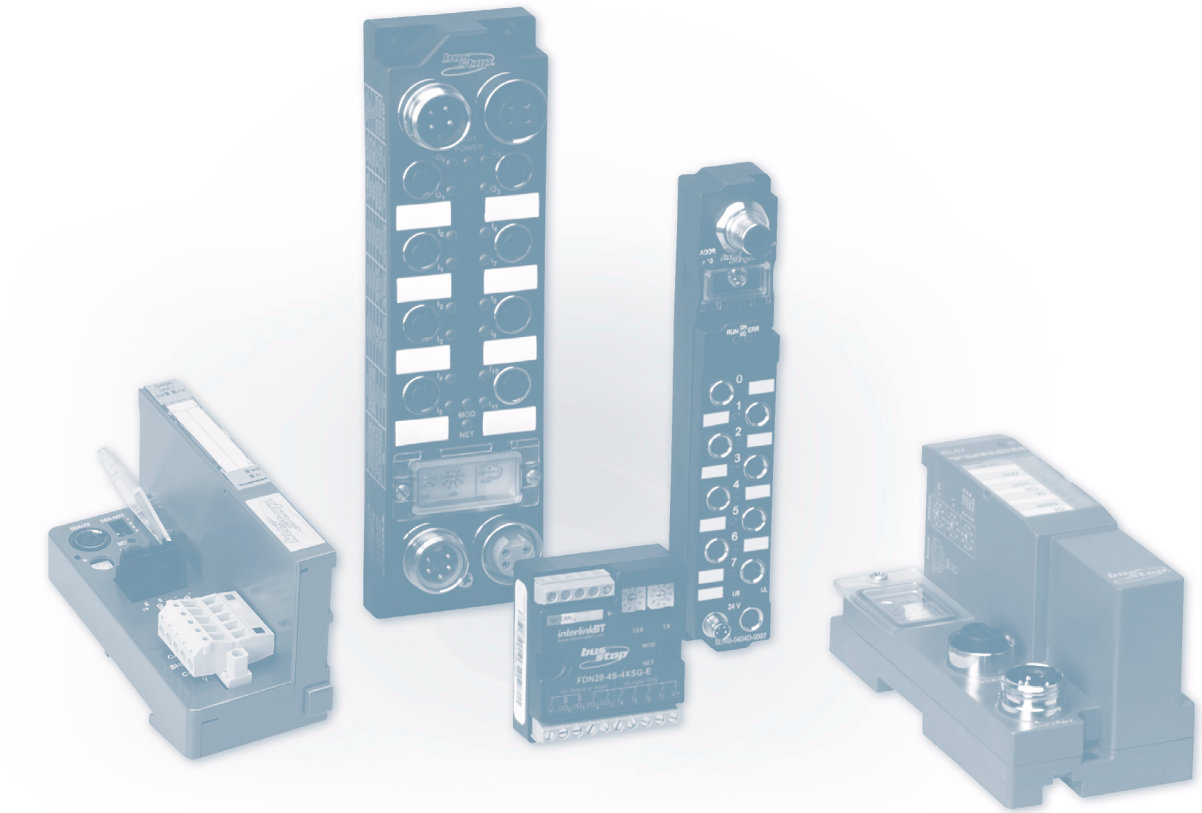


DeviceNet™ System Description

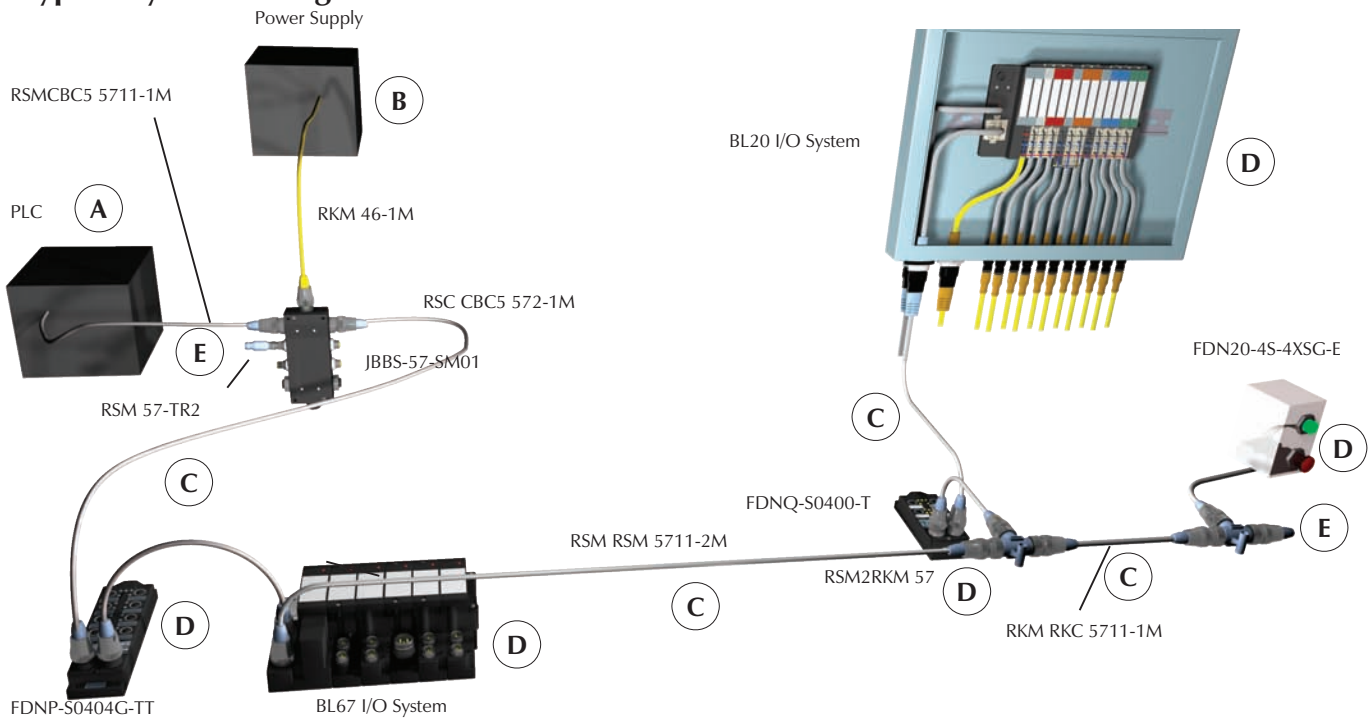
DeviceNet is a low-cost communications protocol that eliminates hard wiring and connects industrial devices such as limit switches, photoelectric sensors, valve manifolds, motor starters, process sensors, bar code readers, variable frequency drives, panel displays and operator interfaces to a network. DeviceNet's direct connection provides improved communication between devices, as well as important device-level diagnostics not easily accessible or available through hard-wired I/O interfaces.

DeviceNet is based on the Controller Area Network (CAN) broadcast-oriented communication architecture. CAN uses a bus arbitration method, CSMA/BA, that assures the highest priority message always gets use of the bus in the event of a data collision. The DeviceNet protocol further defines message priorities such that I/O messages are given top priority and configuration messages have lower priority.

A DeviceNet network supports up to 64 nodes and virtually an unlimited amount of I/O. The bus uses a trunkline/dropline topology, where bus power and communication are supplied on a single cable. Bus power is 24 VDC and supplies current to operate the nodes and (typically) power input devices. Some **TURCK** stations require an additional 24 VDC auxiliary power to supply current for outputs.

DeviceNet allows peer-to-peer data exchange (where a DeviceNet node can initiate communication with other nodes or peers), and a master/slave configuration in which the master node initiates all communication and all other nodes, or slaves, respond to the master node's requests.

Typical System Configuration



A typical DeviceNet system consists of the following parts:

- A - Controller
- B - Power Supply
- C - DeviceNet Cable
- D - DeviceNet I/O Modules (or Slaves)
- E - Terminating Resistors

DeviceNet stations require a network master (also called a scanner) to interface the stations to the host controller. **TURCK** DeviceNet stations are designed to be fully compatible with DeviceNet equipment from other manufacturers.

Cordsets

TURCK offers a complete line of molded DeviceNet 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. DeviceNet cables consist of a shielded and twisted data pair, as well as a shielded and twisted power pair for the 24 VDC bus power, with an additional outer shield. The 24 VDC power pair provides bus power to the station's communication electronics and (typically) to input circuits.

The data lines for CAN-High and CAN-Low differential signals conform to the CAN standard, and support network data exchange at the maximum transmission speed of 500 kbps.

In most cases, bus cable connections are made using 5-pin ***minifast*** ® (7/8-16 UN) or ***eurofast*** ® (M12) connectors. A variety of stations are also available that support terminal-block type connections. Stations with output circuits for DC actuators normally require 24 VDC auxiliary power fed through a separate connection from the communication bus.

TURCK cordsets for the DeviceNet system are available in standard lengths. Contact your local sales representative to order custom lengths.

Diagnostics

TURCK stations provide increased diagnostics when used with standard proximity or photoelectric sensors and discrete actuators. **TURCK** stations also serve as a buffer between I/O devices and the DeviceNet bus by detecting short-circuits without disrupting DeviceNet communication.

For deluxe style stations, each I/O point on the station provides state and status data. State data represents the real world value of the I/O device; for example, when the sensor is on or the actuator is off. Status data indicates short-circuits in the I/O device or in the wiring between the device and the station. Some models also use status data to indicate open circuits.

State and status data are transferred to the DeviceNet scanner where it is available for fault handling in the control program. Additionally, each input and output has a multicolored LED to indicate its state and status and pinpoint I/O problems quickly; for example the module status LED indicates the internal health of the station, and the network status LED indicates the station's communication on the DeviceNet network.

Addressing

The valid range of DeviceNet node addresses is 0 to 63. The station's default node address is 63. Each node's address must be initially set, usually via rotary dials or switches on the node. The address can also be set with a DeviceNet configuration tool.

Changes to the address settings take effect when the station power is cycled. Care must be taken to prevent the same address from being assigned to more than one node in a system. If the same address is set on multiple nodes, one node will take control of the address and the others will go into "Critical Link Failure" state, indicated by the network status LED (solid red).

Communication Rate/Cycle Time

DeviceNet™ specifications define three transmission speeds: 125, 250 and 500 kbps. All nodes on a network must communicate at the same rate.

Several factors must be considered when calculating the complete cycle time of a DeviceNet system, including:

- Number of nodes being scanned
- Amount of data produced and consumed by the nodes
- Type of I/O messaging (change of state, strobe, poll)
- Network communication rate
- Device time-out and explicit messaging traffic
- Cycle time of the control program

Electronic Data Sheets (EDS) Files

Electronic Data Sheets, or EDS files, are files that contain detailed information about a DeviceNet device, including I/O data size and the device's configurable parameters. The information provided by EDS files guide a user through the steps necessary to configure a device. EDS files are available on the **TURCK** web site (www.turck.com).

Maximum Ratings

The DeviceNet bus uses trunk and drop topology. The trunk is the main communication cable, and requires a 121 ohm resistor at both ends of the trunk. The length of the trunk depends on the communication rate and the cable type. Drops are branches off the trunk, and may be from zero to 6 m (20 ft) in length. The cumulative drop lengths are dependent on the communication rate. The following table shows the maximum ratings for a trunk using thick, mid and thin cable. Thick and thin DeviceNet communication cable types are defined by the DeviceNet specification; mid cable is a hybrid of the two that is offered by **TURCK**.

Communication Rate	Thick Trunk Length (maximum)	Mid Trunk Length (maximum)	Thin Trunk Length (maximum)	Drop Length (maximum per drop)	Drop Length (cumulative)	Nodes (maximum)
125 kbps	500 m (1640 ft.)	300 m (984 ft.)	100 m (328 ft.)	6 m (20 ft.)	156 m (512 ft.)	64
250 kbps	250 m (820 ft.)	250 m (820 ft.)	100 m (328 ft.)	6 m (20 ft.)	78 m (256 ft.)	64
500 kbps	100 m (328 ft.)	100 m (328 ft.)	100 m (328 ft.)	6 m (20 ft.)	39 m (128 ft.)	64

DeviceNet Selection Guide

Housing	I/O Type	I/O Direction	Pages
AIM 	Discrete	Input	F13, F15, F31, F39
		Output	F29, F41
		Input & Output	F17 - F27, F33 - F37, F43 - F45
	Analog	Input	F47 - F49
	E-connect	Input & Output	F51 - F64
	Master		F65
	Repeater		F67
	Spanner		F69
FDN20 	Discrete	Input & Output	F75
Piconet 	Discrete	Input	F89
		Output	F93
		Input & Output	F91, F95
	Analog	Input	F97
		Output	F101
	Special Function	Counter	F103
		Encoder	F105
		Serial	F107
OEM 	Discrete	Input & Output	F111
Operator Station 	Discrete	Input & Output	F115
Gateways 	BL67	N/A	F117
	BL20		F119
	AS-I		F121
	piconet		F125
DeviceNet Media			G1 - G82

DeviceNet™ AIM™ Stations

TURCK's Advanced I/O Module (AIM) DeviceNet stations are extremely rugged stations designed for machine mounting. These stations allow easy connection of standard I/O devices (such as sensors, limit switches, valves and pilot lights) to a DeviceNet network, typically without a protective enclosure. This is made possible by epoxy-filled station housings, all-metal connectors and visible rotary address switches, among other things.

Specifications

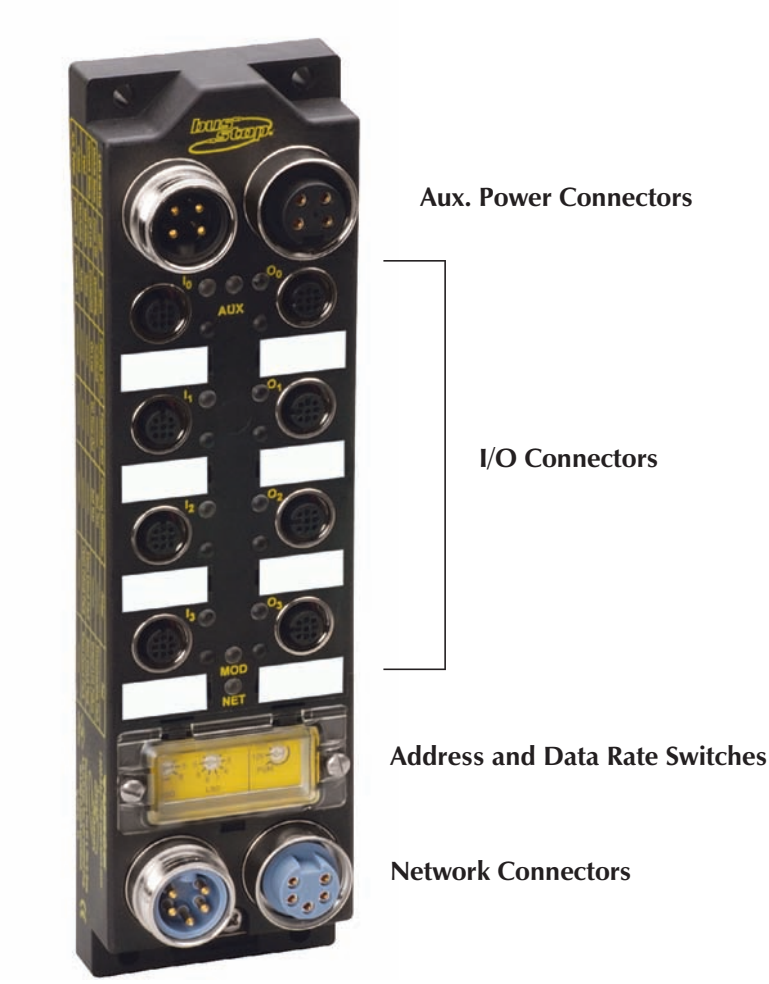
Mechanical

TURCK DeviceNet AIM stations are designed for machine mounting with no separate enclosure or housing necessary. Quick-disconnect capability, combined with an epoxy-filled housing, creates an extremely durable station that can be mounted in most industrial environments. Detailed environmental specifications are as follows:

- Housing material: Glass filled nylon
- Connector material: Nickel-plated brass
- Protection level: NEMA 1,3,4,12,13; IEC IP 67
- Operating temperature: SE stations -40 to +70°C (-40 to +158°F); LX stations -25 to +70°C (-13 to +158°F)
- Vibration: 50 g @ 10-500 Hz

Other housing and connector materials available upon request.

The stations components are identified in the following figure. The figure shows a station with ***minifast***® (7/8-16 UN) network connectors, but other connector options (such as M12 ***eurofast***®) are available for some stations. Stations with all I/O powered from the DeviceNet power supply do not have the auxiliary power connectors at the top of the housing.



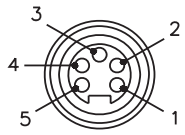
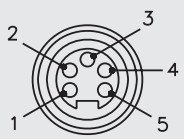
Connectors

DeviceNet™ AIM™ stations generally provide connections for the bus and I/O, in addition to auxiliary power for stations with outputs.

Bus Connectors

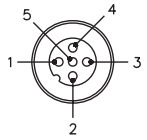
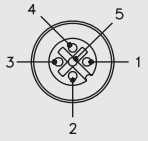
minifast® (7/8-16UN) is the standard bus connector for DeviceNet AIM stations. Some stations are available with ***eurofast***® (M12) or M23 bus connectors.

DeviceNet *minifast* Pinouts

Male	Female
	
5-Pin	5-Pin

1 - Shield/Drain
2 - V+ (24 VDC)
3 - V- (0 VDC)
4 - CAN High
5 - CAN Low

DeviceNet *eurofast* Pinouts

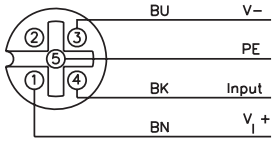
Male	Female
	
5-Pin	5-Pin

eurofast I/O Connectors

Different I/O connector pinouts are used for different station types. Stations are available with one or two inputs per connector, one or two outputs per connector, or one input and one output per connector. The pin assignments for these styles are provided below.

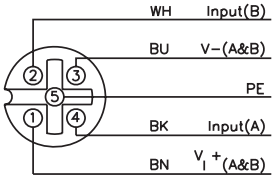
Screw Terminal I/O Connection

S



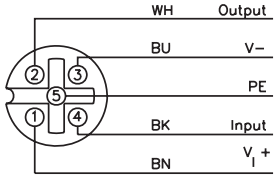
Mating cordset:
RK 4.4T-*-RS 4.4T

2S



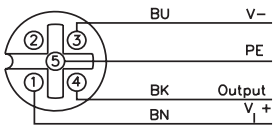
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS-4.4-2RK 4T-*/*

C



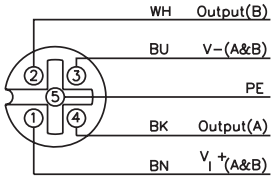
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VB2-RS 4.4T-1/2RK
4.4T-*/*/S651

G



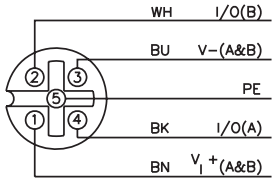
Mating cordset:
RK 4.4T-*-RS 4.4T

2G



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS-4.4-2RK 4T-*/*

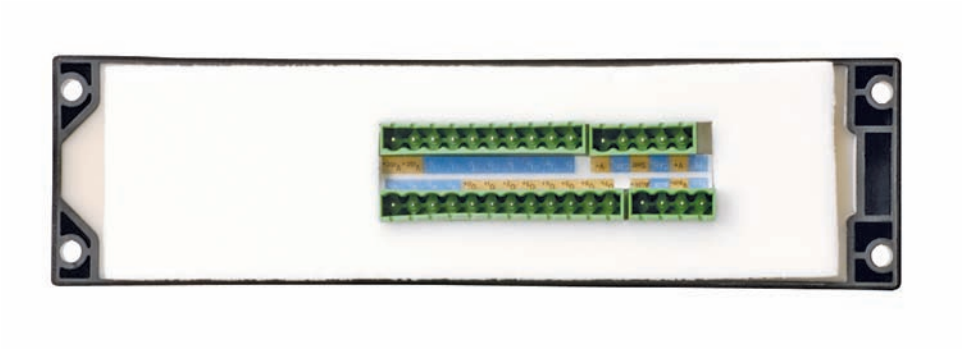
2X



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS-4.4-2RK 4T-*/*

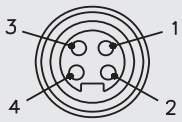
AIM™ stations with part numbers ending in "ST" support screw terminal I/O and bus connections. The screw terminals for these stations are located on the back of the station. The back of the station is also fitted with a foam gasket to allow the station to be mounted to the outside of a cabinet or field I/O box (i.e. motor control center).

Auxiliary Power Connectors



St
at
ions where I/O draws a significant amount of current (2 Amp outputs, for example) receives this power from a second, or auxiliary, power supply. Some stations receive input power from the network and output power from the auxiliary supply. Generally, the connection is a male/female pair to allow cabling one power supply to multiple stations without the use of a tee (daisy chain configuration). Auxiliary power is typically supplied by a 4-pin ***minifast***® (7/8-16 UN) connector, though other auxiliary power connections are used on some stations. For further details see the individual station entries in this catalog.

Aux. Power Pinout

Male	Female
	
4-Pin	4-Pin

1 = V_{AUX}+
2 = Pass Through
3 = Pass Through
4 = V_{AUX}-

Power

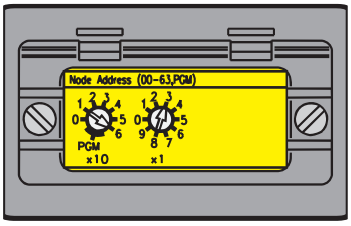
Some AIM stations (typically those with only inputs) are completely powered from the DeviceNet power supply. When designing a network, take care to include the current draw for the station, as well as all input devices connected to the station in your power supply sizing calculations. For example, if the internal current consumption of the station is <50 mA and the total short-circuit limit for all inputs combined is <700 mA, then the maximum current draw for the station is 50 mA + 700 mA = 750 mA.

Stations with output points normally use a separate auxiliary power supply to provide current for the outputs. Several AIM stations can be powered by one auxiliary supply, or a single supply for each station can be used.

Common power ratings for AIM stations include:

- Bus (DeviceNet) Voltage: 11-26 VDC
- Aux Power Voltage: 24 VDC (nominal, supported stations)

- Input Voltage: 13-26 VDC (From DeviceNet supply)
- Input Signal Current (each input): OFF <2 mA; ON 3.0-3.4 mA (@ nominal 24 VDC)
- Input Delay: 2.5 ms



Addressing

DeviceNet™ stations must have a network address for communication. The address for AIM stations may be set via the visible rotary switches under the clear plastic cover on the front of the station.

The pair of switches represents the address as a decimal number; the left switch being the 10's multiplier and the right switch the 1's multiplier. To program the station, rotate the switches with a small slotted screwdriver until the arrows on the switch point to the appropriate numbers for the chosen address.

Some stations (LX style with extended diagnostics) have a third switch. This switch is used to set the communication baud rate for the station. When set to the AUTO position, the station automatically senses the baud rate of the network. SE style stations only use the autobaud setting.

Parameters

Many DeviceNet configuration tools support the use of EDS driver files to configure nodes and set various parameters. Some of the user settable parameters available for AIM stations are:

Parameter Name	Description	Valid Values	Default
Baud Rate	Defines the baud rate for the station to use if Autobaud is disabled	125kB; 250kB; 500kB	125kB
Autobaud	If enabled the station automatically senses the baud rate	Enable; Disable	Enable
Connection Mode	Set to UCMM to use unconnected messaging	Predefined M/S Connection; UCMM	Predefined M/S Connection
Quick Connect	Set to enable fast startup connection to DeviceNet (QuickConnect)	Enable; Disable	Disable

Consult the documentation for the DeviceNet configuration tool you are using for details on how to access device parameters via EDS files.

Diagnostics

AIM™ stations provide two LEDs for diagnosing communication problems.

Module Status

- Green: Working properly
- Flashing green: Detecting baud rate
- Flashing red: Input short-circuit

Network Status

- Green: Connection established
- Flashing green: Waiting for connection
- Flashing red: Connection timed out
- Red: Cannot connect

There is an additional LED for each I/O point on the station. This LED indicates:

- Off: Point is off
- Green: Point is on
- Amber: Point is in open circuit state (advanced diagnostic stations only)
- Red: Point is in short-circuit state (advanced diagnostic stations only)

For SE style (group diagnostic) stations there is also a single bit communicated to the controller for diagnostic purposes. This bit is on if any input on the station is in the short-circuit condition, and off if all inputs are operating normally.

LX style (extended diagnostic) stations indicate the diagnostic status of each I/O point on the station, with an extra bit to indicate if the point is short or open circuited. These diagnostic bits can be disabled via the EDS parameter settings.

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	ISS-7	ISS-6	ISS-5	ISS-4	ISS-3	ISS-2	ISS-1	ISS-0
	2	IOS-7	IOS-6	IOS-5	IOS-4	IOS-3	IOS-2	IOS-1	IOS-0
	3	OS-7	OS-6	OS-5	OS-4	OS-3	OS-2	OS-1	OS-0
	4	-	APS	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0

extended diagnostic

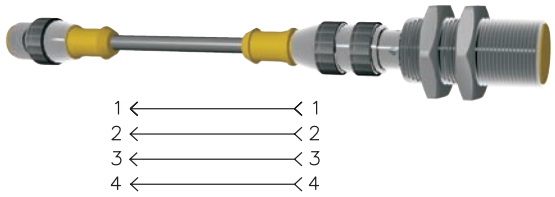
Connecting Devices to an AIM Station

AIM stations typically provide a ***eurofast***® (M12) connection for each I/O point. Standard **TURCK** I/O cordsets can be used to connect physical devices in the field to the AIM station. Some AIM stations, specifically those with I/O counts greater than eight total points, connect two signals to each connector. If the signals being connected are on the same physical device (for example a sensor with two outputs), a simple four or five-wire cordset can be used for connection (Figure 1) on the next page.

I = Input
O = Output
ISS = Input Short Circuit Status
IOS = Input Open Circuit Status
OS = Output Status
APS = Auxiliary Power Status

If the signals are on two separate devices, a splitter can be used to separate the AIM™ I/O connector into two individual ***eurofast***® connectors. The recommended splitter is wired such that the second signal pin on the AIM station (pin 2) is wired to the default signal pin (pin 4) on the second splitter arm - requiring no special wiring by the user. The splitter is simply plugged into the AIM I/O connector and each arm is plugged into the appropriate I/O devices, as shown (Figure 2).

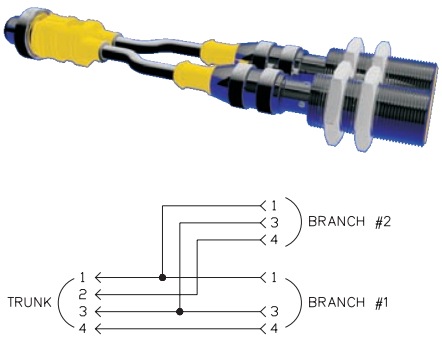
Figure 1



For one input per connector use standard cordsets, for example RK 4.4T-1-RS 4.4T

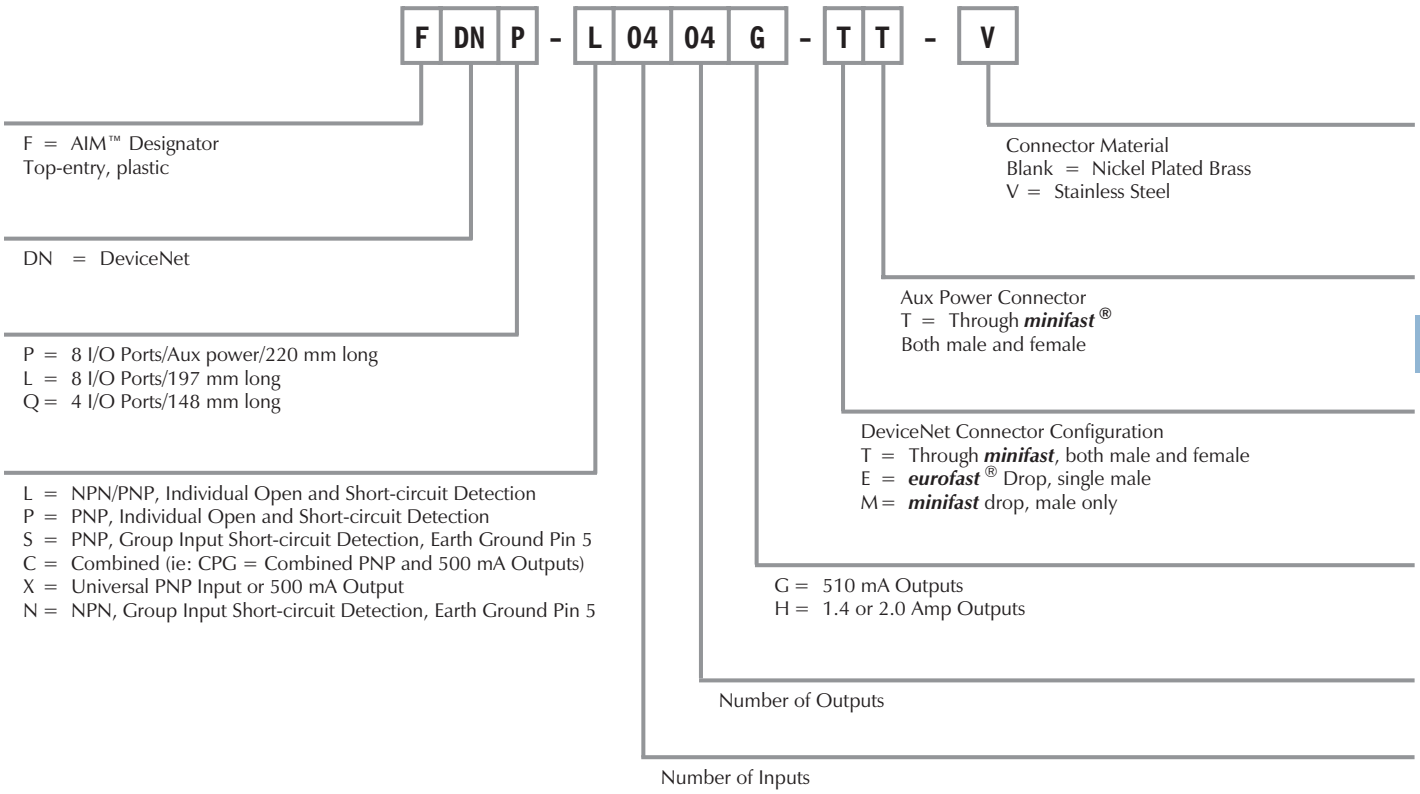
AIM stations provide a wide range of connection options depending on the I/O count and type being used. The user should be aware of the I/O pinout being used.

Figure 2



For two inputs per connector use a splitter, for example VBRS 4.4-2RK 4T-1/1

Part Number Key



Deluxe Input Stations

FDNL-L0800-T
FDNL-L0800-T-V
FDNL-L1600-T
FDNL-L0800-C
FDNL-L1600-C

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Rotary Address Switches**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: ≤100 mA (8-in) or 140 mA (16-in) plus sum of input currents (from DeviceNet)
- Sensor Current: <80 mA per input (from DeviceNet)

Power Distribution

- Inputs: DeviceNet power supply

Mechanical

- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67
- Vibration: 50 g @ 10-500 Hz

Material

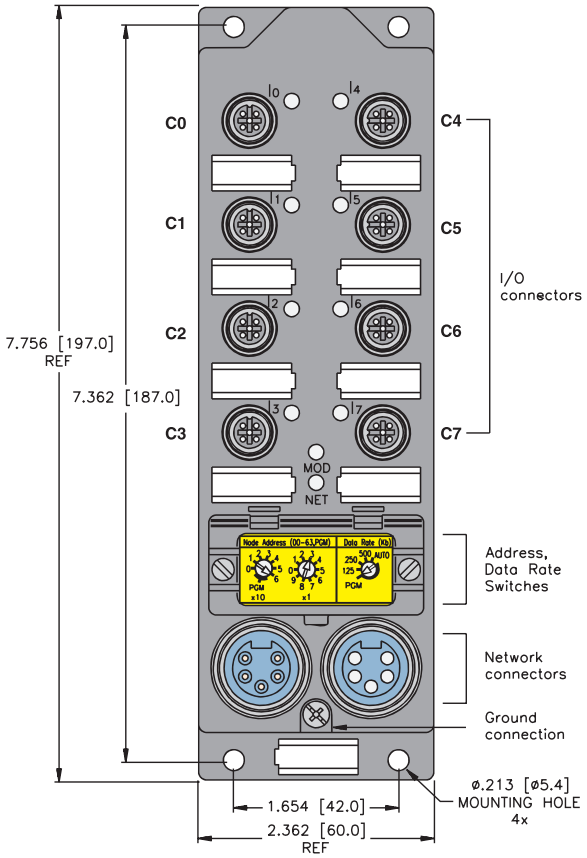
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit each per I/O point

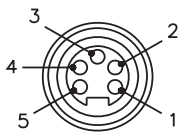
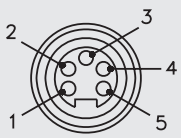
Diagnostics (Physical)

- Individual LED to indicate open/short-circuit for each channel
- LEDs to indicate status of DeviceNet communication



1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

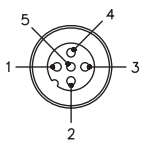
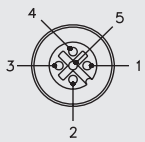
DeviceNet *minifast*® Pinouts

Male	Female
	
5-Pin	5-Pin

FDNL-...-T

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

DeviceNet *eurofast*® Pinouts

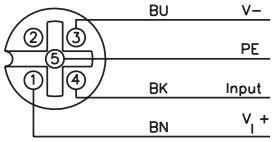
Male	Female
	
5-Pin	5-Pin

FDNL-...-C

	Inputs								Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNL-L0800-T	8	0-7	L	1	NPN/PNP		X	X	1
FDNL-L0800-T-V	8	0-7	L	1	NPN/PNP		X	X	1
FDNL-L1600-T	16	0-7	2L	2	NPN/PNP		X	X	2
FDNL-L0800-C	8	0-7	L	1	NPN/PNP		X	X	1
FDNL-L1600-C	16	0-7	2L	2	NPN/PNP		X	X	2

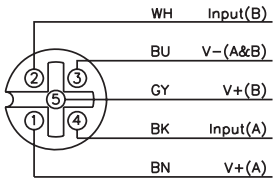
Input Connectors

L



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

2L



Mating cordset:
Sensor with dual outputs:
RK 4.4T-*-RS 4.4T
Two sensors:
RK 4.5T-*-RS 4.5T
Splitter:
VBRS 4.5-2RK 4T-*/*/S818

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	ISS-7	ISS-6	ISS-5	ISS-4	ISS-3	ISS-2	ISS-1	ISS-0
	2	IOS-7	IOS-6	IOS-5	IOS-4	IOS-3	IOS-2	IOS-1	IOS-0

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	I-15	I-14	I-13	I-12	I-11	I-10	I-9	I-8
	2	ISS-7	ISS-6	ISS-5	ISS-4	ISS-3	ISS-2	ISS-1	ISS-0
	3	ISS-15	ISS-14	ISS-13	ISS-12	ISS-11	ISS-10	ISS-9	ISS-8
	4	IOS-7	IOS-6	IOS-5	IOS-4	IOS-3	IOS-2	IOS-1	IOS-0
	5	IOS-15	IOS-14	IOS-13	IOS-12	IOS-11	IOS-10	IOS-9	IOS-8

Standard Input Stations

FDNL-S0800-T
FDNL-S1600-T
FDNL-S1600-T-V
FDNL-N0800-T
FDNL-N1600-T
FDNL-S1600-E

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Rotary Address Switches**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <50 mA plus input currents (from DeviceNet)
- Sensor Current: <700 mA sum of all inputs (from DeviceNet)

Power Distribution

- Inputs: DeviceNet power supply

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

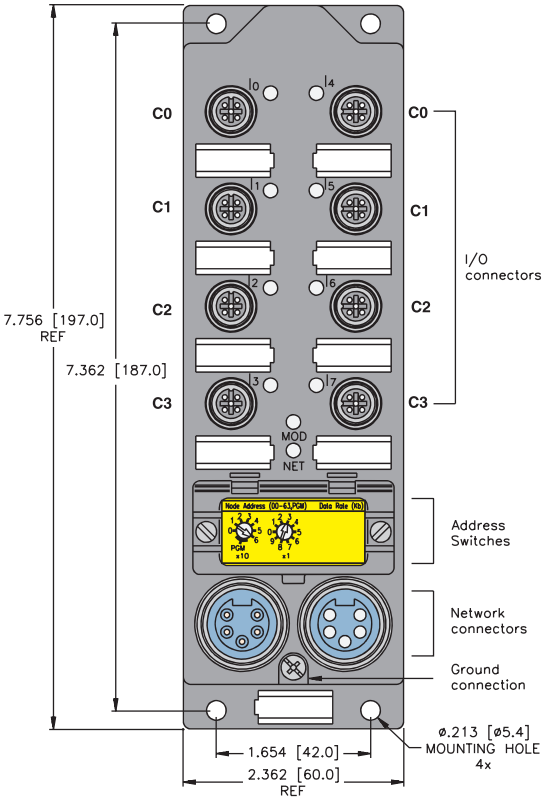
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for all inputs

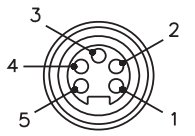
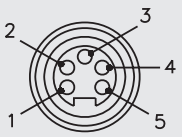
Diagnostics (Physical)

- One LED indicates a fault for the whole station
- LEDs to indicate status of DeviceNet communication



DeviceNet *minifast* Pinout

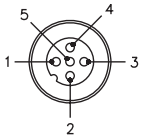
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

FDNL...T

DeviceNet *eurofast*® Pinouts

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

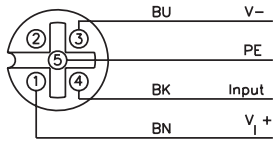
Male

5-Pin

FDNL...E

	Inputs								Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNL-S0800-T	8	0-7	S	1	PNP	X			1
FDNL-S1600-T	16	0-7	2S	2	PNP	X			2
FDNL-S1600-T-V	16	0-7	2S	2	PNP	X			2
FDNL-N0800-T	8	0-7	N	1	NPN	X			1
FDNL-N1600-T	16	0-7	2N	2	NPN	X			2
FDNL-S1600-E	16	0-7	2S	2	PNP	X			2

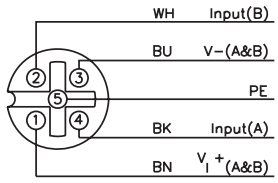
Input Connectors

S



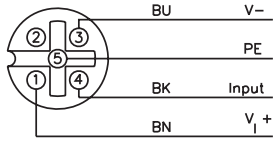
Mating cordset:
RK 4.4T-*-RS 4.4T

2S



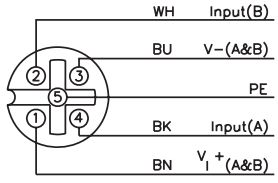
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

N



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

2N



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	-	-	-	-	-	-	-

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	I-15	I-14	I-13	I-12	I-11	I-10	I-9	I-8
	2	IGS	-	-	-	-	-	-	-

Deluxe Input/Output Station

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Input and Output on Same Connector**
- **Automatic Baud Rate Sensing**

FDNL-CPG88-T

Electrical

- Operating Current: <100 mA plus sum of I/O currents (from DeviceNet)
- Sensor Current: <120 mA per input (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: DeviceNet power supply

Mechanical

- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

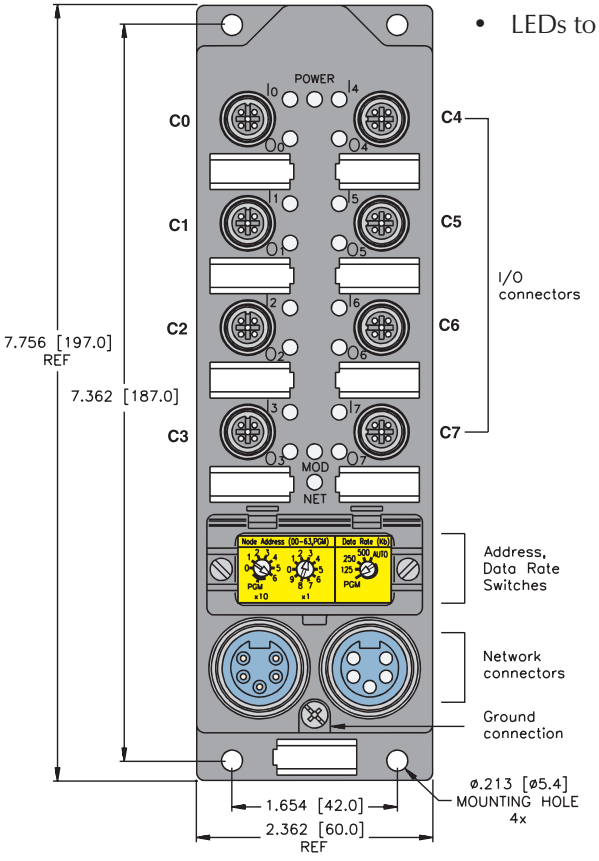
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit each per I/O point

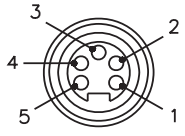
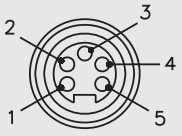
Diagnostics (Physical)

- Individual LED to indicate open/short-circuit for each channel
- LEDs to indicate status of DeviceNet communication



1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

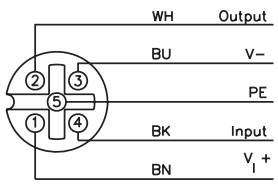
DeviceNet *minifast* Pinout

Male	Female
	
5-Pin	5-Pin

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNL-CPG88-T	8	0-7	C	1	PNP		X	X	8	0-7	C	1	0.5 A	X	X	1

Input/Output Connectors

C



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

Splitter:
VB2-RS 4.4T-1/2RK 4.4T-*/*/S651

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	ISS-7	ISS-6	ISS-5	ISS-4	ISS-3	ISS-2	ISS-1	ISS-0
	2	IOS-7	IOS-6	IOS-5	IOS-4	IOS-3	IOS-2	IOS-1	IOS-0
	3	OS-7	OS-6	OS-5	OS-4	OS-3	OS-2	OS-1	OS-0
	4	-	APS	-	-	-	-	-	-
Out	0	0-7	0-6	0-5	0-4	0-3	0-2	0-1	0-0

Standard Input/Output Station

FDNL-CSG88-T
FDNL-CSG88-T-V

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Input and Output on Same Connector**
- **Automatic Baud Rate Sensing**

Electrical
- Operating Current: <100 mA plus sum of I/O currents (from DeviceNet)
- Sensor Current: <700 mA sum of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

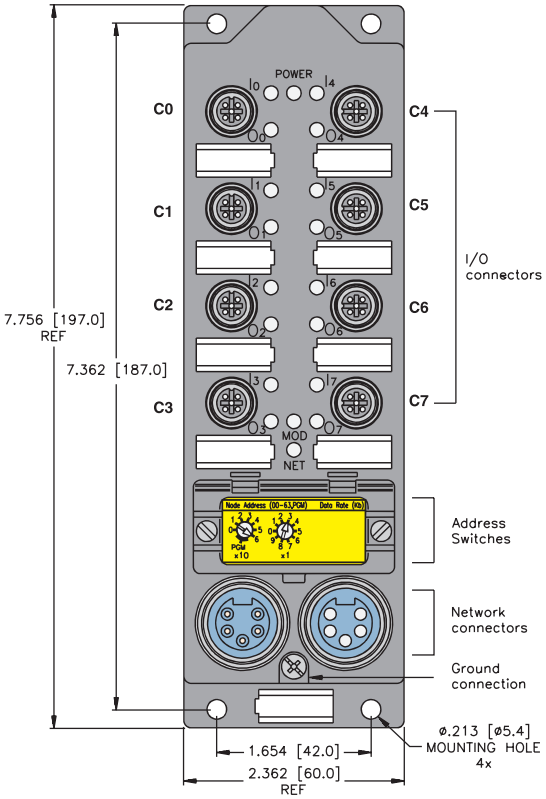
Power Distribution
- Inputs: DeviceNet power supply
- Outputs: DeviceNet power supply

Mechanical
- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

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

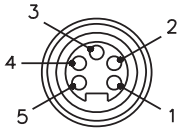
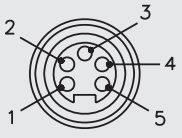
Diagnostics (Logical)
- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for all inputs, one bit for all outputs

Diagnostics (Physical)
- One LED indicates I/O fault for entire station
- LEDs to indicate status of DeviceNet communication



DeviceNet *minifast* Pinout

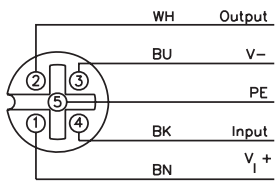
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNL-CSG88-T	8	0-7	C	1	PNP	X			8	0-7	C	1	0.5 A			1
FDNL-CSG88-T-V	8	0-7	C	1	PNP	X			8	0-7	C	1	0.5 A			1

Input/Output Connectors

C



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

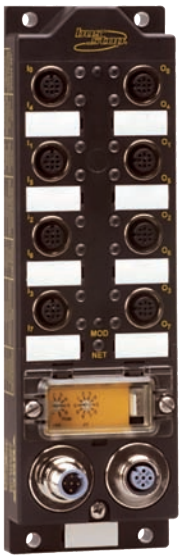
Splitter:
VB2-RS 4.4T-1/2RK 4.4T-*/*/S651

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	OGS	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0

Input/Output Station

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **DeviceNet Powered I/O**
- **Sinking Outputs**



FDNL-SN0808N-C

Electrical

- Operating Current: <75 mA (from DeviceNet)
- Sensor Current: <700 mA sum of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: DeviceNet power supply

Mechanical

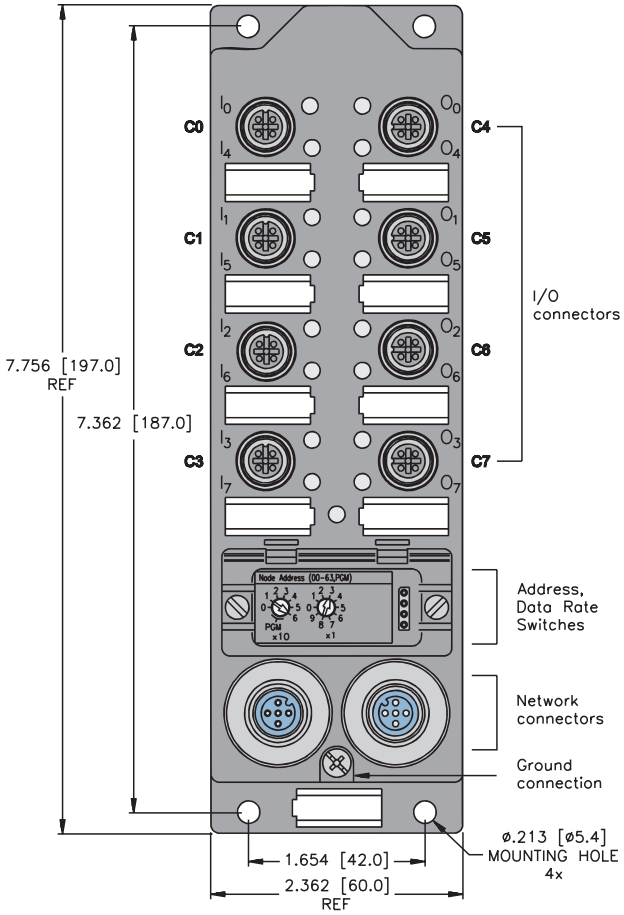
- Operating Temperature: -40 to +70 °C (-40 to +158 °F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

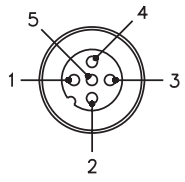
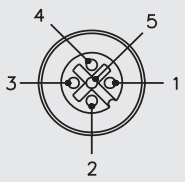
Diagnostics (Physical)

- One LED indicates a fault for the entire station
- LEDs to indicate status of DeviceNet communication



1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

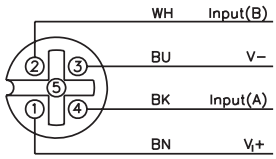
DeviceNet *eurofast* Pinout

Male	Female
	
5-Pin	5-Pin

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNL-SN0808N-C	8	0-3	2SN	2	PNP/NPN				8	4-7	2NO	2	0.5 A			1

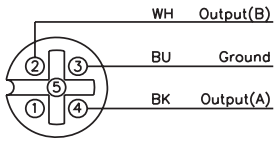
Input/Output Connectors

2SN



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

2NO



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

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	-	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0

Input/Output Station

FDNL-S1204H-0142*
FDNL-S1204H-0153

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **DeviceNet Powered I/O**
- **Sinking Outputs**

Electrical

- Operating Current: <75 mA (from DeviceNet)
- Sensor Current: <700 mA sum of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: DeviceNet power supply

Mechanical

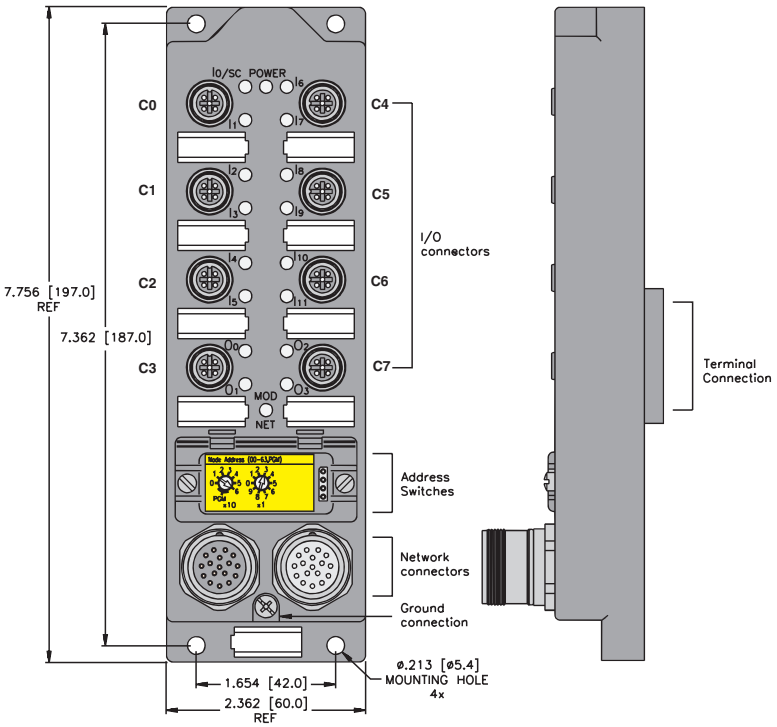
- Operating Temperature: -40 to +70 °C (-40 to +158 °F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

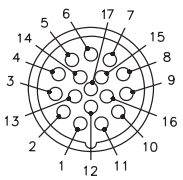
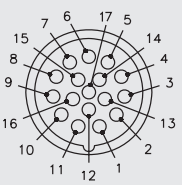
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Physical)

- One LED indicates a fault for the entire station
- LEDs to indicate status of DeviceNet communication



DeviceNet *multifast* Pinout

Male	Female
	
17-Pin	**17-Pin**

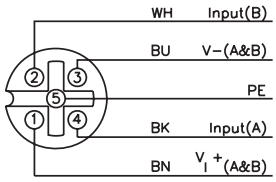
1 = 0 V, us1	10 = KSR1
2 = 0 V, US2	11 = *
3 = +24, US2	12 = Us CAN high
4 = +24, US1	13 = Devnet high
5 = PE	14 = Devnet low
6 = *	15 = RBST
7 = Us COM	16 = UL
8 = *	17 = Us CAN low
9 = KSR2	

* Rear removable terminal present on FDNL-S1204H-0142 only.

Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNL-S1204H-0142	12	0-2 4-6		2	PNP	X			4	3+7		2	2.0 A			1
FDNL-S1204H-0153	12	0-2 4-6		2	PNP	X			4	3+7		2	2.0 A			1

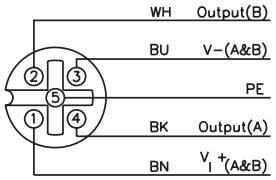
Input/Output Connectors

2S



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter: VBRS 4.4-2RK 4T-*/*

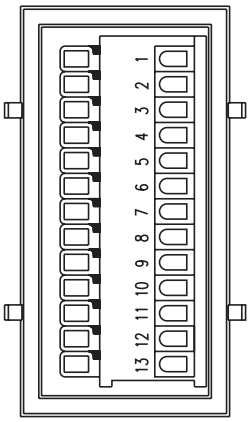
2H



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter: VBRS 4.4-2RK 4T-*/*

SIGNAL	PIN
*	6
PE	5
+24V, US1	4
+24V, US2	3
0 V, US1	1
0 V, US2	2
Us CAN high	12
Us CAN low	17
KSR2	9
KSR1	10
*	8
Us COM	7
*	11
Devnet high	13
Devnet low	14
RBST	15
UL	16

LEAD	SIGNAL
1	+24V, US2
2	OV, US1, US2
3	OV, US1, US2
4	Us CAN high
5	Us CAN low
6	KSR2
7	KSR1
8	–
9	–
10	–
11	–
12	–
13	–



I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	-	-	-	I-11	I-10	I-9	I-8
Out	0	-	-	-	-	O-3	O-2	O-1	O-0

Deluxe Input/Output Stations

FDNP-L0404G-TT
FDNP-L0808G-TT
FDNP-L0808H-TT*
FDNP-P0808H-TT*

* Not FM

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Auxiliary Powered Outputs**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <100 mA (all except ...L0404G... is <140 mA) plus sensor currents (from DeviceNet power)
- Sensor Current: <80 mA per input (from DeviceNet)
- Output Current: See table on facing page

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

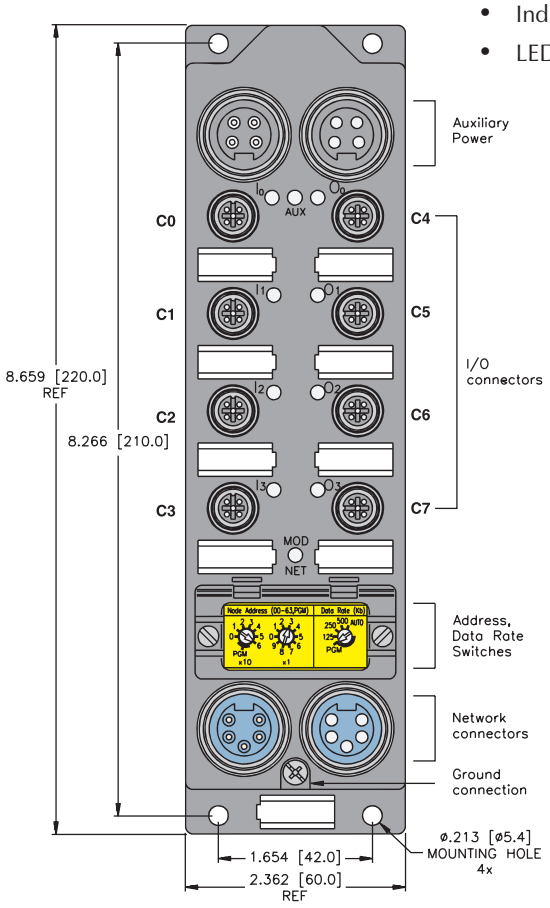
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit each per I/O point

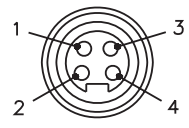
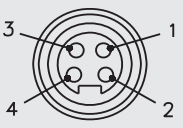
Diagnostics (Physical)

- Individual LED to indicate open/short-circuit for each channel
- LEDs to indicate status of DeviceNet communication



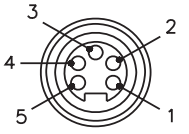
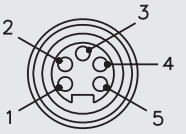
Aux. Power Pinout

1 = V_{aux}+
2 = Pass thru
3 = Pass thru
4 = V_{aux}-

Male	Female
	
4-Pin	4-Pin

DeviceNet *minifast* Pinout

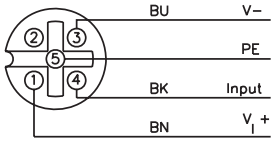
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNP-L0404G-TT	4	0-3	L	1	PNP/NPN		X	X	4	4-7	G	1	0.5 A	X	X	1
FDNP-L0808G-TT	8	0-3	2L	2	PNP/NPN		X	X	8	4-7	2G	2	0.5 A	X	X	2
FDNP-L0808H-TT	8	0-3	2L	2	PNP/NPN		X	X	8	4-7	2H	2	2 A	X	X	2
FDNP-P0808H-TT	8	0-3	2P	2	PNP		X	X	8	4-7	2H	2	2 A	X	X	2

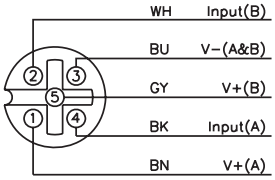
Input/Output Connectors

L



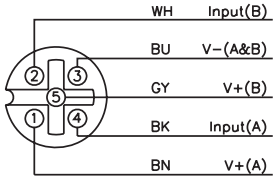
Mating cordset:
RK 4.4T-*-RS 4.4T

2L



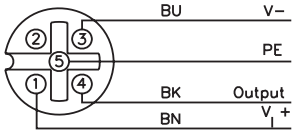
Mating cordset:
Sensor with dual outputs:
RK 4.4T-*-RS 4.4T
Two sensors:
RK 4.5T-*-RS 4.5T
Splitter:
VBRS 4.5-2RK 4T-*/*/S818

2P



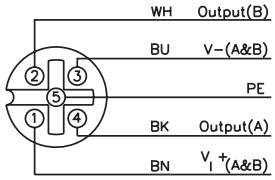
Mating cordset:
Sensor with dual outputs:
RK 4.4T-*-RS 4.4T
Two sensors:
RK 4.5T-*-RS 4.5T
Splitter:
VBRS 4.5-2RK 4T-*/*/S818

G



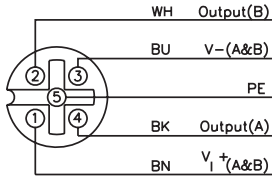
Mating cordset:
RK 4.4T-*-RS 4.4T

2G



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

2H



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	-	-	-	-	I-3	I-2	I-1	I-0
	1	IOS-3	IOS-2	IOS-1	IOS-0	ISS-3	ISS-2	ISS-1	ISS-0
	2	OOS-3	OOS-2	OOS-1	OOS-0	OSS-3	OSS-2	OSS-1	OSS-0
	3	-	APS	-	-	-	-	-	-
Out	0	-	-	-	-	O-3	O-2	O-1	O-0

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	ISS-7	ISS-6	ISS-5	ISS-4	ISS-3	ISS-2	ISS-1	ISS-0
	2	IOS-7	IOS-6	IOS-5	IOS-4	IOS-3	IOS-2	IOS-1	IOS-0
	3	OS-7	OS-6	OS-5	OS-4	OS-3	OS-2	OS-1	OS-0
	4	-	APS	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0

Deluxe Input/Output Station

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Auxiliary Powered I/O**
- **Automatic Baud Rate Sensing**

FDNP-CPG88-TT

Electrical

- Operating Current: <30 mA (from DeviceNet)
- Sensor Current: <120 mA per input (from Auxiliary power)
- Output Current: <0.5 A per output (from Auxiliary power)

Power Distribution

- Inputs: Auxiliary power supply
- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

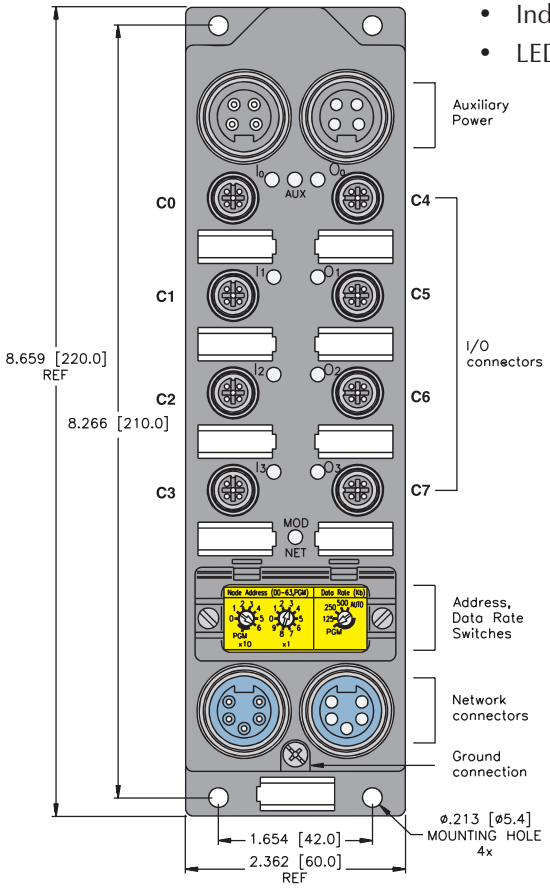
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit each per I/O point

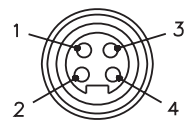
Diagnostics (Physical)

- Individual LED to indicate open/short-circuit for each channel
- LEDs to indicate status of DeviceNet communication



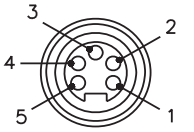
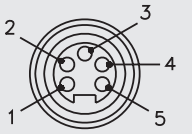
Aux. Power Pinout

1 = V_{aux}+
2 = Pass thru
3 = Pass thru
4 = V_{aux}-

Male	Female
	
4-Pin	4-Pin

DeviceNet *minifast* Pinout

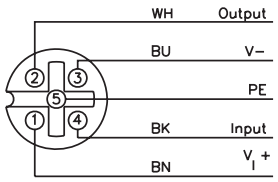
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNP-CPG88-TT	8	0-7	C	1	PNP		X	X	8	0-7	C	1	0.5 A	X	X	1

Input/Output Connectors

C



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

Splitter:
VB2-RS 4.4T-1/2RK 4.4T-*/*/S651

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	ISS-7	ISS-6	ISS-5	ISS-4	ISS-3	ISS-2	ISS-1	ISS-0
	2	IOS-7	IOS-6	IOS-5	IOS-4	IOS-3	IOS-2	IOS-1	IOS-0
	3	OS-7	OS-6	OS-5	OS-4	OS-3	OS-2	OS-1	OS-0
	4	-	APS	-	-	-	-	-	-
Out	0	0-7	0-6	0-5	0-4	0-3	0-2	0-1	0-0

Standard Output Stations

FDNP-S0008G-TT
FDNP-S0008G-TT-V
FDNP-S0008H-TT*
FDNP-S0016N-TT-0200*
*Not FM

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Auxiliary Powered Outputs**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <140 mA (FDNP...G-TT), <50 mA (FDNP...H-TT), <75 mA (FDNP...0200) (from DeviceNet)
- Output Current: see table on facing page (from aux. power)

Power Distribution

- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

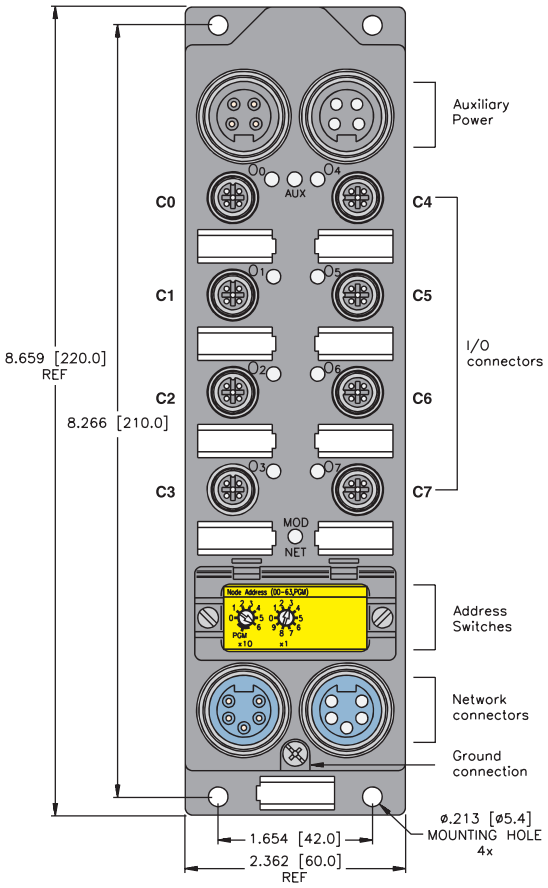
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- short-circuit status mapped to DeviceNet I/O table, one bit per each I/O point (except FDNP...0200 has no diagnostic data)

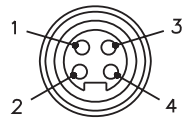
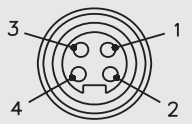
Diagnostics (Physical)

- Individual LED to indicate open/short-circuit for each channel (except FDNP...0200 has one LED indicating a short for all I/O points)



Aux. Power Pinout

1 = V_{AUX}+
2 = Pass thru
3 = Pass thru
4 = V_{AUX}-

Male	Female
	
4-Pin	4-Pin

FDNP...TT

Aux. Power Pinout

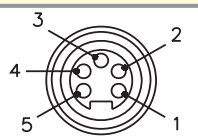
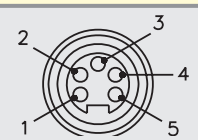
Male	Female
	
4-Pin	4-Pin

1 = V_{AUX}+
2 = V_{IN}+
3 = V_{IN}-
4 = V_{AUX}-

FDNP...0200

DeviceNet *minifast* Pinout

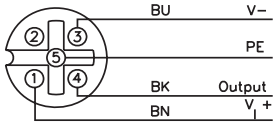
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

	Outputs							Data
Part Number	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNP-S0008G-TT	8	0-7	G	1	0.5 A	X		1
FDNP-S0008G-TT-V	8	0-7	G	1	0.5 A	X		1
FDNP-S0008H-TT	8	0-7	H	1	1.4 A	X		1
FDNP-S0016N-TT-0200	16	0-7	2GN	2	0.5 A			2

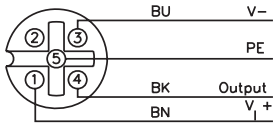
Output Connectors

G



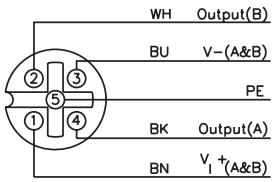
Mating cordset:
RK 4.4T-*-RS 4.4T

H



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

2GN



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

Splitter:
VBRS 4.4-2RK 4T-*/*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	OS-7	OS-6	OS-5	OS-4	OS-3	OS-2	OS-1	OS-0
Out	0	0-7	0-6	0-5	0-4	0-3	0-2	0-1	0-0

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Out	0	0-7	0-6	0-5	0-4	0-3	0-2	0-1	0-0
	1	0-15	0-14	0-13	0-12	0-11	0-10	0-9	0-8

Standard Input Station

FDNP-N1600-TT-0197

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Auxiliary Powered Inputs**
- **Automatic Baud Rate Sensing**

Electrical
- Operating Current: <20 mA (from DeviceNet)
- Sensor Current: <700 mA total of all inputs (from V_{IN} power)

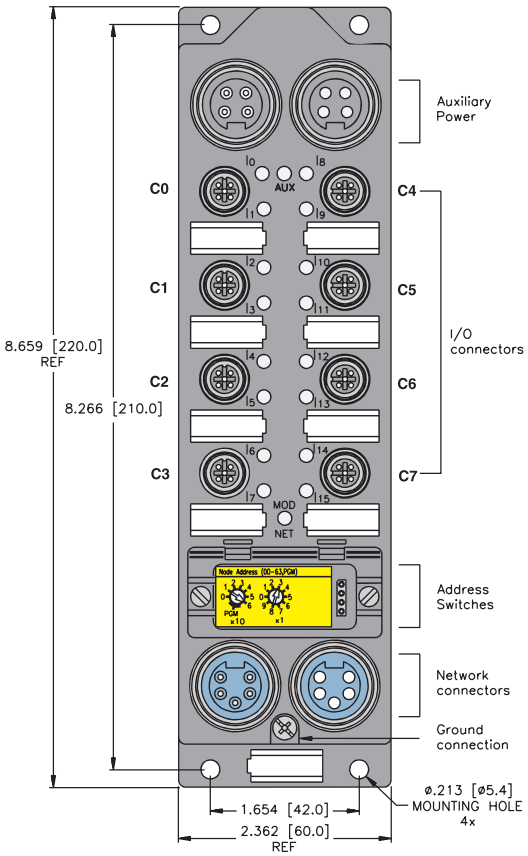
Power Distribution
- Inputs: Auxiliary (V_{IN}) power supply

Mechanical
- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

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

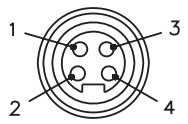
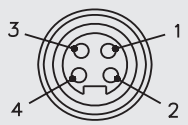
Diagnostics (Logical)
- No diagnostic data

Diagnostics (Physical)
- One LED indicates a fault for the entire station
- LEDs to indicate status of DeviceNet communication



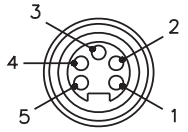
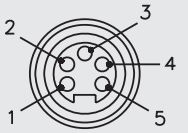
Aux. Power Pinout

1 = V_{AUX}+
2 = V_{IN}+
3 = V_{IN}-
4 = V_{AUX}-

Male	Female
	
4-Pin	4-Pin

DeviceNet *minifast* Pinout

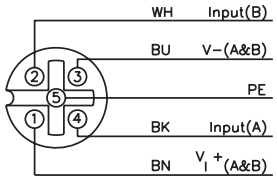
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

	Inputs								Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNP-N1600-TT-0197	16	0-7	2S	2	NPN				1

Input Connectors

2S



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

Splitter:
VBRS 4.4-2RK 4T-*/*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	I-15	I-14	I-13	I-12	I-11	I-10	I-9	I-8

Standard Input/Output Stations

FDNP-S0404G-TT
FDNP-S0808G-TT
FDNP-CSG88-TT
FDNP-XSG16-TT
FDNP-S1204H-TT-0149*

* Not FM Approved

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Auxiliary Powered**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus applicable input currents (from DeviceNet)
- Sensor Current: <700 mA total (from DeviceNet except FDNP-CSG… and FDNP-XSG...) per input
- Output Current: See table on facing page

Power Distribution

- Inputs: DeviceNet power supply (except FDNP-CSG… and FDNP-XSG… from Auxiliary supply)
- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

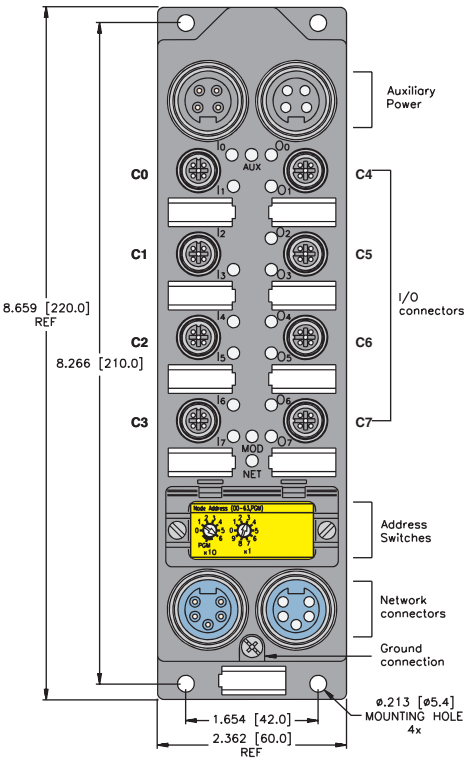
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

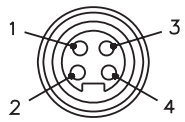
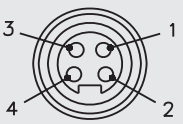
- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates fault for entire station (FDNP-CSG88-TT maps one bit for all inputs and one bit for each output point)

Diagnostics (Physical)

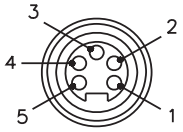
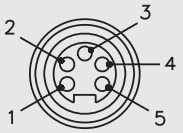
- One LED indicates fault for entire station
- LEDs to indicate status of DeviceNet communication



Aux. Power Pinout

	Male	Female
1 = V_{AUX}+ 2 = Pass thru 3 = Pass thru 4 = V_{AUX}-		
	4-Pin	4-Pin

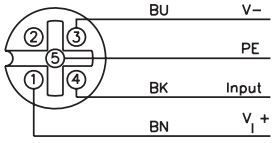
DeviceNet *minifast* Pinout

	Male	Female
1 = Shield 2 = V+ 3 = V- 4 = CAN_H 5 = CAN_L		
	5-Pin	5-Pin

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNP-S0404G-TT	4	0-3	S	1	PNP	X			4	4-7	G	1	0.5 A			1
FDNP-S0808G-TT	8	0-3	2S	2	PNP	X			8	4-7	2G	2	0.5 A			2
FDNP-CSG88-TT	8	0-7	C	1	PNP	X			8	0-7	C	1	0.5 A	X		5
FDNP-XSG16-TT	16	0-7	2X	2	PNP	X			16	0-7	2X	2	0.5 A			4
FDNP-S1204H-TT-0149	12	0-2, 4-6	2S	2	PNP	X			4	3, 7	2H	2	1.4 A			3

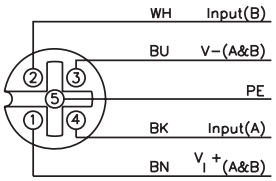
Input/Output Connectors

S



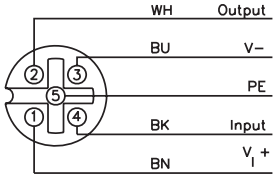
Mating cordset:
RK 4.4T-*-RS 4.4T

2S



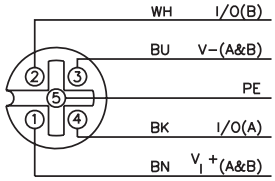
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter: VBRS 4.4-2RK 4T-*/*

C



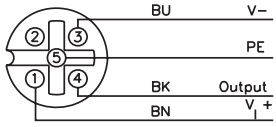
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter: VB2-RS 4.4T-1/2RK 4.4T-*/*/S651

2X



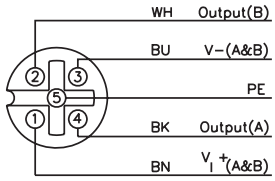
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter: VBRS 4.4-2RK 4T-*/*

G



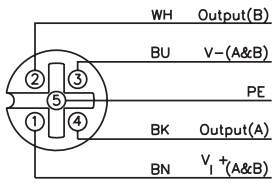
Mating cordset:
RK 4.4T-*-RS 4.4T

2G



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter: VBRS 4.4-2RK 4T-*/*

2H



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter: VBRS 4.4-2RK 4T-*/*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	IGS	OGS	-	-	I-3	I-2	I-1	I-0
Out	0	-	-	-	-	O-3	O-2	O-1	O-0

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	OGS	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0

I/O Data Map 3

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	OGS	-	-	I-11	I-10	I-9	I-8
Out	0	-	-	-	-	O-3	O-2	O-1	O-0

I/O Data Map 4

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	I-15	I-14	I-13	I-12	I-11	I-10	I-9	I-8
	2	IGS	OGS						
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0
	1	O-15	O-14	O-13	O-12	O-11	O-10	O-9	O-8

I/O Data Map 5

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	OS-7	OS-6	OS-5	OS-4	OS-3	OS-2	OS-1	OS-0
	2	IGS	-	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0

Deluxe Input/Output Station

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Auxiliary Powered Outputs**
- **Automatic Baud Rate Sensing**

FDNP-P1204G-TT

Electrical

- Operating Current: <100 mA plus sum of input currents (from DeviceNet)
- Sensor Current: <80 mA per input (from DeviceNet)
- Output Current: <0.5 A per output (from Auxiliary power)

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

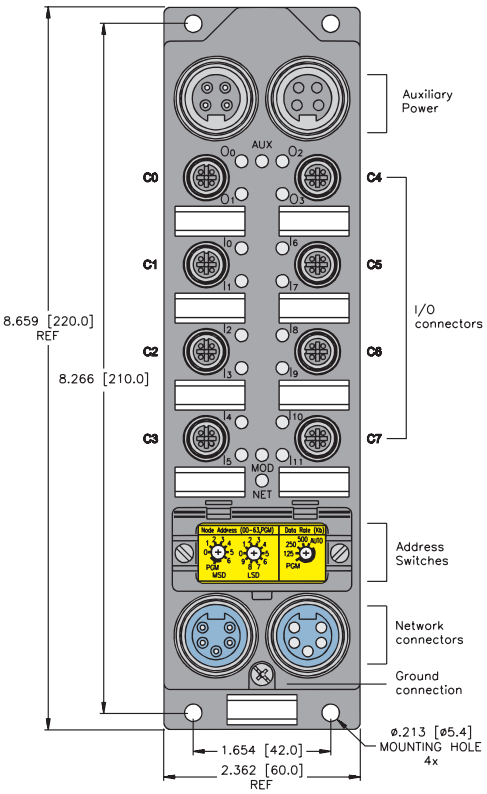
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit for each I/O point

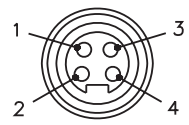
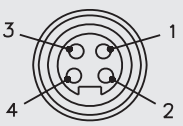
Diagnostics (Physical)

- Individual LED to indicate open/short-circuit for each channel
- LEDs to indicate status of DeviceNet communication



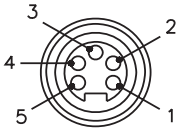
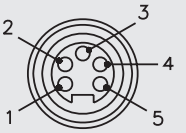
1 = V_{AUX}+
2 = pass thru
3 = pass thru
4 = V_{AUX}-

Aux. Power Pinout

Male	Female
	
4-Pin	4-Pin

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

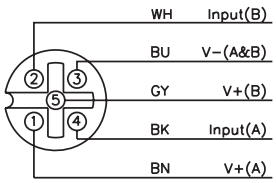
DeviceNet *minifast* Pinout

Male	Female
	
5-Pin	5-Pin

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNP-P1204G-TT	12	0-2, 4-6	2P	2	PNP		X	X	4	3, 7	2G	2	0.5 A	X	X	1

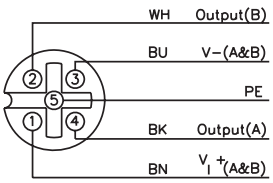
Input/Output Connectors

2P



Mating cordset:
Sensor with dual outputs:
RK 4.4T-*-RS 4.4T
Two sensors:
RK 4.5T-*-RS 4.5T
Splitter:
VBRS 4.5-2RK 4T-*/*/S818

2G



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	-	APS	-	-	I-11	I-10	I-9	I-8
	2	ISS-7	ISS-6	ISS-5	ISS-4	ISS-3	ISS-2	ISS-1	ISS-0
	3	OSS-3	OSS-2	OSS-1	OSS-0	ISS-11	ISS-10	ISS-9	ISS-8
	4	IOS-7	IOS-6	IOS-5	IOS-4	IOS-3	IOS-2	IOS-1	IOS-0
	5	OOS-3	OOS-2	OOS-1	OOS-0	IOS-11	IOS-10	IOS-9	IOS-8
Out	0	-	-	-	-	0-3	0-2	0-1	0-0

Standard Input/Output Stations

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Screw Terminal Connections**
- **Automatic Baud Rate Sensing**

FDNP-S0808G-ST
FDNP-XSG16-ST

Electrical

- Operating Current: <75 mA from DeviceNet (for ...S0808G… add input currents)
- Sensor Current: <700 mA total of all inputs (...S0808G… From DeviceNet, ...XSG16… from aux. Power)
- Output Current: <500 mA per output (from aux. power)

Power Distribution

- Inputs: ...S0808G… from DeviceNet power supply, ...XSG16… From Auxiliary power supply
- Outputs: Auxiliary power supply

Mechanical

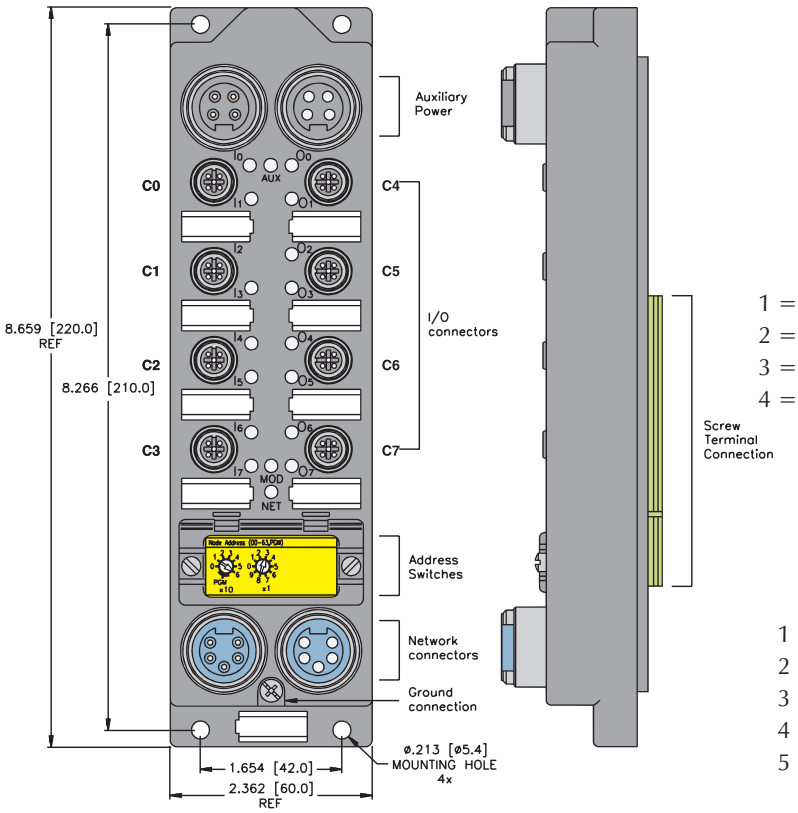
- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for the entire station

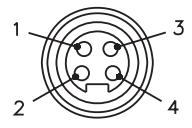
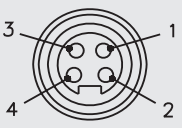


Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication

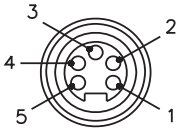
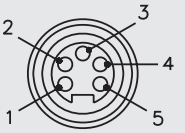
1 = V_{AUX}+
2 = pass thru
3 = pass thru
4 = V_{AUX}-

Aux. Power Pinout

Male	Female
	
4-Pin	4-Pin

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

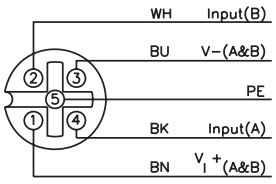
DeviceNet *minifast* Pinout

Male	Female
	
5-Pin	5-Pin

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNP-S0808G-ST	8	0-3	2S, ST1	2	PNP	X			8	4-7	2G, ST1	2	0.5 A			1
FDNP-XSG16-ST	16	0-7	2X, ST2	2	PNP	X			16	0-7	2X ST2	2	0.5 A			2

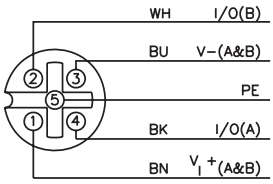
Input/Output Connectors

2S



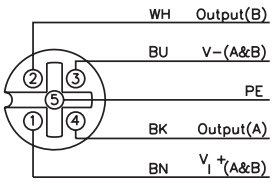
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

2X



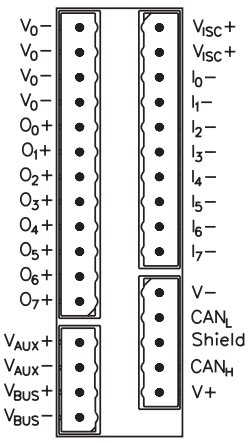
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

2G

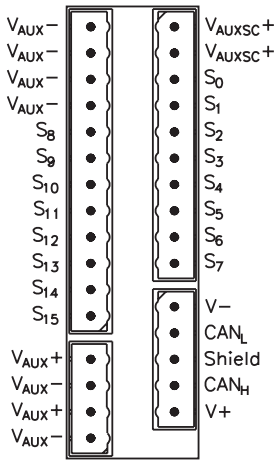


Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

ST1



ST2



NOTE: V_{ISC} is from DeviceNet power supply.
V_O is from Auxiliary power supply.

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	OGS	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	I-15	I-14	I-13	I-12	I-11	I-10	I-9	I-8
	2	IGS	OGS	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0
	1	O-15	O-14	O-13	O-12	O-11	O-10	O-9	O-8

Standard Input Stations

FDNQ-S0200-T*
FDNQ-S0400-T
FDNQ-S0800-T
FDNQ-S0400-C

* Not FM Approved

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Compact Housing**
- **Automatic Baud Rate Sensing**

Electrical
- Operating Current: <75 mA plus total of input currents (from DeviceNet)
- Sensor Current: <700 mA sum of all inputs (from DeviceNet)

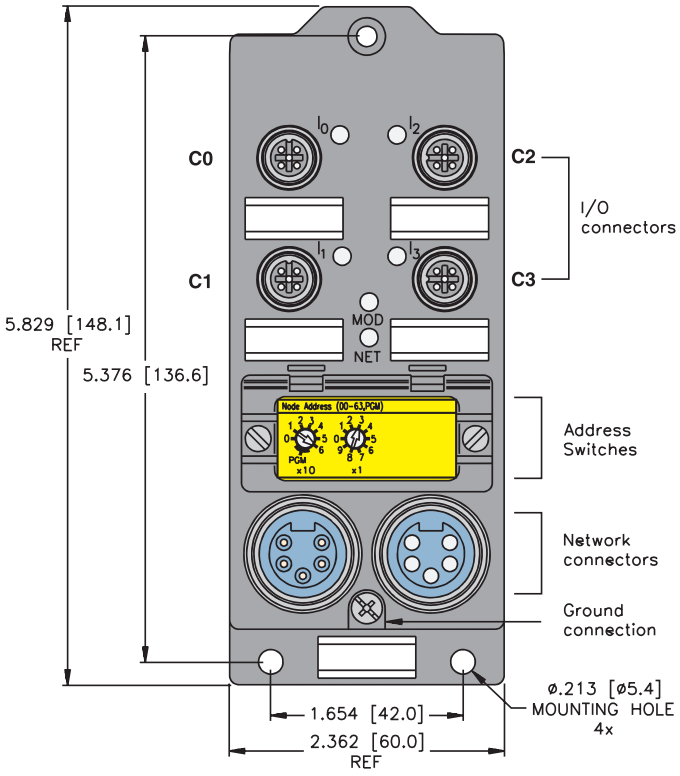
Power Distribution
- Inputs: DeviceNet power supply

Mechanical
- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

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

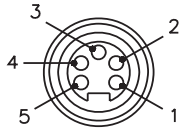
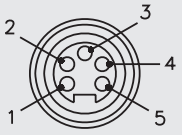
Diagnostics (Logical)
- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates fault for entire station

Diagnostics (Physical)
- One LED indicates fault for entire station
- LEDs to indicate status of DeviceNet communication



DeviceNet *minifast* Pinout

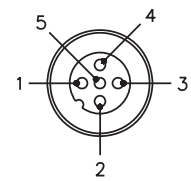
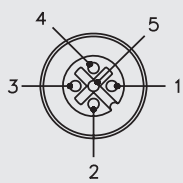
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

FDNQ...T

DeviceNet *eurofast* Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

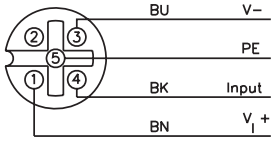
Male	Female
	
5-Pin	5-Pin

FDNQ...C

	Inputs								Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNQ-S0200-T	2	0,2	S	1	PNP	X			3
FDNQ-S0400-T	4	0-3	S	1	PNP	X			1
FDNQ-S0800-T	8	0-3	2S	2	PNP	X			2
FDNQ-S0400-C	4	0-3	S	1	PNP	X			1

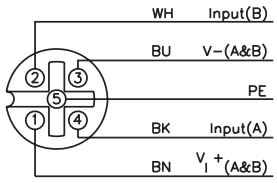
Input Connectors

S



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

2S



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

Splitter:
VBRS 4.4-2RK 4T-*/*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	IGS	-	-	-	I-3	I-2	I-1	I-0

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	-	-	-	-	-	-	-

I/O Data Map 3

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	IGS	-	-	-	-	-	I-1	I-0

Standard Output Station

FDNQ-S0002G-T

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Compact Housing**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus total of all output currents (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

Power Distribution

- Outputs: DeviceNet power supply

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

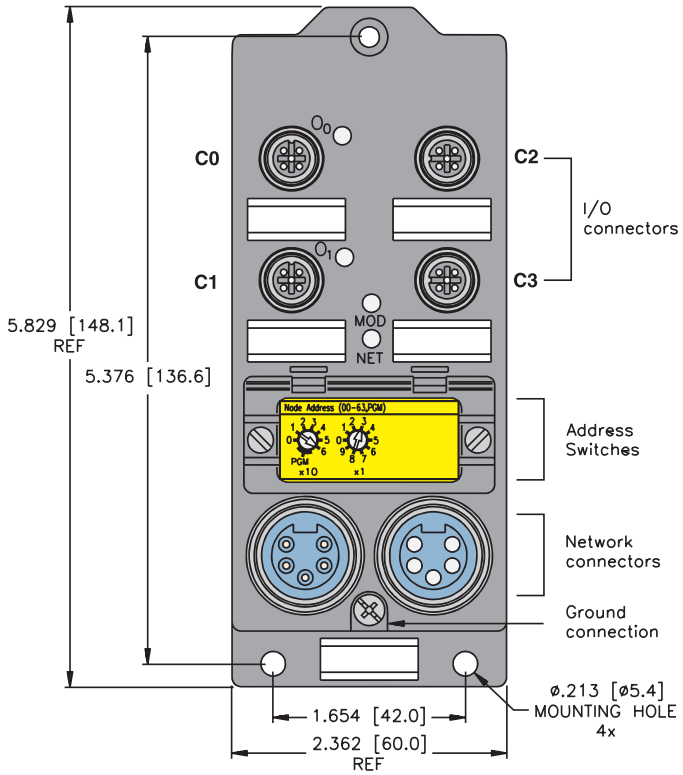
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit each per I/O point

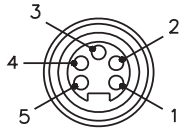
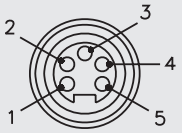
Diagnostics (Physical)

- Individual LED to indicate open/short-circuit for each channel
- LEDs to indicate status of DeviceNet communication



1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

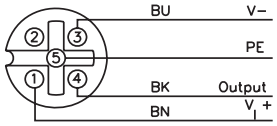
DeviceNet *minifast* Pinout

Male	Female
	
5-Pin	5-Pin

	Outputs							Data
Part Number	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNQ-S0002G-T	2	0, 2	G	1	0.5 A	X		1

Output Connectors

G



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

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	-	-	-	-	-	-	OS-1	OS-0
Out	0	-	-	-	-	-	-	O-1	O-0

Standard Input/Output Stations

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **DeviceNet Powered I/O**
- **Compact Housing**

FDNQ-S0201G-T*
FDNQ-CSG44-T
FDNQ-S0404G-T
FDNQ-XSG08-T
FDNQ-CSG44-E

* Not CSA Approved

Electrical

- Operating Current: <75 mA plus total of all I/O current (from DeviceNet)
- Sensor Current: <700 mA total of all inputs (from DeviceNet)

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: DeviceNet power supply

Mechanical

- Operating Temperature: -40 to +70 °C (-40 to +158 °F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

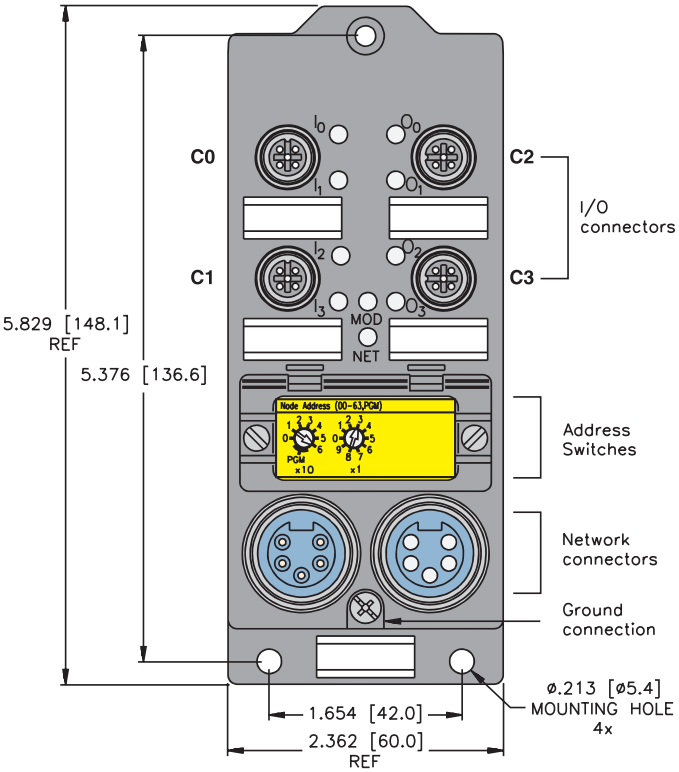
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates fault for entire station (...S0201G-T has one dedicated bit to indicate a fault for the output point as well)

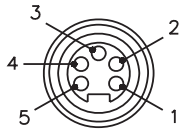
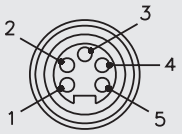
Diagnostics (Physical)

- One LED indicates fault for entire station
- LEDs to indicate status of DeviceNet communication



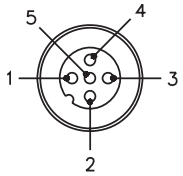
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

DeviceNet *minifast* Pinout

Male	Female
	
5-Pin	5-Pin

DeviceNet Pinout

eurofast Male



5-Pin

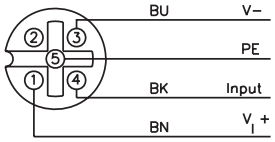
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

FDNQ...-E

	Inputs								Outputs								Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map	
FDNQ-SO201G-T	2	0	2S	2	PNP	X			1	1	G	1	0.5 A	X		1	
FDNQ-CSG44-T	4	0-3	C	1	PNP	X			4	0-3	C	1	0.5 A			2	
FDNQ-SO404G-T	4	0-1	2S	2	PNP	X			4	2-3	2G	2	0.5 A			2	
FDNQ-XSG08-T	8	0-3	2X	2	PNP	X			8	0-3	2X	2	0.5 A			3	
FDNQ-CSG44-E	4	0-3	C	1	PNP	X			4	0-3	C	1	0.5 A			2	

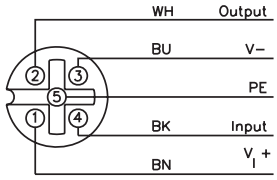
Input/Output Connectors

S



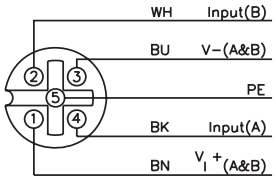
Mating cordset:
RK 4.4T-*-RS 4.4T

C



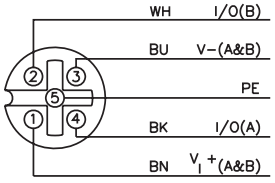
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VB2-RS 4.4T-1/2RK 4.4T-*/*/S651

2S



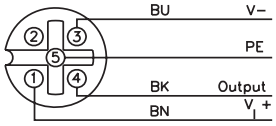
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

2X



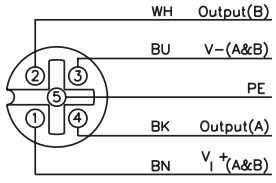
Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

G



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

2G



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	IGS	-	-	-	-	OS-0	I-1	I-0
Out	0	-	-	-	-	-	-	-	0-0

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	IGS	OGS	-	-	I-3	I-2	I-1	I-0
Out	0	-	-	-	-	0-3	0-2	0-1	0-0

I/O Data Map 3

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	OGS	-	-	-	-	-	-
Out	0	0-7	0-6	0-5	0-4	0-3	0-2	0-1	0-0

Standard Input/Output Station

FDNQ-S0404G-MM

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Auxiliary Powered Outputs**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus total of input currents (from DeviceNet)
- Sensor Current: <700 mA total of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from Auxiliary power)

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

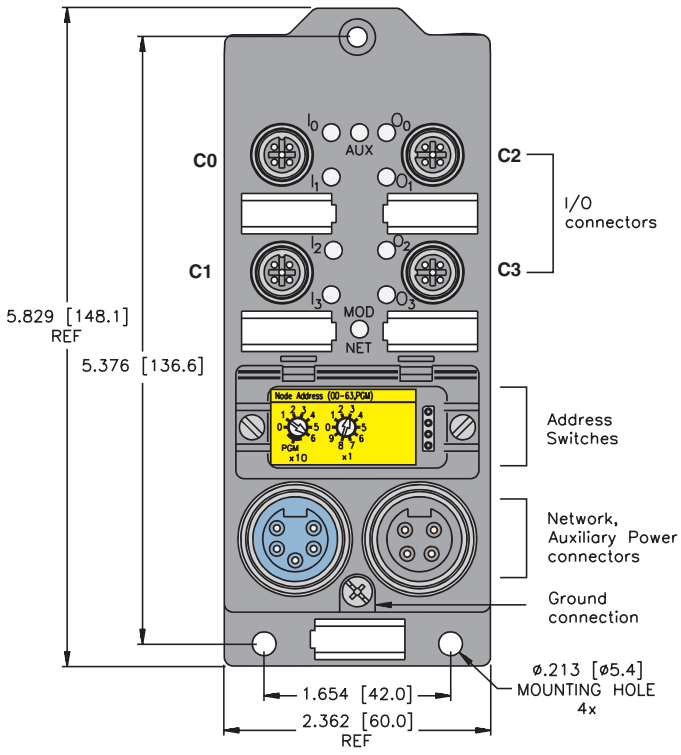
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates fault for entire station

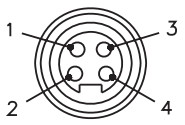
Diagnostics (Physical)

- One LED indicates a fault for the entire station
- LEDs to indicate status of DeviceNet communication



Aux. Power Pinout

minifast Male

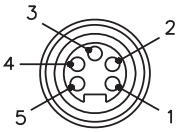


4-Pin

1 = V_{AUX}+
2 = NC
3 = NC
4 = V_{AUX}-

DeviceNet Pinout

minifast Male



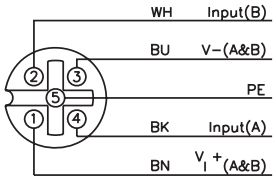
5-Pin

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNQ-SO404G-MM	4	0-1	2S	2	PNP	X			4	2-3	2G	2	0.5 A	X		1

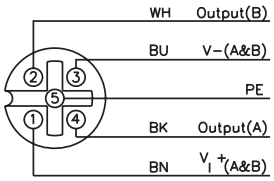
Input/Output Connectors

2S



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

2G



Mating cordset:
RK 4.4T-*-RS 4.4T
Splitter:
VBRS 4.4-2RK 4T-*/*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	IGS	OGS	-	-	I-3	I-2	I-1	I-0
Out	0	-	-	-	-	O-3	O-2	O-1	O-0

Analog Input Station

FDNQ-4AI-I-T

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Compact Housing**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <100 mA plus sum of input currents (from DeviceNet)
- Sensor Current: 0-20 mA or 4-20 mA analog signal (16-bit signed integer). The 0-20 mA or 4-20 mA range can be adjusted via rotary switch on front of station.

