System Description

Ethernet is the most popular protocol used to connect office computers and peripherals today. It is increasingly finding its way into other applications, and is rapidly becoming the network of choice for higher level industrial control applications. Ethernet is primarily used to connect PLCs, computers, HMI displays and other high level components.

The term “Ethernet” actually refers to the lower level communication structure. Various different versions, or implementations, of Ethernet are available, such as Ethernet/IP™ and Modbus-TCP. It is important to note that while all of these different specifications use the same physical communication method and can operate on the same cable simultaneously, they cannot necessarily communicate with each other. For example, Modbus-TCP devices cannot communicate with Ethernet/IP devices. This is because the messages and communication protocol have been defined differently for these systems, even though the physical electrical structure is the same. Think of it as two people who speak different languages; they speak by moving air with their mouths, but the rules of the languages are different.

TURCK’s BL67 Ethernet gateways provide a convenient way to connect industrial I/O devices directly to the Ethernet system, expediting monitoring and troubleshooting for the overall control scheme.

Typical System Configuration

Basic Parts List

A typical Ethernet system consists of the following parts:

- A - Controller
- B - Switches
- C - Ethernet I/O modules
- D - Ethernet cable
- E - Power supply

Ethernet I/O modules act as clients on a network. A server device is needed to retrieve data from and post data to the client. This is analogous to an office network, where the client PC on a user’s desk may actively connect with multiple servers to access information in different areas of the enterprise. TURCK Ethernet stations are designed to be fully compatible with established Ethernet standards for industrial use.
Cordsets

TURCK offers a complete line of molded Ethernet cordsets to facilitate network installation, resulting in a faster start-up and fewer wiring errors. Cables are available with stranded or solid-core conductors, with or without shielding.

Most TURCK Ethernet equipment uses the 4 or 8-pin (M12) eurofast® connector specifications. These connectors provide a tough, rugged seal, and are IP 67 rated. In some cases (mainly in the control cabinet) a traditional RJ45 Ethernet connector needs to be used. TURCK provides RJ45 cordsets, as well as a variety of devices made to convert between RJ45 and eurofast® connectors.

TURCK cordsets for the Ethernet system are available in standard lengths. Please contact your local sales representative to order custom lengths.

Addressing

Industrial Ethernet stations use the IP addressing scheme. An address defined by this scheme consists of four byte values usually displayed in decimal form, for example, 192.168.1.254. Different classifications of networks require different portions of this address to be constant for all devices on the network (referred to as a “subnet”). This means that the number of stations allowed on a particular network varies depending on what class of subnet is being used. If the first three bytes of the IP address are constant (which is common), then the remaining byte may be addressed between 2 and 254, resulting in 253 possible addresses.

Maximum Ratings

Ethernet allows different maximum cable lengths depending on the type of cable being used. Normally an Ethernet segment may be as long as 100 m, where 90 m must be solid core cable and the remaining 10 m can be stranded patch cords.
**Ethernet™ Selection Guide**

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<thead>
<tr>
<th>Item</th>
<th>Style</th>
<th>Type</th>
<th>Pages</th>
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<td>Ethernet Media Selection Guide</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>J2</td>
</tr>
</tbody>
</table>
TURCK
Industrial Communication

BL67
Ethernet

Modbus TCP/IP Ethernet Gateways

- Modular I/O
- Fieldbus Independent Configuration

- Various I/O Styles
- IP 67 Protection

Gateway:
BL67-GW-EN

Programmable Gateway:
BL67-PG-EN

Electrical
- Operating Current: <600 mA from $V_{in}$
- Input Supply Current: <4 A from $V_{i}$
- Output Supply Current: <8 A from $V_{o}$
- Backplane Current: <1.5 A from $V_{mb}$

Mechanical
- Operating Temperature: -12 to +55°C (-13 to +131°F)
- Protection: IP 67
- Vibration: 5 g @ 10-500 Hz

Material
- Housing: PC-V0 (Lexan)

Diagnostics (Logical)
- Diagnostic information available through the system I/O map

Diagnostics (Physical)
- LEDs to indicate status of Network and Module Bus communication

Ethernet Pinout

Female

1 = TD+
2 = RD+
3 = TD-
4 = RD-

5-pin minilast® Power Pinout

1 = Gnd
2 = Gnd
3 = PE
4 = VI
5 = VO

HS
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Industrial Automation

Ethernet IP
Ethernet Gateways

- Modular I/O
- Fieldbus Independent Configuration
- IP 67 Protection
- Various I/O Styles

**Gateway:**
BL67-GW-EN-IP
Programmable Gateway
BL67-PG-EN-IP

---

**Electrical**
- Operating Current: <600 mA from V_{MB}
- Input Supply Current: <4 A from V_{I}
- Output Supply Current: <8 A from V_{O}
- Backplane Current: <1.5 A from V_{MB}

**Mechanical**
- Operating Temperature: -12 to +55°C (-13 to +131°F)
- Protection: IP 67
- Vibration: 5 g @ 10-500 Hz

**Material**
- Housing: PC-V0 (Lexan)

**Diagnostics (Logical)**
- Diagnostic information available through the system I/O map

**Diagnostics (Physical)**
- LEDs to indicate status of Network and Module Bus communication

---

**Ethernet Pinout**

**Female**

1 = TD+
2 = RD+
3 = TD-
4 = RD-

**Male**

1 = Grid
2 = Grid
3 = PE
4 = V_{I}
5 = V_{O}

---

**5-pin minifast® Power Pinout**

1 = Gnd
2 = Gnd
3 = PE
4 = V_{I}
5 = VO

---

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TURCK
Industrial Communication

