
<td></td>
</tr>
<tr>
<td>JBBS-25-M814</td>
<td>No short-circuit protection</td>
<td>8-port Junction</td>
<td>![8-port Junction Wiring Diagram]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Bus in/bus out connections (7/8-14UN) <strong>minifast</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Eight <strong>minifast</strong> connections for field devices</td>
<td></td>
</tr>
</tbody>
</table>
Industrial Automation

Specifications

- **Housing:** Anodized Aluminum
- **Coupling Nut:** Nickel Plated CuZn or Stainless Steel
- **Contact Carrier:** TPU (Polyurethane)
- **Contacts:** Gold Plated CuZn
- **Protection:** NEMA 1, 3, 4, 6P and IEC IP 67, IP 68, IP 69K
- **Rated Voltage:** 36 V
- **Rated Current:** 9 A
- **Ambient Temperature:** -40° to +75°C (-40° to +167°F)

Dimensions

- **8-Port Housing:** Anodized Aluminum
- **Coupling Nut:** Nickel Plated CuZn or Stainless Steel
- **Contact Carrier:** TPU (Polyurethane)
- **Contacts:** Gold Plated CuZn
- **Protection:** NEMA 1, 3, 4, 6P and IEC IP 67, IP 68, IP 69K
- **Rated Voltage:** 36 V
- **Rated Current:** 9 A
- **Ambient Temperature:** -40° to +75°C (-40° to +167°F)

Pinouts

- **Male**
  1 = Voltage+
  2 = NC
  3 = Voltage-
  4 = NC

- **Female**
  1 = Voltage+
  2 = NC
  3 = Voltage-
  4 = NC

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## TURCK Industrial I/O AS-interface Products

### AS-interface®, miniFast® Passive Multiport Junctions

- Rugged, Fully Encapsulated Enclosure
- For Connecting I/O in Concentrated Areas
- Suitable for Outdoor Applications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>JBBS-25SC-M413</td>
<td>Electrical</td>
<td>4-port Junction</td>
<td>![4-port Junction Diagram]</td>
</tr>
<tr>
<td></td>
<td>• Short-circuit protection: 280 mA (Isc)</td>
<td>Power: Green = On</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Open circuit voltage: 33 VDC</td>
<td>Short-circuit: Red = Shorted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Current consumption: 11 mA</td>
<td>Diagnostic:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LED indicators</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Power: Green = On</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short-circuit: Red = Shorted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JBBS-25SC-M613</td>
<td>Electrical</td>
<td>6-port Junction</td>
<td>![6-port Junction Diagram]</td>
</tr>
<tr>
<td></td>
<td>• Short-circuit protection: 280 mA (Isc)</td>
<td>Power: Green = On</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Open circuit voltage: 33 VDC</td>
<td>Short-circuit: Red = Shorted</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Current consumption: 11 mA</td>
<td>Diagnostic:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LED indicators</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Power: Green = On</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short-circuit: Red = Shorted</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Industrial Automation

Specifications

Housing: Anodized Aluminum  
Coupling Nut: Nickel Plated CuZn or Stainless Steel  
Contact Carrier: TPU (Polyurethane)  
Contacts: Gold Plated CuZn  
Protection: NEMA 1, 3, 4, 6P and IEC IP 67, IP 68, IP 69K  
Rated Voltage: 36 V  
Rated Current: 9 A  
Ambient Temperature: -40° to +75°C (-40° to +167°F)

Dimensions

Pinouts

<table>
<thead>
<tr>
<th>Pinouts</th>
<th>Male</th>
<th></th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BN (Voltage+)</td>
<td>2</td>
<td>N/C</td>
</tr>
<tr>
<td>3</td>
<td>BU (Voltage-)</td>
<td>4</td>
<td>N/C</td>
</tr>
<tr>
<td>1</td>
<td>BN (Voltage+)</td>
<td>2</td>
<td>N/C</td>
</tr>
<tr>
<td>3</td>
<td>BU (Voltage-)</td>
<td>4</td>
<td>N/C</td>
</tr>
</tbody>
</table>
**TURCK Industrial I/O AS-interface® Products**

**AS-interface®, eurofast® Passive Multiport Junctions**

- Rugged, Fully Encapsulated Enclosure
- For Connecting I/O in Concentrated Areas
- Suitable for Outdoor Applications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>JBBS-25-E413</td>
<td>No short-circuit protection</td>
<td>4-port Junction</td>
<td><img src="image1" alt="4-port Junction Diagram" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Bus in/bus out connections (M12x1) eurofast</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Four eurofast connectors for field devices</td>
</tr>
<tr>
<td>JBBS-25-E613</td>
<td>No short-circuit protection</td>
<td>6-port Junction</td>
<td><img src="image2" alt="6-port Junction Diagram" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Bus in/bus out connections (M12x1) eurofast</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Six eurofast connectors for field devices</td>
</tr>
<tr>
<td>JBBS-25-E813</td>
<td>No short-circuit protection</td>
<td>8-port Junction</td>
<td><img src="image3" alt="8-port Junction Diagram" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Bus in/bus out connections (M12x1) eurofast</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Eight eurofast connectors for field devices</td>
</tr>
</tbody>
</table>
### Specifications