Power Distribution

- Inputs: DeviceNet power supply

Mechanical

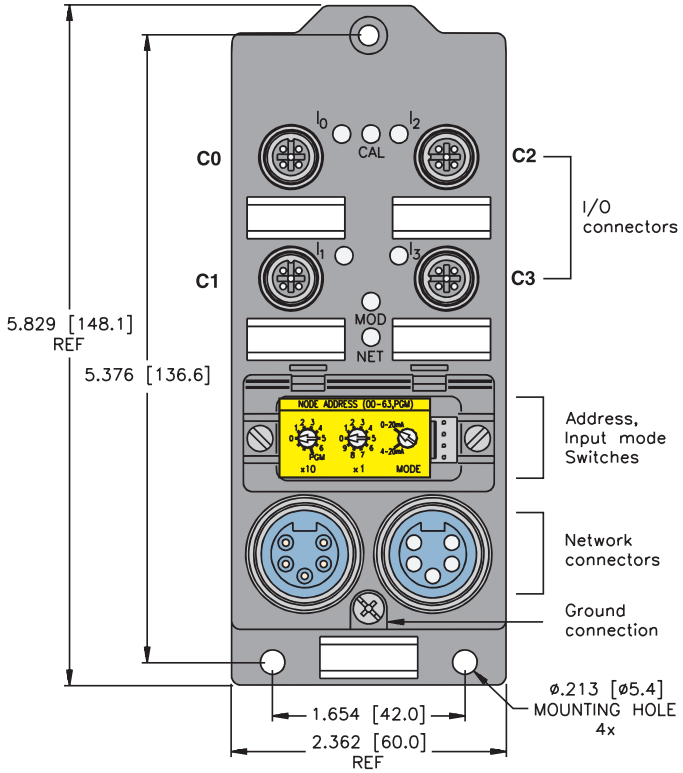
- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

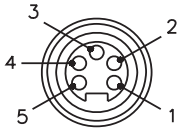
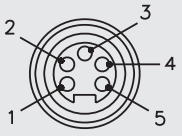
Diagnostics (Physical)

- LEDs to indicate status of DeviceNet communication



1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

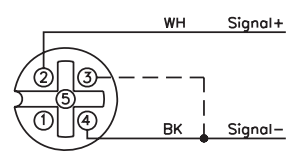
DeviceNet *minifast* Pinout

Male	Female
	
5-Pin	5-Pin

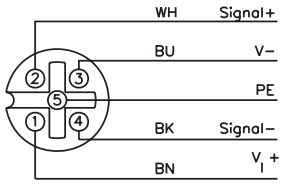
	Inputs								Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNQ-4AI-I-T	4	0-3	AI-I	1	0-20 mA or 4-20 mA				1

Input Connectors

AI-I



Loop Powered (Isolated)



DeviceNet Powered Transducer

Mating cordset:

Isolated Loop:

RK 4.5T-*M-RS 4.5T/S653

Loop Powered:

RK 4.5T-*M-RS 4.5T/LPS/S653

Note: The "LPS" in the part number indicates that the cord jumpers pin 3 to pin 4 on the male side to the signal- to the station common. Pin 3 is not connected at the female end.

Applications:

TURCK Sensors:
LU; RK 4.4T-*-RS 4.4T/S1118

LI; RK 4.4T-*-*RS 4.4T/S1120

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	Channel 0, LSB							
	1	Channel 0, MSB							
	2	Channel 1, LSB							
	3	Channel 1, MSB							
	4	Channel 2, LSB							
	5	Channel 2, MSB							
	6	Channel 3, LSB							
	7	Channel 3, MSB							

Analog Input Station

FDNQ-4AI-V/I-T

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Compact Housing**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <100 mA plus sum of input currents (from DeviceNet)
- Sensor Current: 0-20 mA or 4-20 mA analog signal (16-bit signed integer)
- Sensor Voltage: 0 to 10 V or -10 to +10 V Analog signal (16 bit signed integer)

  The voltage/current ranges can be adjusted via rotary switch on front of station.

Power Distribution

- Inputs: DeviceNet power supply

Mechanical

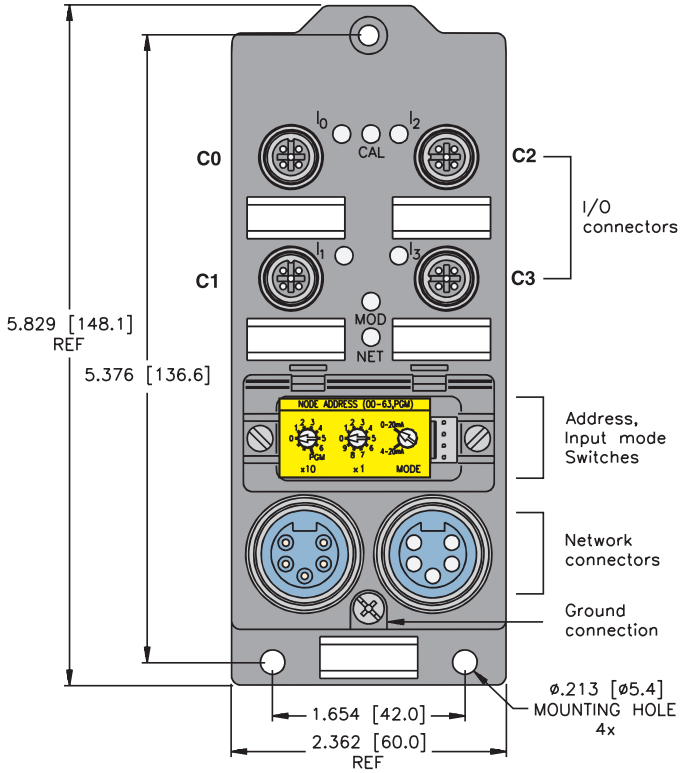
- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

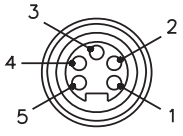
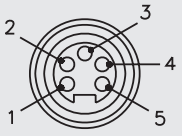
Diagnostics (Physical)

- LEDs to indicate status of DeviceNet communication



1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

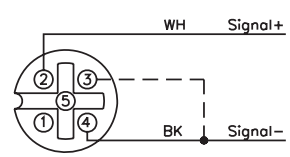
DeviceNet *minifast* Pinout

Male	Female
	
5-Pin	5-Pin

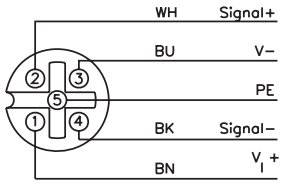
	Inputs								Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNQ-4AI-V/I-T	4	0-3	AI-I	1	0-20 mA, 4-20 mA 0-10 V -10 to +10 V				1

Input Connectors

AI-I



Loop Powered (Isolated)



DeviceNet Powered Transducer

Mating cordset:

Isolated Loop:

RK 4.5T-*M-RS 4.5T/S653

Loop Powered:

RK 4.5T-*M-RS 4.5T/LPS/S653

Note: The "LPS" in the part number indicates that the cord jumpers pin 3 to pin 4 on the male side to the signal- to the station common. Pin 3 is not connected at the female end.

Applications:

TURCK Sensors:
LU; RK 4.4T-*-RS 4.4T/S1118

LI; RK 4.4T-*-*RS 4.4T/S1120

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	Channel 0, LSB							
	1	Channel 0, MSB							
	2	Channel 1, LSB							
	3	Channel 1, MSB							
	4	Channel 2, LSB							
	5	Channel 2, MSB							
	6	Channel 3, LSB							
	7	Channel 3, MSB							

The E-*connect* system

Safely stopping motion is becoming more critical as machinery and systems become more automated. Where once a machine was controlled by one person, today we have many interconnect machines that are controlled by Industrial PCs and PLCs. Motion may start automatically without warning, and some of today's equipment is almost silent in comparision to the background noise of the factory.

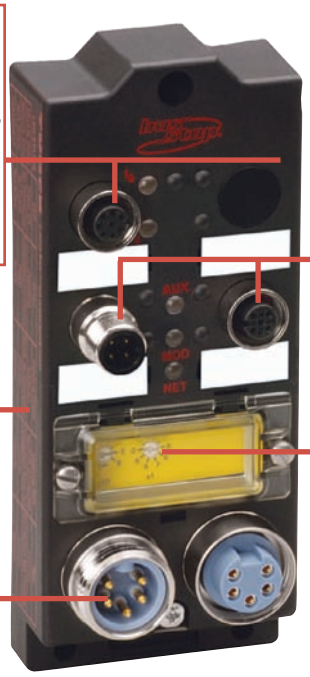
TURCK has developed three systems to quickly connectorize standard e-stop devices.
1) Series E-*connect*
2) Series E-*connect* with bus monitoring and annunciation
3) Dedicated E-*connect*

Series E-connect
Series connection of redundant e-stop device contacts is one of the most common ways in North America to provide machine safety for personnel. Two isolated circuits go from the safety relay module to the redundant contacts of each emergency stop devices.

Dedicated E-connect
Two dedicated circuits go from the safety relay module to redundant contacts of a single emergency stop, or safeguarding device.

E-*connect* Station

8 Pin *eurofast* ® for quick connection to E-Stop devices
- **4-wires for redundant safety circuit contacts**
- **2-wires for monitoring contacts**
- **2-wires for optional local annunciation controlled via DeviceNet™**



4 Pin *eurofast* ® for quick series connection of E-*connect* stations to a safety relay module
- **2-isolated wires for redundant safety circuits**
- **2-wires for auxiliary power for local pilot light annunciation**

Less than 50 mA current consumption on DeviceNet™ power bus

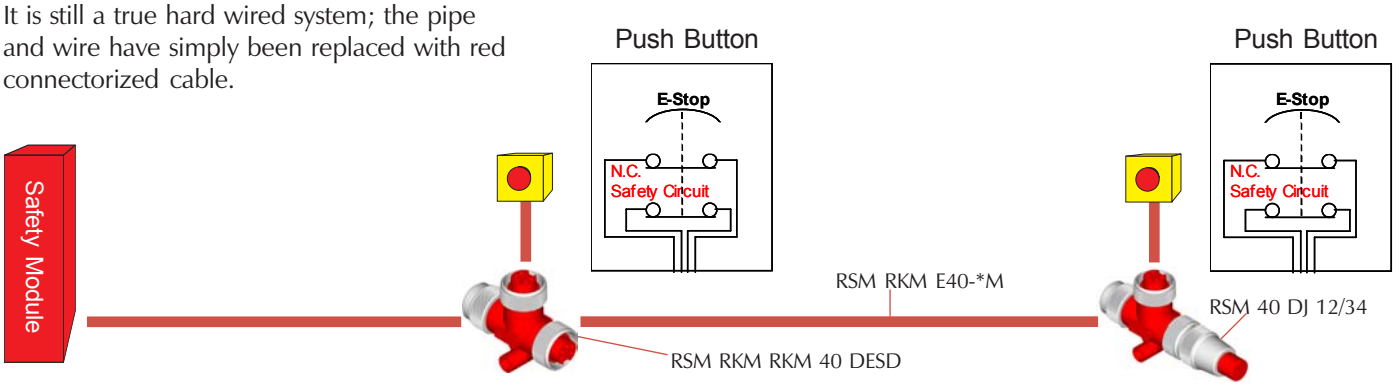
Visible Rotary Address Switches

5 Pin *minifast* ® DeviceNet connectors

Advantages
- Tremendous savings in startup and trouble shooting time
- DeviceNet PLC monitors the state of the safety switch
- Easy to integrate into any DeviceNet station
- Provides quick connection to standard e-stop devices and safety relays

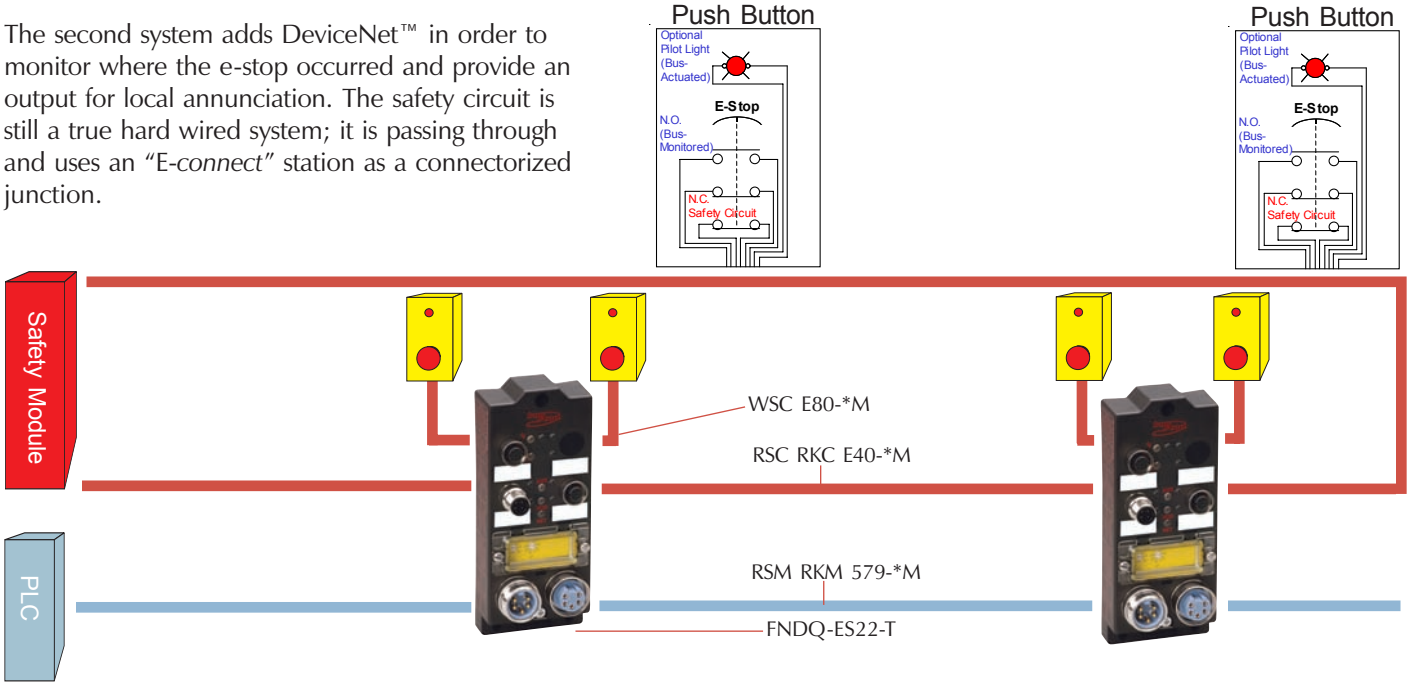
Series E-*connect*

The series E-*connect* system provides quick, basic e-stop with a total of only seven different components and cabling. The red cables, tees and mini connectors assemble quickly and can be maintained easily. Its only difference from a standard pipe and wire solution is that it is connectorized. It is still a true hard wired system; the pipe and wire have simply been replaced with red connectorized cable.



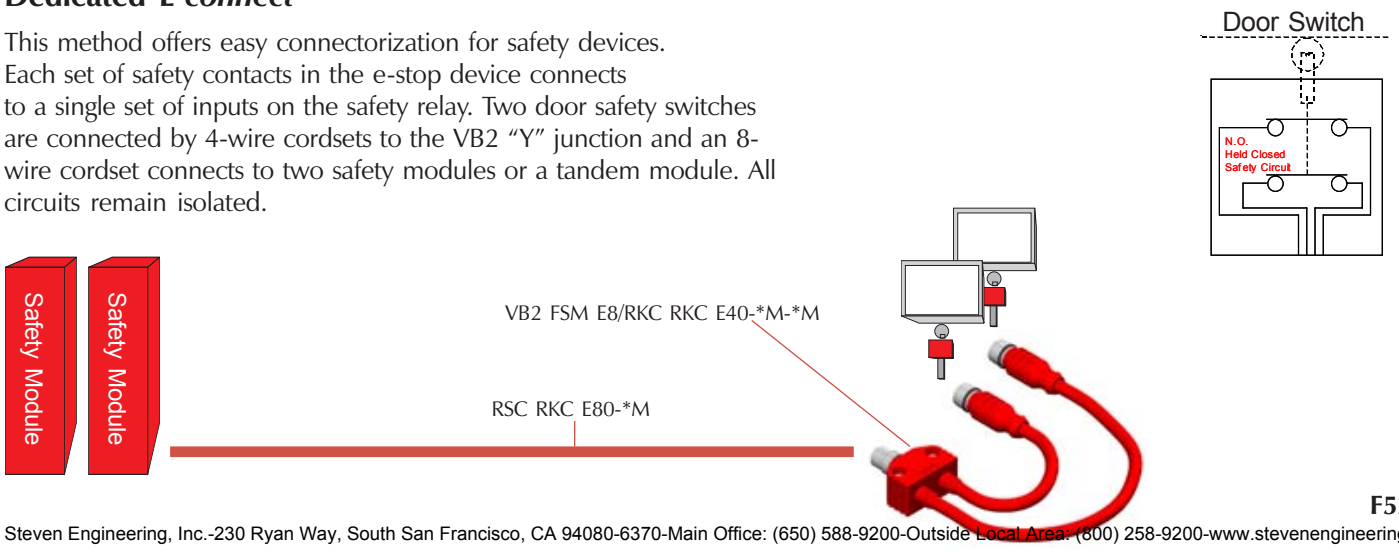
Series E-*connect* with Monitoring and Annunciation

The second system adds DeviceNet™ in order to monitor where the e-stop occurred and provide an output for local annunciation. The safety circuit is still a true hard wired system; it is passing through and uses an "E-*connect*" station as a connectorized junction.



Dedicated E-*connect*

This method offers easy connectorization for safety devices. Each set of safety contacts in the e-stop device connects to a single set of inputs on the safety relay. Two door safety switches are connected by 4-wire cordsets to the VB2 "Y" junction and an 8-wire cordset connects to two safety modules or a tandem module. All circuits remain isolated.



E-*connect*™, Cable Specifications

- **Provides E-line Connection from Safety Module to Field Device**
- **Provides Drop to E-Stop Device**
- **Red PCV Jackets**

Figure A

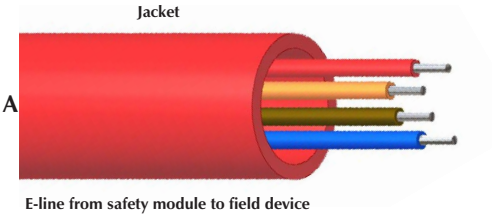
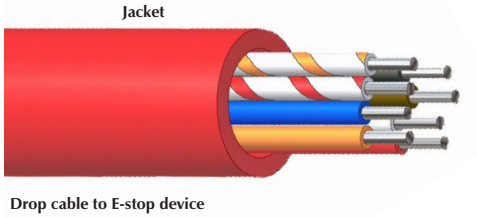


Figure B



Type	Approvals	Power Pair		Outer Jacket	Bulk Cable Part Number / Weight/300 M	Figure
		AWG Color Code	DCR (/1000 feet) Insulation	Material Color Nominal O.D.		
E40 AWM 2517 105°C 300 Volts	**NEC** PLTC/ITC/CL2 **CEC** AWM-I/II A/B FT4	4/18 AWG BN/BU/RD/OR	6.5 Ohms PVC	PVC Red 7.2 mm (.285 in)	RB50896-*M 58 lbs.	A
E46 AWM 2517 105°C 300 Volts	**NEC** PLTC/ITC/CL2 **CEC** AWM-I/II A/B FT4	4/16 AWG BN/BU/RD/OR	4.3 Ohms PVC	PVC Red 8.4 mm (.330 in)	RB50925-*M 81 lbs.	A
E80 AWM 2517 105°C 300 Volts	**NEC** CL2 **CEC** AWM-I/II A/B FT4	8/24 BN/BU/RD/OR/BK/WH/ WH, RD/WH, OR	27.7 Ohms PVC	PVC Red 5.7 mm (.224 in)	RB50897-*M 36 lbs.	B

* Indicates length in meters.
x Indicates cable type.
Standard cable lengths are 30, 75, 150, 225 and 300 meters. Consult factory for other lengths.
† See page A6 for ***flexlife*** ® and ***weldlife*** performance.
For stainless steel coupling nuts change part number RSM ... to RSV, WSM ... to WSV.

E-*connect*™, Cable/Cordset Selection Matrix

			minifast®				*eurofast*® (Thin/Mid Only)
			Pin (Male)		Socket (Female)		Pin (Male)
			1 RSM	2 WSM	3 RKM	4 WKM	5 RSC
		Bare	RSM Exx-*M	WSM Exx-*M	RKM Exx-*M	WKM Exx-*M	RSC Exx-*M
minifast	Pin (Male)	1 RSM	RSM RSM Exx-*M	RSM WSM Exx-*M	RSM RKM Exx-*M	RSM WKM Exx-*M	RSM RSC Exx-*M
		2 WSM		WSM WSM Exx-*M	WSM RKM Exx-*M	WSM WKM Exx-*M	WSM RSC Exx-*M
	Socket (Female)	3 RKM			RKM RKM Exx-*M	RKM WKM Exx-*M	RKM RSC Exx-*M
		4 WKM				WKM WKM Exx-*M	WKM RSC Exx-*M
eurofast (Thin/Mid Only)	Pin (Male)	5 RSC					RSC RSC Exx-*M
		6 WSC					
	Socket (Female)	7 RKC					
		8 WKC					

See pages F56 - F57 for dimensional drawings.

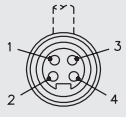
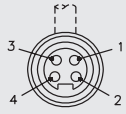
* Indicates length in meters.

x Indicates cable type.

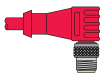
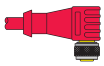
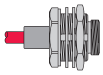
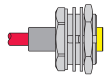
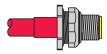
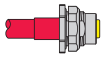
Refer to the Cordset Builder at www.turck.com for assistance with cordset/cable combinations.

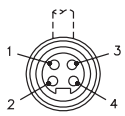
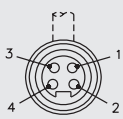
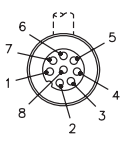
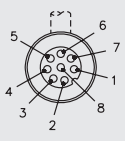
Standard cable lengths are 0.3, 0.5, 1.0, 2.0, 2.5, 3.0, 3.5, 4.0, 5.0, 6.0, 8.0, 10, 15....50 Meters. Consult factory for other lengths.

For stainless steel coupling nuts change part number RSM ... to RSV, WSM ... to WSV.

minifast	Pinouts	*minifast*
Female 	1. Bare (Shield Drain Wire) 2. Red (+ Voltage) 3. Black (- Voltage) 4. White (CAN_H)	**Male** 

E-*connect*™, Cable/Cordset Selection Matrix

eurofast® (Thin/Mid Only)			*minifast*® Bulkhead		*eurofast* Bulkhead (Thin Only)	
Pin (Male)	Socket (Female)		Pin (Male)	Socket (Female)	Pin (Male)	Socket (Female)
6  WSC	7  RKC	8  WKC	9  RSFP	10  RKFP	11  FSFD	12  FKFD
WSC Exx-*M	RKC Exx-*M	WKC Exx-*M	RSFP Exx-*M	RKFP Exx-*M	FSFD Exx-*M	FKFD Exx-*M
RSM WSC Exx-*M	RSM RKC Exx-*M	RSM WKC Exx-*M	RSM RSFP Exx-*M	RSM RKFP Exx-*M	RSM FSFD Exx-*M	RSM FKFD Exx-*M
WSM WSC Exx-*M	WSM RKC Exx-*M	WSM WKC Exx-*M	WSM RSFP Exx-*M	WSM RKFP Exx-*M	WSM FSFD Exx-*M	WSM FKFD Exx-*M
RKM WSC Exx-*M	RKM RKC Exx-*M	RKM WKC Exx-*M	RKM RSFP Exx-*M	RKM RKFP Exx-*M	RKM FSFD Exx-*M	RKM FKFD Exx-*M
WKM WSC Exx-*M	WKM RKC Exx-*M	WKM WKC Exx-*M	WKM RSFP Exx-*M	WKM RKFP Exx-*M	WKM FSFD Exx-*M	WKM FKFD Exx-*M
RSC WSC Exx-*M	RSC RKC Exx-*M	RSC WKC Exx-*M	RSC RSFP Exx-*M	RSC RKFP Exx-*M	RSC FSFD Exx-*M	RSC FKFD Exx-*M
WSC WSC Exx-*M	WSC RKC Exx-*M	WSC WKC Exx-*M	WSC RSFP Exx-*M	WSC RKFP Exx-*M	WSC FSFD Exx-*M	WSC FKFD Exx-*M
	RKC RKC Exx-*M	RKC WKC Exx-*M	RKC RSFP Exx-*M	RKC RKFP Exx-*M	RKC FSFD Exx-*M	RKC FKFD Exx-*M
		WKC WKC Exx-*M	WKC RSFP Exx-*M	WKC RKFP Exx-*M	WKC FSFD Exx-*M	WKC FKFD Exx-*M

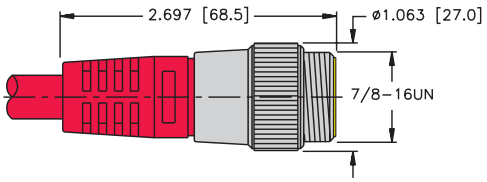
minifast	Pinouts	*minifast*	*eurofast*	Pinouts	*eurofast*
Female 	1. BN(+ AUX) 2. RD (E1L) 3. OR (E2L) 4. BU (- AUX)	**Male** 	**Male** 	1. BK (IN) 2. WH (OUT) 3. BN (AUX+) 4. RD (SC1 5. WH/RD (SC1c) 6. OR (SC2) 7. WH/OR (SC2c) 8. BU (AUX-)	**Female** 

E-*connect*™, *minifast*® Cordset and Receptacle Connector Dimensions

Specifications

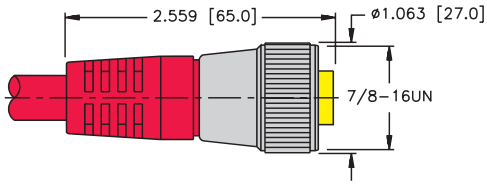
Overmold:	PUR (Polyurethane)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	PUR (Polyurethane)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67
Rated Voltage:	300 V
Rated Current:	9 A
Ambient Temperature:	-40° to +105°C (-40° to +221°F)

1



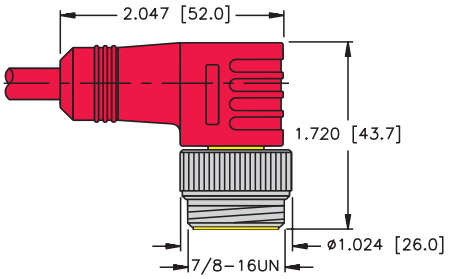
RSM .. **Pages F54 - F55**

3



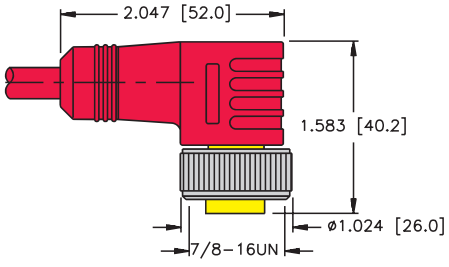
RKM .. **Pages F54 - F55**

2



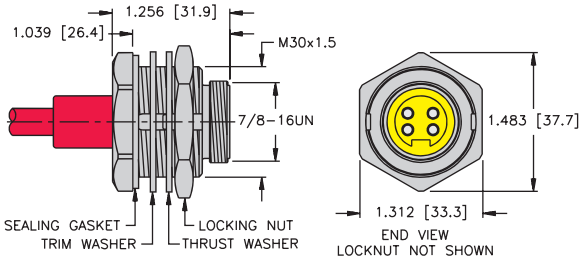
WSM .. **Pages F54 - F55**

4



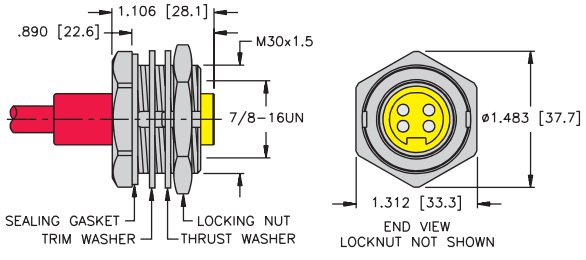
WKM .. **Pages F54 - F55**

9



RSFP .. **Pages F54 - F55**

10



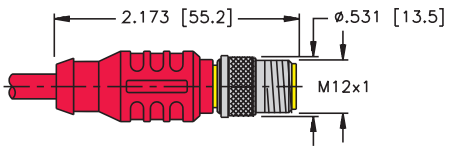
RKFP .. **Pages F54 - F55**

E-*connect*™, *eurofast*® Cordset and Receptacle Connector Dimensions

Specifications

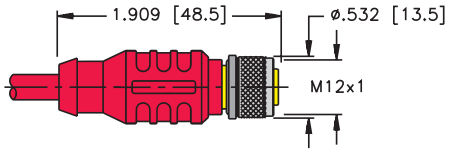
Overmold:	PUR (Polyurethane)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	PUR (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 68
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +105°C (-40° to +221°F)

5



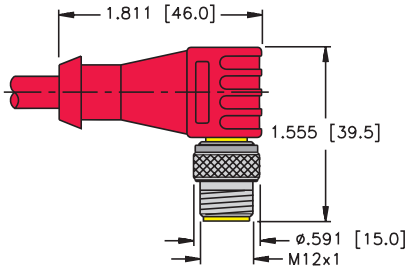
RSC .. **Pages F54 - F55**

7



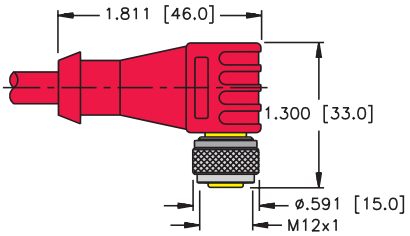
RKC .. **Pages F54 - F55**

6



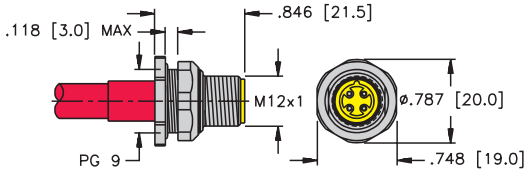
WSC .. **Pages F54 - F55**

8



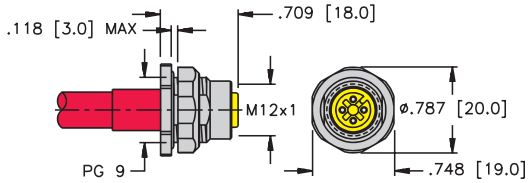
WKC .. **Pages F54 - F55**

11



FSFD .. **Pages F54 - F55**

12



FKFD .. **Pages F54 - F55**

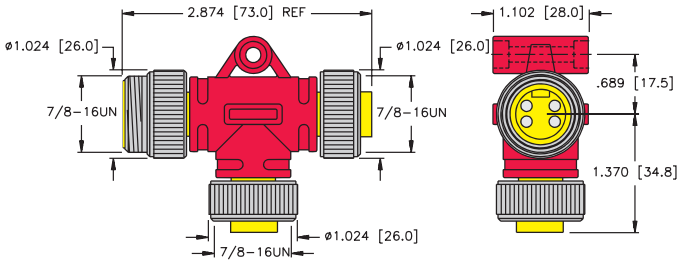
E-*connect*™, Tee

- **Provides Dual Interuptions to Auxiliary Power**
- **(7/8-16 UN) *minifast*® Connectors on Bus & Drop Lines**

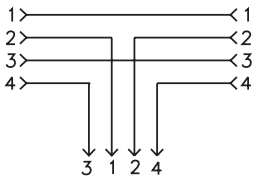
Housing	Part Number	Specs	Application	Pinouts
See Figure 1	RSM RKM RKM 40 DESD	TPU (Polyurethane) 250 V, 4 A -30° to 75°C	• E & M Dual Stop Drop Tee • Provides dual interruption to auxiliary power • Terminate with ***minifast*®** internal jumper	Male  Female 

Standard housing material is nickel plated brass. "RSM RKM.."; "RSV RKV.." indicates stainless steel housing.

1

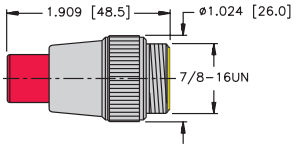
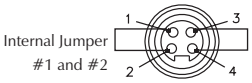


Wiring Diagram



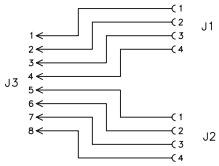
E-*connect*™, Terminating Resistor

- Male *minifast*® Connector
- TPE (PUR) Overmold Body

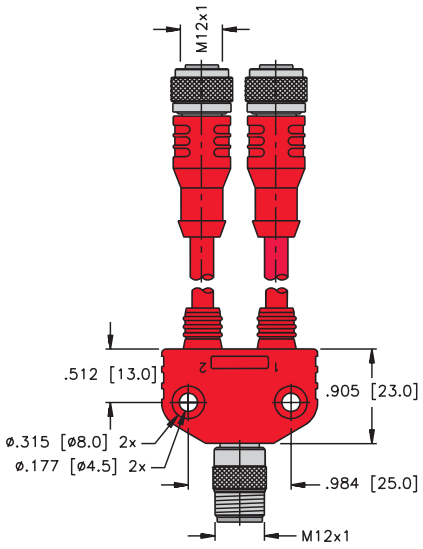
Housing	Part Number	Specs	Application	Pinout
	RSM 40 DJ 12/34	Nickel Plated Brass or Stainless Steel 300 V, 9 A -40 to +75°C IP 67	• ***minifast*** with Dual Internal Jumper • Internally jumpered to complete dual • E & M stop circuits	Male 

E-*connect*™, *eurofast*® Drop Junctions

- Creates a Drop or Branch from the Main Bus Line
- Cable Drop Lengths Available Up to a Maximum of 6 Meters

Housing	Part Number	Application	Wiring Diagram
See Figure 1	VB2 FSM E8/RKC RKC E40-*M-*M	• VB2 Junction with Trunk Line • Reduced power and data branch • Maximum six meter branch	

* Indicates length in meters.



E-Connect Stations

FDNP-ES44-TC
FDNP-ES88-TC
FDNP-ES88-TT

- **Rugged, Fully Potted Stations**
- **Monitor E-Stop Switches with DeviceNet**
- **IP 67, IP 68, IP 69K Protection**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <40 mA (from DeviceNet)
- Output Current: <500 mA per output (from Aux. Power)

Power Distribution

- Inputs: Auxiliary power supply
- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

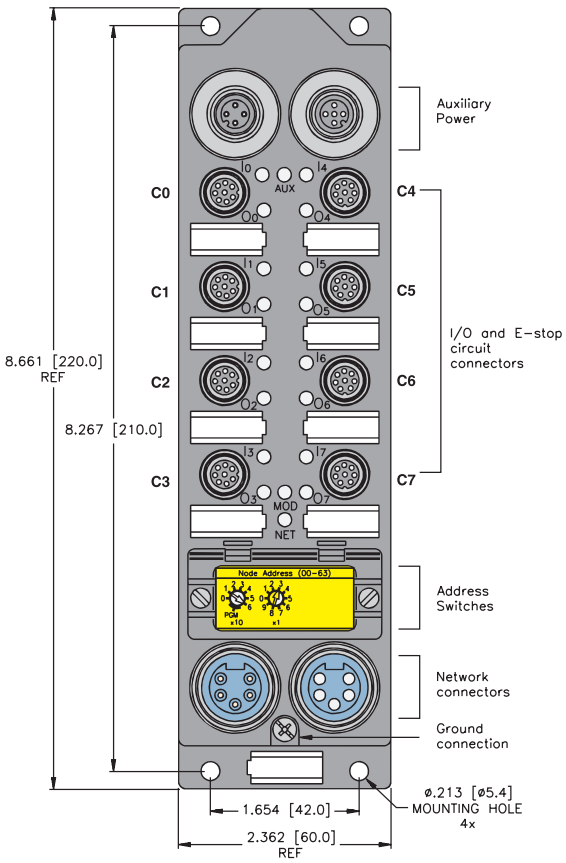
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

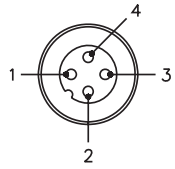
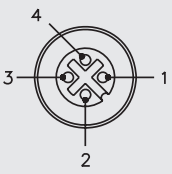
- One bit in I/O table indicates status of Auxiliary Power Supply (APS)

Diagnostics (Physical)

- LEDs to indicate status of DeviceNet communication

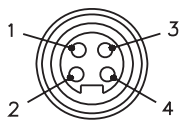


Aux. Power *eurofast* Pinout

Male	Female
	
4-Pin	4-Pin

1 = V_{AUX+}
2 = SC_1
3 = SC_2
4 = V_{AUX-}

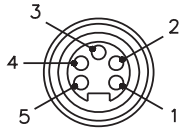
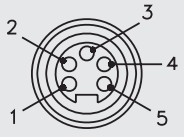
Aux. Power *minifast* Pinout ...-TC

Male	Female
	
4-Pin	4-Pin

1 = V_{AUX+}
2 = SC_1
3 = SC_2
4 = V_{AUX-}

...-TT

DeviceNet *minifast* Pinout

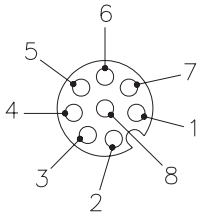
Male	Female
	
5-Pin	5-Pin

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNP-ES44-TC	4	0-1, 4-5	E8	1	E-Stop				4	0-1, 4-5	E8	1	0.5 A			2
FDNP-ES88-TC	8	0-7	E8	1	E-Stop				8	0-7	E8	1	0.5 A			1
FDNP-ES88-TT	8	0-7	E8	1	E-Stop				8	0-7	E8	1	0.5 A			1

Input/Output Connectors

E8



1 = In
2 = Out
3 = AUX+
4 = SC1
5 = $SC1_C$
6 = SC2
7 = $SC2_C$
8 = AUX-

Mating cordset:
RSC RKC E80-*M

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	APS	-	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	APS	-	-	-	I-3	I-2	I-1	I-0
Out	0	-	-	-	-	O-3	O-2	O-1	O-0

E-Connect Stations

- **Rugged, Fully Potted Stations**
- **IP 67, IP 68, IP 69K Protection**
- **Monitor E-Stop Switches with DeviceNet**
- **Automatic Baud Rate Sensing**

FDNQ-ES11-T
FDNQ-ES22-T

Electrical

- Operating Current: <50 mA (from DeviceNet)
- Output Current: <500 mA per output (from Auxiliary power supply)

Power Distribution

- Inputs: Auxiliary power supply
- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Protection: NEMA 1,3,4,12,13 / IEC IP 67, IP 68, IP 69K
- Vibration: 50 g @ 10-500 Hz

Material

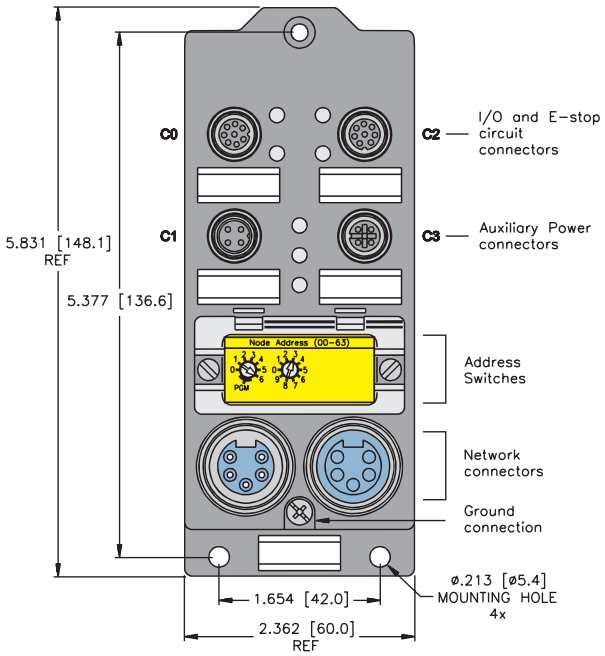
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Logical)

- One bit in I/O table indicates status of Auxiliary Power Supply (APS)

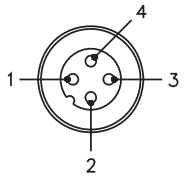
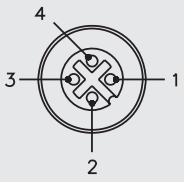
Diagnostics (Physical)

- LEDs to indicate status of DeviceNet communication



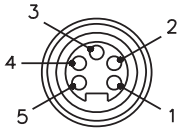
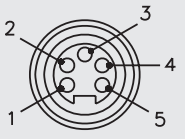
Aux. Power *eurofast* Pinout

1 = V_{AUX+}
2 = SC_1
3 = SC_2
4 = V_{AUX-}

Male	Female
	
4-Pin	4-Pin

DeviceNet *minifast* Pinout

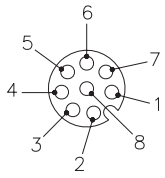
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
FDNQ-ES11-T	1	0	E8	1	E-Stop				1	0	E8	1	0.5 A			1
FDNQ-ES22-T	2	0, 2	E8	1	E-Stop				2	0, 2	E8	1	0.5 A			2

Input/Output Connectors

E8



1 = In
2 = Out
3 = AUX+
4 = SC1
5 = $SC1_C$
6 = SC2
7 = $SC2_C$
8 = AUX-

Mating cordset:
RSC RKC E80-*M

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	APS	-	-	-	-	-	-	I-0
Out	0	-	-	-	-	-	-	-	O-0

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	APS	-	-	-	-	-	I-1	I-0
Out	0	-	-	-	-	-	-	O-1	O-0

DeviceNet Master

- **Used to Manage a Sub-Network**
- **Manages 8-nodes on Sub-Network**

FDN-MSTR-1220

Electrical

- Bus Power: 11-30 VDC
- Current Consumption: 125 mA (Slave), 30 mA (Master)

LED Indication

- Slave Network Status: Flashing Green: Ready for connection
  Green: Established connection
  Flashing Red: Connection time out
- Master Network Status: Flashing Green: Ready for connection
  Green: Connected to all stations
  Flashing Red: Time out with one or more stations
  Red: Connection not possible

Adjustments

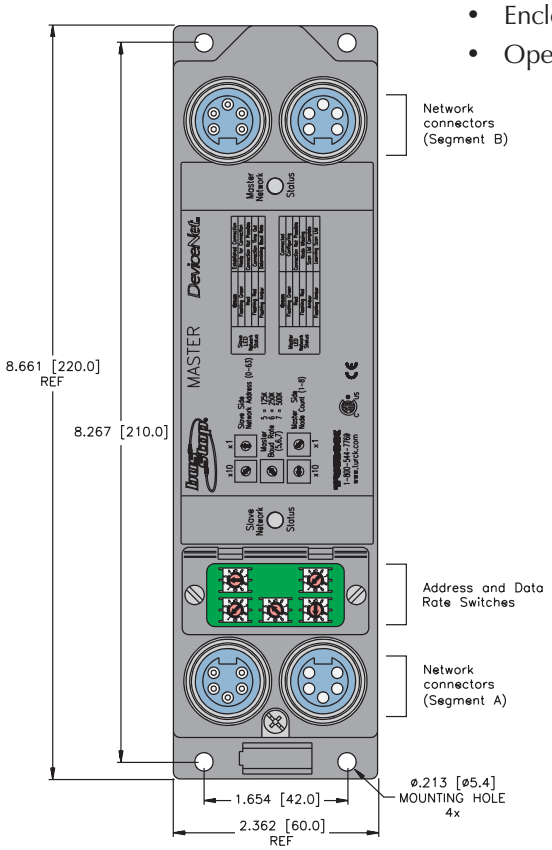
- Slave Side (Network address): 0-63 via rotary switches
- Master Side (Node count): 0-8 via rotary switches
- Master Baud Rage (5,6,7): 5=125 K, 6=250 K, 7=500 K

Connections

- Bus Line: 5-pin ***minifast***® connectors

Housing

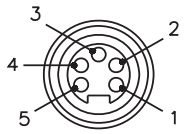
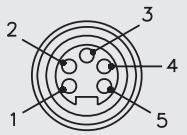
- Material: Glass filled nylon with nickel plated brass connectors
- Enclosure: NEMA 1,3,4,12,12 and IEC IP 67, 68 and 69K
- Operating Temperature: -25° to 70° C (-13° to 158° F)



Note: each segment has one male and one female connector

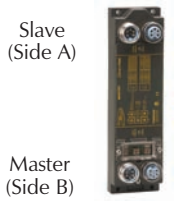
1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

DeviceNet *minifast* Pinout

Male	Female
	
5-Pin	5-Pin

The FDN-MSTR is a DeviceNet™ master used to manage a subnet off of the main DeviceNet network.