Profinet Ethernet Gateways

- Modular I/O
- Fieldbus Independent Configuration
- IP 67 Protection
- Various I/O Styles

Electrical
- Operating Current: ≤600 mA from \( V_{mb} \)
- Input Supply Current: ≤4 A (from \( V_I \))
- Output Supply Current: ≤8 A (from \( V_O \))
- Backplane Current: ≤1.5 A (from \( V_{mb} \))

Mechanical
- Operating Temperature: -12 to +55°C (-13 to +131°F)
- Protection: IP 67
- Vibration: 5 g @ 10-500 Hz

Material
- Housing: PC-V0 (Lexan)

Diagnostics (Logical)
- Diagnostic information available through the system I/O map

Diagnostics (Physical)
- LEDs to indicate status of Network and Module Bus communication

Ethernet Pinout

<table>
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<th>Female</th>
<th>4-Pin</th>
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<tbody>
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<td>1 = TD+</td>
<td>1 = TD+</td>
</tr>
<tr>
<td>2 = RD+</td>
<td>2 = RD+</td>
</tr>
<tr>
<td>3 = TD-</td>
<td>3 = TD-</td>
</tr>
<tr>
<td>4 = RD-</td>
<td>4 = RD-</td>
</tr>
</tbody>
</table>

5-pin mini last® Power Pinout

<table>
<thead>
<tr>
<th>Male</th>
<th>5-Pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = Gnd</td>
<td>1 = Gnd</td>
</tr>
<tr>
<td>2 = Gnd</td>
<td>2 = Gnd</td>
</tr>
<tr>
<td>3 = PE</td>
<td>3 = PE</td>
</tr>
<tr>
<td>4 = VI</td>
<td>4 = VI</td>
</tr>
<tr>
<td>5 = VO</td>
<td>5 = VO</td>
</tr>
</tbody>
</table>
Industrial Automation

Ethernet BL67 Stations

TURCK’s BL67 is a modular, user configurable network I/O system designed to allow installation of nodes containing different types and sizes of I/O depending on the users needs for a particular area. Featuring IP 67 protection and metal threaded connection, the BL67 can often be mounted directly on a machine without the need to plan or purchase a separate enclosure for the I/O. This saves planning and installation time, as well as the cost of the enclosure itself.

The BL67 system supports several different network protocols, including Ethernet/IP™ and Modbus-TCP. A BL67 station consists of a gateway module that interfaces to the Ethernet system, and several I/O modules that interface with the physical I/O in the field. Different connector options are available to allow a greater level of customization to the user.

For more details on the BL67 system please see section G of this catalog.
Ethernet to AS-interface® Gateways

AS-I systems can be easily connected to a higher-level network, such as EtherNet/IP™ and Modbus-TCP, through a gateway master. The gateway acts as a master to the AS-I system(s) and a slave to the Ethernet system, mapping all of the AS-I data for Ethernet in a single block.

For AS-I specifications and rating details, see section E of this catalog.
Industrial Automation

Addressing
Ethernet stations must have an IP address for communication. The address for AS-i/Ethernet gateways may be set via the on-unit display and push buttons. Please consult the manual for a particular gateway for instruction on the procedure.

Diagnostics

Power
Most AS-i/Ethernet gateways draw power from the AS-I power supply. The option to use a separate, non-AS-I power supply is also available. Consult the gateway documentation to ensure the gateway being selected meets the requirements of your system.
Industrial Communication

Modbus TCP 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 V_{AS-I} (Power Supply A)
  - 200 mA from V_{AS-I}, 70 mA from V_{AS-I2} (Power Supply A2)
  - 250 mA from V_{AS-I} (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-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

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 = BIN

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### Industrial Automation

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<thead>
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<th>Part Number</th>
<th>Input/Output Connectors</th>
<th>Style</th>
<th>ASI Version</th>
<th># of Masters</th>
<th>Outputs</th>
<th>Programming Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASI-ENG-SS BW1650</td>
<td>A</td>
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<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>ASI-ENG-SS BW1652</td>
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<td>3.0</td>
<td>2</td>
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<td>X</td>
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<tr>
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<tr>
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<tr>
<td>ASI-ENG-SS-C1D2 BW1661*</td>
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<td>2</td>
<td></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
Industrial Communication

**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 VAS-I (Power Supply A)
  - 200 mA from VAS-I, 70 mA from VAS-I
  - 250 mA from VAES (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

---

**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

---

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### Industrial Automation

#### Ethernet

<table>
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<th>Module Format</th>
<th>Power Style</th>
<th>AS-I Version</th>
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<th>Diagnostic Adress</th>
<th>Programming Interface</th>
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<td>X</td>
<td>X</td>
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<td>A2</td>
<td>3.0</td>
<td>2</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ASI-EIPG-SS BW1833</td>
<td>Ethernet/IP</td>
<td>E</td>
<td>3.0</td>
<td>2</td>
<td>X</td>
<td>X</td>
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<tr>
<td>ASI-EIPG-SS-EIO2 BW1834*</td>
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<td>A</td>
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<td>Ethernet/IP</td>
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<td>3.0</td>
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<td>ASI-EIPG-SS-EIO2 BW1836*</td>
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<td>2</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
## TURCK

**Industrial Communication**

**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 V_{AS-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

---

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### Part Number

| ASI-PNG-SS BW2032 | PROFNET | A | 3.0 | 1 | X | X |

### Input/Output Connectors

| A |

- Single AS-I network is powered by and AS-I power supply
## Ethernet, 8-wire Selection Guide