**Housing:** Anodized Aluminum  
**Coupling Nut:** Nickel Plated CuZn or Stainless Steel  
**Contact Carrier:** TPU (Polyurethane)  
**Contacts:** Gold Plated CuZn  
**Protection:** NEMA 1, 3, 4, 6P and IEC IP 67, IP 68, IP 69K  
**Rated Voltage:** 36 V  
**Rated Current:** 4 A  
**Ambient Temperature:** -40° to +75°C (-40° to +167°F)

### Dimensions

#### 8-Port  
![8-Port Dimensions](image)

#### 6-Port  
![6-Port Dimensions](image)

#### 4-Port  
![4-Port Dimensions](image)

### Pinouts

#### Male (eurofast)  
- 1 = Voltage+  
- 2 = NC  
- 3 = Voltage-  
- 4 = NC

#### Female  
- 1 = Voltage+  
- 2 = NC  
- 3 = Voltage-  
- 4 = NC
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<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
</table>
| JBBS-25-E623 | No short-circuit protection | 6-port Junction  
  - Bus-in/bus-out connections (M12x1) eurofast  
  - No eurofast connection for field devices | ![Wiring Diagram](Image) |
Industrial Automation

Specifications

Housing: Anodized Aluminum
Coupling Nut: Nickel Plated CuZn or Stainless Steel
Contact Carrier: TPU (Polyurethane)
Contacts: Gold Plated CuZn
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Dimensions

Pinouts

<table>
<thead>
<tr>
<th>eurofast</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Voltage+</td>
<td>1 = Voltage+</td>
<td>4 = N/C</td>
</tr>
<tr>
<td>2 = N/C</td>
<td>2 = N/C</td>
<td>3 = Voltage-</td>
</tr>
<tr>
<td>3 = Voltage-</td>
<td>3 = Voltage-</td>
<td>4 = N/C</td>
</tr>
</tbody>
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**AS-interface®, eurofast® Passive Multiport Junctions**

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<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
</table>
| 2885-255C-E413 | Electrical  
  - Short-circuit protection: 280 mA (Isc)  
  - Open circuit voltage: 33 VDC  
  - Current consumption: 11 mA  
  Diagnostic:  
  - LED indicators  
    - Power: Green = On  
    - Short-circuit: Red = Shunted  
  4-port Junction  
  Bus in/bus out connections  
  (7/8-16UN) minifast  
  Four minifast connectors for field devices |  
| 2885-255C-E613 | Electrical  
  - Short-circuit protection: 280 mA (Isc)  
  - Open circuit voltage: 33 VDC  
  - Current consumption: 11 mA  
  Diagnostic:  
  - LED indicators  
    - Power: Green = On  
    - Short-circuit: Red = Shunted  
  6-port Junction  
  Bus in/bus out connections  
  (7/8-16UN) minifast  
  Six minifast connectors for field devices |  

---

For more information, please visit [www.turck.com](http://www.turck.com)
**Industrial Automation**

**Specifications**

- **Housing:** Anodized Aluminum
- **Coupling Nut:** Nickel Plated CuZn or Stainless Steel
- **Contact Carrier:** TPU (Polyurethane)
- **Contacts:** Gold Plated CuZn
- **Protection:** NEMA 1, 3, 4, 6P and IEC IP 67, IP 68, IP 69K
- **Rated Voltage:** 36 V
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**Dimensions**

**6-Port**

**4-Port**

**Pinouts**

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BN (Voltage+)</td>
<td>BN (Voltage+)</td>
</tr>
<tr>
<td>2</td>
<td>N/C</td>
<td>N/C</td>
</tr>
<tr>
<td>3</td>
<td>BU (Voltage-)</td>
<td>RU (Voltage-)</td>
</tr>
<tr>
<td>4</td>
<td>N/C</td>
<td>N/C</td>
</tr>
</tbody>
</table>
### AS-interface®, minifast® Junction Tees

- Indoor Use Only  
  *(for outdoor applications use JBBS family)*  
- Multi-port Junction Provides a Rugged Connection to Network Devices  
- Bus-in/Bus-out Feature Eliminates Need for Splitter Tee  
- Short-Circuit Protection Available

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
</table>
| JTBS-25-M433 | No short-circuit protection | 4-port Junction Tee  
- (7/8-16UN) minifast® bus-in/bus-out connections  
- Four (7/8-16UN) minifast® device ports  
- For nickel plated brass connectors change part number to JTBS-25SC-M434  
- Short-circuit threshold: 280 mA | ![Wiring Diagram](image1.png) |
| JTBS-25-M633 | No short-circuit protection | 6-port Junction Tee  
- (7/8-16UN) minifast® bus-in/bus-out connections  
- Six (7/8-16UN) minifast® device ports  
- For nickel plated brass connectors change part number to JTBS-25SC-M634  
- Short-circuit threshold: 280 mA | ![Wiring Diagram](image2.png) |
Industrial Automation

Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>4-port</th>
<th>6-port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing:</td>
<td>PUR</td>
<td>PUR</td>
</tr>
<tr>
<td>Coupling Nut:</td>
<td>Nickel Plated CuZn or Stainless Steel</td>
<td>Nickel Plated CuZn or Stainless Steel</td>
</tr>
<tr>
<td>Contact Carrier:</td>
<td>TPU</td>
<td>TPU</td>
</tr>
<tr>
<td>Contacts:</td>
<td>Gold Plated CuZn</td>
<td>Gold Plated CuZn</td>
</tr>
<tr>
<td>Protection:</td>
<td>NEMA 1, 3, 4, 6, 13 and IEC IP 67</td>
<td>NEMA 1, 3, 4, 6, 13 and IEC IP 67</td>
</tr>
<tr>
<td>Rated Voltage:</td>
<td>300 V</td>
<td>300 V</td>
</tr>
<tr>
<td>Rated Current:</td>
<td>9 A</td>
<td>9 A</td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>-30° to +80°C (-22° to +176°F)</td>
<td>-30° to +80°C (-22° to +176°F)</td>
</tr>
</tbody>
</table>

Dimensions


Pinouts
## AS-interface®, minifast® Junction Tees

- **Indoor Use Only** *(for outdoor applications use JBBS family)*
- **Multi-port Junction** Provides a Rugged Connection to Network Devices
- **Bus-in/Bus-out Feature** Eliminates Need for Splitter Tee
- **Short-Circuit Protection Available**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specifications</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>JTBS-25SC-M433</td>
<td>Electrical: Short-circuit protection: 280 mA (Isc)  Open circuit voltage: 33 VDC  Current consumption: 11 mA  Diagnostic: LED indicators  Power: Green = On  Short-circuit: Red = Shunted</td>
<td>4-port Junction Tee  (7/8-16UN) minifast bus in/bus out connections  Four (7/8-16UN) minifast device ports  For nickel-plated brass connectors change part number to JTBS 25SC-M434  Short-circuit threshold: 280 mA</td>
<td><img src="image" alt="Wiring Diagram" /></td>
</tr>
<tr>
<td>JTBS-25SC-M633</td>
<td>Electrical: Short-circuit protection: 280 mA (Isc)  Open circuit voltage: 33 VDC  Current consumption: 11 mA  Diagnostic: LED indicators  Power: Green = On  Short-circuit: Red = Shunted</td>
<td>6-port Junction Tee  (7/8-16UN) minifast bus in/bus out connections  Six (7/8-16UN) minifast device ports  For nickel-plated brass connectors change part number to JTBS 25SC-M634  Short-circuit threshold: 280 mA</td>
<td><img src="image" alt="Wiring Diagram" /></td>
</tr>
</tbody>
</table>
**Industrial Automation**

### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing:</td>
<td>PUR (Polyurethane)</td>
</tr>
<tr>
<td>Coupling Nut:</td>
<td>Nickel Plated CuZn or Stainless Steel</td>
</tr>
<tr>
<td>Contact Carrier:</td>
<td>TPU (Polyurethane)</td>
</tr>
<tr>
<td>Contacts:</td>
<td>Gold Plated CuZn</td>
</tr>
<tr>
<td>Protection:</td>
<td>NEMA 3, 4, 6, 13 and IEC IP 67</td>
</tr>
<tr>
<td>Rated Voltage:</td>
<td>300 V</td>
</tr>
<tr>
<td>Rated Current:</td>
<td>9 A</td>
</tr>
<tr>
<td>Ambient Temperature:</td>
<td>-30° to +80°C (-22° to +176°F)</td>
</tr>
</tbody>
</table>

### Dimensions

#### 4-port

- Housing: 1.776 (44.5) mm
- Contact Carrier: 2.236 (56.5) mm

#### 6-port

- Housing: 4.577 (116.5) mm
- Contact Carrier: 2.236 (56.5) mm

### Pinouts

**maxifast**

<table>
<thead>
<tr>
<th>Port</th>
<th>Pin 1</th>
<th>Pin 2</th>
<th>Pin 3</th>
<th>Pin 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Voltage+</td>
<td>N/C</td>
<td>Voltage-</td>
<td>N/C</td>
</tr>
<tr>
<td>Male</td>
<td>Voltage+</td>
<td>Voltage-</td>
<td>N/C</td>
<td>N/C</td>
</tr>
<tr>
<td>Female</td>
<td>Voltage+</td>
<td>N/C</td>
<td>Voltage-</td>
<td>N/C</td>
</tr>
<tr>
<td>Female</td>
<td>Voltage+</td>
<td>Voltage-</td>
<td>N/C</td>
<td>N/C</td>
</tr>
</tbody>
</table>
TURCK Industrial I/O AS-interface® Products

AS-interface® eurofast® Junction Tees

- Indoor Use Only
  (for outdoor applications use JBBS family)
- Multi-port Junction Provides a Rugged Connection to Network Devices
- Bus-in/Bus-out Feature Eliminates Need for Splitter Tee
- Short-Circuit Protection Available