Main DeviceNet Network



The subnet to the FDN-MSTR is a DeviceNet network terminated on both ends and is limited to 8 nodes with addresses that must be in sequential order from 1 to 8. The baud rate for this network is determined by the rotary switch setting on the FDN-MSTR.

DeviceNet SubNetwork

The subnet to the FDN-MSTR is a DeviceNet network terminated on both ends and is limited to 8 nodes with addresses that must be in sequential order from 1 to 8. The baud rate for this network is determined by the rotary switch setting on the FDN-MSTR.

The slaves on the subnet are independent of the main DeviceNet network. Hence a node 4 on the main network will conflict with a node 4 on the sub network.

I/O Data Map 1

The Input data size is 64 bytes (where the first two bytes are reserved for status information from the FDN-MSTR).

	Byte	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	IC	-
	1	ESN 8	ESN 7	ESN 6	ESN 5	ESN 4	ESN 3	ESN 2	ESN 1	RSN 8	RSN 7	RSN 6	RSN 5	RSN 4	RSN 3	RSN 2	RSN 1
	2	Node Address 1 Input Data															
	3	Node Address 2 Input Data															
	…	…															
	N	Node Address X Input Data															

The Output data is 64 bytes.

	Byte	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Out	0	Node Address 1 Output Data															
	1	Node Address 2 Output Data															
	2	Node Address 3 Output Data															
	…	…															
	N	Node Address X Output Data															

IC = Invalid configuration of node missing: 0 means OK, 1 means error.
ESNX = Error on sub node X: 0 means OK, 1 means error communicating with node.
RSNX = Registered sub node X: 0 means no node is present, 1 means that node is present.
The data table for the Input and Output show the last Byte as "N". This "N" is variable depending on the total amount of data generated by all the nodes on the deviceNet™ sub network. However the maximum for both the Input and the Ouptut are 64 bytes.

DeviceNet Repeater

REP-DN
REP-DN-DROP

- **Extend Network Length**
- **Extend Drop Lengths**
- **Isolate Power Segments**
- **Isolate Communication Segments**

Electrical

- Operating Current: 125 mA from segment A, 30 mA from segment B

Power Distribution

- REP-DN: DeviceNet power supply for each segment (must be powered by separate supplies)
- REP-DN-Drop: Does not require a separate power supply and does not isolate power between segments

Mechanical

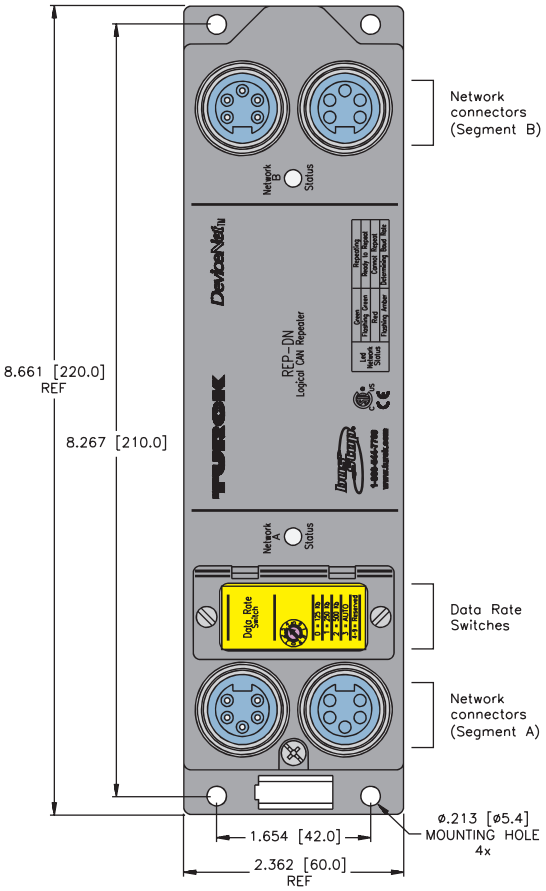
- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 and IEC IP 67
- Vibration: 50 g @ 10-500 Hz

Material

- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

Diagnostics (Physical)

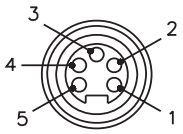
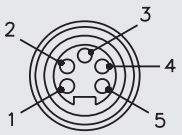
- One LED for each segment to indicate communication status



Note: each segment has one male and one female connector

DeviceNet *minifast* Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

DeviceNet™ Repeater

The **REP-DN** is a potted, fully connectorized rugged repeater that can be mounted directly on the machine. It is designed for use on any Controller Area Network (CAN), including DeviceNet. Network segments connected by a repeater are considered separate physical networks (trunk and drop lengths for each segment are determined as if the other segments are not there), but one logical network (addresses cannot be duplicated - the scanner and configuration tools work as a single network).

A repeater does not consume an address and is invisible to all the other devices on the network. A repeater does not have an EDS file. The **REP-DN** repeater can be used to extend either the trunk or drop lines, and to isolate power supplies on networks with multiple supplies. There is no limit to the number of repeaters that can be used on one network.

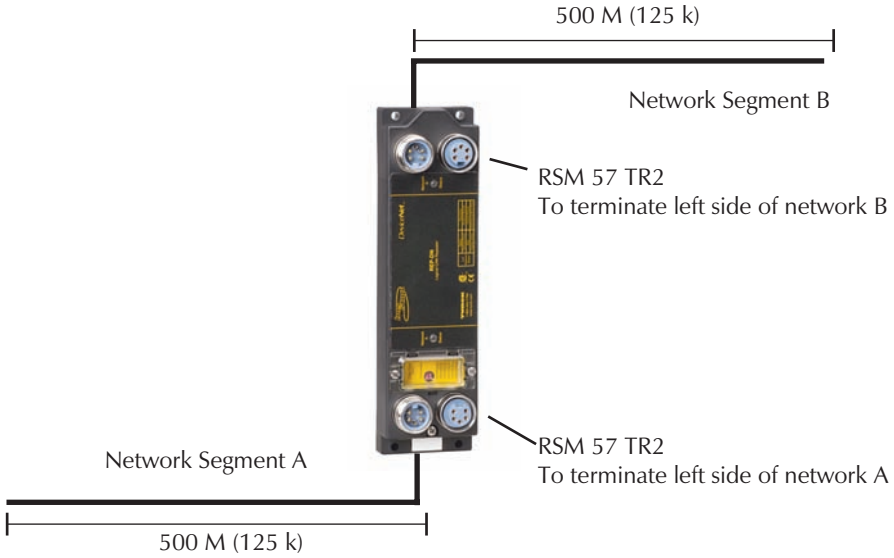
A repeater's baudrate is set via a rotary switch. The baudrate on each side of the repeater must be the same, as different rates would cause the "slow" side to be overloaded with messages from the "fast" side. When a message is repeated, a 2 ms delay is introduced. This is typically insignificant compared to the overall scan time of the network. If more than four repeaters are used in series, the interscan delay may need to be increased.

Repeater Configurations

Extended Trunk Line

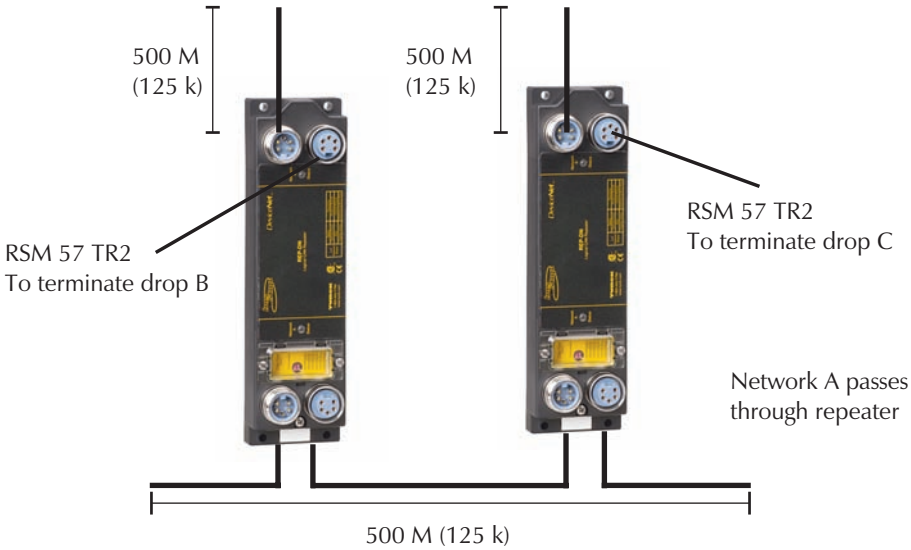
Repeaters are connected in series to extend the trunk line. The total delay is 2 ms multiplied by the number of repeaters.

* REP-DN-DROP does not require a separate power supply on segment B. If a separate power supply is desired, it must be attached using a "Power T" (RSM RKM 57 WSM 40 PST recommended).



Extended Drop Line

Repeaters are connected in parallel to extend the drop length. The overall network delay is 2 ms, because there is only one repeater between the scanner on the trunk and any other device.



Do Not Create a Ring

While a repeater can be used to create very large and complex networks, some configurations are not permitted. If a ring is created (both sides of a repeater are connected to the same network), the repeater will continuously repeat to itself, causing the network to overload.

DeviceNet Spanner

FDN-DN1

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Communicate Between PLCs**
- **Connect Two DeviceNet Networks**

Electrical

- Operating Current: 125 mA from segment A, 30 mA from segment B

Power Distribution

- Station: DeviceNet power supply for each segment (must be powered by separate supplies)

Mechanical

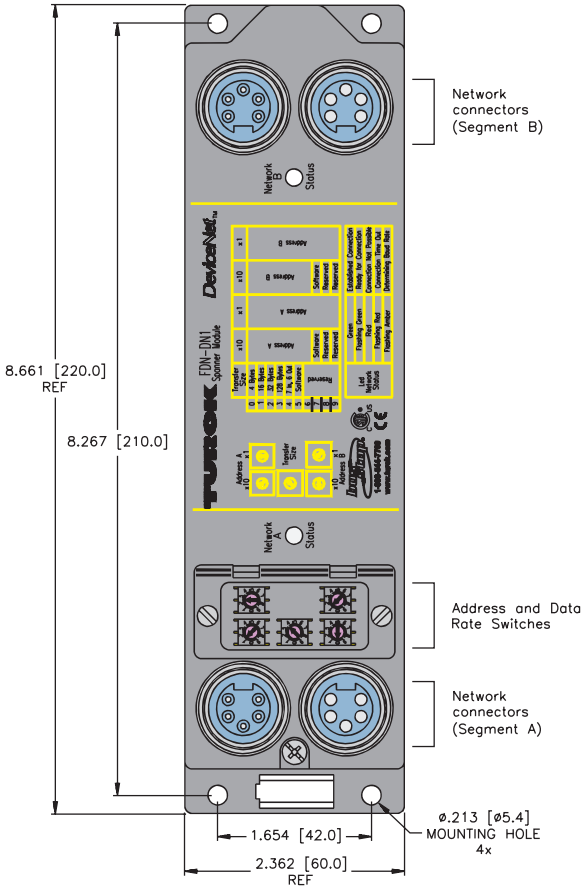
- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: NEMA 1,3,4,12,13 and IEC IP 67
- Vibration: 50 g @ 10-500 Hz

Material

- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Nylon 6 (other materials available on request)

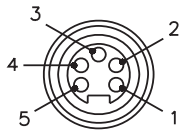
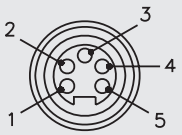
Diagnostics (Physical)

- One LED for each segment to indicate communication status



DeviceNet *minifast* Pinouts

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

Note: Each segment has one male and one female connector.

DeviceNet™ Spanner

The FDN-DN1 "Spanner" module provides a means to route data between two PLC's using DeviceNet. The spanner eliminates the need for a high level control network pyramid, by connecting the DeviceNet networks directly. This simple approach is extremely powerful and economical. It is simple because the spanner appears to each PLC as a standard rack of I/O; any DeviceNet scanner can send I/O data to the spanner without additional software or complex configuration procedures. It is powerful because it can transfer up to 128 bytes of data in one message. It is economical because it replaces the high level control network, eliminating two control cards, wiring, conduit and programming.

Theory of operation

The spanner transfers data between PLC A and PLC B by appearing as I/O to each PLC. The spanner 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 size of data transferred is set by the transfer size switch. If the transfer size switch is set at 4,16, 32 or 128 bytes, then the size of the data transferred is the same in both directions. If the transfer size switch is set to software, then the transfer size is set via software and it can be any size (0,1,2,3...128 bytes). When in software mode, the data size mapped to the PLC must be equal in opposite directions on either side of the spanner. For example, if side A produces 2 input bytes and consumes 12 output bytes, then side B must be set to produce 12 input bytes and consume 2 output bytes.

Electrically

The spanner optically isolates network A from network B; the networks do not interact electrically in any way. The spanner is powered internally by network A; a power reset on the A side will reset the entire station.

Addressing

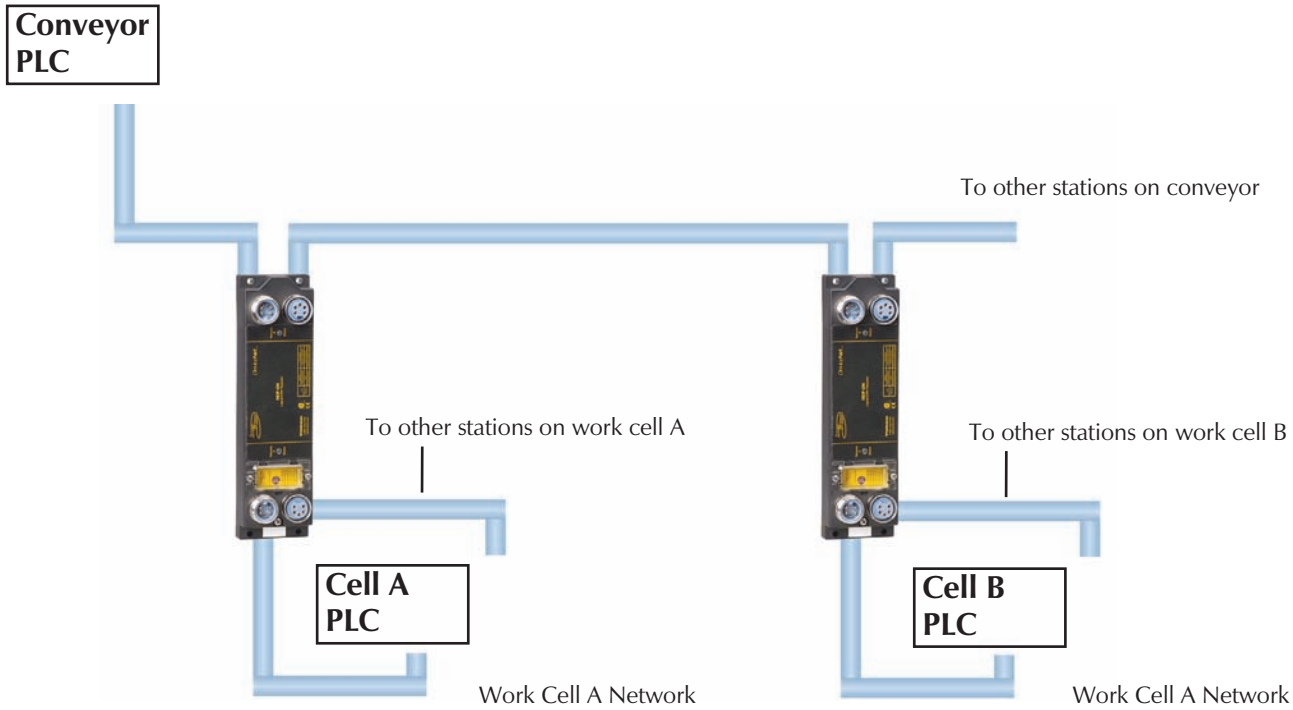
Because the spanner is essentially two DeviceNet devices, one on network A and one on network B, it has two sets of address switches. The address switches for network A are completely independent of network B.

Baudrate

The spanner automatically detects the Baudrate at startup. Network A and B may be at different baudrates.

Spanner Topology

The spanner is typically used to correct and coordinate multiple work cells.



DeviceNet FDN20 Stations

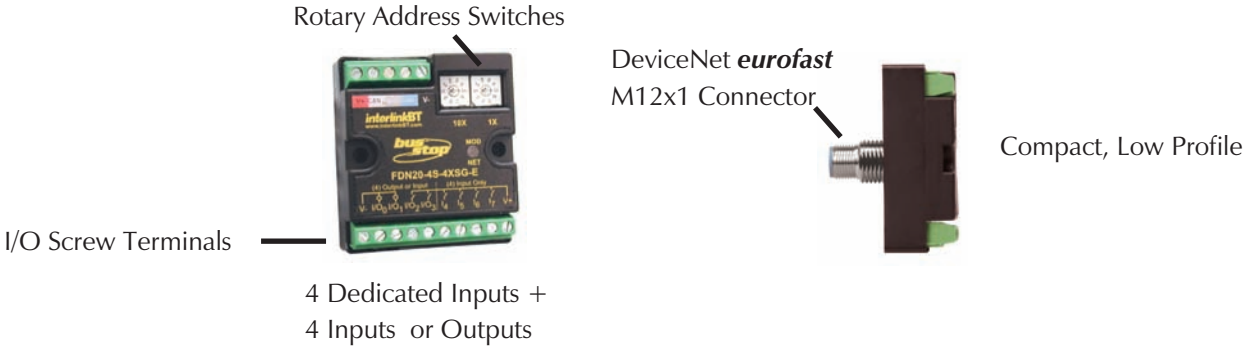
TURCK's FDN20 DeviceNet stations are low-cost screw-terminal connection stations designed for mounting in an enclosure. These stations allow you to easily connect standard I/O devices such as push buttons, pilot lights, motor starters and drives to a DeviceNet network. The FDN20 station is designed to easily upgrade existing equipment to a DeviceNet network.

Specifications

TURCK FDN20 stations are designed to be mounted in standard equipment enclosures (operator stations, motor control centers, etc.). Most FDN20 stations use only screw terminal connections for all I/O and network wiring. FDN20-4S-4XSG-E has a DeviceNet ***eurofast*** ® (M12) connector on the back of the housing that enables mounting the station to an enclosure wall with the (DeviceNet) connection on the outside of the box; greatly simplifying network wiring. Detailed environmental specifications are as follows:

- Housing material: Glass filled nylon
- Protection level: IP 20
- Operating temperature: -40 to +70°C (-40 to +158°F)

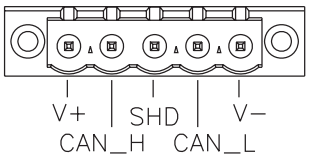
The station's components are identified in the figure below.



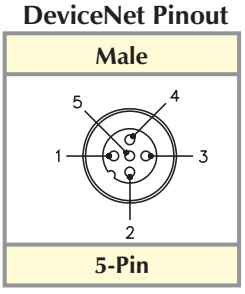
Connectors

Bus connectors:

FDN20 screw terminal and ***eurofast*** bus connectors pinouts:



1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L



I/O connectors:

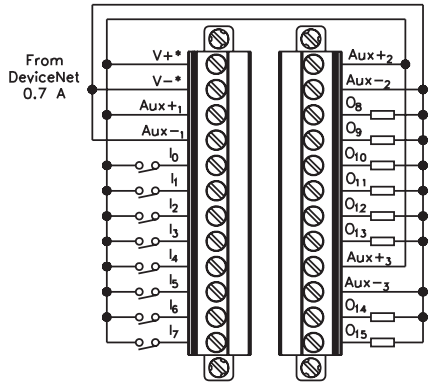
Each FDN20 version uses a different screw terminal connector. Detailed pinout information is given in the product information on the following pages.

Power

The short FDN20 stations provide all the power to the I/O devices from the DeviceNet™ power supply. In this case there is no auxiliary power connection.

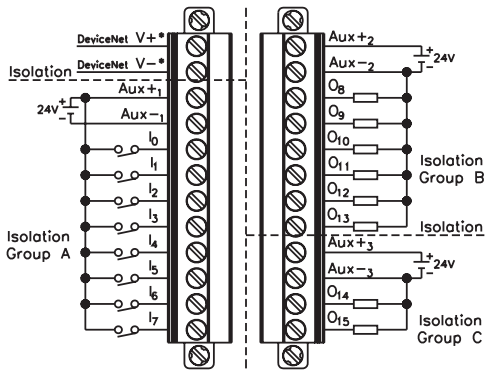
The remaining long FDN20 stations (FDN20-16XSG, for example) provide an auxiliary power connection. I/O devices can be powered from the DeviceNet or auxiliary power supply, depending on how the user chooses to wire the station. The different wiring options are illustrated in the following diagram.

*WARNING NOTE: (V+) and (V–) PROVIDE POWER FROM DeviceNet . DO NOT CONNECT TO SUPPLY OR GROUND.



CONNECT AS SHOWN TO USE DeviceNet to POWER I/O

*WARNING NOTE: (V+) and (V–) PROVIDE POWER FROM DeviceNet. DO NOT CONNECT TO SUPPLY OR GROUND.



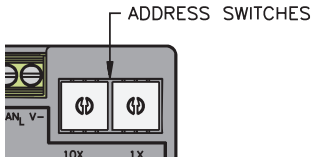
TO USE EXTERNAL POWER SUPPLY

Power ratings for FDN20 stations:

- Bus (DeviceNet) Voltage: 11-26 VDC
- Aux Power Voltage: 24 VDC (nominal)
- Internal Current Consumption: <75 mA (@ nominal 24 VDC) plus sum of I/O currents if auxiliary power is not used
- Input Voltage: 13-26 VDC (From DeviceNet supply)
- Input Short-Circuit Current: <700 mA (total for entire station)
- Input Signal Current (each input): OFF <2 mA; ON 3.0-3.4 mA (@ nominal 24 VDC)
- Input Delay: 2.5 ms
- Output Current: 0.5 A max per output

Addressing

DeviceNet stations must have a network address for communication. The address for FDN20 stations may be set via the visible rotary switches on the front of the station.



Address = 6x10 + 3x1 = 63

The pair of switches represents the address as a decimal number; the left switch being the 10's multiplier and the right switch the 1's multiplier. To program the stations, rotate the switches with a small slotted screwdriver until the arrows are pointing at the appropriate numbers for the chosen address.

Diagnostics

FDN20 stations provide a single Network Status LED for diagnosing communication problems.

- Green: Connection established
- Flashing green: Waiting for connection
- Flashing red: Connection timed out
- Red: Cannot connect
- Flashing Amber: Finding baud rate (autobaud setting)

The long housing stations (i.e. FDN20-16XSG) have an additional LED for each I/O point on the station indicating:

- Off: Point is off
- Green: Point is on

Additionally, most FDN20 stations provide diagnostic bits in the I/O table for diagnostics. One bit indicates a short-circuit fault for outputs or inputs. See product pages in this catalog for detailed I/O information.

Notes:

Enclosure Mounted Input/Output Stations

FDN20-4S-4XSG
FDN20-4S-4XSG-E*
FDN20-4S-4XSG-DIN*

* Not UL

- **In-Cabinet I/O**
- **IP 20 Protection**
- **Ideal for Retrofits**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA (from DeviceNet) plus I/O currents (from bus power)
- Input Current: <700 mA sum of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: DeviceNet power supply

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: IEC IP 20

Material

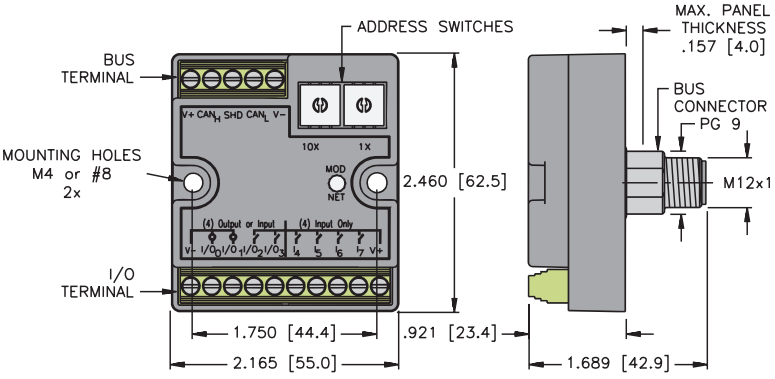
- Connectors: Nickel-plated brass (***eurofast*** option only)
- Housing: Nylon

Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for all inputs and one bit indicates a fault for all outputs

Diagnostics (Physical)

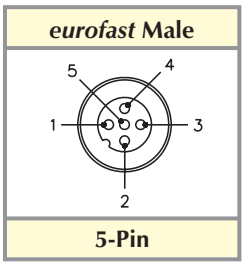
- LED to indicate status of DeviceNet communication



FDN20-4S-4XSG-E shown

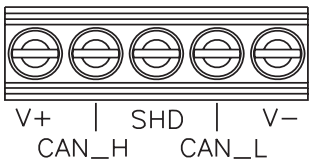
DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L



FDN20-4S-4XSG-E only

DeviceNet Connector

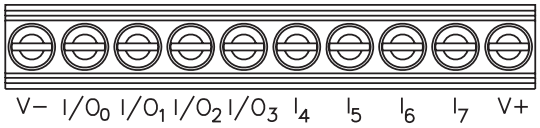


Note: A DIN rail mounting bracket (FDN20-BKT-DIN) may be purchased separately for use with the FDN20-4S-4XSG.

	Inputs						Outputs					Data
Part Number	Input Count	Pinout	Sensor Style	Group	Individual	Wire-Break Detection	Output Count	Pinout	Current	Individual	Wire-Break Detection	Data Map
FDN20-4S-4XSG	8	FS	PNP	X			4	FS	0.5 A			1
FDN20-4S-4XSG-E	8	FS	PNP	X			4	FS	0.5 A			1
FDN20-4S-4XSG-DIN	8	FS	PNP	X			4	FS	0.5 A			1

Input/Output Connectors

FS



*Note: I/O_0 to I/O_3 can be used as inputs or outputs

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	OGS	-	-	-	-	-	-
Out	0	-	-	-	-	O-3	O-2	O-1	O-0

Enclosure Mounted Input/Output Station

FDN20-4S-4XSG-0189
FDN20-S0404G-0220*

* Not CE

- **In-Cabinet I/O**
- **IP 20 Protection**
- **Ideal for Retrofits**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus I/O currents (from bus power)
- Input Current: <700 mA sum of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: DeviceNet power supply

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: IEC IP 20

Material

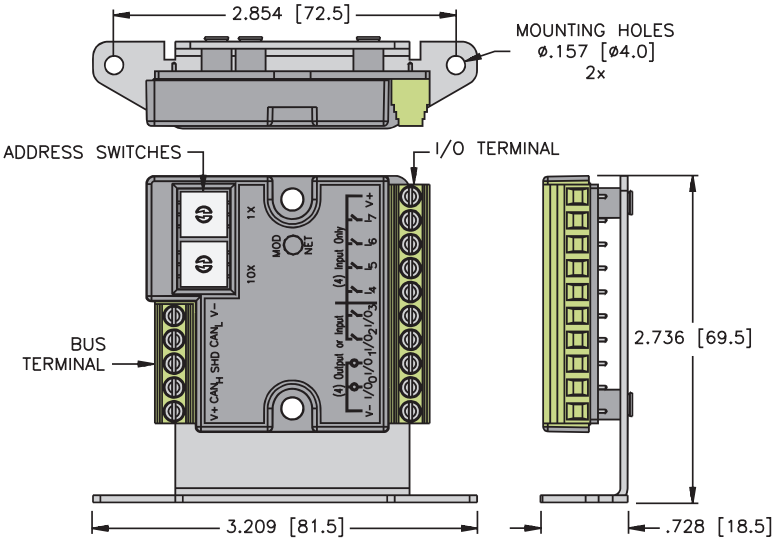
- Housing: Nylon

Diagnostics (Logical)

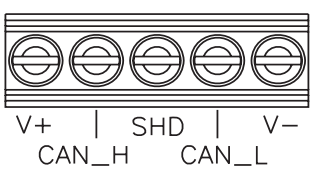
- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for all inputs and one bit indicates a fault for all outputs

Diagnostics (Physical)

- LED to indicate status of DeviceNet communication



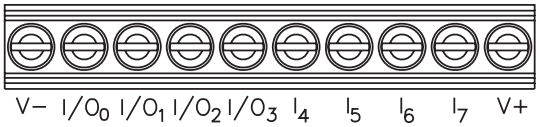
DeviceNet Connector



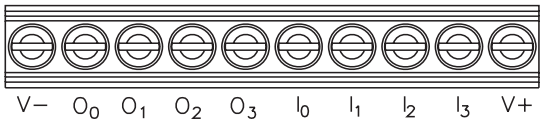
	Inputs						Outputs					Data
Part Number	Input Count	Pinout	Sensor Style	Group	Individual	Wire-Break Detection	Output Count	Pinout	Current	Individual	Wire-Break Detection	Data Map
FDN20-4S-4XSG-0189	8	FS	PNP	X			4	FS	0.5A			1
FDN20-S0404G-0220	4	FS-2	PNP	X			4	FS-2	0.5 A			2

Input/Output Connectors

FS



FS-2



*Note: I/O_0 to I/O_3 can be used as inputs or outputs

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	OGS	-	-	-	-	-	-
Out	0	-	-	-	-	0-3	0-2	0-1	0-0

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	IGS	OGS	-	-	I-3	I-2	I-1	I-0
Out	0	-	-	-	-	0-3	0-2	0-1	0-0

Enclosure Mounted Input/Output Stations

- **In-Cabinet I/O**
- **IP 20 Protection**
- **Ideal for Retrofits**
- **Automatic Baud Rate Sensing**

FDN20-16XSG
FDN20-16S

Electrical

- Operating Current: <75 mA plus applicable I/O currents (from bus power)
- Input Current: <700 mA sum of all inputs
- Output Current: <500 mA per output

Power Distribution

- Inputs: Optionally DeviceNet or Auxiliary power supply as shown in wiring diagram
- Outputs: Optionally DeviceNet or Auxiliary power supply as shown in wiring diagram

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: IEC IP 20

Material

- Housing: Nylon

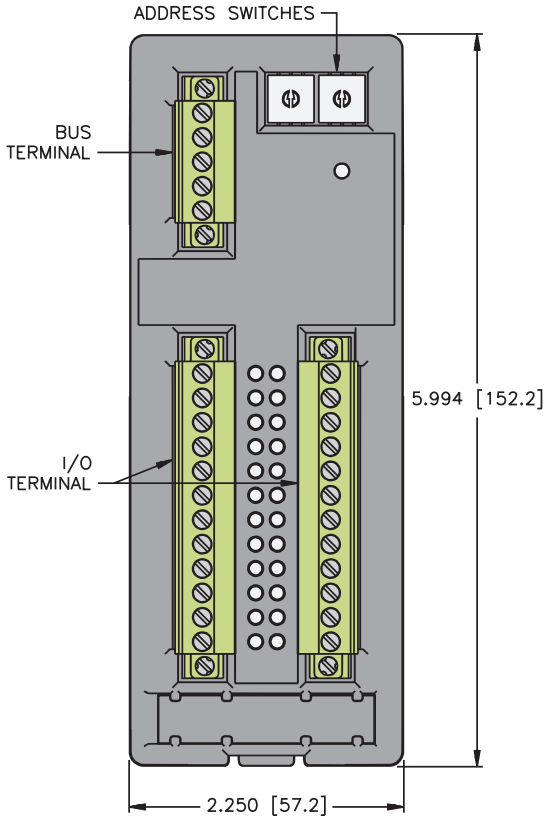
Diagnostics (Logical)

- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for all inputs, on bit indicates a fault for all outputs

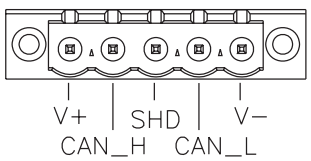
Diagnostics (Physical)

- LED to indicate status of DeviceNet communication

CE FM APPROVED DIV 2 UL



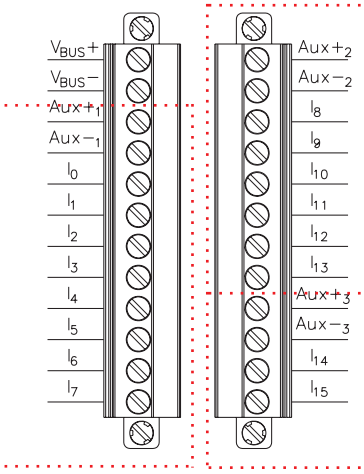
DeviceNet Connector



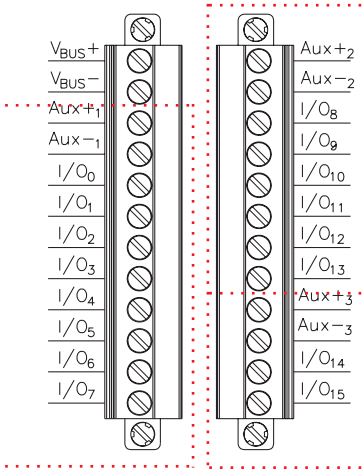
	Inputs						Outputs					Data
Part Number	Input Count	Pinout	Sensor Style	Group	Individual	Wire-Break Detection	Output Count	Pinout	Current	Individual	Wire-Break Detection	Data Map
FDN20-16XSG	16	FLX	PNP	X			16	FLX	0.5 A			1
FDN20-16S	16	FL	PNP	X			0					2

Input/Output Connectors

FL



FLX



Indicates I/O groups which can be powered from separate Aux. Power supplies if desired.

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	I-15	I-14	I-13	I-12	I-11	I-10	I-9	I-8
	2	IGS	OGS	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0
	1	O-15	O-14	O-13	O-12	O-11	O-10	O-9	O-8

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	I-15	I-14	I-13	I-12	I-11	I-10	I-9	I-8
	2	IGS	OGS	-	-	-	-	-	-

Enclosure Mounted Input/Output Stations

FDN20-16SN-16XSG
FDN20-32SN

CE FM APPROVED DIV 2 UL

- **In-Cabinet I/O**
- **IP 20 Protection**
- **Ideal for Retrofits**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus applicable I/O currents (from bus power)
- Input Current: <700 mA sum of all inputs
- Output Current: 1.8 A per output

Power Distribution

- Inputs: Optionally DeviceNet or Auxiliary power supply as shown in wiring diagram
- Outputs: Optionally DeviceNet or Auxiliary power supply as shown in wiring diagram

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: IEC IP 20

Material

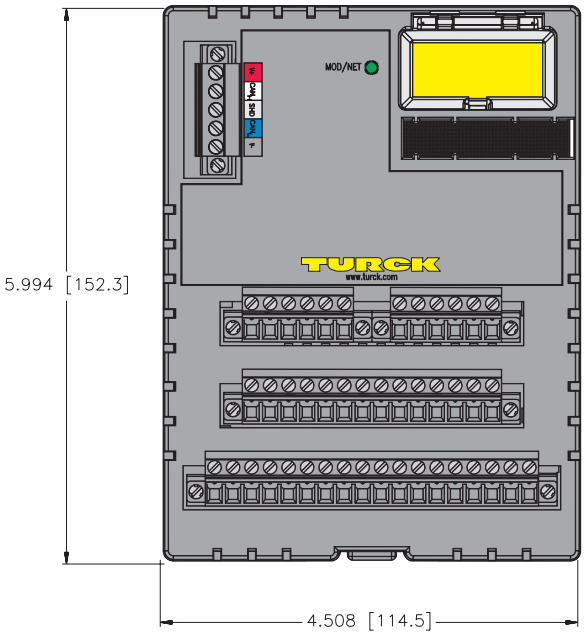
- Housing: Nylon

Diagnostics (Logical)

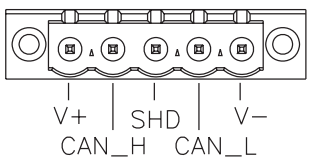
- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for all inputs, on bit indicates a fault for all outputs

Diagnostics (Physical)

- LED to indicate status of DeviceNet communication



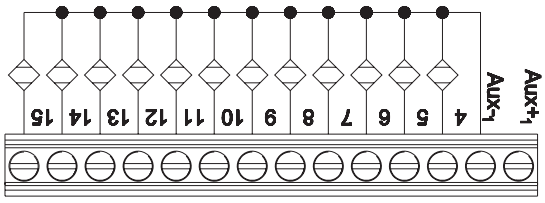
DeviceNet Connector



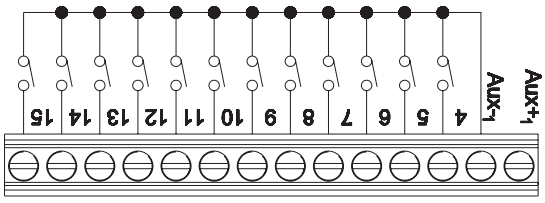
	Inputs						Outputs					Data
Part Number	Input Count	Pinout	Sensor Style	Group	Individual	Wire-Break Detection	Output Count	Pinout	Current	Individual	Wire-Break Detection	Data Map
FDN20-16SN-16XSG	32*	1	NPN/PNP	X			16*	2	1.8 A			1
FDN20-32SN	32	1	NPN/PNP	X								2

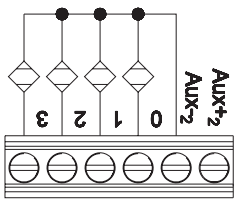
* 16 dedicated inputs and 16 points which can be used as inputs or outputs.

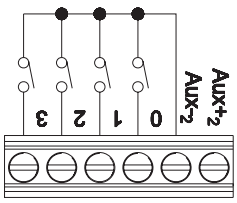
1



2







I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	I-15	I-14	I-13	I-12	I-11	I-10	I-9	I-8
	2	I-23	I-22	I-21	I-20	I-19	I-18	I-17	I-16
	3	I-31	I-30	I-29	I-28	I-27	I-26	I-25	I-24
	4	IGS	OGS	-	-	-	-	-	-
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0
	1	O-15	O-14	O-13	O-12	O-11	O-10	O-9	O-8

I/O Data Map 2

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	I-15	I-14	I-13	I-12	I-11	I-10	I-9	I-8
	2	I-23	I-22	I-21	I-20	I-19	I-18	I-17	I-16
	3	I-31	I-30	I-29	I-28	I-27	I-26	I-25	I-24
	4	IGS	OGS	-	-	-	-	-	-

Enclosure Mounted Input/Output Stations

- **In-Cabinet I/O**
- **IP 20 Protection**
- **Ideal for Retrofits**
- **Automatic Baud Rate Sensing**

FDN20-4DR

CE FM DIV 2 UL

Electrical

- Bus Power: 11-26 VDC
- Internal Current Consumption: ≤75 mA plus sum of sensor and output currents (from bus power)

Input Circuits: (4) Negetive switched dry contacts

- Input Voltage (V+): 0-26 VDC
- Input Signal Current (Input): OFF>3 V, <0.5 mA
  ON 0-1 V, 2-3 mA
- Input Delay: 1 ms

Output Circuits: (12) Solid state relays

- Output Voltage: 0-26 VDC
- Output Load Current: 120 mA (max.)

Output Circuits (Analog): (4) 0-10 V

- Output Voltage 0-10 V
- Representation 16-bit signed integer
- Analog Supply Voltage 10-24 V

Network Status LED

- Status: Green: Established connection
  Flashing Green: Ready for connection
  Red: Connection not possible
  Flashing Amber: autobaud/125k/250k/500k

Adjustments

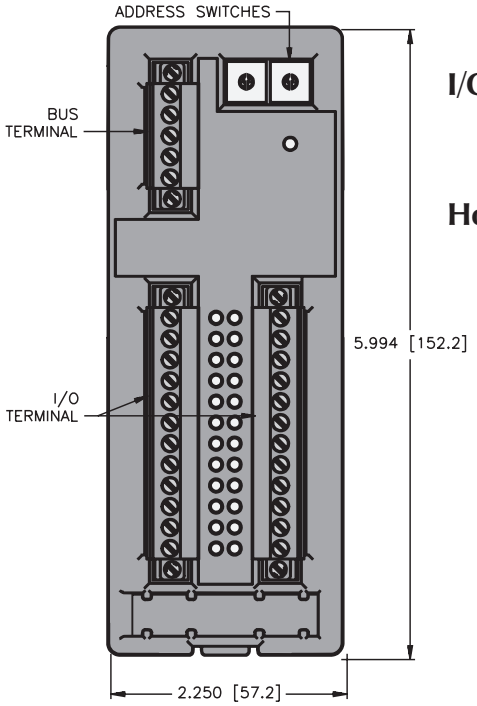
- Slave Side (Network address): 0-63 via rotary switches
- Master Side (Node count): 0-8 via rotary switches
- Master Baud Rage (5,6,7): 5=125 K, 6=250 K, 7=500 K

I/O Status LED

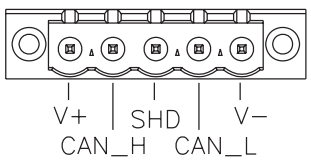
- OFF = off
- Green = On

Housing

- Material: Nylon
- Operating Temperature: -40° to 70° C (-40° to 158° F)



DeviceNet Connector



	Inputs						Outputs					Data
Part Number	Input Count	Pinout	Sensor Style	Group	Individual	Wire-Break Detection	Discrete Relay Output Count	Pinout	Analog Outputs	Individual	Wire-Break Detection	Data Map
FDN20-4DR	4	1	Sinking Dry Contacts	X			12	1	4			1

Input/Output Connectors

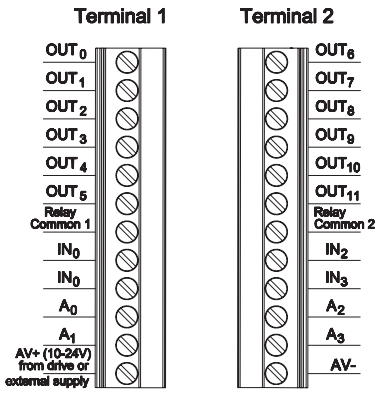


Diagram A

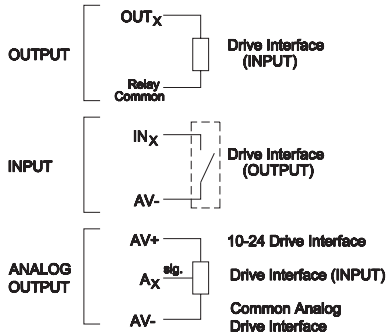


Diagram B

NOTE:
Relay Common and Relay Common 2 are isolated from each other and can be connected to either 10-24 V or AV-

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	-	-	-	-	-	-	I-1	I-0
	1	-	-	-	-	-	-	I-3	I-2
Out	0	-	-	O-5	O-4	O-3	O-2	O-1	O-0
	1	-	-	O-11	O-10	O-9	O-8	O-7	O-6
	2	A0 Low Byte							
	3	A0 High Byte							
	4	A1 Low Byte							
	5	A1 High Byte							
	6	A2 Low Byte							
	7	A2 High Byte							
	8	A3 Low Byte							
	9	A3 High Byte							

DeviceNet™ *piconet* Stations

TURCK's ***piconet*** DeviceNet stations are compact rugged stations designed for machine mounting. These stations allow easy connection of standard I/O devices such as sensors, limit switches, valves and pilot lights to a DeviceNet network, typically without a protective enclosure. This is made possible by epoxy-filled station housings, all-metal connectors and visible rotary address switches, among other things.

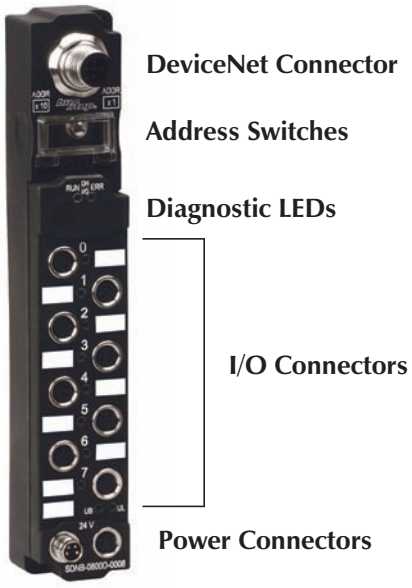
piconet's small size sets them apart from other stations. ***piconet*** stations are the smallest rugged I/O modules available, with a standard housing footprint of 30 x 175 mm. They are also available with ***picofast*** ® (M8) connectors for I/O, making them ideally suited for small-space applications.

Mechanical Specifications

TURCK DeviceNet ***piconet*** stations are designed to be mounted directly on machines and work cells with no separate enclosure or housing necessary. Epoxy-filled housing creates a durable station that allows it to be mounted in most industrial environments. Detailed environmental specifications include:

- Housing material: Glass filled nylon
- Connector material: Nickel-plated brass
- Protection level: NEMA 1,3,4,12,13; IEC IP 67
- Operating temperature: 0 to 55°C

The station's components are identified in the figure below.



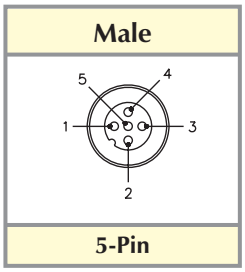
Connectors

DeviceNet™ ***piconet***® stations provide connectors for bus and I/O power. Unlike other **TURCK** DeviceNet stations, ***piconet*** stations power all I/O from auxiliary power.

Bus connector

DeviceNet *eurofast* Pinouts

1 = Shield/Drain
2 = V+ (24 VDC)
3 = V- (0 VDC)
4 = CAN High
5 = CAN Low



picofast® I/O connectors

piconet stations with discrete I/O are available with ***picofast*** (M8) connectors. See the individual product pages in this catalog for detailed pinouts.

eurofast I/O connectors

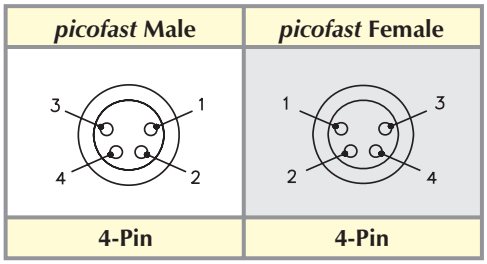
piconet stations with analog and special function I/O are available with ***eurofast*** (M12), and in some cases M23, connectors. See the individual product pages in this catalog for detailed pinouts.

Auxiliary Power Connectors

piconet stations have two 4-pin ***picofast*** auxiliary power connectors, one male and one female, that allow the stations to be "daisy-chained" from one power supply to another without using a T-connector. Two power supplies are connected through the auxiliary supply; one for the station electronics and inputs and one for outputs.

Aux. Power

1 = U_B+
2 = U_L+
3 = Gnd
4 = Gnd



Stations may be available with different connector options than the standards mentioned here. Consult your local sales representative for different connector options.

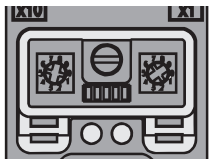
Power

Common power specifications for ***piconet*** stations:

- Bus (DeviceNet) Voltage: 11-26 VDC
- Aux Power Voltage: 24 VDC (nominal)
- Input Voltage: (From Auxiliary supply, U_B)
- Output Voltage: From Auxiliary supply, U_L

Addressing

DeviceNet stations must have a network address for communication. The address for ***piconet*** stations may be set via the visible rotary switches under the clear plastic cover on the front of the station.



Address = 6x10 + 3x1 = 63

The pair of switches represents the address as a decimal number; the left switch being the 10's multiplier and the right switch the 1's multiplier. To program the station, rotate the switches with a small slotted screwdriver until the arrows point to the appropriate numbers for the chosen address.

Diagnostics

piconet DeviceNet stations provide two LEDs for diagnosing communication problems.