<table>
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<th>Unmanaged Switches</th>
<th>Conduit Adapters</th>
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<td>J11, J27</td>
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<table>
<thead>
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<th>Cabinet Adapters</th>
<th>Receptacles</th>
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<tr>
<td>J14</td>
<td>J15</td>
</tr>
</tbody>
</table>

## Ethernet, 4-wire, Selection Guide

<table>
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<th>Cables</th>
<th>Unmanaged Switches</th>
<th>Managed Switches</th>
</tr>
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<tbody>
<tr>
<td>J19 - J23</td>
<td>J25</td>
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</table>

<table>
<thead>
<tr>
<th>Conduit Adapters/Wall Plates</th>
<th>Cabinet Adapters</th>
<th>Receptacles/Field Wireables/RJ11</th>
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</thead>
<tbody>
<tr>
<td>J31/J32</td>
<td>J33</td>
<td>J34/J35/J37</td>
</tr>
<tr>
<td>Notes:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Ethernet, Cable Specifications, 8-wire

- **Cable that Meets the Requirements of TIA/EIA568-B.2**
- **Category 5e Cable for 10 and 100 Base-T Ethernet**
- **Cable is UL Rated for Sunlight and Oil Resistant**

---

Maximum 100 meters of cable of which:

- 90 meters Horizontal Cable (SOLID – 842 or 843)
- 2 x 5 meters Patch Cables (STRANDED – 840 or 841)
- Direct Connect 30 M STRANDED

### Table: Ethernet Cable Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Approvals</th>
<th>Data Pair</th>
<th>Outer Jacket</th>
<th>Shields</th>
<th>Bulk Cable Part Number / Weight/300 M</th>
<th>Figure</th>
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</thead>
<tbody>
<tr>
<td>840</td>
<td>NEC CMR (ETL) ELEC C (ETL)</td>
<td>8/24 AWG Stranded</td>
<td>PVC Tril</td>
<td>None</td>
<td>RB50856-76 39 lbs. flexlife</td>
<td>A</td>
</tr>
<tr>
<td>841</td>
<td>NEC CMR (ETL) ELEC C (ETL)</td>
<td>8/24 AWG Stranded</td>
<td>PVC Tril</td>
<td>Foil/Braid</td>
<td>RB50857-76 50 lbs. flexlife</td>
<td>A</td>
</tr>
<tr>
<td>842</td>
<td>NEC CMR (ETL) ELEC C (ETL)</td>
<td>8/24 AWG Solid</td>
<td>PVC Tril</td>
<td>None</td>
<td>RB50857-76 50 lbs. flexlife</td>
<td>A</td>
</tr>
<tr>
<td>843</td>
<td>NEC CMR (ETL) ELEC C (ETL)</td>
<td>8/24 AWG Solid</td>
<td>PVC Tril</td>
<td>Foil/Braid</td>
<td>RB50894-76 54 lbs. flexlife</td>
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<tr>
<td>845</td>
<td>TSB-36 ISO/IEC 11801</td>
<td>8/26 AWG Stranded</td>
<td>PUR Tril</td>
<td>Foil/Braid</td>
<td>RB11050-76 53 lbs. armorflex</td>
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<tr>
<td>849A</td>
<td>AWM 444</td>
<td>8/24 AWG Solid</td>
<td>PVC Black</td>
<td>Foil/Braid Armor</td>
<td>RB11050-76 53 lbs. armorflex</td>
<td>B</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.
- 85 thousand cycles on c-track flexing machine at 1.5" bend radius.
- 4 million cycles on c-track flexing machine at 1.5" bend radius.
- 2 million cycles on c-track flexing machine at 1.5" bend radius.
# TURCK Industrial Communication

**Ethernet, (M12x1) eurofast®** Cable/Cordset Selection Matrix - Cable Type 840 & 842 Only

<table>
<thead>
<tr>
<th>eurofast</th>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>RJ45 Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bare</td>
<td>RSC 84x-*M</td>
<td>RKC 84x-*M</td>
<td>RJ45 84x-*M</td>
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<tr>
<td>RSC</td>
<td>RSC 84x-*M</td>
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<td>FSFD</td>
<td>FSFD 84x-*M</td>
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</tbody>
</table>

See pages J7 - J8 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 RSC ... to RSCV, FKFD ... to FKFDV.

For cross-over cable, add "CR" to part number RJ45 RJ45 CR 84x-*M.
# Eurofast® Cable/Cordset Selection Matrix - Cable Type 841 & 843 Only

<table>
<thead>
<tr>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>RJ45 Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSS</td>
<td>B6x-*M</td>
<td>RSS</td>
<td>B6x-*M</td>
<td>RJ45S</td>
</tr>
<tr>
<td>RKS</td>
<td>F6x-*M</td>
<td>FSSDE</td>
<td>F6x-*M</td>
<td>RJ45S</td>
</tr>
<tr>
<td>FKSDE</td>
<td>FKSDE</td>
<td>RJ45S</td>
<td>RJ45S</td>
<td></td>
</tr>
</tbody>
</table>

- **RSS** indicates Bare, RKS indicates **x**, FSSDE indicates **M**, FKSDE indicates **M**, RJ45S indicates RJ45 Plug.
- Refer to the Cordset Builder at www.turck.com for assistance with cordset/cable combinations.
- For stainless steel coupling nuts change part number RSS ... to RSSV, FKSDE ... to FKSDEV.
- For cross-over cable, add 'CR' to part number RJ45S RJ45S CR 84x-*M.