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
</table>
| JTBS-25-E433 | No short-circuit protection | 4-port Junction Tee  
- (M12x1) eurofast bus in/bus out connections  
- Four (M12x1) eurofast device ports  
- For nickel plated brass connectors, change part number to JTBS 25SC-E434  
- Short-circuit threshold: 280 mA | ![4-port Junction Tee Wiring Diagram] |
| JTBS-25-E633 | No short-circuit protection | 6-port Junction Tee  
- (M12x1) eurofast bus in/bus out connections  
- Six (M12x1) eurofast device ports  
- For nickel plated brass connectors, change part number to JTBS 25SC-E634  
- Short-circuit threshold: 280 mA | ![6-port Junction Tee Wiring Diagram] |
Specifications

Housing: PUR (Polyurethane)
Coupling Nut: Nickel Plated CuZn or Stainless Steel
Contact Carrier: POM (Nylon)
Contacts: Gold Plated CuZn
Protection: NEMA 3, 3, 4, 6P and IEC IP 68
Rated Voltage: 250 V
Rated Current: 4 A
Ambient Temperature: -40° to +75°C (-40° to +167°F)

Dimensions

<table>
<thead>
<tr>
<th></th>
<th>4-port</th>
<th>6-port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>PUR</td>
<td>PUR</td>
</tr>
<tr>
<td>Coupling Nut</td>
<td>CuZn/Nickel</td>
<td>CuZn/Nickel</td>
</tr>
<tr>
<td>Contact Carrier</td>
<td>POM</td>
<td>POM</td>
</tr>
<tr>
<td>Contacts</td>
<td>Gold Plated</td>
<td>Gold Plated</td>
</tr>
<tr>
<td>Protection</td>
<td>NEMA 3</td>
<td>NEMA 3</td>
</tr>
<tr>
<td>Rated Voltage</td>
<td>250 V</td>
<td>250 V</td>
</tr>
<tr>
<td>Rated Current</td>
<td>4 A</td>
<td>4 A</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>-40° to +75°C</td>
<td>-40° to +75°C</td>
</tr>
</tbody>
</table>

Pinouts

<table>
<thead>
<tr>
<th>eurofast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
</tr>
<tr>
<td>1 = Voltage+</td>
</tr>
<tr>
<td>2 = NC</td>
</tr>
<tr>
<td>3 = Voltage+</td>
</tr>
<tr>
<td>4 = NC</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>1 = Voltage+</td>
</tr>
<tr>
<td>2 = NC</td>
</tr>
<tr>
<td>3 = Voltage-</td>
</tr>
<tr>
<td>4 = NC</td>
</tr>
</tbody>
</table>
### AS-interface® eurofast® Junction Tees

- **Indoor Use Only**  
  (for outdoor applications use JBBS family)
- **Multi-port Junction** Provides a Rugged Connection to Network Devices
- **Bus-in/Bus-out Feature**Eliminates Need for Splitter Tee
- **Short-Circuit Protection** Available

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Spes</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
</table>
| JTBS-25SC-E433 | Electrical  
  - Short-circuit protection: 280 mA (Isc)  
  - Open circuit voltage: 33 VDC  
  - Current consumption: 11 mA  
  Diagnostic:  
  - LED Indicators:  
    - Power: Green = On  
    - Short-circuit: Red = Shorted  
  | 4-port Junction Tee  
  - (M12x1) eurofast bus in/bus-out connections  
  - Four (M12x1) eurofast device ports  
  - For nickel plated brass connectors: change part number to JTBS-25SC-E434  
  Short-circuit threshold: 280 mA  |
| JTBS-25SC-E633 | Electrical  
  - Short-circuit protection: 280 mA (Isc)  
  - Open circuit voltage: 33 VDC  
  - Current consumption: 11 mA  
  Diagnostic:  
  - LED Indicators:  
    - Power: Green = On  
    - Short-circuit: Red = Shorted  
  | 6-port Junction Tee  
  - (M12x1) eurofast bus in/bus-out connections  
  - Six (M12x1) eurofast device ports  
  - For nickel plated brass connectors: change part number to JTBS-25SC-E634  
  Short-circuit threshold: 280 mA  |

---

N27  
TURCK Inc.  
3000 Campus Drive  
Minneapolis, MN 55441  
Application Support: 1-800-544-7769  
Fax: (763) 553-0708  
www.turck.com  

Courtesy of Steven Engineering, Inc.  
230 Ryan Way, South San Francisco, CA 94080-0370  
Main Office: (650) 588-9200  
Outside Local Area: (800) 258-9200  
www.stevenengineering.com
Industrial Automation

Specifications

Housing: PUR (Polyurethane)
Coupling Nut: Nickel Plated CuZn or Stainless Steel
Contact Carrier: POM (Nylon)
Contacts: Gold Plated CuZn
Protection: NEMA 3, 3, 4, 6P and IEC IP 68
Rated Voltage: 250 V
Rated Current: 4 A
Ambient Temperature: -40° to +75°C (-40° to +167°F)