Module Status

- Green: Working properly
- Flashing green: Detecting baud rate
- Flashing red: Input short-circuit

Network Status

- Green: Connection established
- Flashing green: Waiting for connection
- Flashing red: Connection timed out
- Red: Cannot connect

There is an additional LED for each input on the station. This LED indicates:

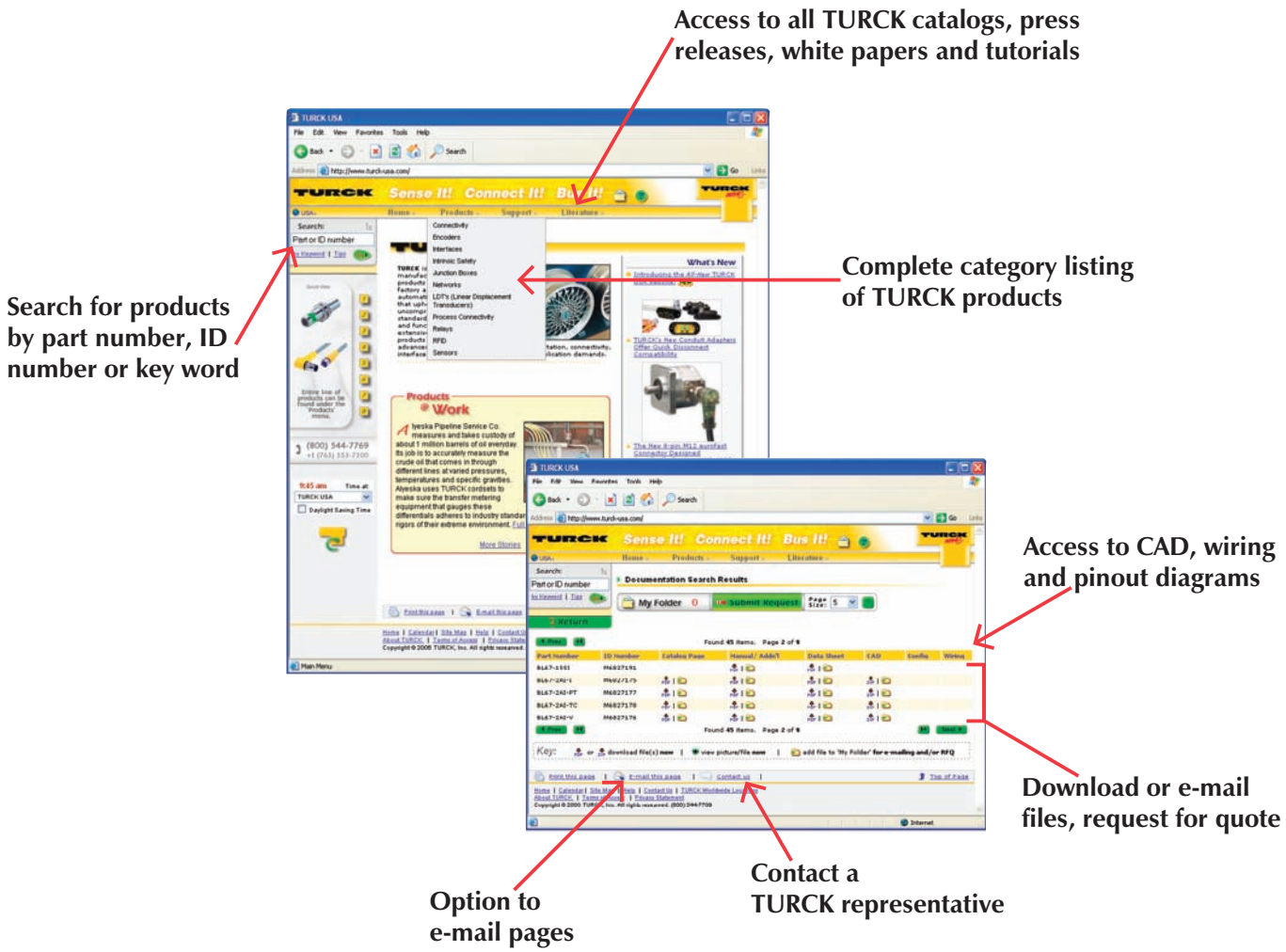
- Off: Input is off
- Green: Input is on

There is also an LED to indicate the status of the two auxiliary power supplies.

- Off: Power is missing
- On: Power is present

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.



www.turck.com

Input Station

SDNB-0800D-0008

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus sensor currents (from U_B)
- Sensor Current: <500 mA total of all sensors (from U_B)

Power Distribution

- Inputs: U_B Power supply

Mechanical

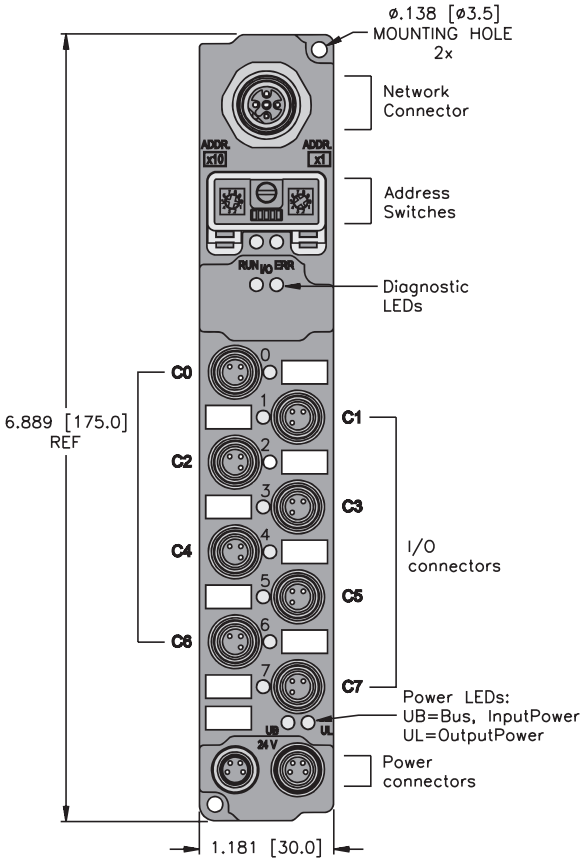
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

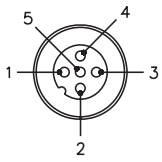
Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



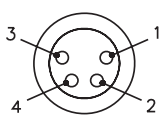
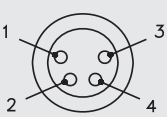
DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

eurofast Male

5-Pin

Aux. Power

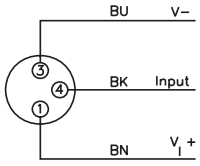
1 = U_B+
2 = U_L+
3 = Gnd
4 = Gnd

picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

	Inputs								Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Map
SDNB-0800D-0008	8	0-7	PI	1	PNP				1

Input Connectors

PI



Mating cordset:
PSG 3M-*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IS-7	IS-6	IS-5	IS-4	IS-3	IS-2	IS-1	IS-0

Input/Output Stations

SDNB-0808D-0001

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus sensor currents (from U_B)
- Sensor Current: <500 mA total of all sensors (from U_B)
- Output Current: <500 mA per output (from U_L)

Power Distribution

- Inputs: U_B Power supply
- Outputs: U_L Power supply

Mechanical

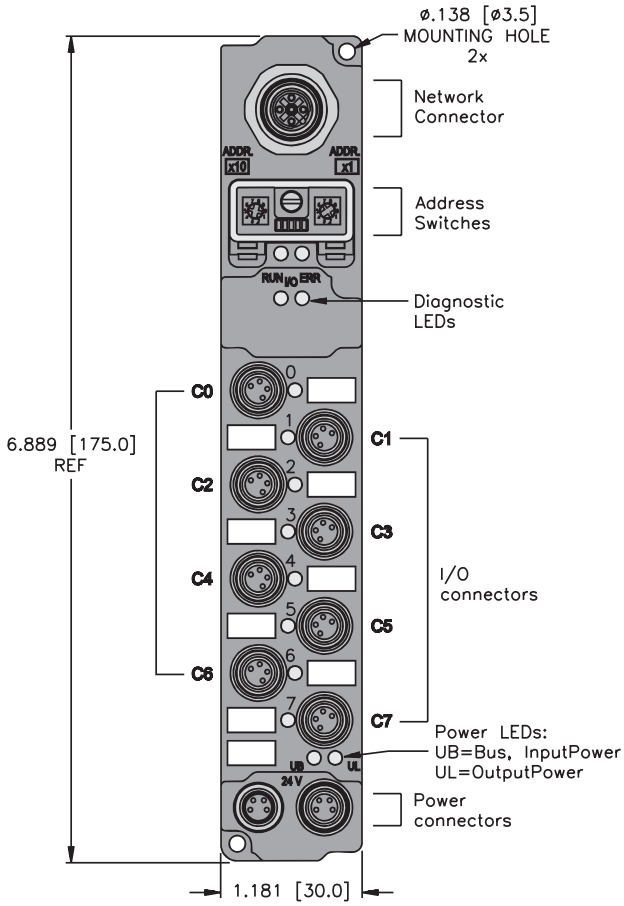
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

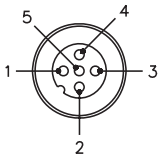
Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



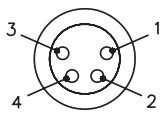
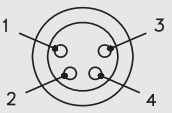
DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

eurofast Male

5-Pin

Aux. Power

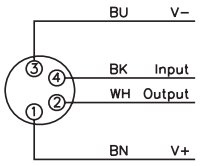
1 = U_B+
2 = U_L+
3 = Gnd
4 = Gnd

picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
SDNB-0808D-0001	8	0-7	PIO	1	PNP				8	0-7	PIO	1	0.5 A			1

Input/Output Connectors

PIO



Mating cordset:
PSG 4M-*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IS-7	IS-6	IS-5	IS-4	IS-3	IS-2	IS-1	IS-0
	2	OS-7	OS-6	OS-5	OS-4	OS-3	OS-2	OS-1	OS-0
Out	0	O-7	O-6	O-5	O-4	O-3	O-2	O-1	O-0

Output Stations

SDNB-0008D-0006
SDNB-0008D-0002

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA (from U_B)
- Output Current: See table on facing page (from U_L)

Power Distribution

- Outputs: U_L Power supply

Mechanical

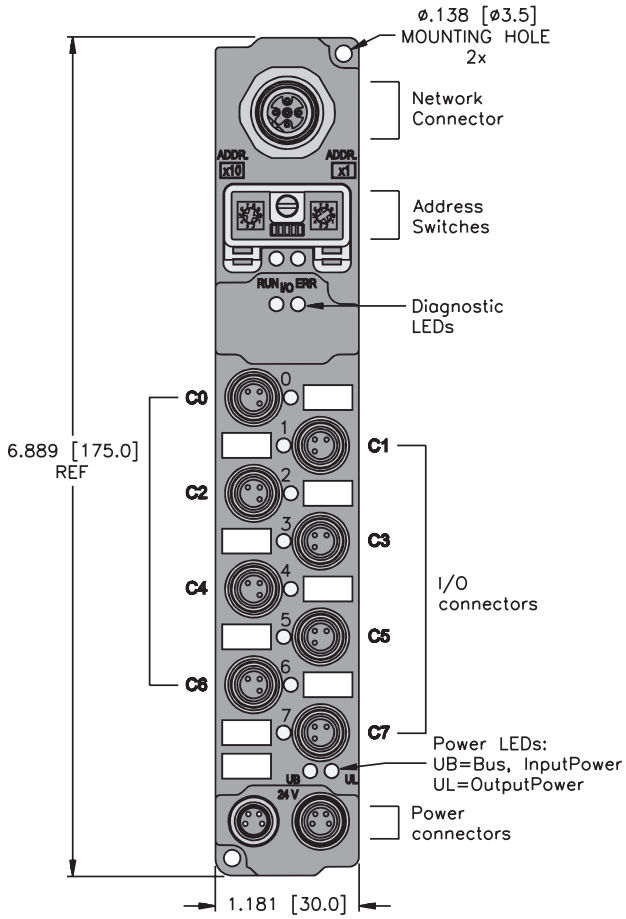
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

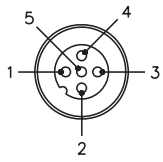
Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



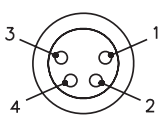
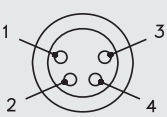
DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

eurofast Male

5-Pin

Aux. Power

1 = U_B+
2 = U_L+
3 = Gnd
4 = Gnd

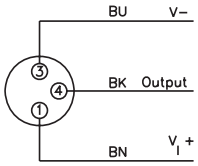
picofast ® Male	*picofast* ® Female
	
4-Pin	**4-Pin**

	Outputs							Data
Part Number	Output Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
SDNB-0008D-0006	8	0-7	PO	1	0.5 A			1
SDNB-0008D-0002	8	0-7	PO	1	2 A*			1

*Note: Total output current for the station is limited to 4 A.

Output Connectors

PO



Mating cordset:
PSG 3M-*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	OS-7	OS-6	OS-5	OS-4	OS-3	OS-2	OS-1	OS-0
Out	0	0-7	0-6	0-5	0-4	0-3	0-2	0-1	0-0

Input/Output Stations

SDNB-0404D-0005
SDNB-0404D-0001

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus sensor currents (from U_B)
- Sensor Current: <500 mA total of all sensors (from U_B)
- Output Current: See table on facing page (from U_L)

Power Distribution

- Inputs: U_B Power supply
- Outputs: U_L Power supply

Mechanical

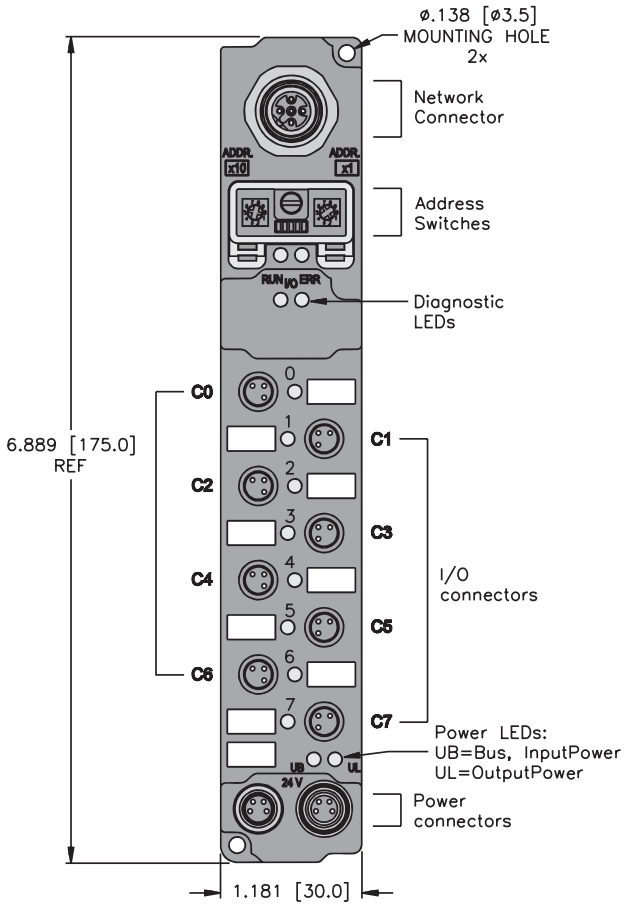
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

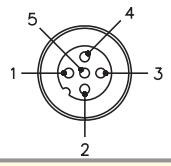
Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



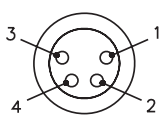
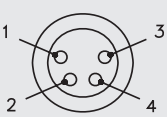
DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

eurofast Male

5-Pin

Aux. Power

1 = U_B+
2 = U_L+
3 = Gnd
4 = Gnd

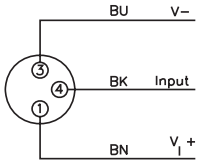
picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
SDNB-0404D-0005	4	0-3	PI	1	PNP				4	4-7	PO	1	2 A*			1
SDNB-0404D-0001	4	0-3	PI	1	PNP				4	4-7	PO	1	0.5 A			1

*Note: Total output current for the station is limited to 4 A.

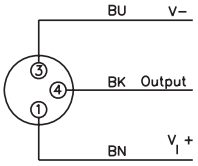
Input/Output Connectors

PI



Mating cordset:
PSG 3M-*

PO



Mating cordset:
PSG 3M-*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	IS-3	IS-2	IS-1	IS-0	I-3	I-2	I-1	I-0
	1	-	-	-	-	OS-3	OS-2	OS-1	OS-0
Out	0	-	-	-	-	O-3	O-2	O-1	O-0

Analog Input Stations

SDNB-40A-0005
SDNB-40A-0007

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus sensor currents (from U_B)

Power Distribution

- Inputs: U_B Power supply

Mechanical

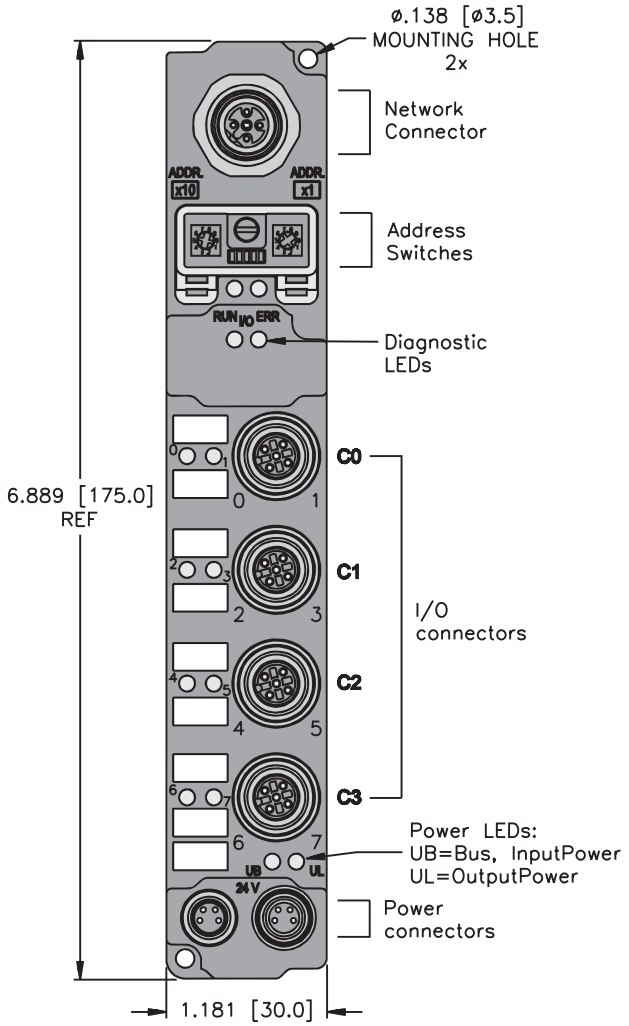
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

Diagnostics (Physical)

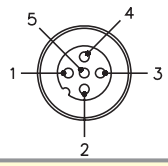
- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



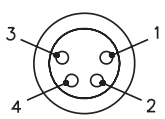
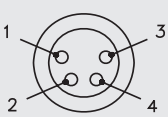
1 = U_B+
2 = U_L+
3 = Gnd_B
4 = Gnd_L

DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

eurofast Male

5-Pin

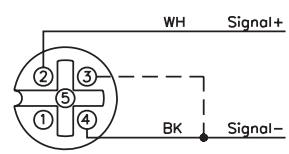
Aux. Power

picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

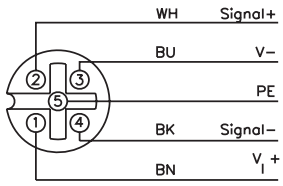
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	I/O Map
	Inputs								Data
SDNB-40A-0005	4	0-3	AI	1	-10/0 to 10 V				1
SDNB-40A-0007	4	0-3	AI	1	0 to 20 mA				1

Input/Output Connectors

AI



Loop Powered (Isolated)



DeviceNet Powered Transducer

Mating cordset:

Isolated Loop:

RK 4.5T-*M-RS 4.5T/S653

Loop Powered:

RK 4.5T-*M-RS 4.5T/LPS/S653

Note: The "LPS" in the part number indicates that the cord jumpers pin 3 to pin 4 on the male side to the signal- to the station common. Pin 3 is not connected at the female end.

Applications:

TURCK Sensors:
LU; RK 4.4T-*-RS 4.4T/S1118

LI; RK 4.4T-*-*RS 4.4T/S1120

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	Channel 0, MSB							
	1	Channel 0, LSB							
	2	Channel 1, MSB							
	3	Channel 1, LSB							
	4	Channel 2, MSB							
	5	Channel 2, LSB							
	6	Channel 3, MSB							
	7	Channel 3, LSB							
	8	-	-	-	-	AIS-3	AIS-2	AIS-1	AIS-0

Temperature Input Stations

SDNB-40A-0004
SDNB-40A-0009

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus sensor currents (from U_B)

Power Distribution

- Inputs: U_B Power supply

Mechanical

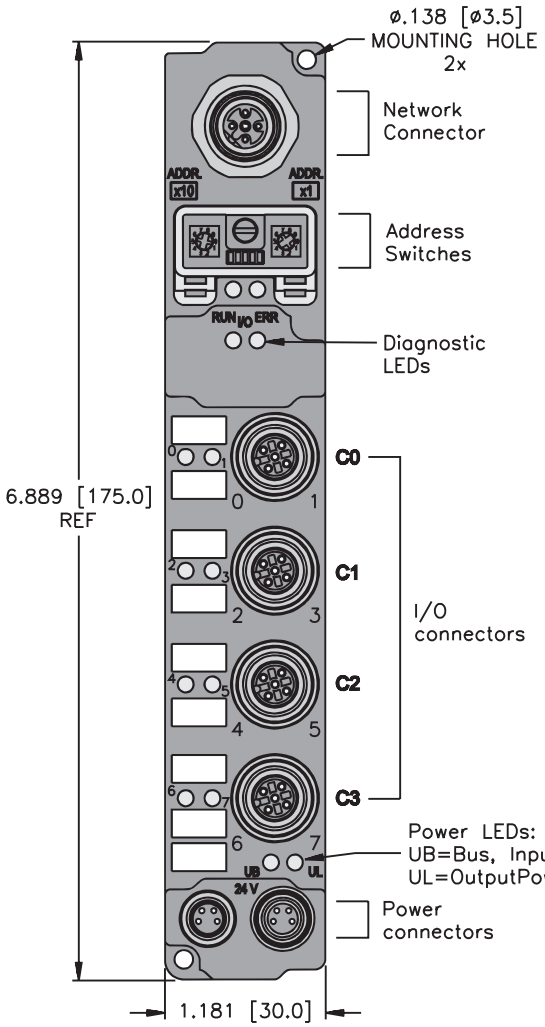
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

Diagnostics (Physical)

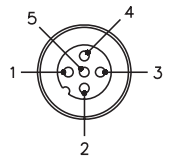
- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



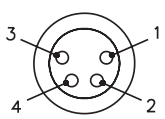
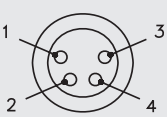
1 = U_B+
2 = U_L+
3 = Gnd_B
4 = Gnd_L

DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

eurofast Male

5-Pin

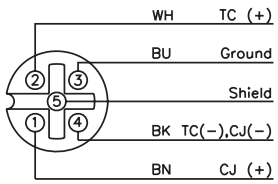
Aux. Power

picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

	Inputs								Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	I/O Map
SDNB-40A-0004	4	0-3	TC	1	TC				1
SDNB-40A-0009	4	0-3	RTD	1	RTD				1

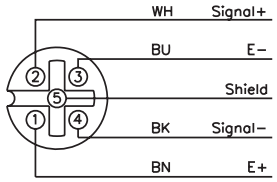
Input/Output Connectors

TC



Mating connector (field wireable):
WAS5-THERMO
(includes cold junction compensation)

RTD



Mating cordset:
RK 4.5T-*-RS 4.5T

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	Channel 0, MSB							
	1	Channel 0, LSB							
	2	Channel 1, MSB							
	3	Channel 1, LSB							
	4	Channel 2, MSB							
	5	Channel 2, LSB							
	6	Channel 3, MSB							
	7	Channel 3, LSB							
	8	-	-	-	-	AIS-3	AIS-2	AIS-1	AIS-0

Analog Output Stations

SDNB-04A-0009
SDNB-04A-0007

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA (from U_B)

Power Distribution

- Outputs: U_L Power supply

Mechanical

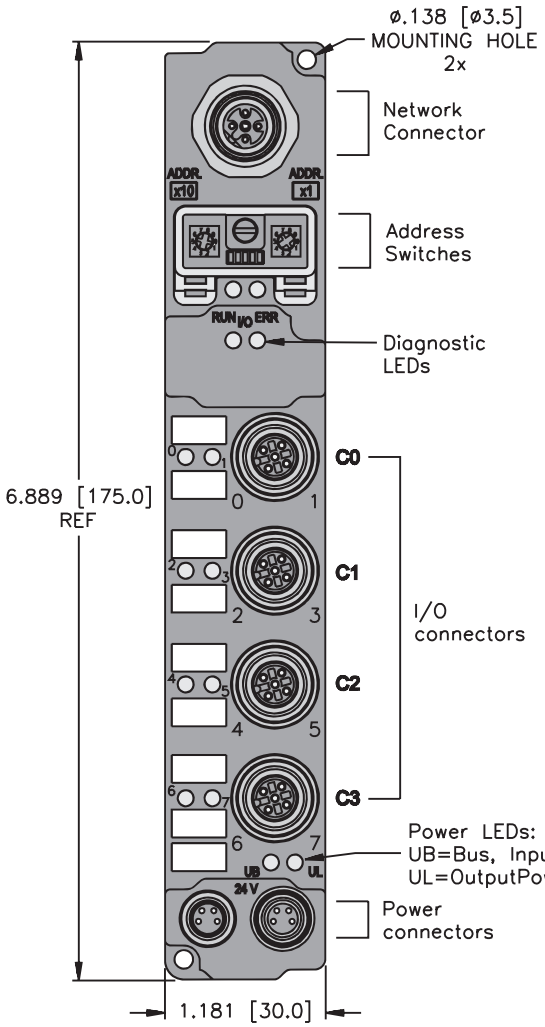
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

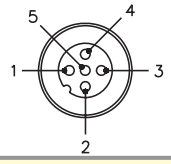
Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



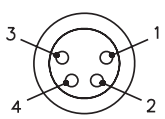
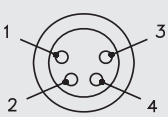
1 = U_B+
2 = U_L+
3 = Gnd_B
4 = Gnd_L

DeviceNet Pinout

eurofast Male

5-Pin

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

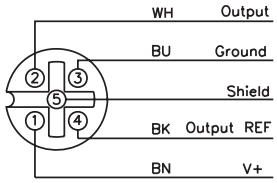
Aux. Power

picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

Part Number	Outputs: Output Count	Connectors	Pinout	Outputs per Connector	Output Style	Individual Diagnostics	Wire-Break Detection	Data: I/O Map
SDNB-04A-0009	4	0-3	AOI	1	0 to 20 mA			1
SDNB-04A-0007	4	0-3	AOV	1	-10/0 to 10 V			1

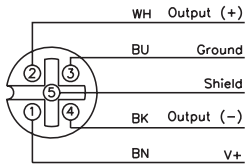
Output Connectors

AOV



Mating cordset:
RK 4.5T-*-RS 4.5T

AOI



DeviceNet Powered Transducer

Mating cordset:
RK 4.5T-*-RS 4.5T

Applications:
TURCK Sensors:
LU; RK 4.4T-*-RS 4.4T/S1118

LI; RK 4.4T-*-*RS 4.4T/S1120

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	-	-	-	-	AOS-3	AOS-2	AOS-1	AOS-0
Out	0	Channel 0, MSB							
	1	Channel 0, LSB							
	2	Channel 1, MSB							
	3	Channel 1, LSB							
	4	Channel 2, MSB							
	5	Channel 2, LSB							
	6	Channel 3, MSB							
	7	Channel 3, LSB							

Counter Station

SDNB-0202D-0003

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus device currents (from U_B)
- Input Current: <500 mA total of all sensors (from U_B)
- Output Current: <500 mA per output (from U_L)
- Frequency: 100 KHz

Power Distribution

- Inputs: U_B Power supply
- Outputs: U_L Power supply

Mechanical

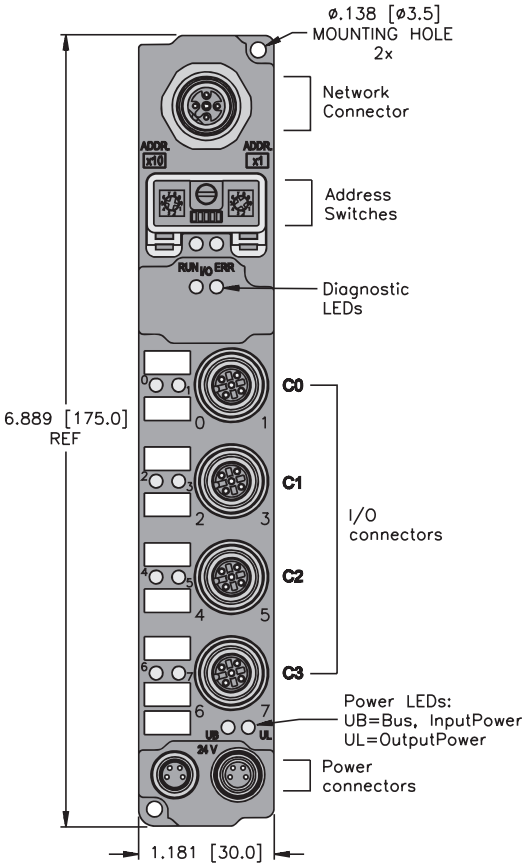
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

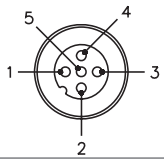
- Connectors: Nickel-plated brass
- Housing: Nylon

Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication

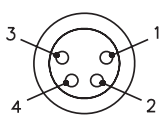
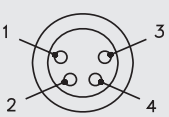


DeviceNet Pinout

eurofast Male

5-Pin

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Aux. Power

picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

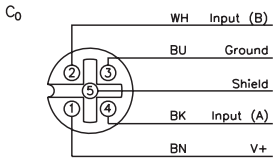
1 = U_B+
2 = U_L+
3 = Gnd_B
4 = Gnd_L

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output Count Count	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
SDNB-0202D-0003	2	0-3	PCNT	2	Counter				2	0-3	PCNT	2	0.5 A			1

Input/Output Connectors

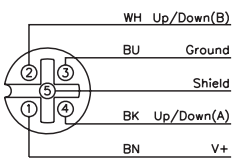
PCNT

C_0



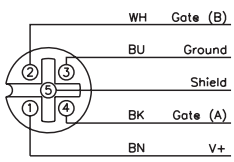
Mating cordset:
RK 4.5T-*-RS 4.5T

C_1



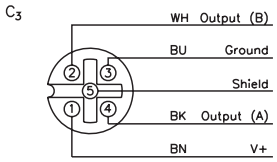
Mating cordset:
RK 4.5T-*-RS 4.5T

C_2



Mating cordset:
RK 4.5T-*-RS 4.5T

C_3



Mating cordset:
RK 4.5T-*-RS 4.5T

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	Channel 0 - Status							
	1	Channel 0, Byte 0							
	2	Channel 0, Byte 1							
	3	Channel 0, Byte 2							
	4	Channel 0, Byte 3							
	5	Channel 1 - Status							
	6	Channel 1, Byte 0							
	7	Channel 1, Byte 1							
	8	Channel 1, Byte 2							
	9	Channel 1, Byte 3							
	10	Res.						C2-S	C1-S
Out	0	Channel 0 - Control							
	1	Channel 0, Byte 0							
	2	Channel 0, Byte 1							
	3	Channel 0, Byte 2							
	4	Channel 0, Byte 3							
	5	Channel 1 - Control							
	6	Channel 1, Byte 0							
	7	Channel 1, Byte 1							
	8	Channel 1, Byte 2							
	9	Channel 1, Byte 3							

Incremental Encoder Station

SDNB-10S-0001

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus device currents (from U_B)

Power Distribution

- Inputs: U_B Power supply

Mechanical

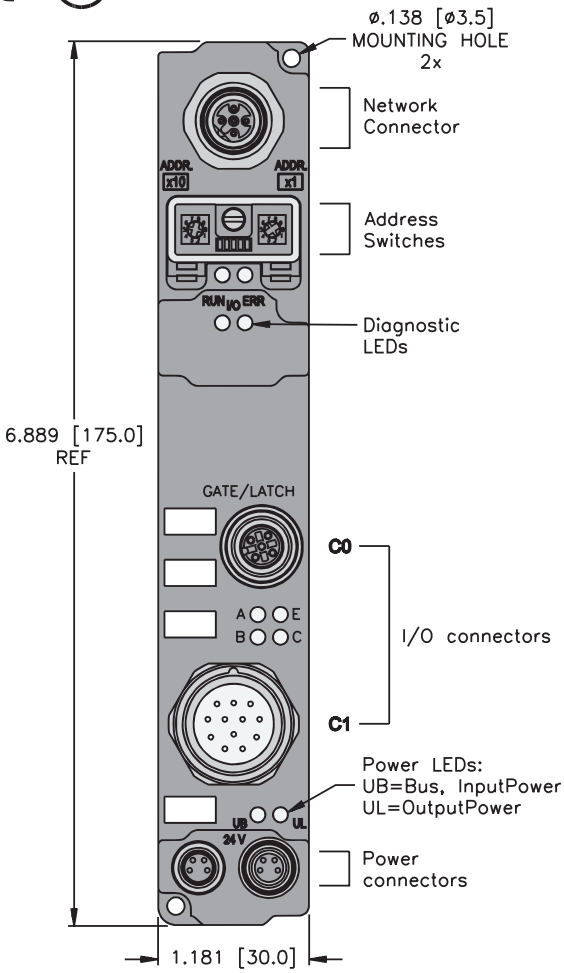
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

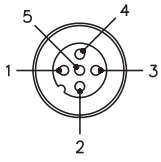
Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



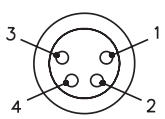
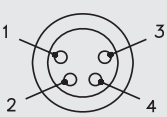
DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

eurofast Male

5-Pin

Aux. Power

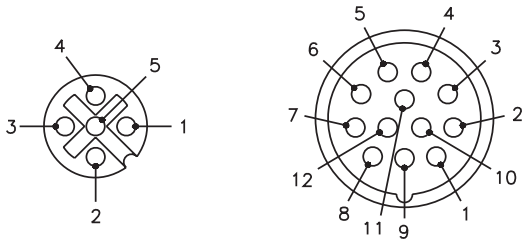
1 = U_B+
2 = U_L+
3 = Gnd
4 = Gnd

picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

Part Number	Inputs: Input Count	Inputs: Connectors	Inputs: Pinout	Inputs: Inputs per Connector	Inputs: Sensor Style	Inputs: Group Diagnostics	Inputs: Individual Diagnostics	Inputs: Wire-Break Detection	Data: I/O Map
SDNB-10S-0001	1	0-1	ENC	1	Encoder				1

Input/Output Connectors

ENC



C_0

1 = V+
2 = Gate
3 = Gnd
4 = Latch
5 = Shield

C_1

1 = $\overline{B}$
2 = +5 VDC
3 = Zero
4 = $\overline{Zero}$
5 = A
6 = $\overline{A}$
7 = $\overline{Status}$
8 = B
9 = NC
10 = Gnd
11 = Gnd
12 = V+

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	Serial Interface - Status							
	1	Count Value - High (MSB)							
	2	Count Value - Low (LSB)							
	3	Latch							
	4	Period Value - High (MSB)							
	5	Period Value - Low (LSB)							
	6	Device Status							
Out	0	Serial Interface - Control							
	1	Set Value - High (MSB)							
	2	Set Value - Low (LSB)							
	3	Reserved							
	4	Reserved							
	5	Reserved							

Serial Interface Stations

SDNB-10S-0002
SDNB-10S-0004

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA (from U_B)

Mechanical

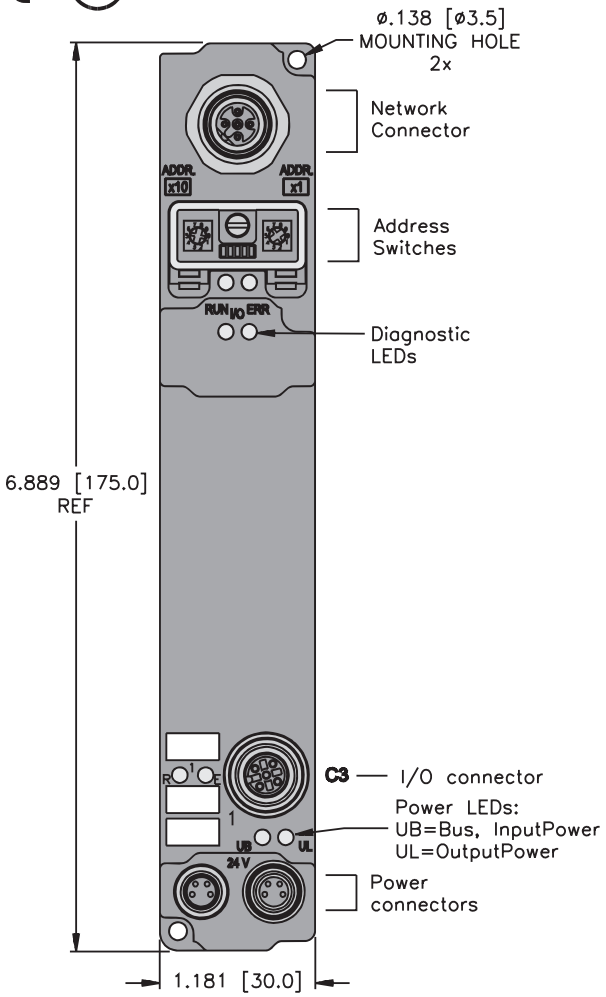
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

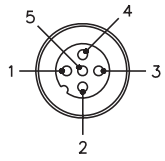
Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



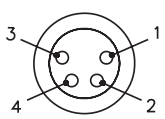
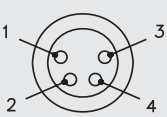
DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

eurofast Male

5-Pin

Aux. Power

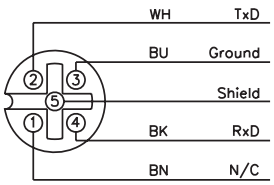
1 = U_B+
2 = U_L+
3 = Gnd
4 = Gnd

picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

	I/O								Data
Part Number	Channel Count	Connectors	Pinout	Channels per Connector	Interface Type	Data bytes per transaction	Individual Diagnostics	Wire-Break Detection	I/O Map
SDNB-10S-0002	1	0	232	1	RS232	3 to 5			1
SDNB-10S-0004	1	0	485	1	RS485/422	3 to 5			1

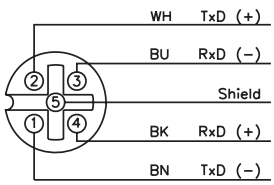
Input/Output Connectors

232



Mating cordset:
RK 4.5T-*-RS 4.5T

485



Mating cordset:
RK 4.5T-*-RS 4.5T

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	Serial Interface Status							
	1	Data 0							
	2	Data 1							
	3	Data 2							
	4	Data 3							
	5	Data 4							
	6	Device Status							
Out	0	Serial Interface Control							
	1	Data 0							
	2	Data 1							
	3	Data 2							
	4	Data 3							
	5	Data 4							

*Note: Five data byte configuration shown. Can be configured for 3, 4 or 5 data bytes. Consult user manual for details.

SSI Station

SDNB-10S-0005

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <75 mA plus sensor currents (from U_B)

Mechanical

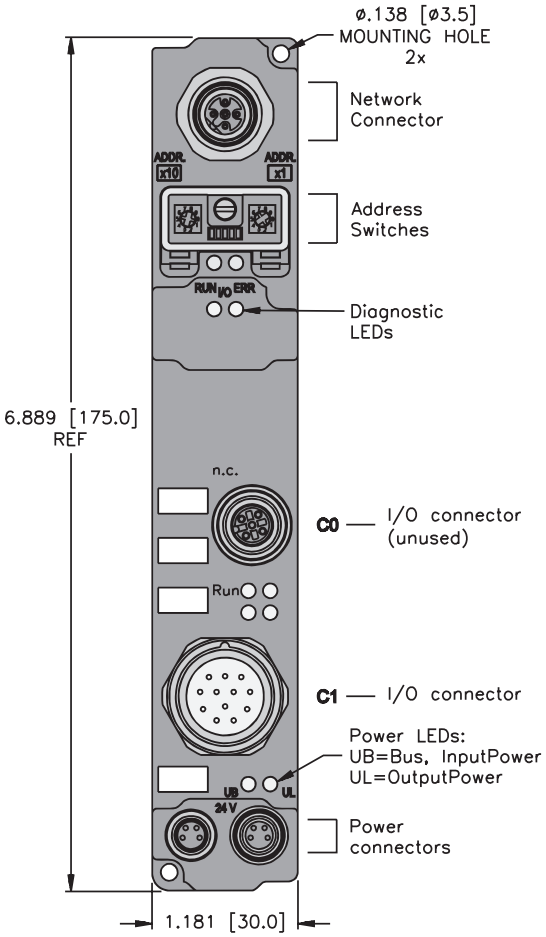
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

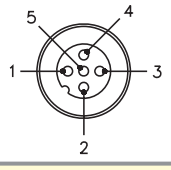
Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



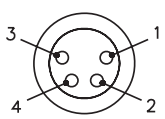
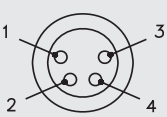
DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

eurofast Male

5-Pin

Aux. Power

1 = U_B+
2 = U_L+
3 = Gnd
4 = Gnd

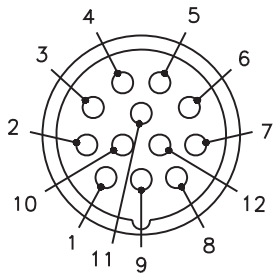
picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

Part Number	Inputs: Channel Count	Connectors	Pinout	Channels per Connector	Interface Type	Data bytes per transaction	Individual Diagnostics	Wire-Break Detection	Data: I/O Map
SDNB-10S-0005	1	0		1	SSI	4			1

Input/Output Connectors

1 = Clock-
2 = Clock+
3 = Data+
4 = Data-
5 = NC
6 = NC
7 = NC
8 = NC
9 = NC
10 = NC
11 = V+
12 = Ground

SSI



Mating cordset:
CKM 12-12-*/S817

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	Data 0							
	1	Data 1							
	2	Data 2							
	3	Data 3							
	4	Device Status							

OEM Stations

- **PC-Board Slaves**
- **Small Footprint**
- **Ideal for Retrofits**
- **Bus Powered I/O**

FDN-PCB-22
FDN-PCB-22-OEM*
* Not CE

CE

Electrical

- Operating Current: <50 mA plus sum of I/O currents (from DeviceNet)
- Input Current: <700 mA sum of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

Power Distribution

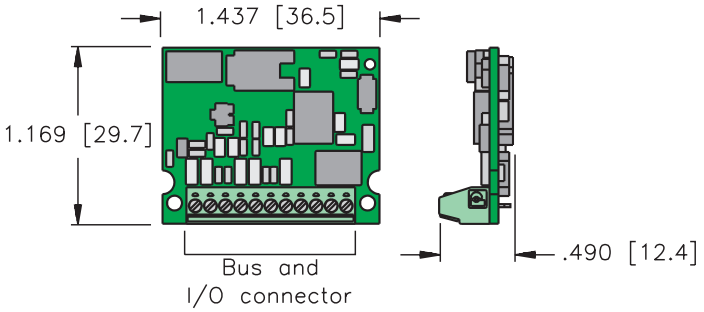
- Inputs: DeviceNet power supply
- Outputs: DeviceNet power supply

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: Open Frame

Diagnostics (Logical)

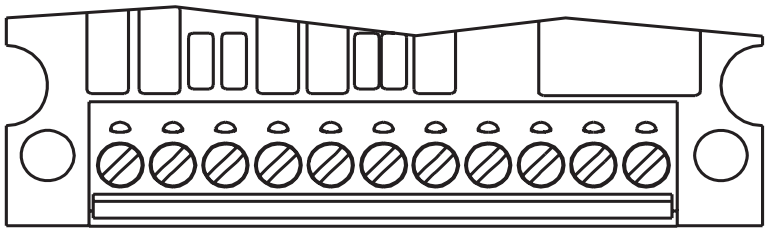
- One bit in I/O table indicates input fault for entire station, one bit er output for fault indication



		Inputs						Outputs					Data
Part Number	Connector	Input Count	Pinout	Style	Group Diagnostics	Individual Diagnostics	OCD	Output Count	Pinout	Current	Individual Diagnostics	OCD	Map
FDN-PCB-22	Screw Terminal	2	DN-O1	PNP	X			2	DN-O1	0.5A	X		1
FDN-PCB-22-OEM	None	2	DN-O1	PNP	X			2	DN-O1	0.5A	X		1

Input/Output Connectors

DN-O1



I_0	O_0	V-	I_1	O_1	V-	V+	L	H	V-	V+

Note: L refers to CAN_L and H refers to CAN_H

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	IGS	-	-	-	OS-1	OS-0	I-1	I-0
Out	0	-	-	-	-	-	-	O-1	O-0

OEM Station

- **PC-Board Slaves**
- **Small Footprint**
- **Ideal for Retrofits**
- **Included Mounting Bracket**

FDN-PCB-22-1003-BKT

CE

Electrical

- Operating Current: <50 mA plus sum of I/O currents (from DeviceNet)
- Input Current: <700 mA sum of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

Power Distribution

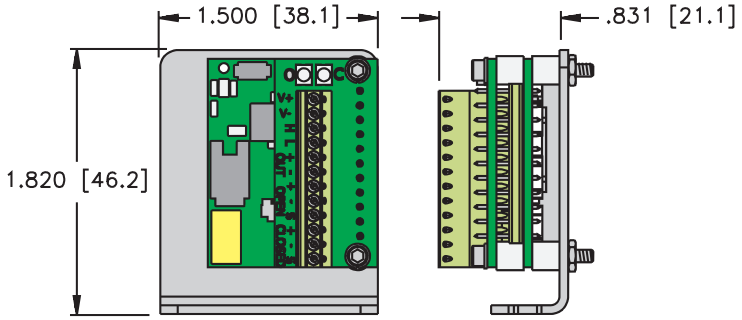
- Inputs: DeviceNet power supply
- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: Open Frame

Diagnostics (Logical)

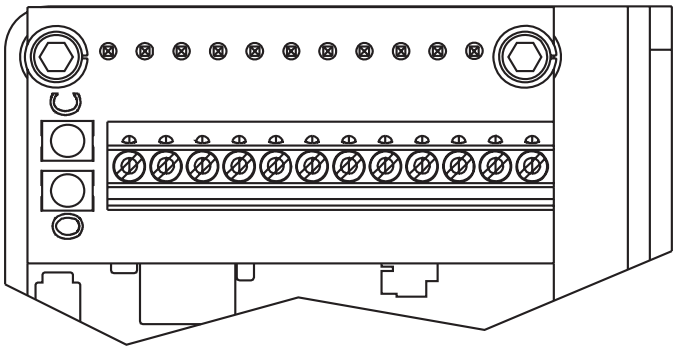
- One bit in I/O table indicates input fault for entire station, one bit per output for fault indication



	Inputs						Outputs						Data
Part Number	Input Count	Pinout	Style	Group Diagnostics	Individual Diagnostics	OCD	Output Count	Pinout	Current	Individual Diagnostics	OCD	Map	
FDN-PCB-22-1003-BKT	2	DN-O3	PNP	X			1	DN-O3	0.5 A	X		1	

Input/Output Connectors

DN-O3



V+	V-	H	L	+	-	+	-	S	+	-	S
				Out		Open Input			Closed Input		
DeviceNet				I/O							

Note: L refers to CAN_L and H refers to CAN_H

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	IGS	-	-	-	OS-1	-	I-1	I-0
Out	0	-	-	-	-	-	-	O-1	-

Operator Station

ODNA-4S-4XSG-E

- **Ideal for Operator Interfaces**
- **IP 67 Protection**
- **Bus Powered I/O**
- **Automatic Baud Rate Sensing**

Electrical

- Operating Current: <50 mA plus sum of all I/O currents (from DeviceNet)
- Input Current: <700 mA sum of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: Auxiliary power supply

Mechanical

- Operating Temperature: -25 to +70°C (-13 to +158°F)
- Protection: NEMA 4 / IEC IP 67