---

**Eurofast® Pinouts**

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. White/Blue</td>
<td>1. White/Orange</td>
</tr>
<tr>
<td>2. White/Brown</td>
<td>2. Orange</td>
</tr>
<tr>
<td>4. Orange</td>
<td>4. Blue</td>
</tr>
<tr>
<td>5. White/Green</td>
<td>5. White/Blue</td>
</tr>
<tr>
<td>7. Blue</td>
<td>7. White/Brown</td>
</tr>
</tbody>
</table>

---

**Standard Pinout RJ45 Plug**

<table>
<thead>
<tr>
<th>Male</th>
<th>(CR) Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. White/Green</td>
<td>1. White/Brown</td>
</tr>
<tr>
<td>2. Green</td>
<td>2. Orange</td>
</tr>
<tr>
<td>3. Orange</td>
<td>3. White/Blue</td>
</tr>
<tr>
<td>4. Blue</td>
<td>4. Orange</td>
</tr>
<tr>
<td>5. White/Blue</td>
<td>5. White/Green</td>
</tr>
<tr>
<td>6. Orange</td>
<td>6. White/Blue</td>
</tr>
<tr>
<td>7. White/Brown</td>
<td>7. White/Green</td>
</tr>
<tr>
<td>8. Brown</td>
<td>8. Orange</td>
</tr>
</tbody>
</table>

See pages J7 - J8 for dimensional drawings.
* Indicates length in meters.
**x** Indicates cable type.
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:** 60 V
- **Rated Current:** 2 A
- **Ambient Temperature:** 0° to +75°C (-22° to +167°F)
**Specifications**

**Housing:** Polyolefin

**Protection:** NEMA 3 and IEC IP 20

**Rated Voltage:** 42 V

**Rated Current:** 1.5 A

**Ambient Temperature:** 0° to +80°C (-22° to +176°F)

---

**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:** 60 V

**Rated Current:** 2 A

**Ambient Temperature:** -40° to +75°C (-22° to +167°F)
Ethernet, Economy RJ45 to RJ45 Cordsets

- For "In the Panel" Applications Where Industrial Cordsets are not Needed
- Available on Yellow, 3 FT and 7 FT Lengths Only

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>R245 RJ45 840-3FT/ECON</td>
<td>Ethernet patch cordsets for panel connections</td>
<td>Male</td>
</tr>
<tr>
<td>R245 RJ45 840-7FT/ECON</td>
<td>Economy, non industrial</td>
<td>12345678</td>
</tr>
</tbody>
</table>

RJ45 Plug Pinout

1. White/Orange
2. Orange
3. White/Green
4. Blue
5. White/Blue
6. Green
7. White/Brown
8. Brown
TURCK Industrial Communication

Unmanaged Switches

- 5 and 9 Ports Available
- 10/100 Mbps
- IP 67 Protection
- 8-pin Ethernet Connectors

Electrical

- Power Consumption: 2 W (...-E524), 4 W (...-E924)
- Operating Voltage: 10-30 VDC

Mechanical

- Operating Temperature: -30 to +80°C (-22 to +176°F)
- Protection: NEMA 1,3,4,6,13 and IEC IP 67

Material

- Housing: Nylon 6 (other materials available on request)
- Connector: Nickel-plated Brass (other materials available on request)

Diagnostics (Physical)

- LEDs to indicate status of Ethernet communication

---

J11  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
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Ports</th>
<th>Ethernet Pinouts</th>
<th>Power Pinout</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-84X-E524</td>
<td>5</td>
<td>8E</td>
<td>5M</td>
<td>A</td>
</tr>
<tr>
<td>SE-84X-E924</td>
<td>9</td>
<td>8E</td>
<td>5M</td>
<td>B</td>
</tr>
<tr>
<td>SE-84X4-E524</td>
<td>5</td>
<td>8E</td>
<td>4M</td>
<td>A</td>
</tr>
<tr>
<td>SE-84X4-E924</td>
<td>9</td>
<td>8E</td>
<td>4M</td>
<td>B</td>
</tr>
</tbody>
</table>

* Note: One port for each switch is a dedicated uplink port

**Inputs**

**Port/Power Connectors**

8-pin eurofast®

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

5-pin minifast®

- 1 = NC
- 2 = V-
- 3 = NC
- 4 = V+
- 5 = NC

4-pin minifast Power

- 1 = V+
- 2 = NC
- 3 = NC
- 4 = V-
## Ethernet, Conduit Adapters, 8-wire

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCA 84-E124</td>
<td>Nylon Housing 60 V, 2 A -40° to +75°C</td>
<td>Attaches to standard conduit body* for transition to 8-wire (M12x1) eurofast® connector</td>
<td>*Cross Hinds 3/4&quot; Mark 9, Form B or Equivalent.</td>
</tr>
<tr>
<td>BCA 84-E224</td>
<td>Nylon Housing 60 V, 2 A -40° to +75°C</td>
<td>Attaches to standard conduit body* for transition to 8-wire (M12x1) eurofast® connector</td>
<td>*Cross Hinds 3/4&quot; Mark 9, Form B or Equivalent.</td>
</tr>
</tbody>
</table>

*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

Ethernet, Cabinet Adapter, 8-wire

- Mounts to any Cabinet for Transition from (M12x1) eurofast® 8-Pin Connectors to RJ45 Connectors
- Gasket and Mounting Hardware Included (8-32 x 1/2”)

Panel Dimensions

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIC 84-6424</td>
<td>Nylon Housing 60 V, 2 A, -40°C to +75°C</td>
<td>Attaches to cabinet for transition to 4-wire (M12x1) eurofast® connector</td>
<td></td>
</tr>
</tbody>
</table>