Dimensions

4-port

6-port

Pinouts
**TURCK Industrial I/O AS-interface® Products**

**AS-interface®, mini®fast ® Conduit Adapters**

- Gasket and Mounting Screws Provided
- Same Housing Style for Single or Double Port

### Table: Housing Specifications

<table>
<thead>
<tr>
<th>Housing Part Number</th>
<th>Specifications</th>
<th>Application Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 25-M123</td>
<td>Nylon Housing 100 V, 9 A, -40° to +75°C</td>
<td>Attaches to standard conduit body* for transition to 4-wire (7/8-14UN) mini®fast connector</td>
</tr>
<tr>
<td>BCA 25-M223</td>
<td>Nylon Housing 100 V, 9 A, -40° to +75°C</td>
<td>*Crouse Hinds 3/4” Form B, Mark 9 or equivalent</td>
</tr>
</tbody>
</table>

---

**1-port Wiring Diagram**

![1-port Wiring Diagram](image)

**2-port Wiring Diagram**

![2-port Wiring Diagram](image)

---

_Note: Courtesy of Steven Engineering, Inc._

---

_Note: Courtesy of Steven Engineering, Inc._
## AS-interface®, eurofast® Conduit Adapters

- Gasket and Mounting Screws Provided
- Same Housing Style for Single or Double Port

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BCA 25-E123</td>
<td>Nylon Housing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>250 V, 4 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-40°C to +75°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BCA 25SC-E123</td>
<td>Electrical</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Short-circuit protection: 280 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Open circuit voltage: 15 VDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Current consumption: 11 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* LED indicators</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Power: Green = On</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short-circuit: Red = Shorted</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attaches to standard conduit body* for transition to 4-wire (M12x1) eurofast connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BCA 25-E223</td>
<td>Nylon Housing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>250 V, 4 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>-40°C to +75°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BCA 25SC-E223</td>
<td>Electrical</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Short-circuit protection: 280 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Open circuit voltage: 15 VDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* Current consumption: 11 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>* LED indicators</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Power: Green = On</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short-circuit: Red = Shorted</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Crouse Hinds 3/4" Form 8, Mark 9 or equivalent

---

**1-port Wiring Diagram**

**2-port Wiring Diagram**

---

Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-
Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com
TURCK
Industrial I/O AS-interface® Products

AS-interface®, Tees

- Creates a Drop or Branch from the Main Bus Line
- Available in minifast® or eurofast® Bus or Drop Lines

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RSV 2RKV 25</td>
<td></td>
<td>minifast Tee</td>
<td>minifast drop connector</td>
</tr>
<tr>
<td></td>
<td>RSV FKV RKV 25</td>
<td>TPU (Polyurethane) Stainless Steel 250 V, 4 A (eurofast), 9 A (minifast) -40° to +75°C</td>
<td>minifast Tee</td>
<td>eurofast drop connector</td>
</tr>
<tr>
<td></td>
<td>RSCV 2RKCV 25</td>
<td>eurofast Tee</td>
<td>eurofast female drop connector</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RKC 2RSC 25</td>
<td>eurofast Tee</td>
<td>eurofast male drop connector *Nickel Plated Brass</td>
<td></td>
</tr>
</tbody>
</table>

### minifast Pinouts

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Brown (+ Voltage)</td>
<td>1. Brown (+ Voltage)</td>
</tr>
<tr>
<td>2. N/C</td>
<td>2. N/C</td>
</tr>
<tr>
<td>3. Blue (- Voltage)</td>
<td>3. Blue (- Voltage)</td>
</tr>
<tr>
<td>4. N/C</td>
<td>4. N/C</td>
</tr>
</tbody>
</table>

### eurofast Pinouts

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Brown (+ Voltage)</td>
<td>1. Brown (+ Voltage)</td>
</tr>
<tr>
<td>2. N/C</td>
<td>2. N/C</td>
</tr>
<tr>
<td>3. Blue (- Voltage)</td>
<td>3. Blue (- Voltage)</td>
</tr>
<tr>
<td>4. N/C</td>
<td>4. N/C</td>
</tr>
</tbody>
</table>
Industrial Automation

AS-interface®, Gender Changers and Elbow Connectors

- Allows Quick and Easy Change from Male to Female minifast® Connectors

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Wiring Diagrams</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSM RSM 25</td>
<td>TPU (Polyurethane)</td>
<td>250 V, 4 A</td>
<td>minifast Male Gender Changer</td>
<td></td>
</tr>
<tr>
<td>RSM RSM 25</td>
<td></td>
<td>-40° to +75°C</td>
<td>Female connec to male receptacle</td>
<td></td>
</tr>
<tr>
<td>WSM WSM 25</td>
<td></td>
<td></td>
<td>minifast Female Gender Changer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Male connec to female receptacle</td>
<td></td>
</tr>
</tbody>
</table>

- minifast Elbow
  - Right angle male to female connector

minifast Pinouts

<table>
<thead>
<tr>
<th>minifast</th>
<th>Pinouts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1. Brown (+ Voltage)</td>
</tr>
<tr>
<td></td>
<td>3. Black (- Voltage)</td>
</tr>
<tr>
<td>Female</td>
<td>1.</td>
</tr>
</tbody>
</table>
TURCK
Industrial I/O AS-interface® Products