Material

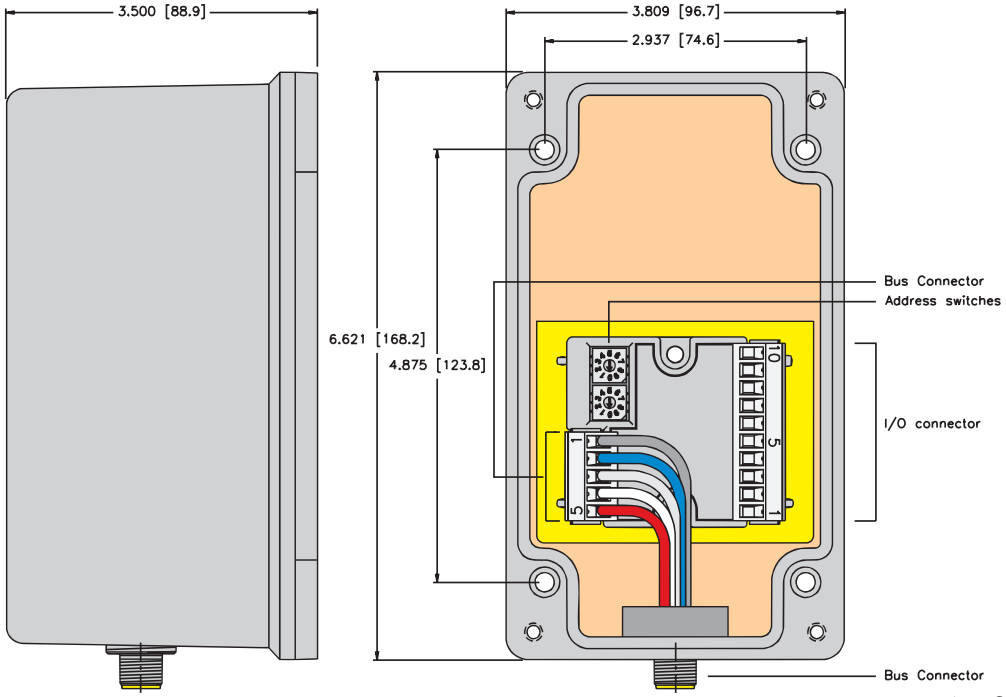
- Connectors: Nickel-plated brass (stainless steel available on request)
- Housing: Fiberglass

Diagnostics (Logical)

- One bit in I/O table indicates an I/O fault for inputs, one bit for outputs

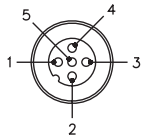
Diagnostics (Physical)

- LED to indicate status of DeviceNet communication



1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

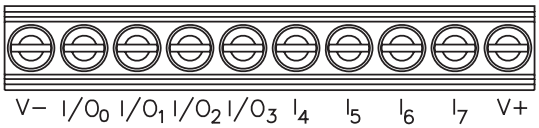
DeviceNet *eurofast*® Pinouts

Male

5-Pin

	Inputs						Outputs					Data
Part Number	Input Count	Pinout	Style	Group Diagnostics	Individual Diagnostics	OCD	Output Count	Pinout	Current	Individual Diagnostics	OCD	Map
ODNA-4S-4XSG-E	8	FS	PNP	X			4	FS	0.5A	X		1

Input/Output Connectors

FS



I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	I-7	I-6	I-5	I-4	I-3	I-2	I-1	I-0
	1	IGS	OGS	-	-	-	-	-	-
Out	0	-	-	-	-	O-3	O-2	O-1	O-0

Covers for ODNA-4S-4XSG-E	
Part Number	**Cutouts**
OCA-B	Blank
OCA-1-30	1 x 30 mm
OCA-2-30	2 x 30 mm
OCA-1-22	1 x 22 mm
OCA-2-22	2 x 22 mm
OCA-3-22	3 x 22 mm

BL67 Gateway

BL67-GW-DN

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

Electrical

- Operating Current: <600 mA from V_{MB}
- Supply Current: <8 A to I/O (from DeviceNet)
- Backplane Current: <1.5 A (from DeviceNet)

Mechanical

- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 67
- Vibration: 5 g @ 10-500 Hz

Material

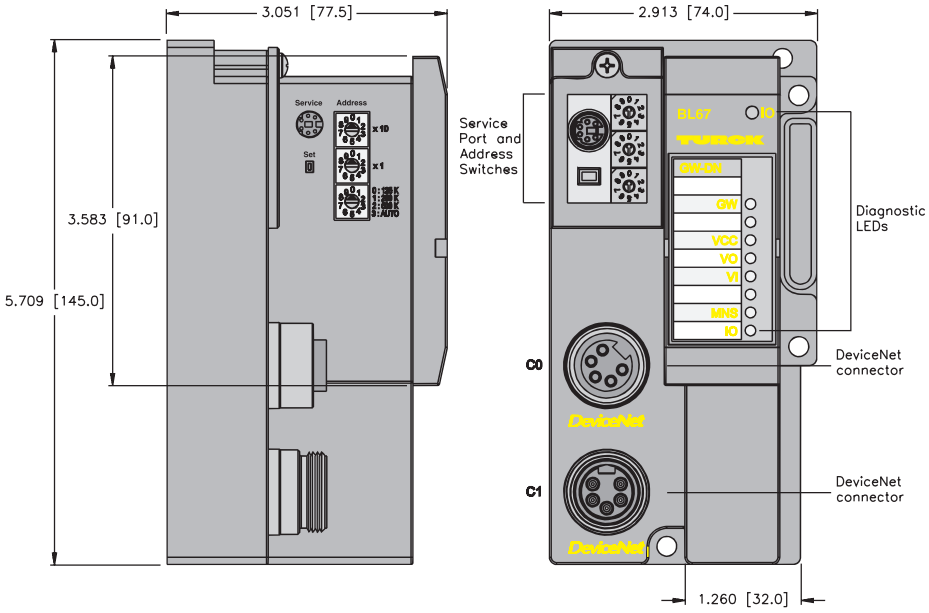
- Housing: PC-V0 (Lexan)

Diagnostics (Logical)

- Diagnostic information available through the DeviceNet I/O map

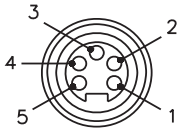
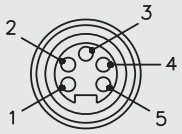
Diagnostics (Physical)

- LEDs to indicate status of DeviceNet and Module Bus communication



DeviceNet *minifast*® Pinouts

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

Male	Female
	
5-Pin	5-Pin

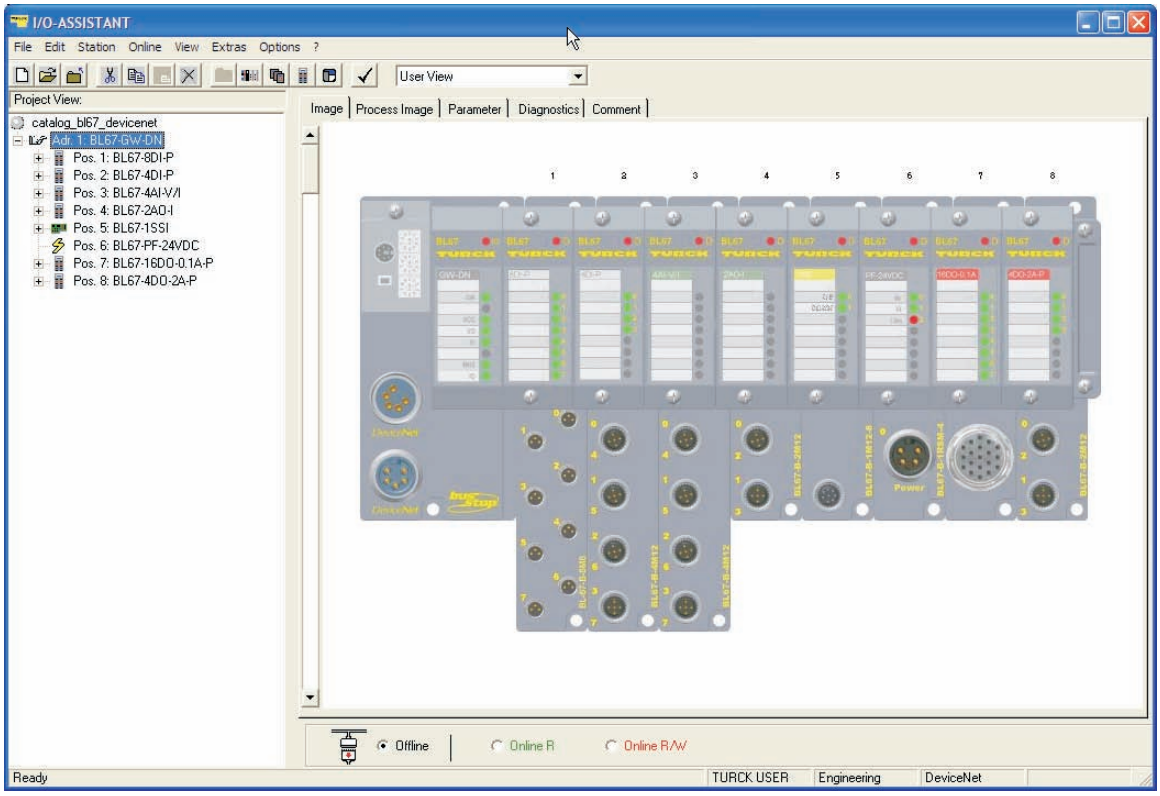
Note: Power feeding modules may be used for I/O current supply to prevent overloading the DeviceNet power supply.

DeviceNet™ 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 connectors, the BL67 can often be mounted in the physical process environment or 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 DeviceNet. A BL67 station consists of a gateway module that interfaces to the DeviceNet 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 the section G of this catalog.



TURCK's I/O Assistant software package is used to configure the BL67 system.

BL20 Gateway

BL20-GWBR-DNET

- **Modular I/O**
- **Fieldbus Independent Configuration**
- **IP 20 Protection**
- **Various I/O Styles**

Electrical

- Operating Current: <250 mA from BR power supply
- Supply Current: <10 A to I/O (from U_L)
  <1.5 A to backplane (from U_{SYS})

Mechanical

- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20
- Vibration: 1 g @ 5...100 Hz

Material

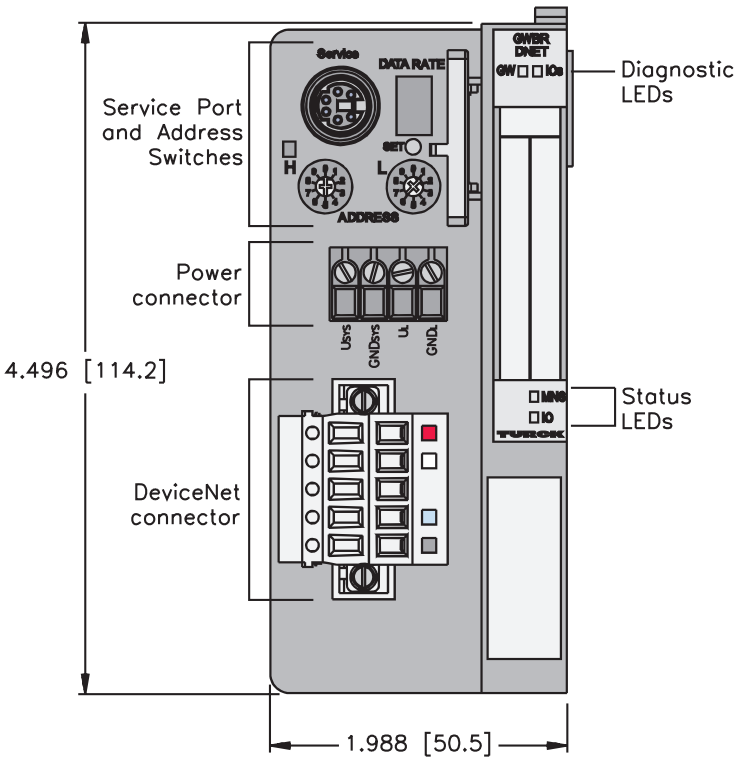
- Housing: PC-V0 (Lexan)

Diagnostics (Logical)

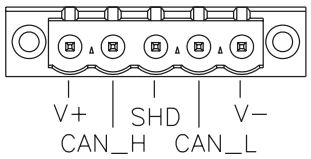
- Diagnostic information available through the DeviceNet I/O map

Diagnostics (Physical)

- LEDs to indicate status of DeviceNet and Module Bus communication

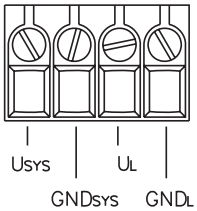


DeviceNet Connector



Power Connector

1 = U_{SYS}
2 = Gnd_{SYS}
3 = U_L
4 = Gnd_L

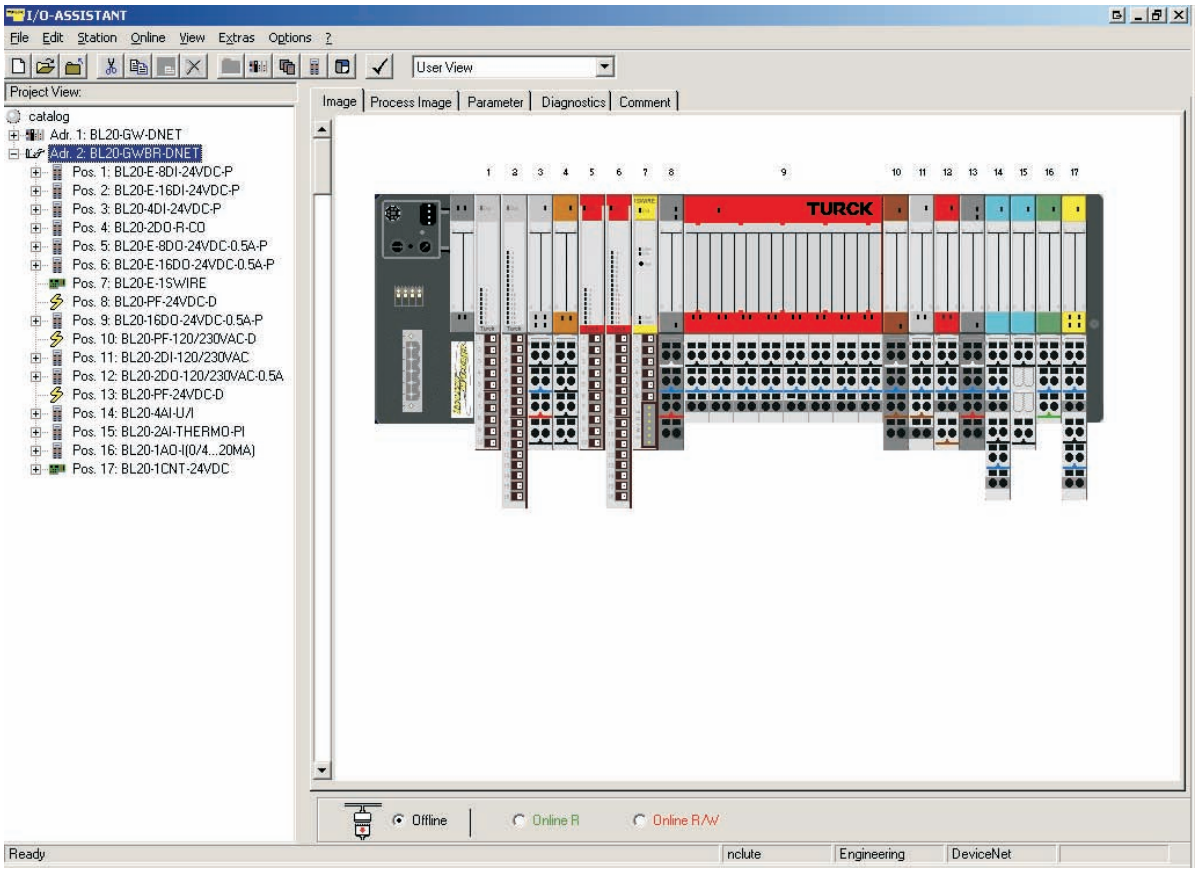


DeviceNet™ BL20 Stations

TURCK's BL20 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 20 protection and terminal point connections, the BL20 is intended to be mounted in the control cabinet or in a field enclosure.

The BL20 system supports several different network protocols, including DeviceNet. A BL20 station consists of a gateway module that interfaces to the DeviceNet system, and several I/O modules that interface with the physical I/O in the field. The terminal bases are available with tension clamp or screw terminal connector types.

For more details on the BL20 system please see section H of this catalog.



TURCK's I/O Assistant software package is used to configure the BL20 system.

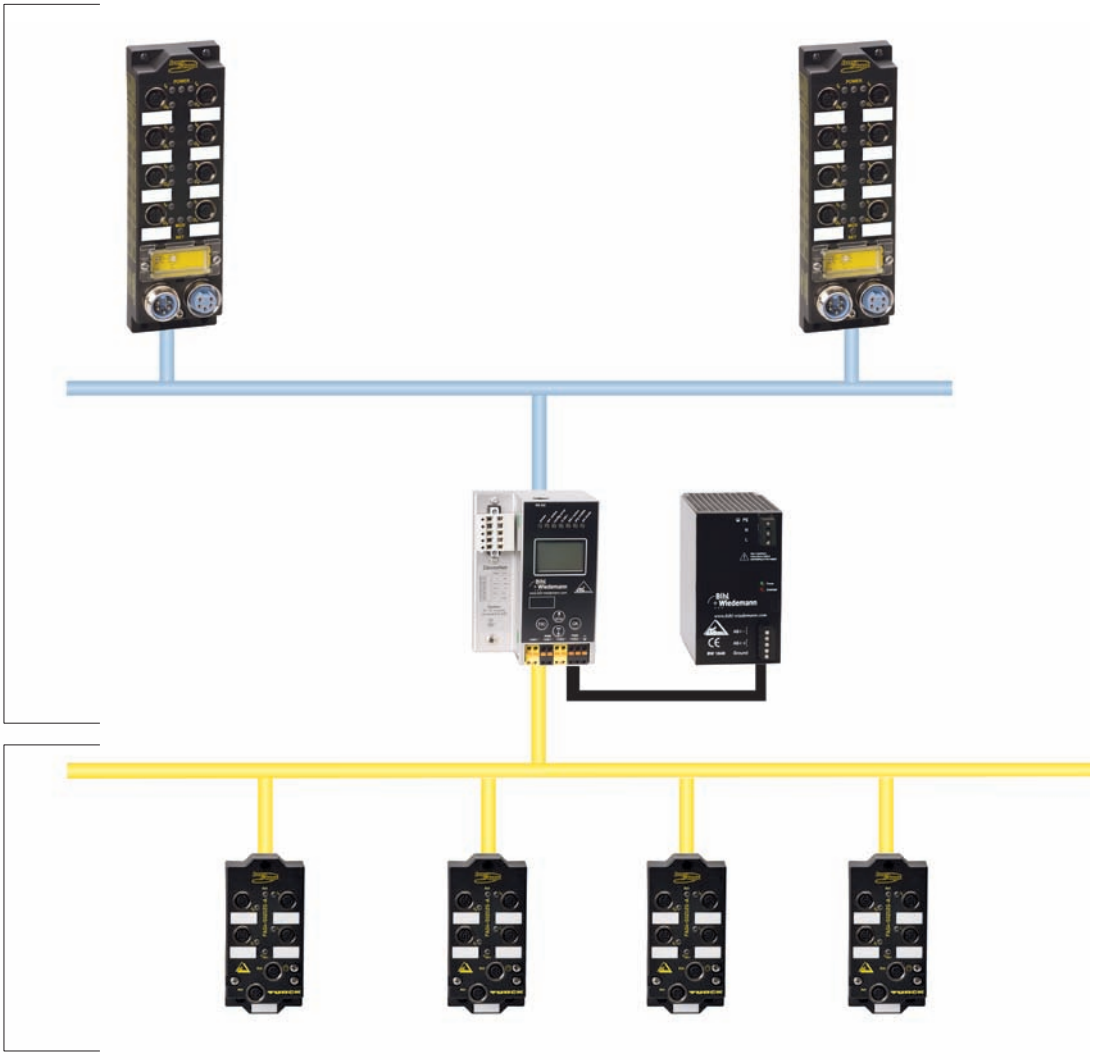
DeviceNet to AS-interface® Gateways

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

For AS-I specifications and ratings details, see section E of this catalog.

DeviceNet System
(Gateway is the Slave)

AS-I System
(Gateway is the Master)



Addressing

DeviceNet™ stations must have a network address for communication. The address for AS-i/DeviceNet gateway stations may be set via the display screen and push buttons. Please consult the manual for a particular gateway for instruction on the procedure.

Diagnostics

AS-i/DeviceNet gateways contain LEDs for diagnosing I/O and communication problems for both the DeviceNet and AS-I interfaces. For a detailed description of the LED states, please see the Bihl+Wiedemann AS-i/DeviceNet Gateway User Manual available to download from www.bihl-wiedemann.com.

Power

Most AS-i/DeviceNet gateways draw power from the AS-I power supply. The option to use a separate, non-AS-I power supply is also available. Refer to the AS-I masters section of this catalog for more details on the power supply configurations.

AS-I Gateways in Stainless Steel

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

- **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}, 70mA from V_{AS-i2} (Power Supply A2)
  250 mA from V_{AUX} (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

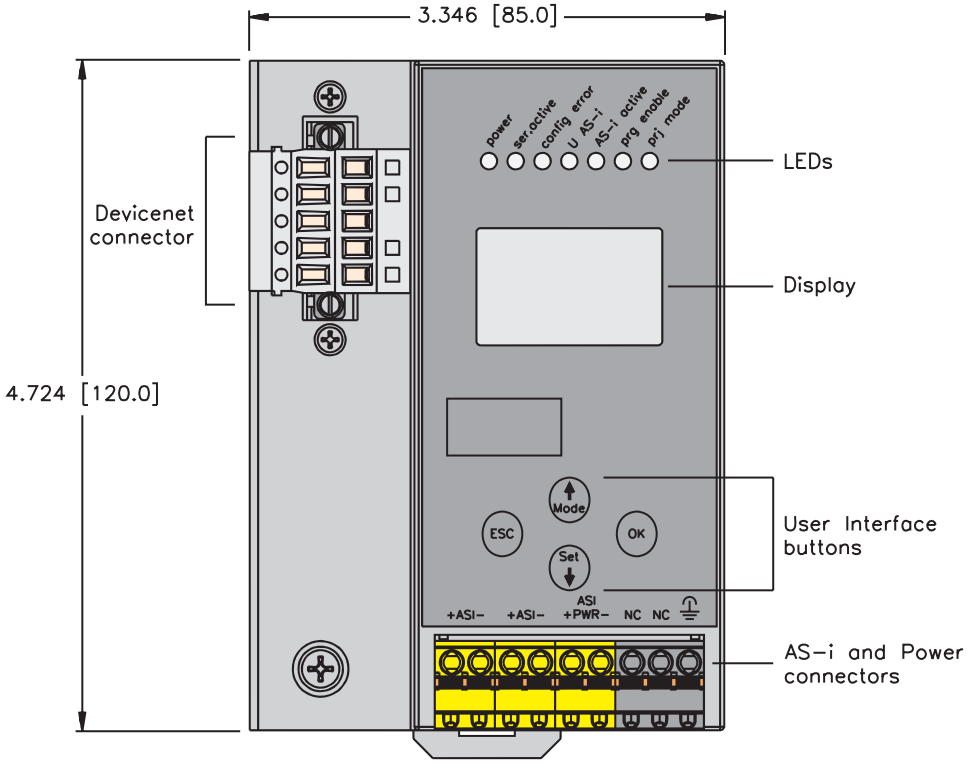
- Housing: Stainless Steel

Diagnostics (Logical)

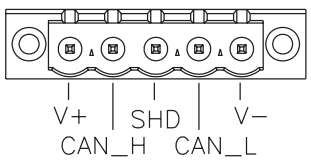
- AS-I diagnostic data is available via Network interface

Diagnostics (Physical)

- LEDs to indicate status of network and AS-I communication and power supply



DeviceNet Connector

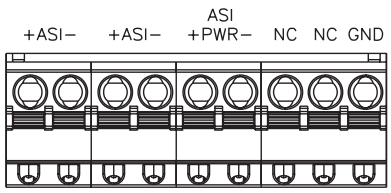


Part Number	Higher Level Network	Power Style	AS-I Version	Connection Diagram	# of AS-I Masters
ASI-DNG-SS BW1818	DeviceNet	A	3.0	A	1
ASI-DNG-SS BW1819	DeviceNet	A2	3.0	A2	2
ASI-DNG-SS BW1820	DeviceNet	E	3.0	E	2
ASI-DNG-SS-C1D2 BW1824*	DeviceNet	A	3.0	A	1
ASI-DNG-SS-C1D2 BW1825*	DeviceNet	A2	3.0	A2	2
ASI-DNG-SS-C1D2 BW1826*	DeviceNet	E	3.0	E	2

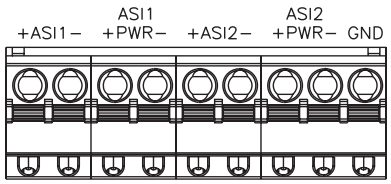
* Approved for use in Class 1, Division 2 areas.

Input/Output Connectors

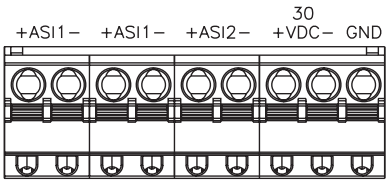
A



A2



E



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

piconet Gateway

SDNL-0404D-0003

- **Rugged, Fully Potted Stations**
- **IP 67 Protection**
- **Small Footprint**
- **Flexible I/O Subnetwork**

Electrical

- Operating Current: <75 mA plus sensor currents (from U_B)
- Sensor Current: <500 mA total of all sensors (from U_B)
- Output Current: <500 mA per output (from U_L)

Power Distribution

- Inputs: U_B Power supply
- Outputs: U_L Power supply

Mechanical

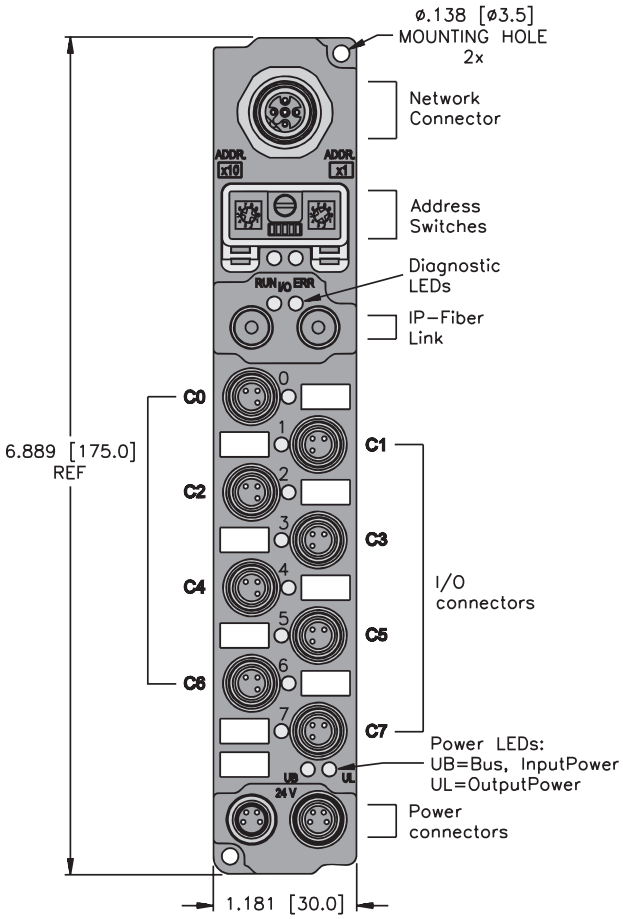
- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IEC IP 67
- Vibration: IEC 68, part 2-6

Material

- Connectors: Nickel-plated brass
- Housing: Nylon

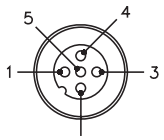
Diagnostics (Physical)

- One LED indicates an I/O fault for the entire station
- LEDs to indicate status of DeviceNet communication



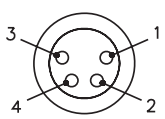
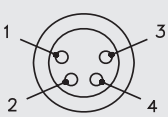
DeviceNet Pinout

1 = Shield
2 = V+
3 = V-
4 = CAN_H
5 = CAN_L

eurofast Male

5-Pin

Aux. Power

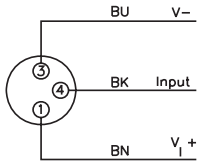
1 = U_B+
2 = U_L+
3 = Gnd
4 = Gnd

picofast Male	*picofast* Female
	
4-Pin	**4-Pin**

	Inputs								Outputs							Data
Part Number	Input Count	Connectors	Pinout	Inputs per Connector	Sensor Style	Group Diagnostics	Individual Diagnostics	Wire-Break Detection	Output	Connectors	Pinout	Outputs per Connector	Current	Individual Diagnostics	Wire-Break Detection	I/O Map
SDNL-0404D-0003	4	0-3	PI	1	PNP				4	4-7	PO	1	0.5 A			1

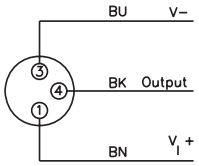
Input/Output Connectors

PI



Mating cordset:
PSG 3M-*

PO



Mating cordset:
PSG 3M-*

I/O Data Map 1

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
In	0	Data from next input modules				I-3	I-2	I-1	I-0
	1	Status							
Out	0	Data for next output modules				0-3	0-2	0-1	0-0

DeviceNet™ Media

DeviceNet™, Selection Guide

Cables
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Flat Cable Connectors
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Terminating Resistors
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Feed Through Connectors
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Junctions
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Conduit Adapters/Wall Adapters
G53/G55

Tees
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Gender Changers
G60

Receptacles
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Field Wireable Connectors
G75

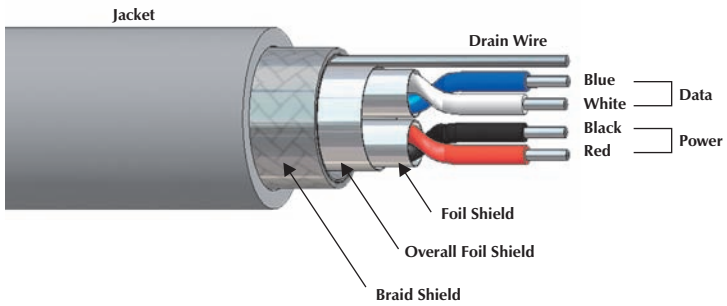
Power Taps
G77

Daisy Chain Cordsets
G79

Notes:

DeviceNet™, Thin Cable Specifications

- **Cable that Meets the Requirements of ODVA Thin or Type 1 Cable**
- **Commonly Used as Drop Cable to a Maximum Length of 6 Meters (20 Feet) or Trunk Cable in Networks Up to a Maximum Length of 100 Meters (328 Feet)**



Data Rate	Maximum Trunk Length	Drop Length	
		Maximum	Cumulative
125 Kbaud	100 meters (328 feet)	6 meters (20 feet)	156 meters (512 feet)
250 Kbaud	100 meters (328 feet)		78 meters (feet)
500 Kbaud	100 meters (328 feet)		39 meters (feet)

Type	Approvals	Power Pair		Data Pair		Outer Jacket	Shields	Bulk Cable Part Number / Weight/300 M
		AWG Color Code	DCR (/1000 feet) Insulation	AWG Color Code	DCR (/1000 feet) Insulation	Material Color Nominal O.D.	Type Drain Wire	
572 AWM 2464 75°C 300 Volts	**NEC** PLTC **CEC** AWM-I/II A/B FT4	2/22 AWG BK/RD	18.1 Ohms PVC	2/22 AWG BU/WH	18.1 Ohms PE	PVC Light Grey 7.2 mm (.285 in)	Foil 22 AWG	RB50603-*M 44 lbs.
577 AWM 2464 75°C 300 Volts	**NEC** PLTC **CEC** AWM-I/II A/B FT4	2/22 AWG BK/RD	16.9 Ohms PVC	2/22 AWG BU/WH	16.9 Ohms PE	PVC Light Grey 8.4 mm (.330 in)	Foil/Braid 22 AWG	RB50629-*M 65 lbs. ***flexlife-10*** ® †
578 AWM 2464 75°C 300 Volts	**NEC** PLTC/CL2 **CEC** CMG	2/22 AWG BK/RD	18.1 Ohms PVC	2/22 AWG BU/WH	18.1 Ohms PE	PVC Light Grey 7.8 mm (.310 in)	Foil/Braid 22 AWG	RB50651-*M 51 lbs.
5715 AWM 2095 80°C 300 Volts	**NEC** AWM **CEC** AWM-I/II A/B FT1	2/22 AWG BK/RD	16.5 Ohms PVC	2/22 AWG BU/WH	16.5 Ohms PE	PVC Light Grey 6.0 mm (.235 in)	Foil (Data Only) 22 AWG	RB50764-*M 26 lbs.
5725 AWM 21080 75°C 300 Volts	**NEC** AWM	2/22 AWG BK/RD	16.5 Ohms PE	2/24 AWG BU/WH	27.7 Ohms PE	PUR Violet 7.1 mm (.280 in)	Foil/Braid 22 AWG	RB50994-*M 50 lbs. **Halogen-Free** ††
5732 AWM 20626 80°C 600 Volts	**NEC** AWM CEC AWM-I/II A/B FT4	2/22 AWG BK/RD	16.5 Ohms PVC	2/22 AWG BU/WH	16.5 Ohms PE	TPE Charcoal Grey 9.3 mm (.365 in)	Foil/Braid 22 AWG	RB51296-*M 68 lbs. ***flexlife*** ® † ***weldlife*** ™ †

* 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 A7 for ***flexlife*** ® performance.
†† Zero Halogen: to DIN VDE 0472 part 815 + IEC 60754-1

DeviceNet™, Mid Cable Specifications

- **Cable That Meets the Requirements of ODVA Mid or Type III Cable**
- **Provides More Flexibility When Used as a Trunk Cable Up to a Maximum Length of 300 Meters (984 Feet)**

Figure A

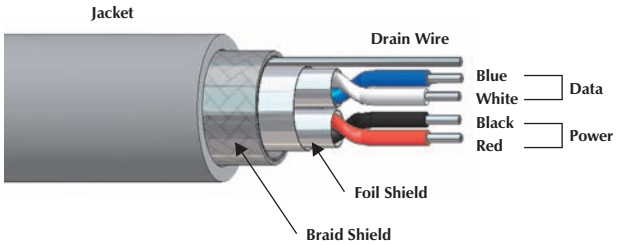
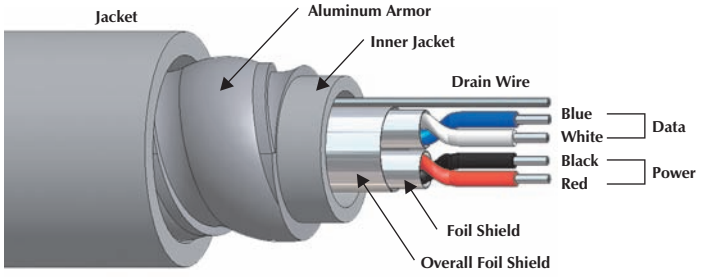


Figure B



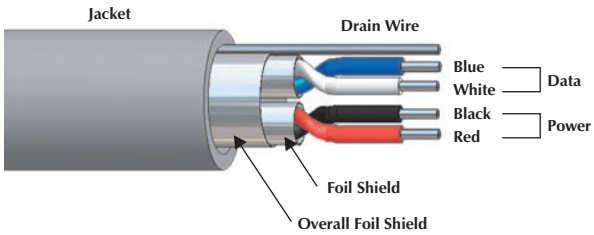
Data Rate	Maximum Trunk Length
125 Kbaud	300 meters (984 feet)
250 Kbaud	250 meters (820 feet)
500 Kbaud	100 meters (328 feet)

Type	Approvals	Power Pair		Data Pair		Outer Jacket	Shields	Bulk Cable Part Number / Weight/300 M	Figure
		AWG Color Code	DCR (/1000 feet) Insulation	AWG Color Code	DCR (/1000 feet) Insulation	Material Color Nominal O.D.	Type Drain Wire		
5711 AWM 2464 80°C 300 Volts	**NEC** PLTC **CEC** AWM-I/II A/B FT4	2/16 AWG BK/RD	4.1 Ohms PVC	2/20 AWG BU/WH	11.2 Ohms PE	PVC Light Grey 8.4 mm (.330 in)	Foil 20 AWG	RB50721-*M 65 lbs.	**A**
5722 AWM 2464 75°C 300 Volts	**NEC** PLTC **CEC** AWM-I/II A/B FT4	2/17 AWG BK/RD	5.2 Ohms SR-PVC	2/20 AWG BU/WH	10.4 Ohms PE	PVC Light Grey 8.9 mm (.350 in)	Foil 20 AWG	RB50876-*M 71 lbs. ***flexlife-10*** ® †	**A**
5723 AWM 20233 80°C 300 Volts	**NEC** AWM **CEC** AWM-I/II A/B FT1	2/17 AWG BK/RD	5.2 Ohms PVC	2/20 AWG BU/WH	10.4 Ohms PE	PUR Light Grey 8.4 mm (.330 in)	Foil 20 AWG	RB50877-*M 60 lbs. ***flexlife-10*** †	**A**
5721A 75°C 300 Volts	**NEC** PLTC/CM **CEC** CMG HL ABCD	2/18 AWG BK/RD	6.7 Ohms PVC	2/20 AWG BU/WH	10.4 Ohms PE	PVC Light Grey 14.9 mm (.585 in) Aluminum Armor	Foil/Armor 20 AWG	RB50859-*M 101 lbs. ***armorfast*** ®	**B**
5731 AWM 20626 80°C 300 Volts	**NEC** AWM **CEC** AWM-I/II A/B FT1	2/16 AWG BK/RD	4.1 Ohms PVC	2/20 AWG BU/WH	10.4 Ohms PE	TPE Charcoal Grey 10 mm (.394 in)	Foil/Spiral None	RB51235-*M 95 lbs. ***flexlife*** † ***weldlife***™ †	**A**

* 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 A7 for ***flexlife*** ® and ***weldlife*** performance.

DeviceNet™, Thick Cable Specifications

- **Cable That Meets the Requirements of ODVA Thick or Type II Cable**
- **It Provides the Most Power to a Network When Used as a Trunk Cable Up to a Maximum Standard Cable Length of 500 Meters (1640 Feet)**



Data Rate	Maximum Trunk Length	Maximum Trunk Length (5720)
125 Kbaud	500 meters (1640 feet)	420 meters (1378 feet)
250 Kbaud	250 meters (820 feet)	200 meters (656 feet)
500 Kbaud	100 meters (328 feet)	100 meters (328 feet)

Type	Approvals	Power Pair		Data Pair		Outer Jacket	Shields	Bulk Cable Part Number / Weight/300 M
		AWG Color Code	DCR (/1000 feet) Insulation	AWG Color Code	DCR (/1000 feet) Insulation	Material Color Nominal O.D.	Type Drain Wire	
575 AWM 20233 80°C 300 Volts	**NEC** AWM **CEC** AWM-I/II A/B FT1	2/15 AWG BK/RD	3.3 Ohms PVC	2/18 AWG BU/WH	6.5 Ohms PE	PUR Light Grey 10.4 mm (.409 in)	Foil/Braid 18 AWG	RB50633-*M 94 lbs.
579 AWM 2570 75°C 300 Volts	**NEC** PLTC/CL2 **CEC** CMG	2/15 AWG BK/RD	3.2 Ohms PVC	2/18 AWG BU/WH	6.5 Ohms PE	PVC Light Grey 11.3 mm (.445 in)	Foil/Braid 18 AWG	RB50652-*M 122 lbs.
5720 75°C 600 Volts	**NEC** TC	2/16 AWG BK/RD	4.9 Ohms PVC	2/18 AWG BU/WH	6.9 Ohms PE	PVC Light Grey 13 mm (.515 in)	Foil/Braid 16 AWG	RB50793-*M 168 lbs.
5726 AWM 21080 70°C 300 Volts	NEC AWM	2/15 AWG BK/RD	3.2 Ohms PE	2/18 AWG BU/WH	6.9 Ohms PE	PUR Violet 11.2 mm (.449 in)	Foil/Braid 18 AWG	RB51038-*M 150 lbs. **Halogen-Free** ††
5727 75°C 300 Volts	NEC PLTC CEC AWM-I/II A/B FT4	2/15 AWG BK/RD	3.44 Ohms PVC	2/18 AWG BU/WH	7.06 Ohms PE	PVC Light Grey 13.7 mm (.540 in)	Foil/Spiral None	RB51106-*M 157 lbs ***flexlife-10*** ® †
5730 AWM 20626 80°C 300 Volts	**NEC** AWM **CEC** AWM-I/II A/B FT1	2/15 AWG BK/RD	3.44 Ohms PVC	2/18 AWG BU/WH	7.06 Ohms PE	TPE Grey 10.4 mm (.413 in)	Foil/Braid 18 AWG	RB51231-*M 110 lbs. ***flexlife*** † ***weldlife***™ †

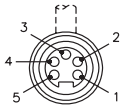
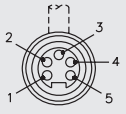
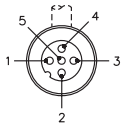
* Indicates length in meters.
Standard cable lengths are 1, 2, 4, 5, 6, 8, 10, 15, and in +5 meter increments from there. Consult factory for other lengths.†
See page A7 for ***flexlife*** ® and ***weldlife*** performance.
†† Zero Halogen: to DIN VDE 0472 part 815 + IEC 60754-1

DeviceNet™, Cable/Cordset Selection Matrix

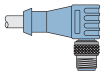
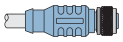
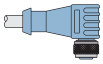
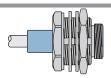
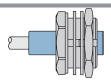
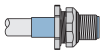
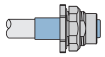
			minifast®				*eurofast*® (Thin/Mid Only)
			Pin (Male)		Socket (Female)		Pin (Male)
			1 RSM	2 WSM	3 RKM	4 WKM	5 RSC
		Bare	RSM 57x-*M	WSM 57x-*M	RKM 57x-*M	WKM 57x-*M	RSC 57x-*M
minifast	Pin (Male)	1 RSM	RSM RSM 57x-*M	RSM WSM 57x-*M	RSM RKM 57x-*M	RSM WKM 57x-*M	RSM RSC 57x-*M
		2 WSM		WSM WSM 57x-*M	WSM RKM 57x-*M	WSM WKM 57x-*M	WSM RSC 57x-*M
	Socket (Female)	3 RKM			RKM RKM 57x-*M	RKM WKM 57x-*M	RKM RSC 57x-*M
		4 WKM				WKM WKM 57x-*M	WKM RSC 57x-*M
eurofast (Thin/Mid Only)	Pin (Male)	5 RSC					RSC RSC 57x-*M
		6 WSC					
	Socket (Female)	7 RKC					
		8 WKC					

See pages G11 - G12 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.

minifast		Pinouts	*eurofast*	
Male	Female		Male	Female
		1. Bare (Shield Drain Wire) 2. Red (+ Voltage) 3. Black (- Voltage) 4. White (CAN_H) 5. Blue (CAN_L)		

DeviceNet™, Cable/Cordset Selection Matrix

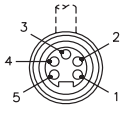
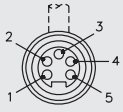
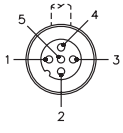
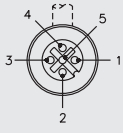
eurofast® (Thin/Mid Only)			*minifast*® Bulkhead		*eurofast* Bulkhead (Thin Only)	
Pin (Male)	Socket (Female)		Pin (Male)	Socket (Female)	Pin (Male)	Socket (Female)
6  WSC	7  RKC	8  WKC	9  RSFP	10  RKFP	11  FSFD	12  FKFD
WSC 57x-*M	RKC 57x-*M	WKC 57x-*M	RSFP 57x-*M	RKFP 57x-*M	FSFD 57x-*M	FKFD 57x-*M
RSM WSC 57x-*M	RSM RKC 57x-*M	RSM WKC 57x-*M	RSM RSFP 57x-*M	RSM RKFP 57x-*M	RSM FSFD 57x-*M	RSM FKFD 57x-*M
WSM WSC 57x-*M	WSM RKC 57x-*M	WSM WKC 57x-*M	WSM RSFP 57x-*M	WSM RKFP 57x-*M	WSM FSFD 57x-*M	WSM FKFD 57x-*M
RKM WSC 57x-*M	RKM RKC 57x-*M	RKM WKC 57x-*M	RKM RSFP 57x-*M	RKM RKFP 57x-*M	RKM FSFD 57x-*M	RKM FKFD 57x-*M
WKM WSC 57x-*M	WKM RKC 57x-*M	WKM WKC 57x-*M	WKM RSFP 57x-*M	WKM RKFP 57x-*M	WKM FSFD 57x-*M	WKM FKFD 57x-*M
RSC WSC 57x-*M	RSC RKC 57x-*M	RSC WKC 57x-*M	RSC RSFP 57x-*M	RSC RKFP 57x-*M	RSC FSFD 57x-*M	RSC FKFD 57x-*M
WSC WSC 57x-*M	WSC RKC 57x-*M	WSC WKC 57x-*M	WSC RSFP 57x-*M	WSC RKFP 57x-*M	WSC FSFD 57x-*M	WSC FKFD 57x-*M
	RKC RKC 57x-*M	RKC WKC 57x-*M	RKC RSFP 57x-*M	RKC RKFP 57x-*M	RKC FSFD 57x-*M	RKC FKFD 57x-*M
		WKC WKC 57x-*M	WKC RSFP 57x-*M	WKC RKFP 57x-*M	WKC FSFD 57x-*M	WKC FKFD 57x-*M

DeviceNet™, Open Connector Cordset Selection Matrix

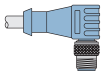
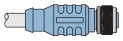
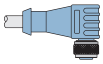
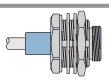
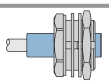
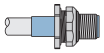
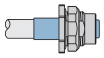
		minifast ®				*eurofast* ®
		Pin (Male)		Socket (Female)		Pin (Male)
		1 RSM	2 WSM	3 RKM	4 WKM	5 RSC
13 CBC5	CBC5 57x-*M	RSM CBC5 57x-*M	WSM CBC5 57x-*M	RKM CBC5 57x-*M	WKM CBC5 57x-*M	RSC CBC5 57x-*M
14 BK52C	BK52C 57x-*M	RSM BK52C 57x-*M	WSM BK52C 57x-*M	RKM BK52C 57x-*M	WKM BK52C 57x-*M	RSC BK52C 57x-*M
	Thin, Mid and Thick Cable					Thin Cable Only

See pages G10 - G12 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 nut: Change part number (RSM ... to RSV, RSC ... to RSCV).

minifast		Pinouts	*eurofast*	
Male	Female		Male	Female
		1. Bare (Shield Drain Wire) 2. Red (+ Voltage) 3. Black (- Voltage) 4. White (CAN_H) 5. Blue (CAN_L)		

DeviceNet™, Open Connector Cordset Selection Matrix

eurofast®			*minifast*® Bulkhead		*eurofast* Bulkhead	
Pin (Male)	Socket (Female)		Pin (Male)	Socket (Female)	Pin (Male)	Socket (Female)
6  WSC	7  RKC	8  WKC	9  RSFP	10  RKFP	11  FSFD	12  FKFD
WSC CBC5 57x-*M	RKC CBC5 57x-*M	WKC CBC5 57x-*M	RSFP CBC5 57x-*M	RKFP CBC5 57x-*M	FSFD CBC5 57x-*M	FKFD CBC5 57x-*M
WSC BK52C 57x-*M	RKC BK52C 57x-*M	WKC BK52C 57x-*M	RSFP BK52C 57x-*M	RKFP BK52C 57x-*M	FSFD BK52C 57x-*M	FKFD BK52C 57x-*M
Thin and Mid Cable Only			Thin, Mid and Thick Cable		Thin Cable Only	

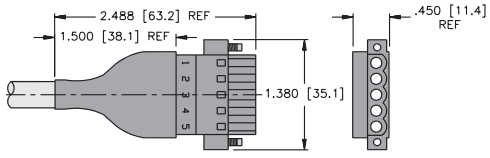
See pages G11 - G12 for dimensional drawings.

* 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.