Panel Dimensions

RJ45 Plug | Pinouts |
---|--------|
1. White/Orange (+TX)  
2. Orange (-TX)  
3. White/Green (+RX)  
4. Blue  
5. White/Blue  
6. Green (-RX)  
7. White/Brown  
8. Brown  

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
### Ethernet, Circuit Board Connectors and OEM Receptacles, 8-wire

**Provides (M12x1) eurofast® 8-Pin Connection to Field Devices**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Spc</th>
<th>Application</th>
<th>Pinouts</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>FS 84 PCB KIT</td>
<td>Male eurofast with mounting kit</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>FS 84 PCB</td>
<td>Nickel Plated CuZn or Stainless Steel 250 V, 4 A -40° to +75°C</td>
<td>Male eurofast</td>
</tr>
<tr>
<td>13</td>
<td>FK 84 PCB KIT</td>
<td>Female eurofast with mounting kit</td>
<td>Female eurofast</td>
</tr>
<tr>
<td>16</td>
<td>FK 84 PCB</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See pages J17 - J18 for dimensional drawings.

- Standard housing material is nickel plated brass “FSV ..” “FKV ..” indicates 316 stainless steel.
### Ethernet, Circuit Board Connectors and OEM Receptacles, 8-wire

- Provides (M12x1) eurofast® 8-Pin Connection to Field Devices

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSFD 84 PCB</td>
<td>nickel plated CuZn or stainless steel 250 V, 4 A, -40° to +75°C</td>
<td>Male eurofast PCB pins</td>
<td>1. WH/BU 2. WH/BN 3. BN 4. OG 5. WH/GN 6. WH/OG 7. BU 8. GN</td>
</tr>
<tr>
<td>FSFDL 84</td>
<td></td>
<td>Male eurofast solder cups</td>
<td></td>
</tr>
<tr>
<td>WFS 84 PCB</td>
<td></td>
<td>Male eurofast right angle PCB pins</td>
<td></td>
</tr>
<tr>
<td>FKFD 84 PCB</td>
<td></td>
<td>Female eurofast PCB pins</td>
<td></td>
</tr>
<tr>
<td>FKFDL 84</td>
<td></td>
<td>Male eurofast solder cups</td>
<td></td>
</tr>
</tbody>
</table>

See pages J17 - J18 for dimensional drawings.

Standard housing material is nickel plated brass "FKFD .."; "FKFDV .." indicates 316 stainless steel.

Panel Cutout:
- FKFD ... FSFD
- WFS

Board Layout (reference only):
- FKFD ... FSFD
- WFS
** eurofast ® PCB Mount Male and Female Receptacles **

<table>
<thead>
<tr>
<th>Page</th>
<th>Receptacle</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>J16</td>
<td>FSFD ..</td>
<td>1.18 [3.0] MAX PG 9, .846 [21.5], .748 [19.0]</td>
</tr>
<tr>
<td>J16</td>
<td>FKFD ..</td>
<td>.118 [3.0] MAX PG 9, .709 [18.0], .748 [19.0]</td>
</tr>
<tr>
<td>J16</td>
<td>FSFDL ..</td>
<td>.494 [12.5], .374 [9.5]</td>
</tr>
<tr>
<td>J16</td>
<td>FKFDL ..</td>
<td>.494 [12.5], .374 [9.5]</td>
</tr>
</tbody>
</table>

** 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 Communication

Ethernet, Cable Specifications, 4-wire

- Cable that Meets the Requirements of TIA/EIA568-B.2 Category 5e Performance Requirements Cable for 10 and 100 Base-T Ethernet
- Compliant with Ethernet/IP Standards
- Cable is UL Rated for Sunlight and Oil Resistant

Maximim 100 meters of cable of which:
- 90 meters Horizontal Cable (SOLID - 442 or 443)
- 2 x 5 meters Patch Cables (STRANDED - 440 or 441)

<table>
<thead>
<tr>
<th>Type</th>
<th>Approvals</th>
<th>Data Pair</th>
<th>Outer Jacket</th>
<th>Shields</th>
<th>Bulk Cable Part Number / Weight 300 M</th>
<th>Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>440</td>
<td>NEC CMR</td>
<td>4/24 AWG</td>
<td>PVC Teal</td>
<td>None</td>
<td>RB12110-*M 29 lbs.</td>
<td>A</td>
</tr>
<tr>
<td>441</td>
<td>NEC CMR</td>
<td>4/24 AWG</td>
<td>PVC Teal</td>
<td>Foil/Braid</td>
<td>RB12111-*M 44 lbs.</td>
<td>B</td>
</tr>
<tr>
<td>442</td>
<td>NEC CMR</td>
<td>4/24 AWG</td>
<td>PVC Teal</td>
<td>None</td>
<td>RB12121-*M 27 lbs.</td>
<td>A</td>
</tr>
<tr>
<td>443</td>
<td>NEC CMR</td>
<td>4/24 AWG</td>
<td>PVC Teal</td>
<td>Foil/Braid</td>
<td>RB12131-*M 49 lbs.</td>
<td>B</td>
</tr>
<tr>
<td>4410</td>
<td>TSB-36 Brass/Foil</td>
<td>4/24 AWG</td>
<td>PVC Teal</td>
<td>Foil/Braid</td>
<td>RB13106-*M 48 lbs. Halogen Free</td>
<td>A</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.
† 2.5 million flex motions at 12.5x cable diameter bend radius.