AS-interface®, Field Wireable Tees

- A Hybrid Connection System Offering Reliable Connections on the Short Drops and Ease of Installation on the Long Trunk Runs
- Features Standard minifast® Connector for the Drop Connection and Terminal Connectors on the Trunk Connections

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>See Drawing 1</td>
<td>SPTT1-A25</td>
<td>Anodized Aluminum 300 V, 9 A, -40° to +75°C NEMA 1, 3, 4, 6P and IEC IP 68</td>
<td>Field wireable terminals and (7/8-16UN) minifast connector on drop connection</td>
<td>Female</td>
</tr>
<tr>
<td>See Drawing 2</td>
<td>SPTTM23-A25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1

2

N23 TURCK Inc. 3000 Campus Drive Minneapolis, MN 55441 Application Support: 1-800-544-7769 Fax: (763) 553-0708 www.turck.com

Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com
## AS-interface®, eurofast® Flat Cable Adapter

- Allows the mixing of Standard AS-I Flat Cable with eurofast® Round Cable in Same System
- May be Needed when Going from a Dry to a Wet Environment or an Area Where Better Sealing and Rugged Connectors are Required

### Housing Specifications

<table>
<thead>
<tr>
<th>Part Number / Weight/300 M</th>
<th>ASI-PM-1 BW1238</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWG / Color Code</td>
<td>TPE / Yellow</td>
</tr>
<tr>
<td>DCR (1000 feet)</td>
<td>6.5 Ohms</td>
</tr>
<tr>
<td>Insulation</td>
<td>TPE-S</td>
</tr>
<tr>
<td>Female Housing</td>
<td>TPU (Polyurethane)</td>
</tr>
<tr>
<td>Max Length</td>
<td>251 m</td>
</tr>
<tr>
<td>Temp Rating</td>
<td>-40°C to +75°C</td>
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<tr>
<td>Nominal O.D.</td>
<td>Flat</td>
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<th>Part Number / Weight/300 M</th>
<th>ASI-PM-1 BW1239</th>
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<tbody>
<tr>
<td>AWG / Color Code</td>
<td>TPE / Black</td>
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<tr>
<td>DCR (1000 feet)</td>
<td>6.5 Ohms</td>
</tr>
<tr>
<td>Insulation</td>
<td>TPE-S</td>
</tr>
<tr>
<td>Female Housing</td>
<td>TPU (Polyurethane)</td>
</tr>
<tr>
<td>Max Length</td>
<td>253 m</td>
</tr>
<tr>
<td>Temp Rating</td>
<td>-40°C to +75°C</td>
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<tr>
<td>Nominal O.D.</td>
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<tbody>
<tr>
<td>AWG / Color Code</td>
<td>PVC / Black</td>
</tr>
<tr>
<td>DCR (1000 feet)</td>
<td>4.1 Ohms</td>
</tr>
<tr>
<td>Insulation</td>
<td>PVC</td>
</tr>
<tr>
<td>Female Housing</td>
<td>PVC Light Grey</td>
</tr>
<tr>
<td>Max Length</td>
<td>254 m</td>
</tr>
<tr>
<td>Temp Rating</td>
<td>-40°C to +75°C</td>
</tr>
<tr>
<td>Nominal O.D.</td>
<td>Flat</td>
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<thead>
<tr>
<th>Part Number / Weight/300 M</th>
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</thead>
<tbody>
<tr>
<td>AWG / Color Code</td>
<td>PVC / Yellow</td>
</tr>
<tr>
<td>DCR (1000 feet)</td>
<td>4.1 Ohms</td>
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<tr>
<td>Insulation</td>
<td>PVC</td>
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<tr>
<td>Female Housing</td>
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<tr>
<td>Max Length</td>
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<tr>
<td>Temp Rating</td>
<td>-40°C to +75°C</td>
</tr>
<tr>
<td>Nominal O.D.</td>
<td>Flat</td>
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</tbody>
</table>

* Indicates length in meters.
Standard cable lengths are 1, 2, 4, 5, 6, 8, 10, 15, and in +5 meter increments from there. Consult factory for other lengths.

---

**Note:**
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TURCK
Industrial I/O AS-interface® Products

AS-interface®, minifast® Male Receptacles

- Provides Quick Connection to Field Devices or Enclosures
- Available for 1/2-14NPT, 1/2-14NPSM, 3/4-14NPT and M20 Threads
- (7/8-16UN) minifast Connection

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinouts</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>RSF 25-*M/14.5</td>
<td>1/2-14NPT full length threads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>RSF 25-*M/14.75</td>
<td>3/4-14NPT full length threads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>RSF 25-*M/M20</td>
<td>Nickel Plated CuZn or Stainless Steel, 300 V, 9 A, -40° to +105°C, M20x1.5 threads</td>
<td></td>
<td></td>
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<tr>
<td>16</td>
<td>RSF 25-*M</td>
<td>1/2-14NPSM-thread</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>RSF 25-*M/NPT</td>
<td>1/2-14NPT modified length thread</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See page N39 for dimensional drawings.