Specifications

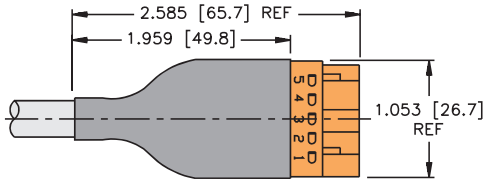
Housing:	PA (Nylon)
Protection:	NEMA 1, and IEC IP 20
Rated Voltage:	250 V
Rated Current:	12 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

13

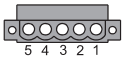
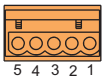


CBC5 .. **Page G9**

14



BK52C .. **Page G9**

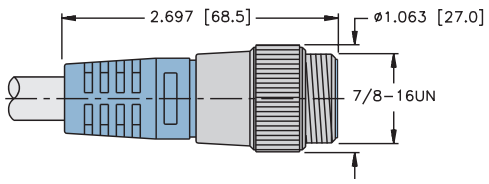
CBC5	Pinouts	BK52C
	1 = Black (- Voltage) 2 = Blue (CAN_L) 3 = Bare (Shield Drain) 4 = White (CAN_H) 5 = Red (+ Voltage)	

DeviceNet™, *minifast*® Cordset and Receptacle Connector Dimensions

Specifications

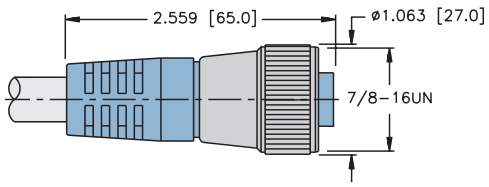
Overmold:	PUR (Polyurethane)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	PUR (Polyurethane)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67
Rated Voltage:	300 V
Rated Current:	9 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

1



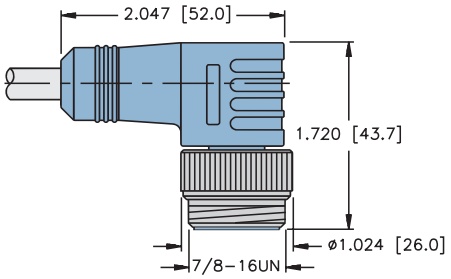
RSM .. **Pages G7 - G10**

3



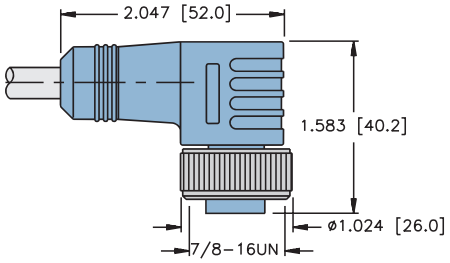
RKM .. **Pages G7 - G10**

2



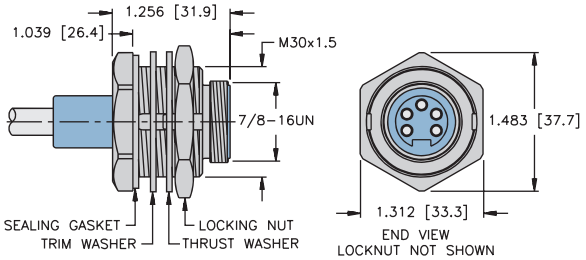
WSM .. **Pages G7 - G10**

4



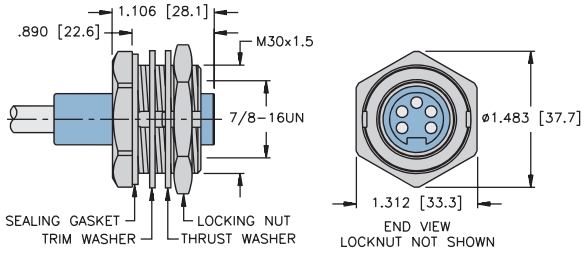
WKM .. **Pages G7 - G10**

9



RSFP .. **Pages G7 - G10**

10



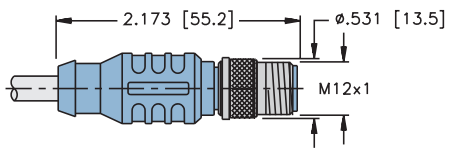
RKFP .. **Pages G7 - G10**

DeviceNet™, *eurofast*® Cordset and Receptacle Connector Dimensions

Specifications

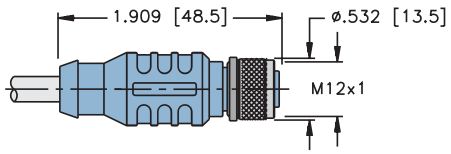
Overmold:	PUR (Polyurethane)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	PUR (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 68
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

5



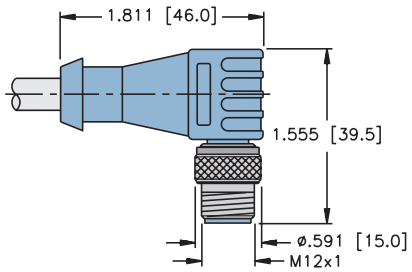
RSC .. **Pages G7 - G10**

7



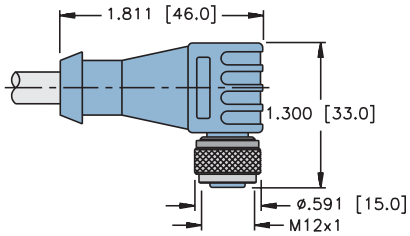
RKC .. **Pages G7 - G10**

6



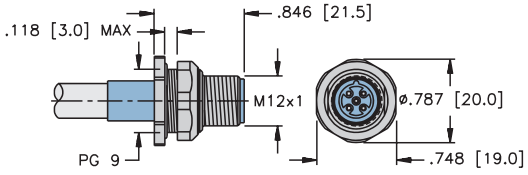
WSC .. **Pages G7 - G10**

8



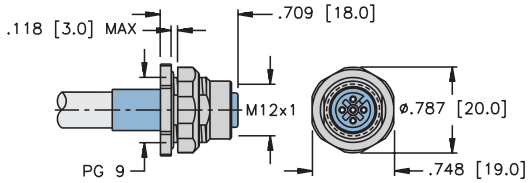
WKC .. **Pages G7 - G10**

11



FSFD .. **Pages G7 - G10**

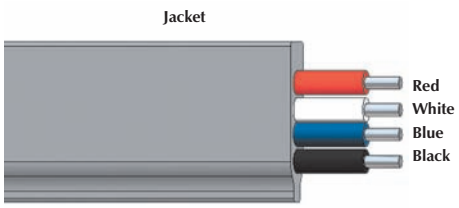
12



FKFD .. **Pages G7 - G10**

DeviceNet™, Flat Cable Specifications

- **Cable that Meets the Requirements of ODVA Thick or Type II Cable**
- **Uses Insulation Displacement Connectors as Device Taps**

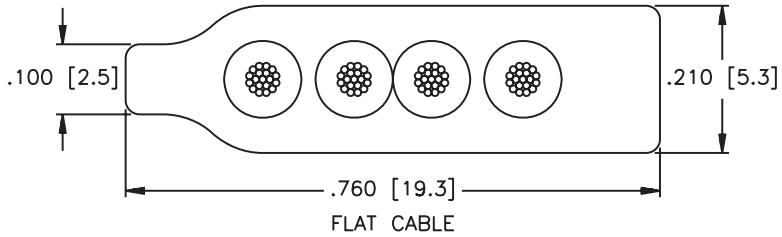


Data Rate	Maximum Trunk Length
125 Kbaud	420 meters (1378 feet)
250 Kbaud	200 meters (656 feet)
500 Kbaud	100 meters (328 feet)

Type	Approvals	Power Pair		Data Pair		Outer Jacket	Shields	Bulk Cable Part Number / Weight/300 M
		AWG Color Code	DCR (/1000 feet) Insulation	AWG Color Code	DCR (/1000 feet) Insulation	Material Color Nominal O.D.	Type Drain Wire	
5713 75°C 300 Volts	**NEC** CL2 **CEC** AWM-I/II A/B FT4	2/16 AWG BK/RD	4.1 PE	2/16 AWG BU/WH	4.1 PE	PVC Light Grey Flat Profile††	None	RB50787-*M 116 lbs.

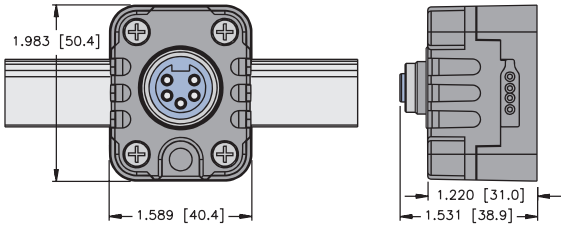
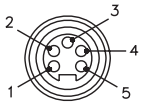
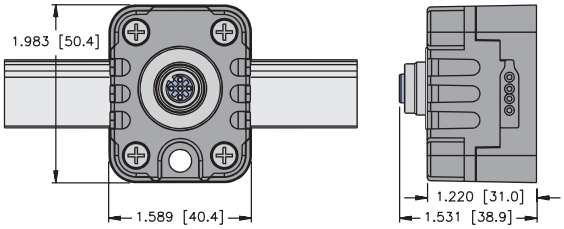
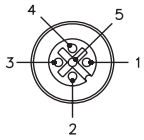
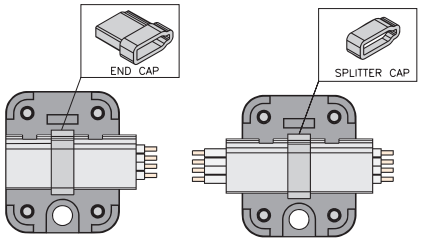
* Indicates length in meters.
Standard cable lengths are 1, 2, 4, 5, 6, 8, 10, 15, and in +5 meter increments from there. Consult factory for other lengths.
†† Flat cable profile is 19.3 mm (0.760 in) x 5.3 mm (0.210 in).

Flat Cable Profile



DeviceNet™, Flat Cable Connectors

- **Provides a *minifast*® or *eurofast*® Drop Connector from Flat Cable**

Housing	Part Number	Application	Pinouts
	RKF 57-IDC	(7/8-16UN) ***minifast*** Flat Cable Connector • Flat cable connector to female (7/8-16UN) ***minifast*** drop	Female 
	RKF 40-IDC	(7/8-16UN) ***minifast*** Auxiliary Power Connector	Female 
	FK 57-IDC	(M12x1) ***eurofast*** Flat Cable Connector • Flat cable connector to female (M12x1) ***eurofast*** drop	Female 
	FK 57-IDC ET	Includes connector, end termination, and splice kit	
	RKF 57-IDC ET		
	RKF 40-IDC ET		

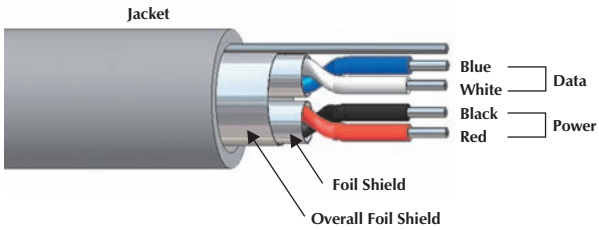
Specifications

Housing:	POM (Nylon)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	Nylon
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 68
Rated Voltage:	250 V
Rated Current:	4 A (***eurofast***), 9 A (***minifast***)
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Notes:

DeviceNet™, Pico Cable Specifications

- **Cable that Meets the Electrical Requirements of ODVA Thin Cable (Data Pair Only)**
- **Pico Cable has 24 AWG Conductors Which May be Used with *picofast*® Connectors**
- **Submittal to ODVA - Pending**



DeviceNet - Pico Cable 5724

Data Rate	Maximum Trunk Length
125 Kbaud	35 meters (115 feet)
250 Kbaud	35 meters (115 feet)
500 Kbaud	35 meters (115 feet)

DeviceNet - Thin Cable 5715

Data Rate	Maximum Trunk Length
125 Kbaud	100 meters (984 feet)
250 Kbaud	100 meters (820 feet)
500 Kbaud	100 meters (328 feet)

Type	Approvals	Power Pair		Data Pair		Outer Jacket	Shields	Bulk Cable Part Number / Weight/300 M
		AWG Color Code	DCR (/1000 feet) Insulation	AWG Color Code	DCR (/1000 feet) Insulation	Material Color Nominal O.D.	Type Drain Wire	
5724 AWM 2464 80°C 300 Volts	**NEC** AWM **CEC** AWM-I/II A/B FT1	2/24 AWG BK/RD	24.9 PVC	2/24 AWG BU/WH	24.9 PE	PVC Light Grey 5.7 mm (.224 in)	Foil (Data Only) 24 AWG	RB51045-*M 27 lbs.
5715 AWM 2464 80°C 300 Volts	**NEC** AWM **CEC** AWM-I/II A/B FT1	2/22 AWG BK/RD	16.5 PVC	2/22 AWG BU/WH	16.5 PE	PVC Light Grey 6.0 mm (.235 in)	Foil (Data Only) 22 AWG	RB50764-*M 26 lbs.

* 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.

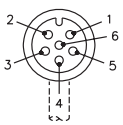
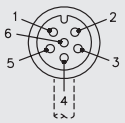
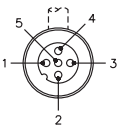
DeviceNet™, Cable/Cordsets Selection Matrix - Threaded

			picofast ® (5724 Cable Only)				*eurofast* ® (5724 Cable Only)			
			Socket (Female)		Pin (Male)					
			14 PKGM	16 PKWM	13 PSGM	15 PSWM	19 RST	21 WST	20 RKT	22 WKT
		Bare	PKGM 57x-*M	PKWM 57x-*M	PSGM 57x-*M	PSWM 57x-*M	RST 57x-*	WST 57x-*	RKT 57x-*	WKT 57x-*
picofast (5724 Cable Only)	Socket (Female)	14 PKGM	PKGM PKGM 57x-*M	PKGM PKWM 57x-*M	PKGM PSGM 57x-*M	PKGM PSWM 57x-*M	PKGM RST 57x-*M	PKGM WST 57x-*M	PKGM RKT 57x-*M	PKGM WKT 57x-*M
		16 PKWM		PKWM PKWM 57x-*M	PKWM PSGM 57x-*M	PKWM PSWM 57x-*M	PKWM RST 57x-*M	PKWM WST 57x-*M	PKWM RKT 57x-*M	PKWM WKT 57x-*M
	Pin (Male)	13 PSGM			PSGM PSGM 57x-*M	PSGM PSWM 57x-*M	PSGM RST 57x-*M	PSGM WST 57x-*M	PSGM RKT 57x-*M	PSGM WKT 57x-*M
		15 PSWM				PSWM PSWM 57x-*M	PSWM RST 57x-*M	PSWM WST 57x-*M	PSWM RKT 57x-*M	PSWM WKT 57x-*M

See pages G19 - G20 for dimensional drawings.

* Indicates length in meters.

x Indicates cable type. See page B125 for available cable types.
Type 5715 cable can be used with RST, WST, RKT and WKT smaller body styles. Consult factory for part numbers.
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.

picofast		Pinouts	*eurofast*	
Male	Female		Male	Female
		1. Bare (Shield Drain Wire) 2. Red (+ Voltage) 3. Black (- Voltage) 4. White (CAN_H) 5. Blue (CAN_L) 6. N/C (***picofast*** only)		

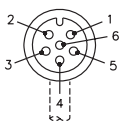
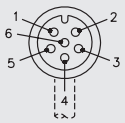
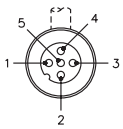
DeviceNet™, Cable/Cordsets Selection Matrix - Snap Lock

			picofast®		eurofast®			
			Socket (Female)	Pin (Male)				
			18 PKGZ	17 PSG	17 RST	18 WST	19 RKT	20 WKT
		Bare	PKGZ 57x-*M	PSG 57x-*M	RST 57x-*	WST 57x-*	RKT 57x-*	WKT 57x-*
picofast® (5724 Cable Only)	Socket (Female)	15 PKGZ	PKGZ PKGZ 57x-*M	PKGZ PSG 57x-*M	PKGZ RST 57x-*M	PKGZ WST 57x-*M	PKGZ RKT 57x-*M	PKGZ WKT 57x-*M
	Pin (Male)	16 PSG		PSG PSG 57x-*M	PSG RST 57x-*M	PSG WST 57x-*M	PSG RKT 57x-*M	PSG WKT 57x-*M

See pages G19 - G20 for dimensional drawings.

* Indicates length in meters.

x Indicates cable type. See page B125 for available cable types.
Type 5715 cable can be used with RST, WST, RKT and WKT smaller body styles. Consult factory for part numbers.
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.

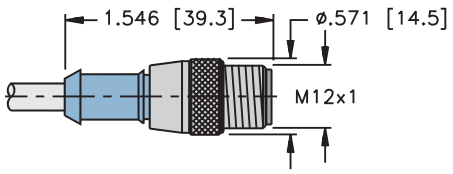
picofast		Pinouts	*eurofast*	
Male	Female		Male	Female
		1. Bare (Shield Drain Wire) 2. Red (+ Voltage) 3. Black (- Voltage) 4. White (CAN_H) 5. Blue (CAN_L) 6. N/C (***picofast*** only)		

DeviceNet™, *eurofast*® Cable/Cordsets Connector Dimensions

Specifications

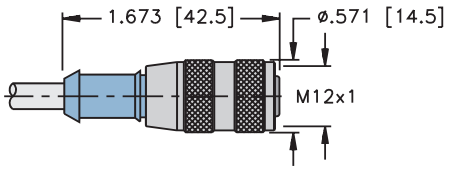
Housing:	PUR (Polyurethane)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	PUR (Polyurethane)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 68
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

19



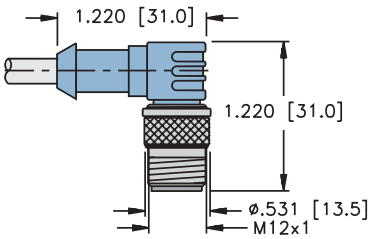
RST .. **Pages G17 - G18**

20



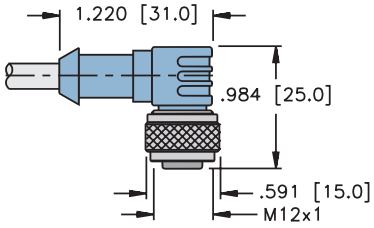
RKT .. **Pages G17 - G18**

21



WST .. **Pages G17 - G18**

22



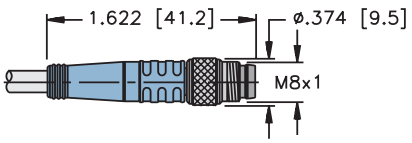
WKT .. **Pages G17 - G18**

DeviceNet™, *picofast*® Cable/Cordsets Connector Dimensions

Specifications

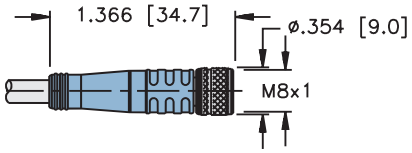
Housing:	PUR (Polyurethane)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel (thread), Nylon (snap lock)
Contact Carrier:	PUR (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67
Rated Voltage:	30 V
Rated Current:	1.5 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

13



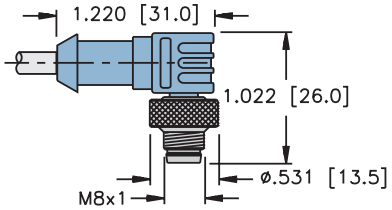
PSGM .. **Pages G17 - G18**

14



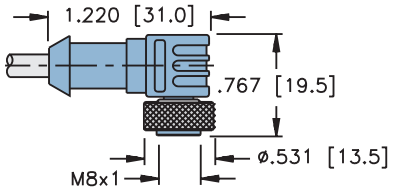
PKGM .. **Pages G17 - G18**

15



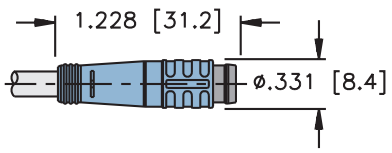
PSWM .. **Pages G17 - G18**

16



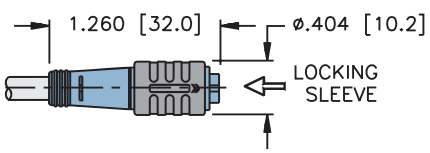
PKWM .. **Pages G17 - G18**

17



PSG .. **Pages G17 - G18**

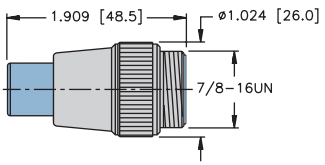
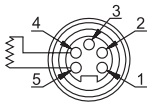
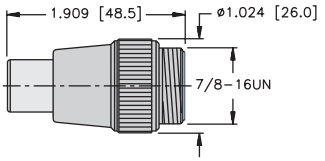
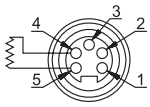
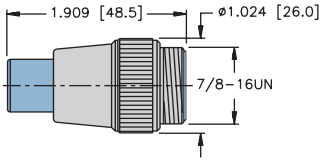
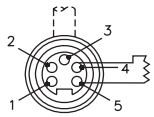
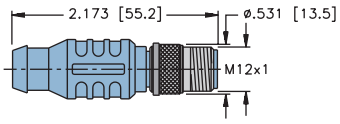
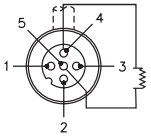
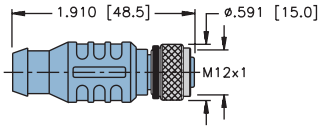
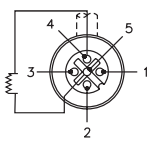
18



PKGZ .. **Pages G17 - G18**

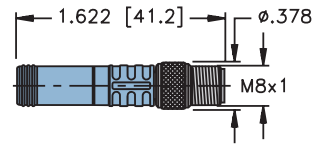
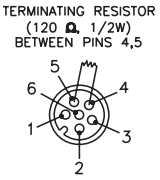
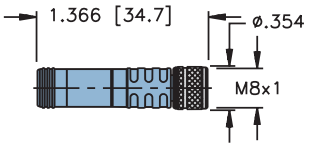
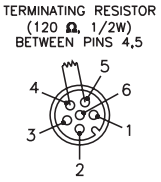
DeviceNet™, Terminating Resistors

- **Terminating Resistors Stabilize and Minimize Reflections on the Bus Line**
- **A Terminating Resistor is Required at the Beginning and End of the Main Bus Line**

Housing	Part Number	Specs	Application	Pinouts
	**RSM 57-TR2**	Nickel Plated Brass or Stainless Steel 300 V, 9 A -40° to +75°C IP 67	***minifast*** ® Terminating Resistor • Male ***minifast*** connector • 120 Ohms, 1/4 W internal resistance	**Male** 
	**RSM 57-TR2/VM**	Nickel Plated Brass or Stainless Steel 300 V, 9 A -40° to +75°C IP 67	***minifast*** Terminating Resistor with Voltage Monitoring • Male ***minifast*** connector • Led indication: Red - reverse polarity Green-okay • 120 Ohms, 1/4 W internal resistance	**Male** 
	**RKM 57-TR2**	Nickel Plated Brass or Stainless Steel 250 V, 4 A -40° to +75°C IP 67	***minifast*** Terminating Resistor • Female ***minifast*** connector • 120 Ohms, 1/4 W internal resistance	**Female** 
	**RSE 57-TR2**	Nickel Plated CuZn or Stainless Steel 250 V, 4 A -40° to +75°C IP 67	***eurofast*** ® Terminating Resistor • Male ***eurofast*** connector • 120 Ohms, 1/4 W internal resistance	**Male** 
	**RKE 57-TR2**	Nickel Plated CuZn or Stainless Steel 250 V, 4 A -40° to +75°C IP 67	***eurofast*** Terminating Resistor • Female ***eurofast*** connector • 120 Ohms, 1/4 W internal resistance	**Female** 

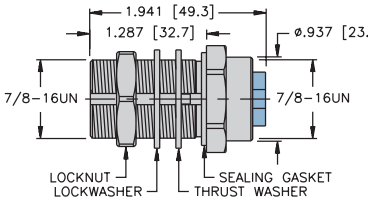
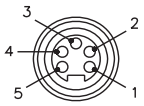
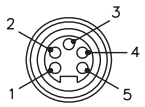
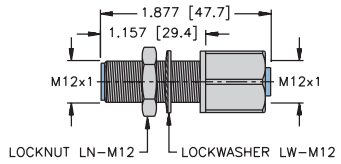
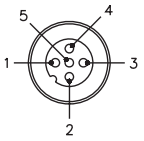
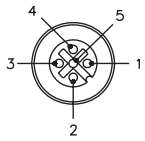
DeviceNet™, Terminating Resistors

- **Terminating Resistors Stabilize and Minimize Reflections on the Bus Line**
- **A Terminating Resistor is Required at the Beginning and End of the Main Bus Line**

Housing	Part Number	Specs	Application	Pinouts
	**PSGM 57-TR**	Nickel Plated Brass or Stainless Steel 125 V, 2 A -40° to +105°C IP 67	***picofast*** ® Terminating Resistor • Male ***picofast*** connector • 120 Ohms, 1/2 W internal resistance	**Male** 
	**PKGM 57-TR**			**Female** 

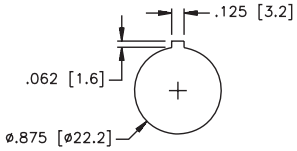
DeviceNet™, Receptacles

- **Receptacles Provide Transition from Male to Female Connectors**
- **Available for Bulkhead and Feed Through Applications**

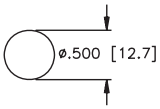
Housing	Part Number	Specs	Application	Pinouts
	**RSF RKF 57/22**	Nickel Plated CuZn or Stainless Steel 300 V, 9 A -40° to +75°C IP 67	***minifast*®** Bulkhead Receptacle • Straight male/female feed through	**Male**  **Female** 
	**FKM FS 57/M12**	Nickel Plated CuZn or Stainless Steel 250 V, 4 A -40° to +75°C IP 67	***eurofast*®** Bulkhead Receptacle • Straight male/female feed through	**Male**  **Female** 

Standard housing material is nickel plated brass. "RSF RKF.."; "RSFV RKFV.." indicates stainless steel housing.

Panel Cutout
RSF RKF 57/22



Panel Cutout
FKM FS 57/M12

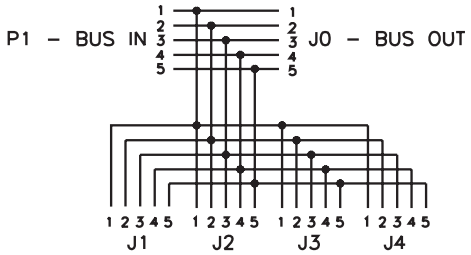
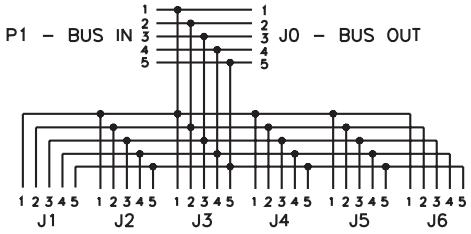
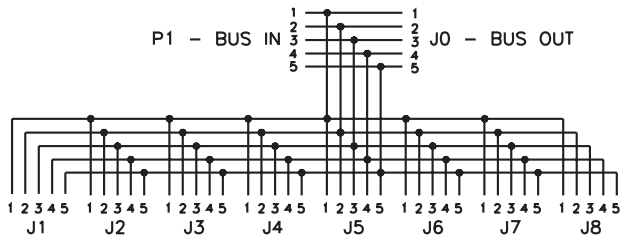


Notes:

DeviceNet™, Panel Mount Junction Box

- DIN Rail Junction Box
- Open Style
- Removable Terminals

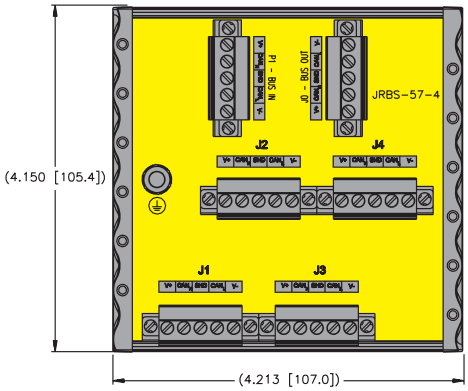
FM APPROVED

Part Number	Application	Wiring Diagrams
JRBS-57-4	Open style DIN mounted junction box	
JRBS-57-6		
JRBS-57-8		

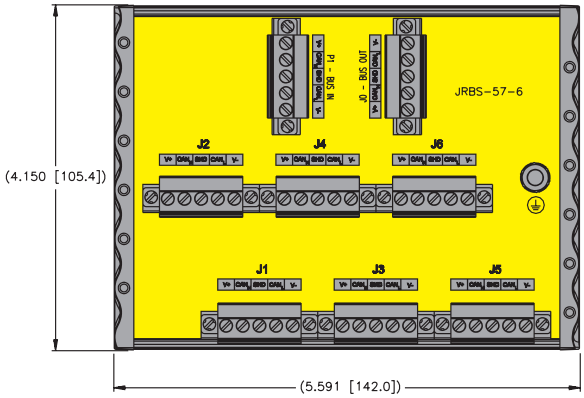
Specifications

Housing:	Aluminum
Contact Carrier:	PA (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1 and IP 20
Connection Mode:	Snap-on DIN RAIL (DIN 50022)
Ambient Temperature:	-25° to +70°C (-13° to +158°F)

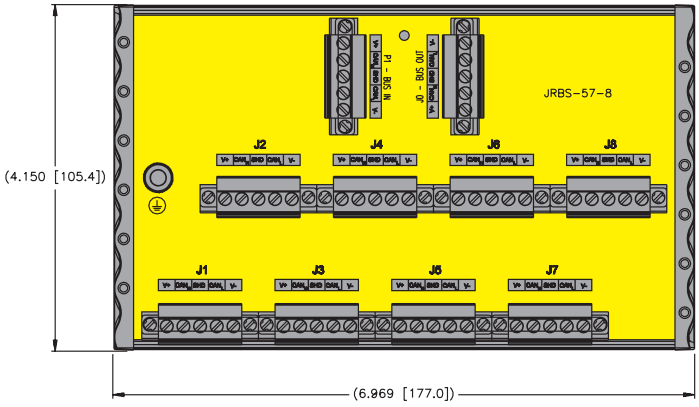
4-Port



6-Port

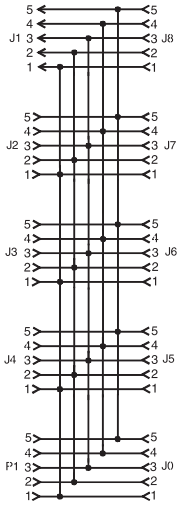


8-Port



DeviceNet™, *eurofast*® Junctions

- **Multi-port Junction Boxes for Connecting I/O in Concentrated Areas**
- **Available in Standard and Voltage Monitoring**

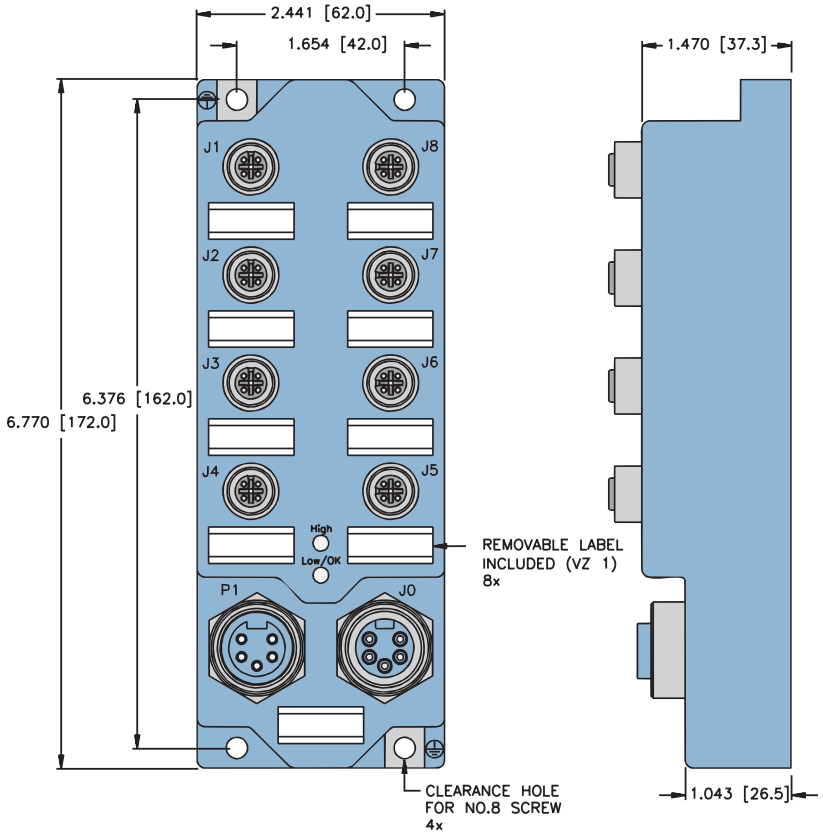
Part Number	Application	Wiring Diagram
JBBS-57-E811	8-port Junction with Voltage Monitoring • Bus in/bus out connections (7/8-16UN) ***minifast***® • Eight (M12x1) ***eurofast*** connectors for field connectors • Voltage monitoring provides low voltage (12.9 V) and high voltage (25.6) indication LED indication: (Lo) < 12.9 V Amber (Ok) 12.9 - 25.6 V Green (Hi) > 25.6 V Amber	
JBBS-57-E812	8-port Junction • Bus in/bus out connections (7/8-16UN) ***minifast*** • Eight (M12x1) ***eurofast*** connectors for field connectors	

Specifications

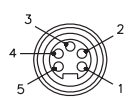
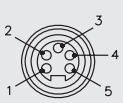
Housing:	POM (Nylon)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	Nylon
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 68
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Dimensions

8-port

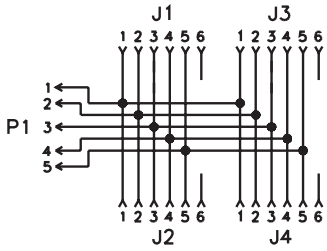
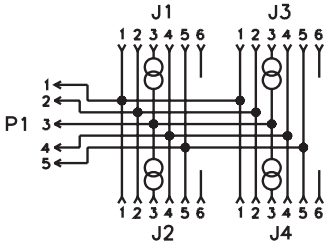
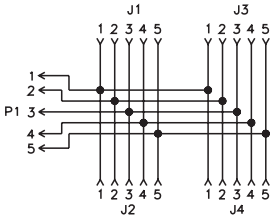


Pinouts

minifast		*eurofast*
Male	**Female**	**Female**
		

DeviceNet™, *picofast*® Junctions, 4-port

- **Multi-Port Passive Junction Box in Small Compact Housing**
- **Accepts (M8x1) Snap Lock or Threaded Connectors**
- **Available in Standard and Voltage Monitoring**

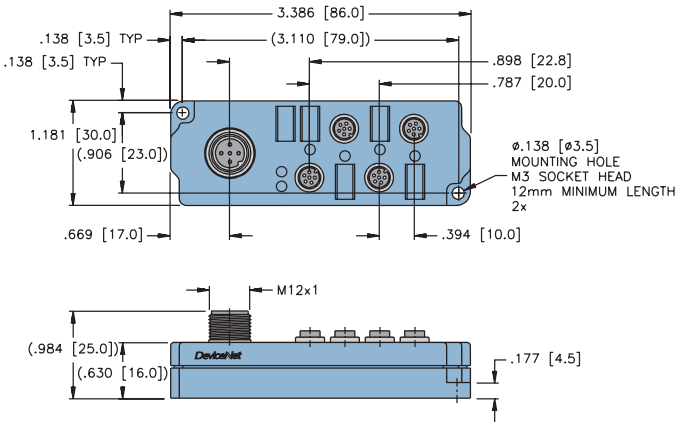
Part Number	Application	Wiring Diagrams
JBBS-57-FS-P424Z	4-port Junction Tee • (M12x1) ***eurofast***® drop connector • Four (M8x1) ***picofast*** snap lock connectors	
JBBS-57-FS-P424M	4-port Junction Tee • (M12x1) ***eurofast*** drop connector • Four (M8x1) ***picofast*** threaded connectors	
JBBS-57-FS/VM-P424Z	4-port Junction Tee • (M12x1) ***eurofast*** drop connector • Four (M8x1) ***picofast*** snap lock connectors • Voltage monitoring provides low voltage (12.9 V) and high voltage (25.6) indication LED Indication: (Lo) < 12.9 V Amber (Ok) 12.9 - 25.6 V Green (Hi) > 25.6 V Amber	
JBBS-57-FS/VM-P424M	4-port Junction Tee • (M12x1) ***eurofast*** drop connector • Four (M8x1) ***picofast*** threaded connectors • Voltage monitoring provides low voltage (12.9 V) and high voltage (25.6) indication LED indication: (Lo) < 12.9 V Amber (Ok) 12.9 - 25.6 V Green (Hi) > 25.6 V Amber	
JBBS-57-FS-E424	4-port Junction Tee • (M12x1) ***eurofast***® drop connector Four (M12x1) ***eurofast*** threaded connectors	

TURCK Industrial Automation

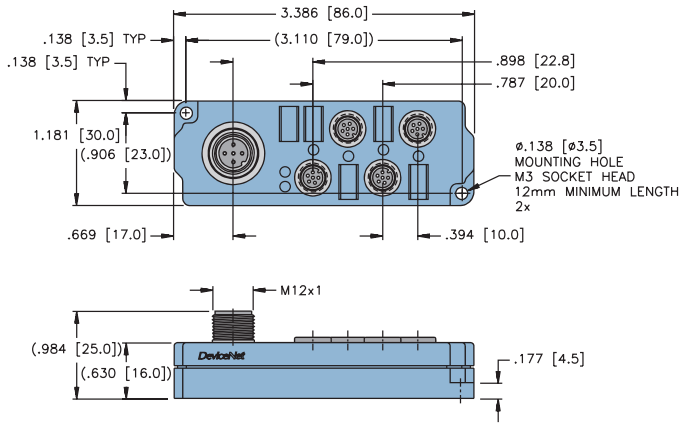
Specifications

Housing:	POM (Nylon)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	PUR (Polyurethane) or POM (Nylon)-***picofast*** ®, POM (Nylon)-***eurofast*** ®
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67
Rated Voltage:	30 V
Rated Current:	1.5 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

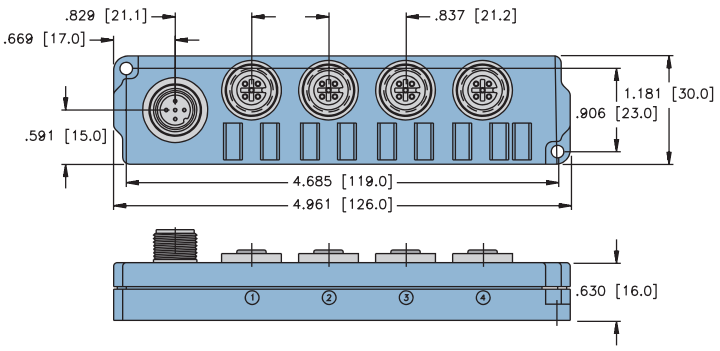
JBBS-57-FS-P424Z

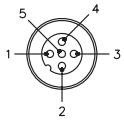


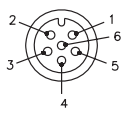
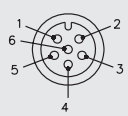
JBBS-57-FS-P424M

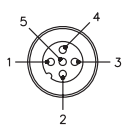


JBBS-57-FS-E424



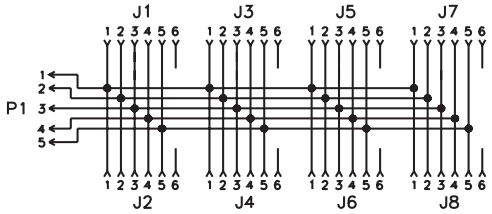
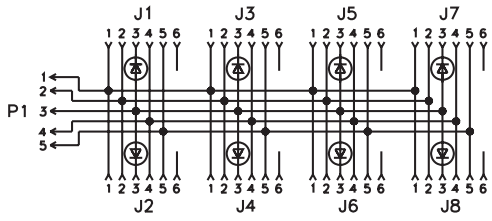
eurofast
Male


picofast	Pinouts	*picofast*
Male 	1. Bare (Shield Drain Wire) 2. Red (+ Voltage) 3. Black (- Voltage) 4. White (CAN_H) 5. Blue (CAN_L) 6. N/C (***picofast*** only)	**Female** 

eurofast	Pinouts	*eurofast*
Male 	1. = (Shield Drain Wire) 2. = (+ Voltage) 3. = (- Voltage) 4. = (CAN_H) 5. = (CAN_L)	**Female** 

DeviceNet™, *picofast*® Junctions, 8-port

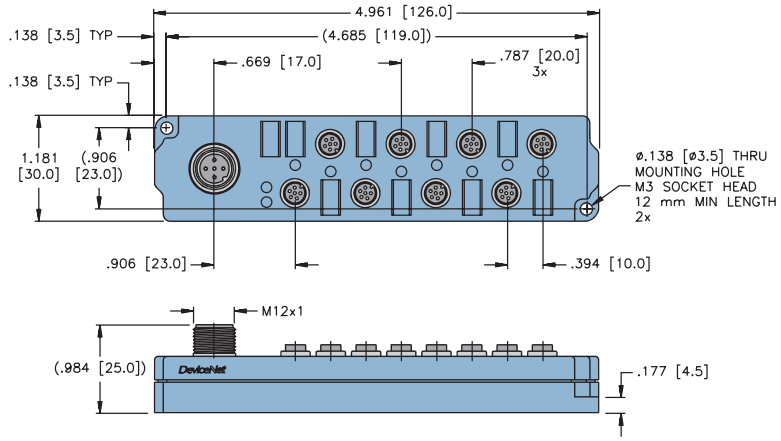
- **Multi-Port Passive Junction Box in Small Compact Housing**
- **Accepts (M8x1) Snap Lock or Threaded Connectors**
- **Available in Standard and Voltage Monitoring**

Part Number	Application	Wiring Diagrams
JBBS-57-FS-P824Z	8-port Junction Tee • (M12x1) ***eurofast***® drop connector • Eight (M8x1) ***picofast*** snap lock connectors	
JBBS-57-FS-P824M	8-port Junction Tee • (M12x1) ***eurofast*** drop connector • Eight (M8x1) ***picofast*** threaded connectors	
JBBS-57-FS/VM-P824Z	8-port Junction Tee • (M12x1) ***eurofast*** drop connector • Eight (M8x1) ***picofast*** snap lock connectors • Voltage monitoring provides low voltage (12.9 V) and high voltage (25.6) indication LED indication: (Lo) < 12.9 V Amber (Ok) 12.9 - 25.6 V Green (Hi) > 25.6 V Amber	
JBBS-57-FS/VM-P824M	8-port Junction Tee • (M12x1) ***eurofast*** drop connector • Eight (M8x1) ***picofast*** threaded connectors • Voltage monitoring provides low voltage (12.9 V) and high voltage (25.6) indication LED indication: (Lo) < 12.9 V Amber (Ok) 12.9 - 25.6 V Green (Hi) > 25.6 V Amber	

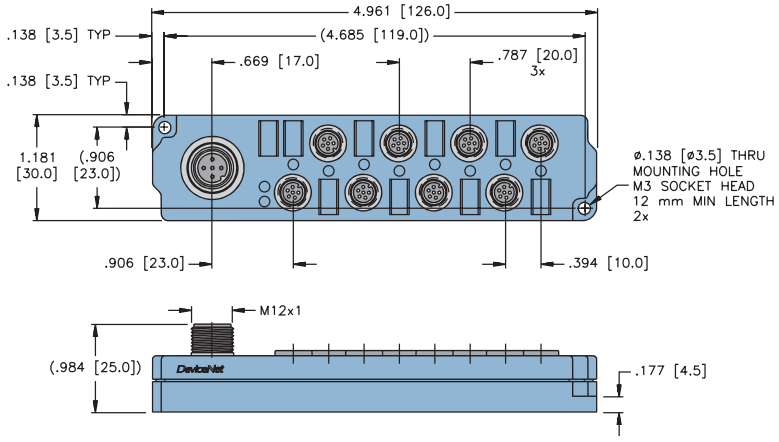
Specifications

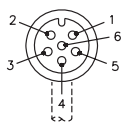
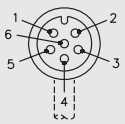
Housing:	POM (Nylon)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	PUR (Polyurethane) or POM (Nylon)-***picofast*®**, POM (Nylon)-***eurofast*®**
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67
Rated Voltage:	30 V
Rated Current:	1.5 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

JBBS-57-FS-P824Z



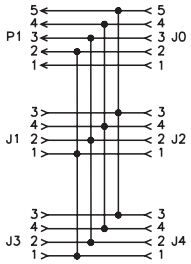
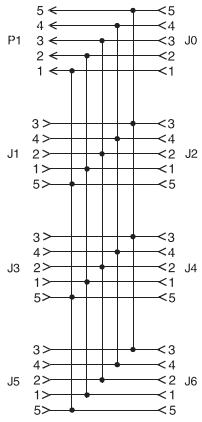
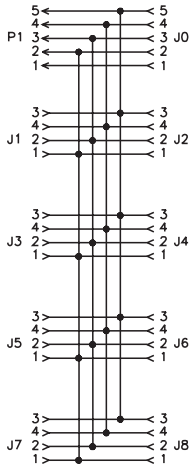
JBBS-57-FS-P824M



picofast	Pinouts	*picofast*
Male 	1. Bare (Shield Drain Wire) 2. Red (+ Voltage) 3. Black (- Voltage) 4. White (CAN_H) 5. Blue (CAN_L) 6. N/C (***picofast*** only)	**Female** 

DeviceNet™, *minifast*® Passive Multi-Port Junctions

- **Rugged, Fully Encapsulated Enclosure**
- **For Connecting I/O in Concentrated Areas**
- **Bus-In / Bus-Out Eliminates Need for Splitter Tee**
- **Suitable for Outdoor Applications**

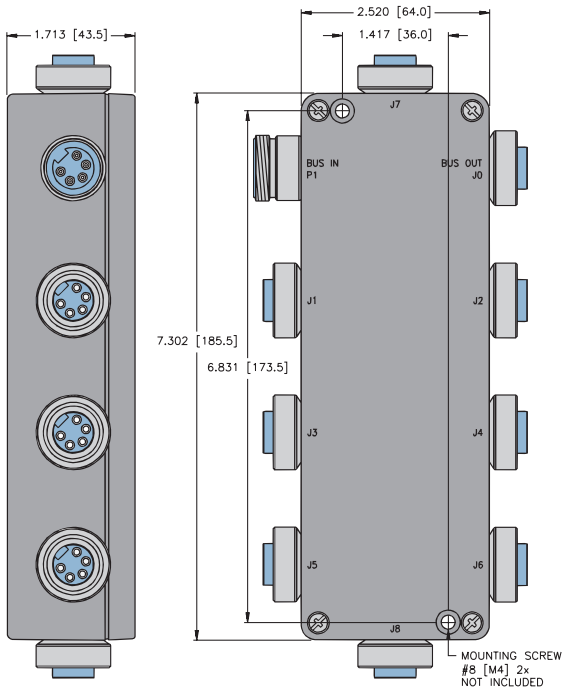
Part Number	Specs	Application	Wiring Diagrams
JBBS-57-M401 **JBBS-57-M413**	Die-cast aluminum enclosure.	4-port Junction • Bus in/bus out straight (7/8-16UN) ***minifast*** through ports • Four device ports with (7/8-16UN) ***minifast*** connectors	
JBBS-57-M601 **JBBS-57-M613**		6-port Junction • Bus in/bus out straight (7/8-16UN) ***minifast*** through ports • Six device ports with (7/8-16UN) ***minifast*** connectors	
JBBS-57-M801 **JBBS-57-M813**		8-port Junction • Bus in/bus out straight (7/8-16UN) ***minifast*** through ports • Eight device ports with (7/8-16UN) ***minifast*** connectors	