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
### eurofast® Cables and Extensions - Cable Type 440 & 442 D-coded

<table>
<thead>
<tr>
<th></th>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>RJ45 Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>RSCD</td>
<td>RKCD</td>
<td>12</td>
<td>FSFDD</td>
<td>RJ45</td>
</tr>
<tr>
<td>9</td>
<td>RSCD 44x-*M</td>
<td>RKCD 44x-*M</td>
<td>13</td>
<td>FSFDD 44x-*M</td>
<td>RJ45 44x-*M</td>
</tr>
</tbody>
</table>

See pages J22 - J23 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 RSCD → RSCDV, FSFDD → FSFDEDV.

---

### eurofast Pinouts

<table>
<thead>
<tr>
<th></th>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>RJ45 Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>White/Orange (+ tx)</td>
<td>White/Green (+rx)</td>
<td>RJ45</td>
</tr>
<tr>
<td>2</td>
<td>White/Green (+rx)</td>
<td>Orange (-tx)</td>
<td>RJ45</td>
</tr>
<tr>
<td>3</td>
<td>Orange (4x)</td>
<td>White/Orange (-tx)</td>
<td>RJ45</td>
</tr>
<tr>
<td>4</td>
<td>Green (-tx)</td>
<td>N/C</td>
<td>RJ45</td>
</tr>
</tbody>
</table>

### RJ45 Pinout

<table>
<thead>
<tr>
<th></th>
<th>RJ45 Pinout</th>
<th>RJ45 Plug</th>
<th>RJ45 (CR) Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>White/Orange</td>
<td>White/Orange</td>
<td>12345678</td>
</tr>
<tr>
<td>2</td>
<td>Orange</td>
<td>White/Orange</td>
<td>12345678</td>
</tr>
<tr>
<td>3</td>
<td>White/Green</td>
<td>White/Orange</td>
<td>12345678</td>
</tr>
<tr>
<td>4</td>
<td>N/C</td>
<td>N/C</td>
<td>12345678</td>
</tr>
<tr>
<td>5</td>
<td>N/C</td>
<td>Green</td>
<td>12345678</td>
</tr>
<tr>
<td>6</td>
<td>Green</td>
<td>N/C</td>
<td>12345678</td>
</tr>
<tr>
<td>7</td>
<td>N/C</td>
<td>Orange</td>
<td>12345678</td>
</tr>
<tr>
<td>8</td>
<td>N/C</td>
<td>N/C</td>
<td>12345678</td>
</tr>
</tbody>
</table>
**TURCK Industrial Communication**

**Ethernet, (M12x1) eurofast® Cables and Extensions - Cable Type 441 & 443 D-coded**

<table>
<thead>
<tr>
<th>eurofast</th>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>Pin (Male)</th>
<th>Socket (Female)</th>
<th>RJ45 Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSSD</td>
<td>RJSD</td>
<td>FSSDED</td>
<td>FKSDED</td>
<td>RJ45S</td>
<td></td>
</tr>
<tr>
<td>Bare</td>
<td>RSSD 44x.*M</td>
<td>RJSD 44x.*M</td>
<td>FSSDED 44x.*M</td>
<td>FKSDED 44x.*M</td>
<td>RJ45S 44x.*M</td>
</tr>
<tr>
<td>8</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
</tr>
<tr>
<td>9</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
</tr>
<tr>
<td>14</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
<td>RSSD 44x.*M</td>
</tr>
</tbody>
</table>

See pages J22 - J23 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 RSSD ... RSSDV, FSSDED ... FSSDEDV.
**Industrial Automation**

**Ethernet, eurofast® Cordset Connector Dimensions / Configuration**

### Specifications

- **Housing:** TPU (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:** 0° to +75°C (-22° to +167°F)

---

**Grade** | **Page Range**
--- | ---
RSCD/RSSD .. | Pages J20 - J21
FSFDD .. | Pages J20 - J21
RKCD/RKSD .. | Pages J20 - J21
FKFDD .. | Pages J20 - J21
FSSDED .. | Pages J20 - J21
FKSDED .. | Pages J20 - J21
**Specifications**

- **Housing:** Polyolefin
- **Protection:** NEMA 1, 3, 4, 6P and IEC IP 20
- **Rated Voltage:** 42 V
- **Rated Current:** 1.5 A
- **Ambient Temperature:** -25° to +80°C (-22° to +176°F)

---

**RJ45/RJ45S ..**

**Pages J20 - J21**
TURCK
Industrial Communication

Unmanaged Switches
- 5 and 9 Ports Available
- 10/100 Mbps
- IP 67 Protection
- 4-pin Ethernet Connectors

Electrical
- Power Consumption: 2 W (...-E524), 4 W (...-E924)
- Operating Voltage: 10-30 VDC

Mechanical
- Operating Temperature: -30°C to +80°C (-22°F to +176°F)
- Protection: NEMA 1,3,4,6,13 and IEC IP 67

Material
- Housing: Nylon 6 (other materials available on request)
- Connectors: Nickel-plated Brass (other materials available on request)

Diagnostics (Physical)
- LEDs to indicate status of Ethernet communication

---

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
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Ports*</th>
<th>Ethernet Pinouts</th>
<th>Power Pinout</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-444-E524</td>
<td>5</td>
<td>4E</td>
<td>5M</td>
<td>A</td>
</tr>
<tr>
<td>SE-444-E30A</td>
<td>9</td>
<td>4E</td>
<td>5M</td>
<td>B</td>
</tr>
<tr>
<td>SE-444-E324</td>
<td>5</td>
<td>4E</td>
<td>4M</td>
<td>A</td>
</tr>
<tr>
<td>SE-444-E924</td>
<td>9</td>
<td>4E</td>
<td>4M</td>
<td>B</td>
</tr>
</tbody>
</table>