Standard cable length is 0.3 meters. Consult factory for other lengths.
Receptacles require a 13/16" (21 mm) clearance hole for panel mounting.
Standard housing material is nickel plated brass. “RKF ..” indicates 316 stainless steel housing.
For locknuts to be included, add “W/LN” to the end of the part number.
AS-interface®, minifast® Female Receptacles

- Provides Quick Connection to Field Devices or Enclosures
- Available for 1/2-14NPT, 1/2-14NPSM, 3/4-14NPT and M20 Threads
- (7/8-16UN) minifast® Connection

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>RKF 25-*M/14.5</td>
<td>300 V, 9 A -40° to +105°C</td>
<td>1/2-14NPT full length threads</td>
<td>1. BN  2. N/C  3. BU  4. N/C</td>
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<tr>
<td>19</td>
<td>RKF 25-*M/14.75</td>
<td>Nickel Plated CuZn or Stainless Steel</td>
<td>M20x1.5 threads</td>
<td>1. BN  2. N/C  3. BU  4. NVC</td>
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<tr>
<td>20</td>
<td>RKF 25-*M/14.75</td>
<td>Nickel Plated CuZn or Stainless Steel</td>
<td>M20x1.5 threads</td>
<td>1. BN  2. N/C  3. BU  4. NVC</td>
</tr>
<tr>
<td>21</td>
<td>RKF 25-*M/M20</td>
<td>300 V, 9 A -40° to +105°C</td>
<td>M20x1.5 threads</td>
<td>1. BN  2. N/C  3. BU  4. NVC</td>
</tr>
<tr>
<td>22</td>
<td>RKF 25-*M/14.75</td>
<td>Nickel Plated CuZn or Stainless Steel</td>
<td>M20x1.5 threads</td>
<td>1. BN  2. N/C  3. BU  4. NVC</td>
</tr>
</tbody>
</table>

See page N40 for dimensional drawings.

Standard cable length is 0.3 meters. Consult factory for other lengths.
Receptacles require a 1 1/16" (21 mm) clearance hole for panel mounting.
Standard housing material is nickel plated brass. “RF...” and “RFV...” indicates 316 stainless steel housing.
For locknuts to be included, add ‘WLN’ to the end of the part number.
TURCK Industrial I/O AS-interface® Products

**AS-interface®, eurofast® Male Receptacles**

- Mounted for Quick Connection to Enclosures
- (M12x1) eurofast Connectors

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinout</th>
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<tbody>
<tr>
<td>33</td>
<td>FS 25-*M/14.5</td>
<td>1/2-14NPT full length threads</td>
<td></td>
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<tr>
<td>35</td>
<td>FS 25-*M/14.75</td>
<td>3/4-14NPT full length threads</td>
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<td>34</td>
<td>FS 25-*M/M20</td>
<td>M20x1.5 threads</td>
<td>1. BN 2. NEC 3. RJ 4. N/C</td>
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<tr>
<td>36</td>
<td>FS 25-*M</td>
<td>PG 9 threads</td>
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<tr>
<td>37</td>
<td>FS 25-*M/NPT</td>
<td>1/2-14NPT modified length threads</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See page N41 for dimensional drawings.

- Standard cable length is 0.3 meters. Consult factory for other lengths.
- Receptacles require a 13/16" (21 mm) clearance hole for panel mounting.
- Standard housing material is nickel plated brass. "RKF .."; "RKFV .." indicates 316 stainless steel housing.
### AS-interface®, eurofast® Female Receptacles

- Mounted for Quick Connection to Enclosures
- (M12x1) eurofast Connectors

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinouts</th>
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<tbody>
<tr>
<td>28</td>
<td>FK 25-*M/14.5</td>
<td>M20x1.5 threads</td>
<td>1/2-14NPT full length threads</td>
<td>1. BN 2. N/C 3. BU 4. N/C</td>
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<tr>
<td>30</td>
<td>FK 25-*M/14.75</td>
<td>M20x1.5 threads</td>
<td>3/4-14NPT full length threads</td>
<td>1. BN 2. N/C 3. BU 4. N/C</td>
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<td>FK 25-*M/N20</td>
<td>Nickel Plated CuZn or Stainless Steel 250 V, 4 A -40° to +105°C</td>
<td>M20x1.5 threads</td>
<td>1. BN 2. N/C 3. BU 4. N/C</td>
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See page N42 for dimensional drawings.

Standard cable length is 0.3 meters. Consult factory for other lengths.

Receptacles require a 1 1/16" (21 mm) clearance hole for panel mounting.