* Note: One port for each switch is a dedicated uplink port

**Port/Power Connectors**

4-pin eurofast® Female

1 = WH/OG (TX+)
2 = WH/GN (RX+)
3 = OG (TX-)
4 = GN (RX-)

5-pin minifast® Power

1 = NC
2 = V-
3 = NC
4 = V+
5 = NC

4-pin minifast Power

1 = V+
2 = NC
3 = NC
4 = V-
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Unmanaged switches

- Molded Cords for Panel Mounting
- IP 67 Protection
- 10/100 Mbps
- 8-pin Ethernet Connectors

Electrical
- Power Consumption: 2 W (...-E524), 4 W (...-E924)
- Operating Voltage: 10-30 VDC

Mechanical
- Operating Temperature: -30 to +80 °C (-22 to +176 °F)
- Protection: NEMA 1, 3, 4, 6, 13 and IEC IP 67

Material
- Housing: Nylon 6 (other materials available on request)
- Connectors: Nickel-plated Brass (other materials available on request)

Diagnostics (Physical)
- LEDs to indicate status of Ethernet communication
# Industrial Automation

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Ports</th>
<th>Ethernet Pinout</th>
<th>Power Pinout</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-84ST-E524/C1165</td>
<td>5</td>
<td>8E</td>
<td>2Wire</td>
<td>A</td>
</tr>
<tr>
<td>SE-84ST-E924/C1165</td>
<td>9</td>
<td>8E</td>
<td>2Wire</td>
<td>B</td>
</tr>
<tr>
<td>SE-84ST-E924/C1190</td>
<td>9</td>
<td>8E</td>
<td>2Wire</td>
<td>B</td>
</tr>
</tbody>
</table>

Notes:
* One port for each switch is a dedicated uplink port.
.../C1165 have one port in the cabinet; .../C1190 has two ports in the cabinet.

### Port/Power Connectors

<table>
<thead>
<tr>
<th>PIN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WH/BU</td>
</tr>
<tr>
<td>2</td>
<td>WH/BN</td>
</tr>
<tr>
<td>3</td>
<td>BN</td>
</tr>
<tr>
<td>4</td>
<td>OG (TX-)</td>
</tr>
<tr>
<td>5</td>
<td>WH/GN (RX+)</td>
</tr>
<tr>
<td>6</td>
<td>WH/OG (TX+)</td>
</tr>
<tr>
<td>7</td>
<td>BU</td>
</tr>
<tr>
<td>8</td>
<td>GN (RX-)</td>
</tr>
</tbody>
</table>

### 2-Wire In-Cabinet Ethernet Connector

<table>
<thead>
<tr>
<th>PIN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WH (or (+TX)</td>
</tr>
<tr>
<td>2</td>
<td>OR (-TX)</td>
</tr>
<tr>
<td>3</td>
<td>WH/GN (+RX)</td>
</tr>
<tr>
<td>4</td>
<td>BU</td>
</tr>
<tr>
<td>5</td>
<td>WH/BU</td>
</tr>
<tr>
<td>6</td>
<td>GN (-RX)</td>
</tr>
<tr>
<td>7</td>
<td>WH/BN</td>
</tr>
<tr>
<td>8</td>
<td>BN</td>
</tr>
</tbody>
</table>

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Managed switches
- 8 Ports Available
- Configuration Port
- IP 67 Protection
- 4-pin Ethernet Connectors

Electrical
- Power Consumption: 4 W
- Operating Voltage: 10-30 VDC

Mechanical
- Operating Temperature: -30 to +80 °C (-22 to +176 °F)
- Protection: NEMA 1,3,4,6,13 and IEC IP 67

Material
- Housing: Nylon 6 (other materials available on request)
- Connectors: Nickel-plated Brass (other materials available on request)

Diagnostics (Physical)
- LEDs to indicate status of Ethernet communication

SE-44M-E924

Managed switches
- 8 Ports Available
- Configuration Port
- IP 67 Protection
- 4-pin Ethernet Connectors

Electrical
- Power Consumption: 4 W
- Operating Voltage: 10-30 VDC

Mechanical
- Operating Temperature: -30 to +80 °C (-22 to +176 °F)
- Protection: NEMA 1,3,4,6,13 and IEC IP 67

Material
- Housing: Nylon 6 (other materials available on request)
- Connectors: Nickel-plated Brass (other materials available on request)

Diagnostics (Physical)
- LEDs to indicate status of Ethernet communication
### Industrial Automation

#### Inputs

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Ports*</th>
<th>Ethernet Pinout</th>
<th>Power Pinout</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-44M-E924</td>
<td>8</td>
<td>4E</td>
<td>5M-2</td>
<td>A</td>
</tr>
</tbody>
</table>

* Note: 8 Ethernet ports plus one RS232 configuration port

#### Part/Power Connectors

- **4E**
  - Female
  - 4-pin **eurofast**
  - 1 = WH/OG (TX+)
  - 2 = WH/GN (RX+)
  - 3 = OG (TX-)
  - 4 = GN (RX-)

- **5M-2**
  - 5-pin **minifast**
  - 1 = Gnd
  - 2 = Gnd
  - 3 = OK
  - 4 = V1+
  - 5 = V2+

- **Configuration Port**
  - 232
  - Mating cordset:
    - RX 4.4T,*  RS 4.4T

---

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- 230 Ryan Way, South San Francisco, CA 94080
- Main Office: (650) 588-9200
- Outside Local Area: (800) 258-9200
- www.stevenengineering.com
# Ethernet, Conduit Adapters, 4-wire

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

## Specifications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BCA 44-E123</strong></td>
<td>Nylon Housing 250 V, 3 A, -40° to +75°C</td>
<td>Attaches to standard conduit body* for transition to 4-wire (M12x1) eurofast® connector</td>
<td>*Cross Hinds 3/4&quot; Mark 9, Form 8 or Equivalent.</td>
</tr>
<tr>
<td><strong>BCA 44-E223</strong></td>
<td>Nylon Housing 250 V, 3 A, -40° to +75°C</td>
<td>Attaches to standard conduit body* for transition to 4-wire (M12x1) eurofast® connector</td>
<td>*Cross Hinds 3/4&quot; Mark 9, Form 8 or Equivalent.</td>
</tr>
</tbody>
</table>

---

![Image](image-url)
## Industrial Automation

### Ethernet, Wall Plate Adapters, 4 and 8-wire

- Gasket and Mounting Screws Provided
- For Use with a Single Gang Electrical Box

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPA-44-E113</td>
<td>Attaches to standard single gang electrical box for transition to 4-wire (7/8-16UN) eurofast connector w/punch-down blocks</td>
<td>Stainless Steel 30 VAC/36 VDC, 1.5 A, -40°C to +72°C (-40°F to +158°F)</td>
</tr>
<tr>
<td>BPA-84-E113</td>
<td>Attaches to standard single gang electrical box for transition to 8-wire (M12x1) eurofast connector w/punch-down blocks</td>
<td>8-wire (M12x1) eurofast connector w/punch-down blocks</td>
</tr>
</tbody>
</table>
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Ethernet, Cabinet Adapter, 4-wire

- Mounts to Any Cabinet for Transition from (M12x1) eurofast® 4-Pin Connectors to RJ45 Connectors
- Gasket and Mounting Hardware Included (8-32 x 1/2")

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIC 44-E424</td>
<td>Nylon Housing 250 V, 4 A -40° to +75°C</td>
<td>Attaches to cabinet for transition to 4-wire (M12x1) eurofast® connector</td>
<td></td>
</tr>
</tbody>
</table>

Panel Dimensions

<table>
<thead>
<tr>
<th>RJ45 Receptacle</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. White/Orange (+TX)</td>
</tr>
<tr>
<td></td>
<td>2. Orange (-TX)</td>
</tr>
<tr>
<td></td>
<td>3. White/Green (+RX)</td>
</tr>
<tr>
<td></td>
<td>4. N.C.</td>
</tr>
<tr>
<td></td>
<td>5. N.C.</td>
</tr>
<tr>
<td></td>
<td>6. Green (-RX)</td>
</tr>
<tr>
<td></td>
<td>7. N.C.</td>
</tr>
<tr>
<td></td>
<td>8. N.C.</td>
</tr>
</tbody>
</table>
Industrial Automation

Ethernet, Receptacle

- Transitions from a RJ45 Connector to a 4-wire eurofast® Connector

Panel mounting clearance hole 19/32" (15 mm).  Panel thickness: .060-.120" (1.5-3 mm)

Wiring Diagram

<table>
<thead>
<tr>
<th>RJ45 Receptacle</th>
<th>Pinouts</th>
<th>eurofast Female</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>FKS10D RJ45SF 44</td>
<td>Polyurethane PUR Overmold 42 V, 1.5 A -40° to +75°C</td>
</tr>
</tbody>
</table>
### Ethernet, RJ45 Field Wireable

- Allows for Quick Connections in the Field
- Fully Shielded
- Includes Assembly Instructions

#### RJ45 Plug Pinout

<table>
<thead>
<tr>
<th>RJ45 Plug</th>
<th>Pinout</th>
</tr>
</thead>
</table>
| Male      | 1. White/Orange (+TX)  
2. Orange (-TX)  
3. White/Green (+RX) 
4. N/C  
5. N/C  
6. Green (-RX) 
7. N/C  
8. N/C |

#### Part Number Application Pinout

<table>
<thead>
<tr>
<th>Connector, RJ45 IDC</th>
<th>RJ45 4-wire field wireable</th>
<th>Male</th>
</tr>
</thead>
</table>
**Industrial Automation**

**Ethernet, 4-Pin D-coded Field Wireables**

- Allows for Quick Connections when Pre-Molded Cables are not Available
- Available in Male, Straight and Right Angle Connector Configurations

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Pinout</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMBSD 8141-0/PG9</td>
<td>Ethernet, 4-Pin D-coded Field Wireables</td>
<td>Male</td>
</tr>
<tr>
<td>CMBSD 8241-0/PG9</td>
<td>Allows for Quick Connections when Pre-Molded Cables are not Available</td>
<td>Male</td>
</tr>
</tbody>
</table>

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## Ethernet®, RJ11 Cordsets

- Double Ended
- Available in 1, 2, 5 Meter Extended Lengths

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Specs</th>
<th>Application</th>
<th>Pinouts</th>
</tr>
</thead>
</table>
| RJ115      | PVC   | Industrial phone connection RJ11 connector | 1. N/C  
2. White/Orange (+TX)  
3. Orange (-TX)  
4. White/Green (+RX)  
5. Green (-RX)  
6. N/C |
| RJ211S     | PVC   | 1.5 A  
42 V  
-40° to +75°C | 1. N/C  
2. White/Orange (+TX)  
3. Orange (-TX)  
4. White/Green (+RX)  
5. Green (-RX)  
6. N/C |
| 4412-*M   | PVC   | 1.5 A  
42 V  
-40° to +75°C | 1. N/C  
2. White/Orange (+TX)  
3. Orange (-TX)  
4. White/Green (+RX)  
5. Green (-RX)  
6. N/C |

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