Standard housing material is nickel plated brass. “RFV ..” indicates 316 stainless steel housing.
TURCK
Industrial I/O AS-interface® Products

minifast® Male Receptacles

RSF .. NPT  Page N35

RSF .. M20  Page N35

RSF ..  Page N35

RSF .. 14.5  Page N35

RSF .. 14.75  Page N35

RSF .. 14.5  Page N35

RSF .. 14.75  Page N35

RSF .. 14.5  Page N35

RSF .. 14.75  Page N35

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Industrial Automation

**minilast® Female Receptacles**

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<tr>
<td>RKF .. 14.5</td>
<td>RKF .. 14.75</td>
</tr>
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<td>Page N36</td>
<td>Page N36</td>
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</table>

<table>
<thead>
<tr>
<th>19</th>
<th>21</th>
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<tbody>
<tr>
<td>RKF .. M20</td>
<td>RKF ..</td>
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<td>Page N36</td>
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<table>
<thead>
<tr>
<th>22</th>
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<tbody>
<tr>
<td>RKF .. NPT</td>
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</table>
TURCK
Industrial I/O AS-interface® Products

eurofast® Male Receptacles

23  24  25  26

FS .. NPT  Page N37  FS .. 14.5  Page N37

FS .. M20  Page N37  FS .. 14.75  Page N37

FS .. M20  Page N37  FS .. NPT  Page N37

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FS .. NPT  Page N37

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**Industrial Automation**

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**Eurofast® Female Receptacles**

---

<table>
<thead>
<tr>
<th>Page</th>
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<tbody>
<tr>
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<tr>
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<td>M20x1.5</td>
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<td>O-RING</td>
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<tr>
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<td>FK .. 14.5</td>
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<td>30</td>
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<td>3/4-14 NPT</td>
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<td>M20x1.0</td>
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<td>O-RING</td>
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<td>FK .. 14.75</td>
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<td>PG 9</td>
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<td>FK ..</td>
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<td>Page 32</td>
</tr>
<tr>
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<td>M12x1</td>
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<td>O-RING</td>
</tr>
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<td>FK .. NPT</td>
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Courtesy of Steven Engineering, Inc.-230 Ryan Way, South San Francisco, CA 94080-6370-Main Office: (650) 588-9200-Outside Local Area: (800) 258-9200-www.stevenengineering.com
**AS-interface®, minifast® Field Wireable Connectors**

* Screw Terminals Accept up to 16 AWG Conductors

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>BS 4149-0/9</td>
<td>Glass filled nylon, PG 9 cable gland, accepts 6-8 mm cable diameter</td>
<td>85°C, 250 V, 9 A</td>
<td>Mates with all 4-pin minifast® cordsets and receptacles</td>
<td>Male</td>
</tr>
<tr>
<td>BS 4149-0/13.5</td>
<td>Glass filled nylon, PG 13.5 cable gland, accepts 10-12 mm cable diameter</td>
<td>85°C, 250 V, 9 A</td>
<td></td>
<td>Female</td>
</tr>
<tr>
<td>B 4149-0/9</td>
<td>Glass filled nylon, PG 9 cable gland, accepts 6-8 mm cable diameter</td>
<td>85°C, 250 V, 9 A</td>
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<td></td>
</tr>
<tr>
<td>B 4149-0/13.5</td>
<td>Glass filled nylon, PG 13.5 cable gland, accepts 10-12 mm cable diameter</td>
<td>85°C, 250 V, 9 A</td>
<td></td>
<td></td>
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</tbody>
</table>
AS-interface®, eurofast® Field Wireable Connectors

- Screw Terminals Accept up to 18 AWG Conductors

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinouts</th>
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<tbody>
<tr>
<td></td>
<td>BS 8141-0/PG9</td>
<td>PBT, Black PG 7 cable gland accepts 6-8 mm cable diameter 85°C 125 V, 4 A</td>
<td>Male</td>
<td>Mates with 4-pin eurofast cordsets and receptacles</td>
</tr>
<tr>
<td></td>
<td>BS 8241-0/PG9</td>
<td>PBT, Black PG 7 cable gland accepts 6-8 mm cable diameter 85°C 125 V, 4 A</td>
<td>Female</td>
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</tr>
<tr>
<td></td>
<td>BS 8141-0/PG9</td>
<td>PBT, Black PG 7 cable gland accepts 6-8 mm cable diameter 85°C 350 V, 4 A</td>
<td>Male</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BS 8241-0/PG9</td>
<td>PBT, Black PG 7 cable gland accepts 6-8 mm cable diameter 85°C 350 V, 4 A</td>
<td>Female</td>
<td></td>
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</tbody>
</table>
# AS-interface®, Gender Changer

- Allows Quick and Easy Change from Male to Female and (7/8-16UN) minilast® to (M12x1) eurofast® Connectors

<table>
<thead>
<tr>
<th>Housing</th>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Wiring Diagram</th>
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<tbody>
<tr>
<td>RSM 25-FK 4.5</td>
<td>Nickel Plated CuZn or Stainless Steel</td>
<td>250 V, 4 A</td>
<td>-40°C to +75°C</td>
<td>Male minilast eurofast, female eurofast, male minilast, female</td>
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## Pinouts

<table>
<thead>
<tr>
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<th>eurofast</th>
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<tbody>
<tr>
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<td>Female</td>
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<tr>
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</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

## Courtesy

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