Specifications

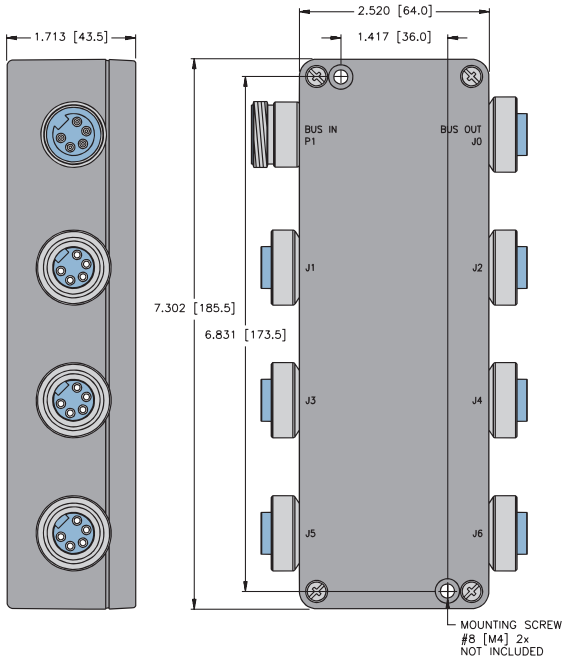
Housing:	Anodized Aluminum
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	TPU (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67, IP 68, IP 69K
Rated Voltage:	250 V
Rated Current:	9 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Dimensions

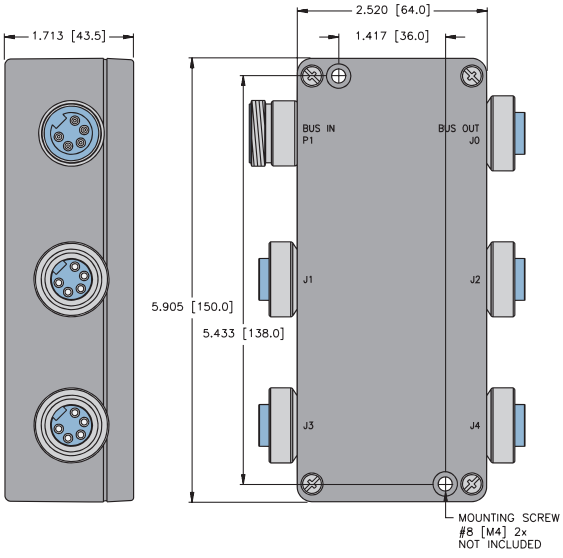
8-Port



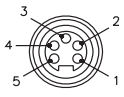
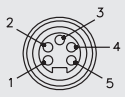
6-Port



4-Port

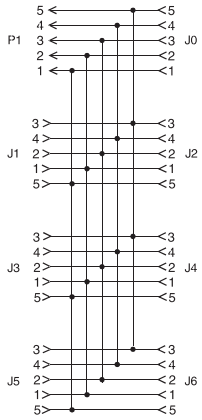


Pinouts

minifast	
Male	**Female**
	

DeviceNet™, *minifast*® Passive Multi-Port Junctions

- **Rugged, Fully Encapsulated Enclosure**
- **For Connecting I/O in Concentrated Areas**
- **Bus-In / Bus-Out Eliminates Need for Splitter Tee**
- **Suitable for Outdoor Applications**

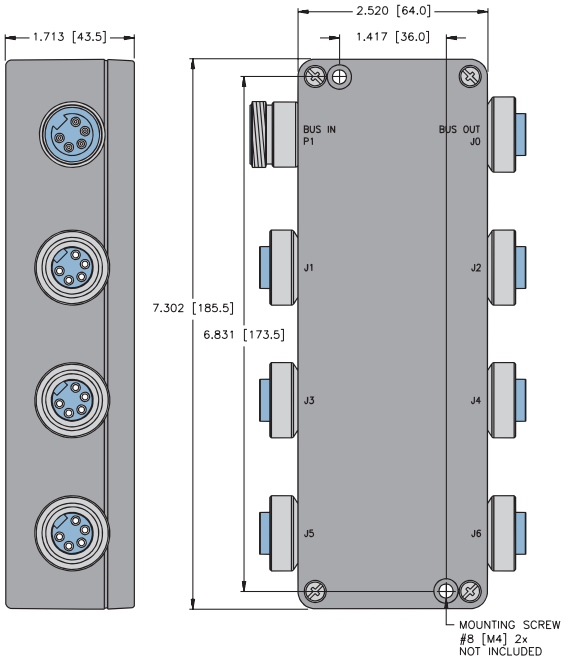
Part Number	Specs	Application	Wiring Diagrams
JBBS-57-M623	Fiberglass enclosure	6-port Junction • Bus in/bus out straight (7/8-16UN) ***minifast*** through ports • Six device ports with (7/8-16UN) ***minifast*** connectors	

Specifications

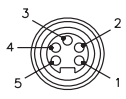
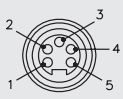
Housing:	Fiberglass
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	TPU (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67, IP 68, IP 69K
Rated Voltage:	250 V
Rated Current:	9 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Dimensions

6-Port

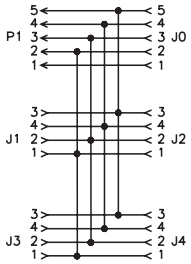
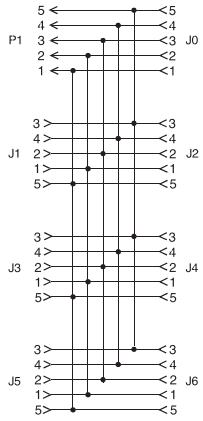


Pinouts

minifast	
Male	**Female**
	

DeviceNet™, *eurofast*® Passive Multi-Port Junctions

- **Rugged, Fully Encapsulated Enclosure**
- **For Connecting I/O in Concentrated Areas**
- **Bus-In / Bus-Out Eliminates Need for Splitter Tee**
- **Suitable for Outdoor Applications**

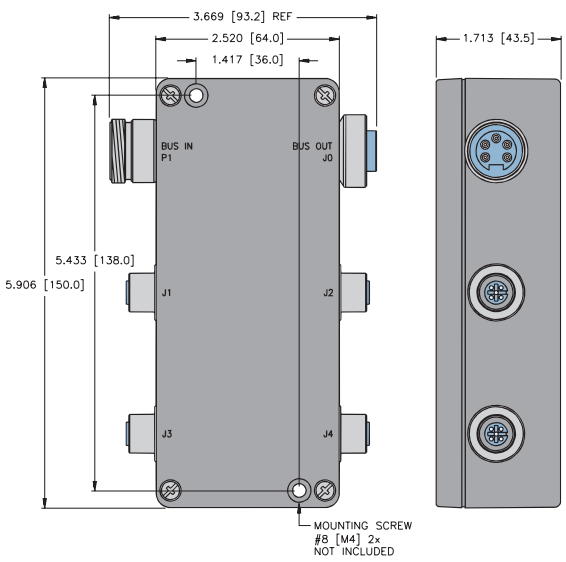
Part Number	Specs	Application	Wiring Diagram
JBBS-57-E401 **JBBS-57-E403** **JBBS-57-E411**	Die-cast aluminum enclosure.	4-port Junction • Bus in/bus out straight (7/8-16UN) ***minifast***® through ports • Four device ports with (M12x1) ***eurofast*** connectors	
JBBS-57-E421	Fiberglass		
JBBS-57-E601	Die-cast aluminum enclosure.	6-port Junction • Bus in/bus out straight (7/8-16UN) ***minifast*** through ports • Six device ports with (M12x1) ***eurofast*** connectors	
JBBS-57-E621	Fiberglass		

Specifications

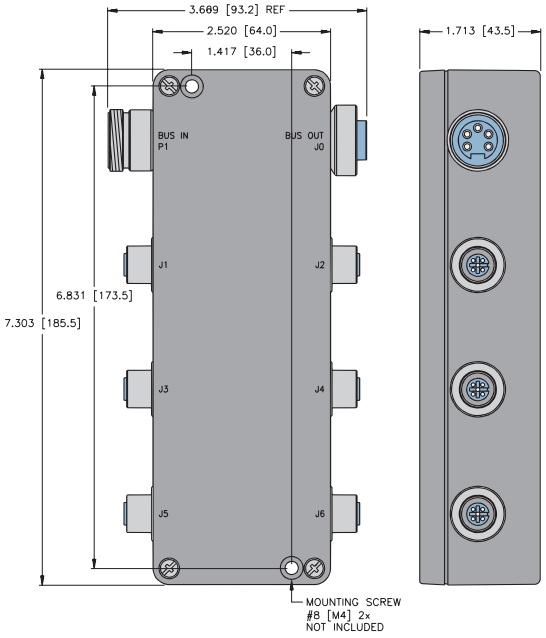
Housing:	Anodized Aluminum/Fiberglass
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	TPU (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67, IP 68, IP 69K
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Dimensions

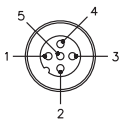
4-Port



6-Port

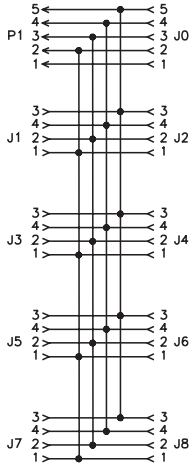


Pinouts

eurofast	
Male	**Female**
	

DeviceNet™, *eurofast*® Passive Multi-Port Junctions

- **Rugged, Fully Encapsulated Enclosure**
- **For Connecting I/O in Concentrated Areas**
- **Bus-In / Bus-Out Eliminates Need for Splitter Tee**
- **Suitable for Outdoor Applications**

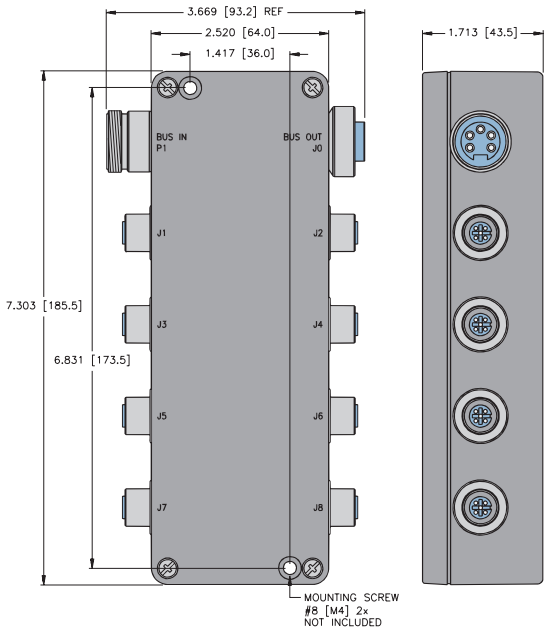
Part Number	Specs	Application	Wiring Diagram
JBBS-57-E801 **JBBS-57-E803**	Die-cast aluminum enclosure.	8-port Junction • Bus in/bus out straight (7/8-16UN) ***minifast*** through ports • Eight device ports with (M12x1) ***eurofast*** connectors	
JBBS-57-E821	Fiberglass		

Specifications

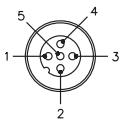
Housing:	Anodized Aluminum/Fiberglass
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	TPU (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67, IP 68, IP 69K
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Dimensions

8-Port

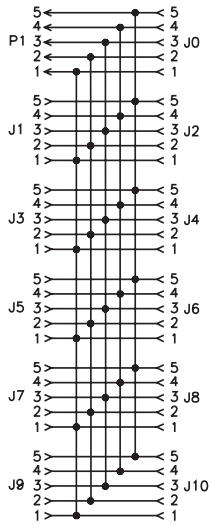


Pinouts

eurofast	
Male	**Female**
	

DeviceNet™, *eurofast*® Passive Multi-Port Junctions

- **Rugged, Fully Encapsulated Enclosure**
- **For Connecting I/O in Concentrated Areas**
- **Bus-In / Bus-Out Eliminates Need for Splitter Tee**
- **Suitable for Outdoor Applications**

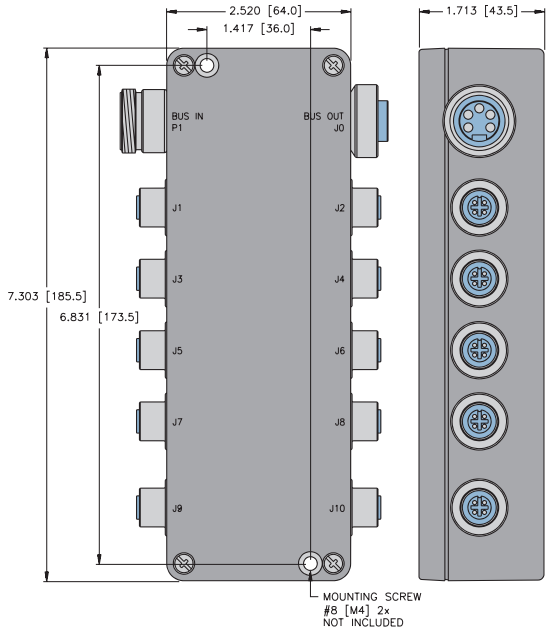
Part Number	Specs	Application	Wiring Diagram
JBBS-57-E1001	Die-cast aluminum enclosure.	10-port Junction • Bus in/bus out straight (7/8-16UN) ***minifast***® through ports • Ten device ports with (M12x1) ***eurofast*** connectors	

Specifications

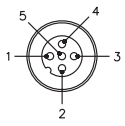
Housing:	Anodized Aluminum
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	TPU (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67, IP 68, IP 69K
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Dimensions

10-Port

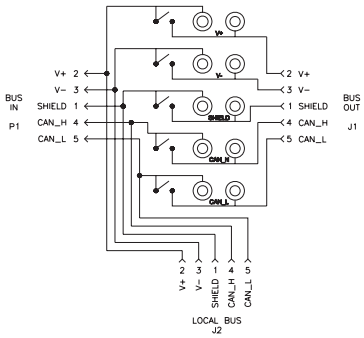


Pinouts

eurofast	
Male	**Female**
	

DeviceNet™, *eurofast*® Passive Multi-Port Junctions

- **Switchable DeviceNet Diagnostic Box**
- **Used fo DeviceNet Troubleshooting**

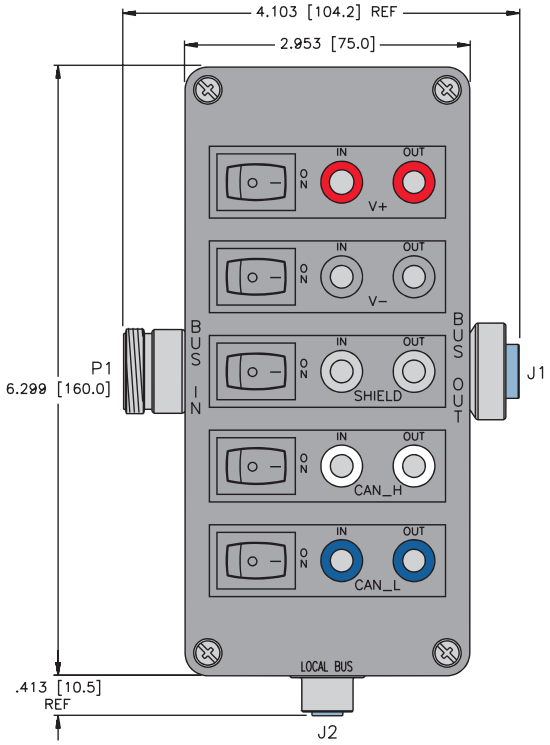
Part Number	Specs	Application	Wiring Diagram
JBBS-57-DGM	Fiberglass	Diagnostic Box • Taps into CAN_H, CAN_L, V+, V- and SHIELD • Used to diagnose DeviceNet (should not be installed permanently on network)	

Specifications

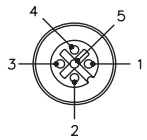
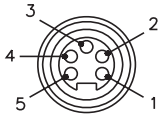
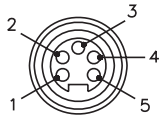
Housing:	Fiberglass
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	TPU (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	IEC IP20
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Dimensions

DGM

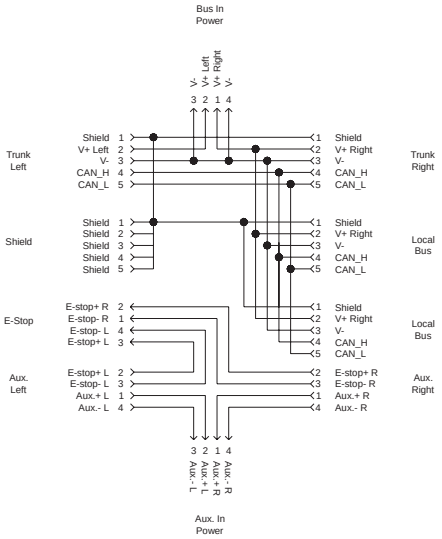


Pinouts

eurofast Male	*minifast* Male	*minifast* Female
		

DeviceNet™, *eurofast*® Passive Multi-Port Junctions

- **System Module Junction Box**

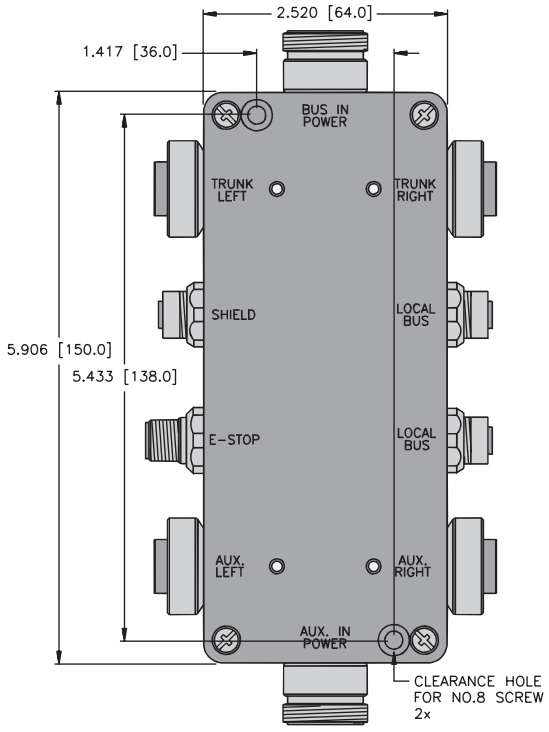
Part Number	Specs	Application	Wiring Diagram
JBBS-57-SM01	Die-cast aluminum enclosure.	System module with two circuit groups • DeviceNet circuit • Supplies DC power • Two drops • Auxiliary power • Supplies DC power • Catagory 2 E-stop • General purpose • M(machine)-stop	

Specifications

Housing:	Anodized Aluminum
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 67, IP 68, IP 69K
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Dimensions

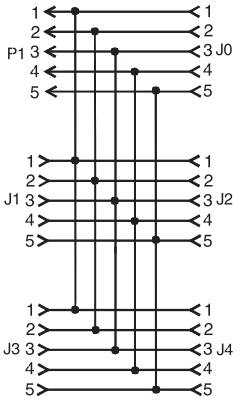
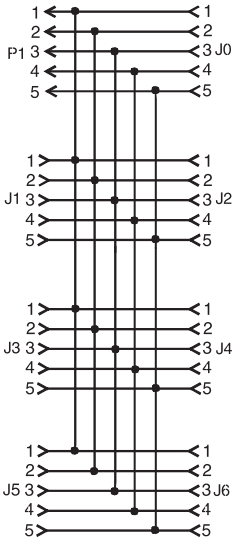
SM01



DeviceNet™, *minifast*® Junction Tee

- **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**

FM APPROVED

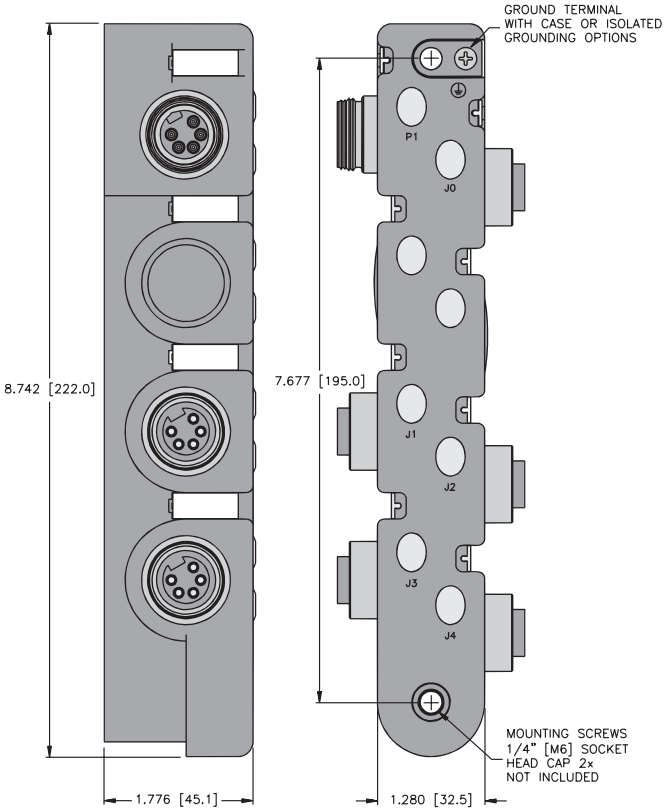
Part Number	Application	Wiring Diagrams
JTBS 57-M433	4-port Junction Tee • (7/8-16UN) ***minifast*** bus in/bus out connections • Four (7/8-16UN) ***minifast*** device ports • For nickel plated brass connectors change part number to JTBS 57-M434	
JTBS 57VM-M433	4-port Junction Tee • (7/8-16UN) ***minifast*** bus in/bus out connections • Four (7/8-16UN) ***minifast*** device ports • For nickel plated brass connectors change part number to JTBS 57VM-M434 • Voltage monitoring provides low voltage (12.9 V) and high voltage (25.6) indication LED indication: (Lo) < 12.9 V Amber (Ok) 12.9 - 25.6 V Green (Hi) > 25.6 V Amber • CL I, Div 2; Groups A-D see TURCK drawing N1-2.400 T6, Ta = 70°C	
JTBS 57-M633	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 57-M634	
JTBS 57VM-M633	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 57VM-M634 • Voltage monitoring provides low voltage (12.9 V) and high voltage (25.6) indication LED indication: (Lo) < 12.9 V Amber (Ok) 12.9 - 25.6 V Green (Hi) > 25.6 V Amber • CL I, Div 2; Groups A-D see TURCK drawing N1-2.400 T6, Ta = 70°C	

Specifications

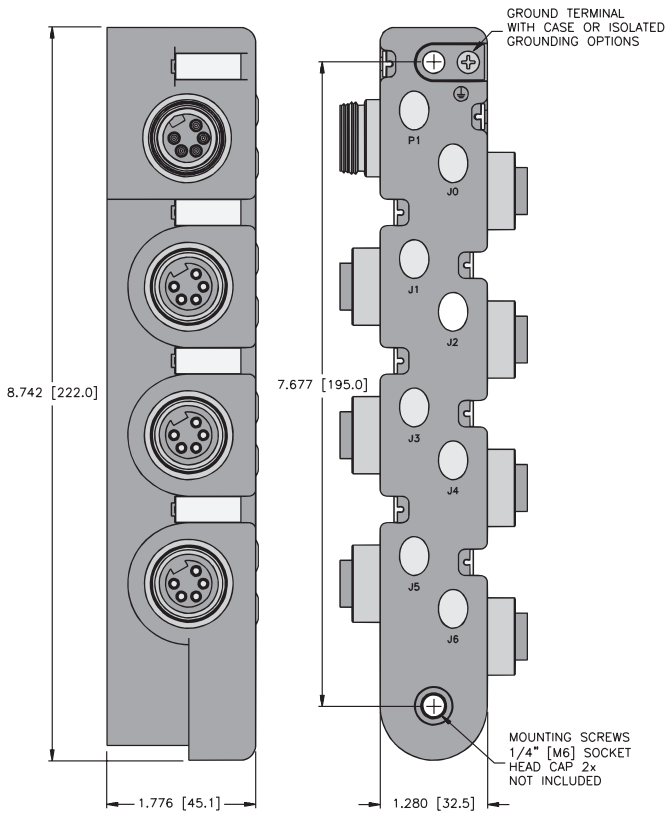
Housing:	PUR (Polyurethane)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	PUR (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67
Rated Voltage:	300 V
Rated Current:	9 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Dimensions

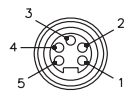
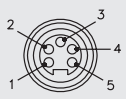
4-port



6-port



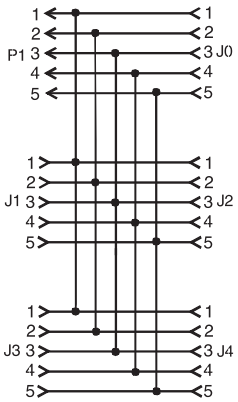
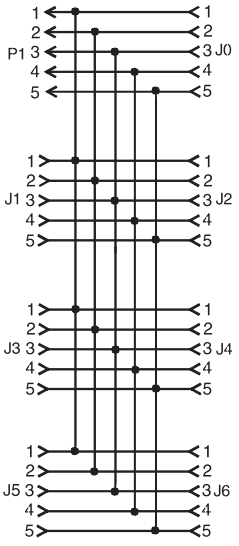
Pinouts

minifast®	
Male	**Female**
	

DeviceNet™, *eurofast*® Junction Tee

- **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**

FM APPROVED

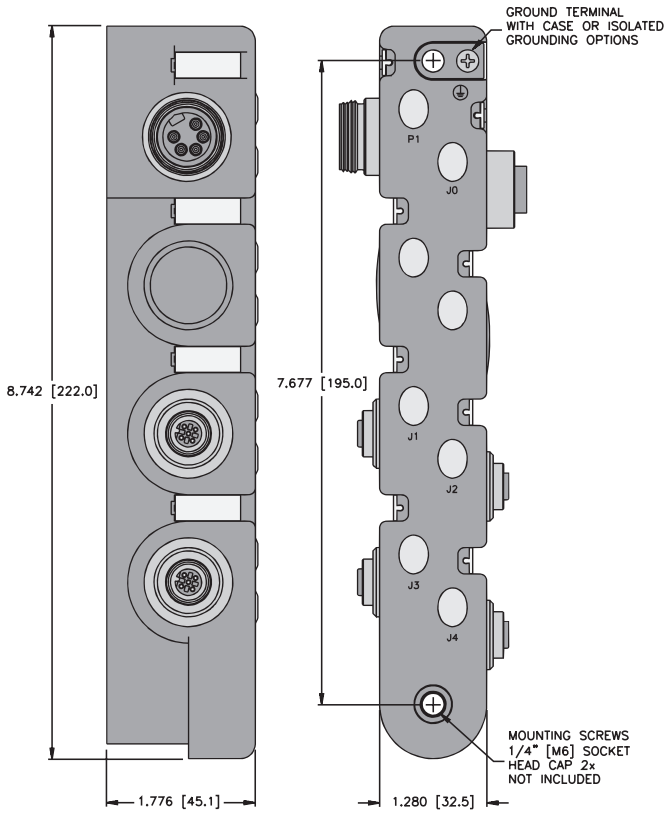
Part Number	Application	Wiring Diagrams
JTBS 57-E433	4-port Junction Tee • (7/8-16UN) ***minifast***® bus in/bus out connections • Four (M12x1) ***eurofast*** device ports • For nickel plated brass connectors change part number to JTBS 57-E434	
JTBS 57VM-E433	4-port Junction Tee • (7/8-16UN) ***minifast*** bus in/bus out connections • Four (M12x1) ***eurofast*** device ports • For nickel plated brass connectors change part number to JTBS 57VM-E434 • Voltage monitoring provides low voltage (12.9 V) and high voltage (25.6) indication LED indication: (Lo) < 12.9 V Amber (Ok) 12.9 - 25.6 V Green (Hi) > 25.6 V Amber • CL I, Div 2; Groups A-D see TURCK drawing N1-2.400 T6, Ta = 70°C	
JTBS 57-E633	6-port Junction Tee • (7/8-16UN) ***minifast*** bus in/bus out connections • Six (M12x1) ***eurofast*** device ports • For nickel plated brass connectors change part number to JTBS 57-E634	
JTBS 57VM-E633	6-port Junction Tee • (7/8-16UN) ***minifast*** bus in/bus out connections • Six (M12x1) ***eurofast*** device ports • For nickel plated brass connectors change part number to JTBS 57VM-E634 • Voltage monitoring provides low voltage (12.9 V) and high voltage (25.6) indication LED indication: (Lo) < 12.9 V Amber (Ok) 12.9-25.6 V Green (Hi) > 25.6 V Amber • CL I, Div 2; Groups A-D see TURCK drawing N1-2.400 T6, Ta = 70°C	

Specifications

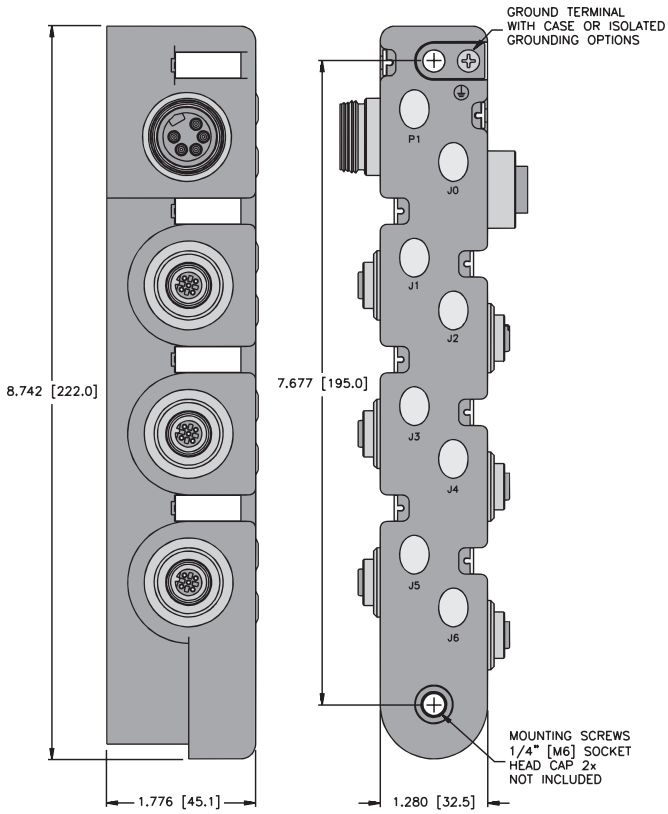
Housing:	PUR (Polyurethane)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 67
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Dimensions

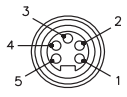
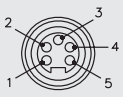
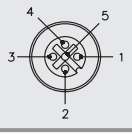
4-port



6-port

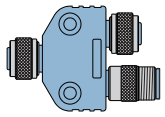
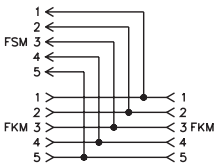
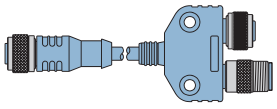
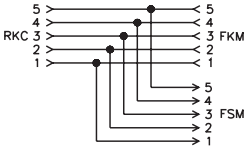
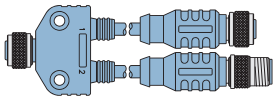
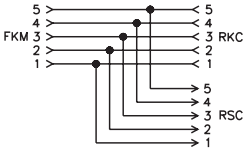


Pinouts

minifast ®		*eurofast* ®
Male	**Female**	**Female**
		

DeviceNet™, *eurofast*® Drop Junctions

- **Creates a Drop or Branch from the Main Bus Line**
- **Cable Drop Lengths Available Up to a Maximum of 6 Meters**

Housing	Part Number	Application	Wiring Diagrams
	**VB2-FKM/FKM/FSM 57**	VB2 Junction • Ready for ***eurofast*** drop and trunk cordsets • Maximum six meter drop	
	**VB2-RKC 57x-*M-FKM FSM**	VB2 Junction with Trunk Line • Ready for ***eurofast*** trunk line • Maximum six meter drop	
	**VB2-FKM/RKC RSC 57x-*M/*M**	VB2 Junction with Trunk Line • Ready for ***eurofast*** drop cordsets • Maximum six meter branch	

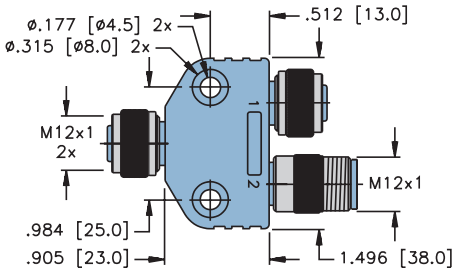
* Indicates length in meters.
x Indicates cable type.

Specifications

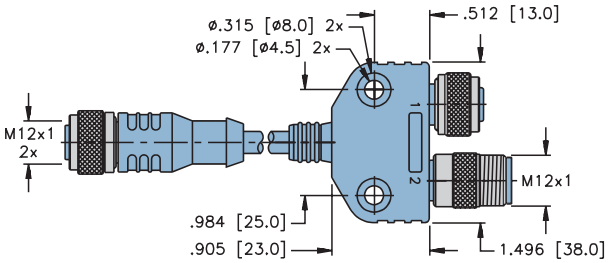
Housing:	PUR (Polyurethane)
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	PUR (Polyurethane) or POM (Nylon)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 68
Rated Voltage:	250 V
Rated Current:	4 A
Ambient Temperature:	-40° to +75°C (-22° to +167°F)

Mounting: Mounting hole accepts #8 screw.

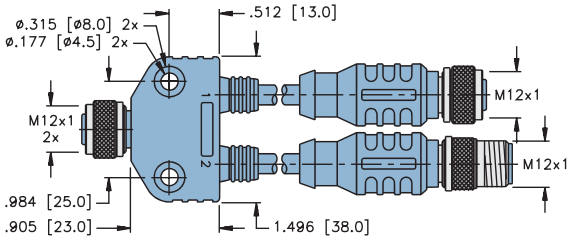
VB2-FKM/FKM/FSM 57



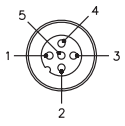
VB2-RKC 57x-*M-FKM FSM



VB2-FKM/RKC RSC 57x-*M/*M

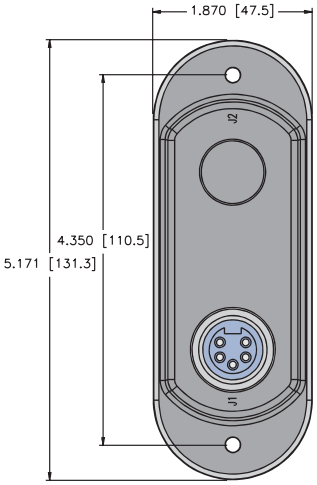
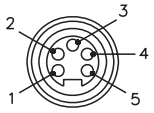
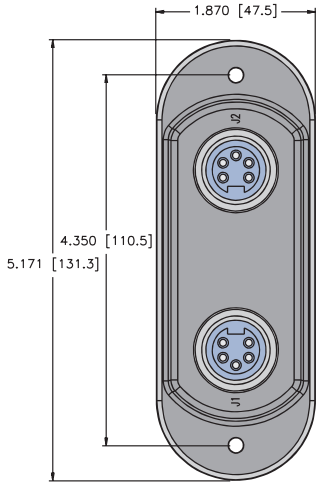


Pinouts

eurofast®	
Male	**Female**
	

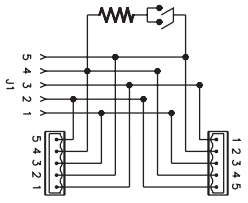
DeviceNet™, *minifast*® Conduit Adapters

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

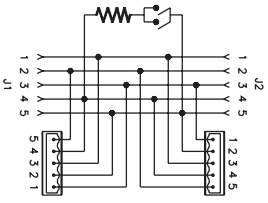
Housing	Part Number	Specs	Application	Pinout
	**BCA 57-M123**	Nylon Housing Stainless Steel Receptacle Housing 300 V, 9 A -40° to +75°C	Attaches to standard conduit body* for transition to 5-wire (7/8-16UN) ***minifast*** connector *Crouse-Hinds 3/4" Form 8, Mark 9 or equivalent.	**Female** 
	**BCA 57-M223**		Attaches to standard conduit body* for transition to 5-wire (7/8-16UN) ***minifast*** connector *Crouse-Hinds 3/4" Form 8, Mark 9 or equivalent.	

Standard receptacle housing material is stainless steel, for nickel plated brass change part number from ... M223 to ... M224.

1-port Wiring Diagram

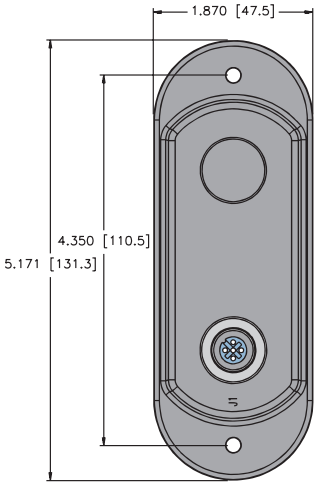
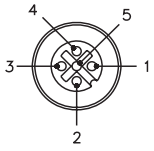
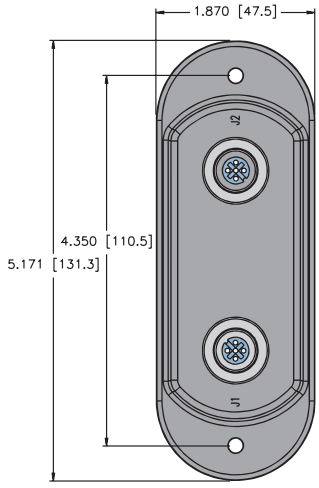


2-port Wiring Diagram



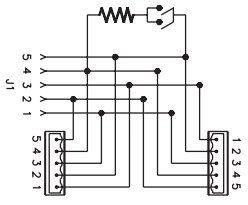
DeviceNet™, *eurofast*® Conduit Adapters

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

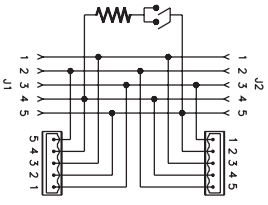
Housing	Part Number	Specs	Application	Pinout
	**BCA 57-E123**	Nylon Housing Stainless Steel Receptacle Housing 250 V, 4 A -40° to +75°C	Attaches to standard conduit body* for transition to 5-wire (M12x1) ***eurofast*** connector *Crouse-Hinds 3/4" Form 8, Mark 9 or equivalent.	**Female** 
	**BCA 57-E223**		Attaches to standard conduit body* for transition to 5-wire (M12x1) ***eurofast*** connector *Crouse-Hinds 3/4" Form 8, Mark 9 or equivalent.	

Standard receptacle housing material is stainless steel, for nickel plated brass change part number from ... M223 to ... M224.

1-port Wiring Diagram

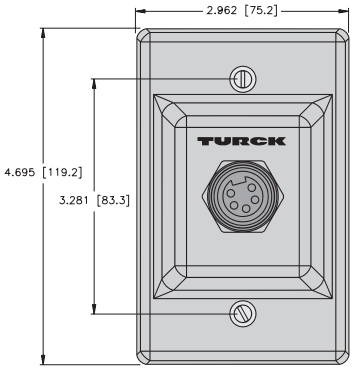
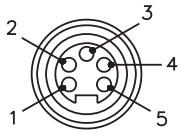
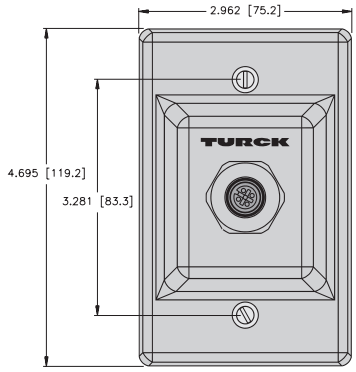
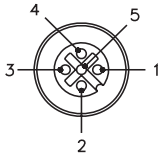


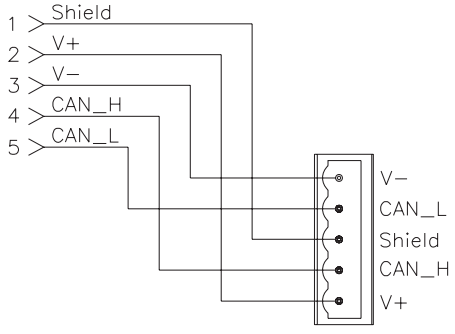
2-port Wiring Diagram



DeviceNet™, Wall Plate Adapters

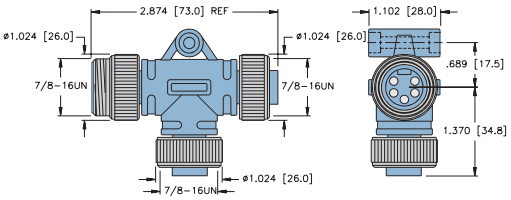
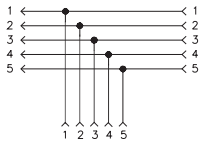
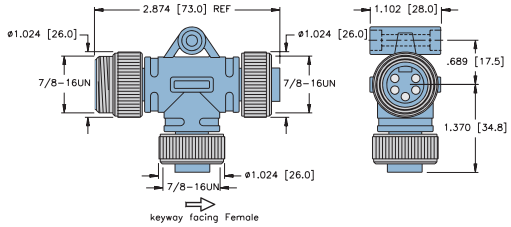
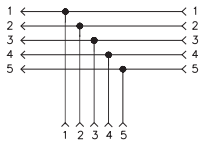
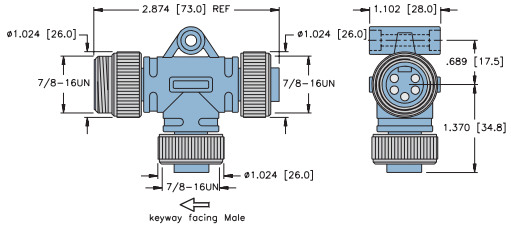
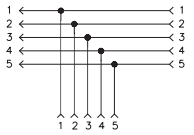
- Gasket and Mounting Screws Provided
- For Use with a Single Gang Electrical Box

Housing	Part Number	Specs	Application	Pinouts	
	**BPA-57-M113**	Stainless Steel 250 V, 4.0 A -40 to +70°C (-40 to +158°F)	Attaches to standard single gang electrical box for transition to 5-wire (7/8-16UN) ***minifast*** connector		
	**BPA-57-E113**		Attaches to standard single gang electrical box for transition to 5-wire (M12x1) ***eurofast*** connector		

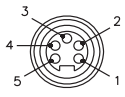
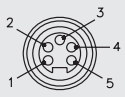


DeviceNet™, Bus Drop and Diagnostic Tees

- Creates a Drop or Branch from the Main Bus Line
- (7/8-16UN) *minifast*® Connectors on Bus and Drop Lines
- Available in Three Keyway Options

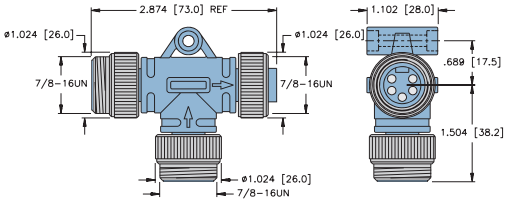
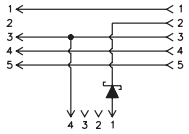
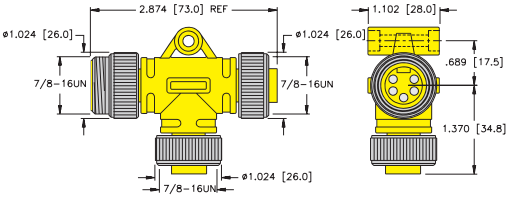
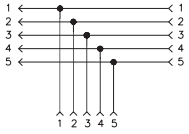
Housing	Part Number	Specs	Application	Wiring Diagrams
	RSM 2RKM 57	PUR (Polyurethane) 300 V, 9 A -40° to +75°C	***minifast*** Drop Off Bus Line • Full power and data drop • Maximum six meter branch • Standard keyway	
	RSM 2RKM 57-KF		***minifast*** Drop Off Bus Line • Full power and data drop • Maximum six meter branch • Keyway facing female	
	RSM 2RKM 57-KM		***minifast*** Drop Off Bus Line • Full power and data drop • Maximum six meter branch • Keyway facing male	

Pinouts

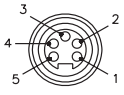
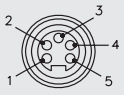
minifast	
Male	Female
	

DeviceNet™, Power and Diagnostic Tees

- **Provide a Drop to Insert Power or Diagnostic Equipment**
- **(7/8-16UN) *minifast*® Connectors on Bus and Drop Lines**
- **Reverse Current Protection on Power Tap**

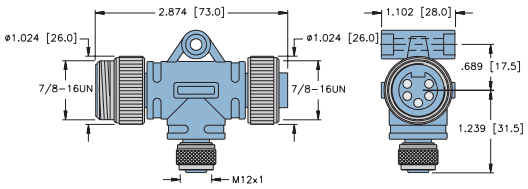
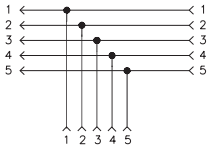
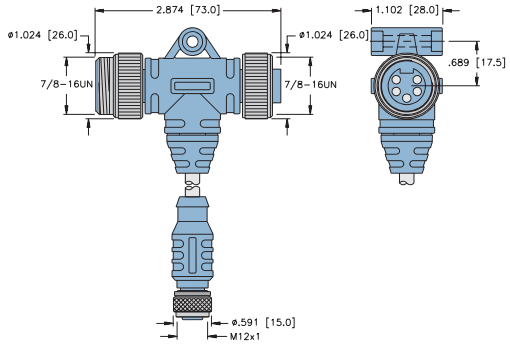
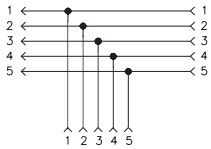
Housing	Part Number	Specs	Application	Wiring Diagrams
	RSM RKM 57 WSM 40 PST	PUR (Polyurethane) 300 V, 9 A -40° to +75°C	Bus Power • Tee provides segment power • Includes reverse current protection	
	RSM 2RKM 57 DGT		Bus Diagnostic Tee • Provides easy connection for diagnostic tools • Tap protected with cover when not in use (not shown)	

Pinouts

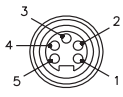
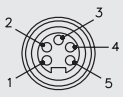
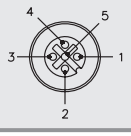
minifast	
Male	Female
	

DeviceNet™, Bus Tees

- Creates a Drop or Branch from the Main Bus Line
- Cable Drop Can Be Up to a Maximum of 6 Meters
- *eurofast*® Drop Connector or Extension Cordset

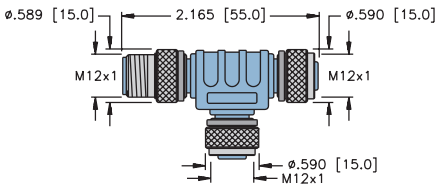
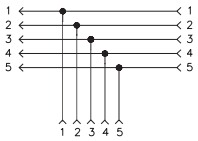
Housing	Part Number	Specs	Application	Wiring Diagrams
	RSM FKM RKM 57	PUR (Polyurethane) 250 V, 4 A -40° to +75°C	***eurofast*** Drop • ***minifast***® to ***eurofast*** • Bus power and data drop	
	RSM RKC 57x-*M RKM 57		***eurofast*** Drop Cordset • ***minifast*** to ***eurofast*** cordset • Bus power and data drop	

Pinouts

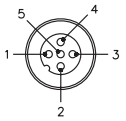
minifast		*eurofast*
Male	Female	Female
		

DeviceNet™, *eurofast*® Bus Tees

- Creates a Drop or Branch from the Main Bus Line
- Cable Drop Can Be Up to a Maximum of 6 Meters
- *eurofast* Drop Connector

Housing	Part Number	Specs	Application	Wiring Diagram
	**RSC 2RKC 57**	PUR (Polyurethane) 250 V, 4 A -40° to +75°C	***eurofast*** Tee • ***eurofast*** trunk and drop	
	RSC 2RKC 57/KS		***eurofast*** Tee • ***eurofast*** trunk and drop • Keyway aligns tee in-line on (M8x1) ***piconet***® boxes	

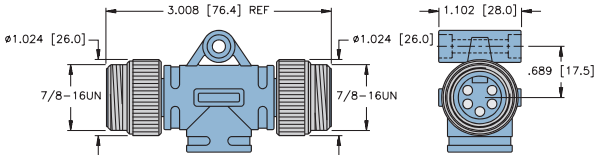
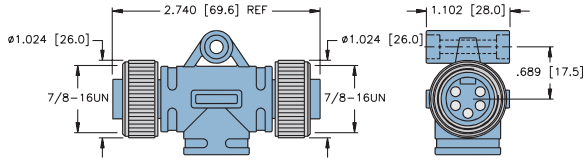
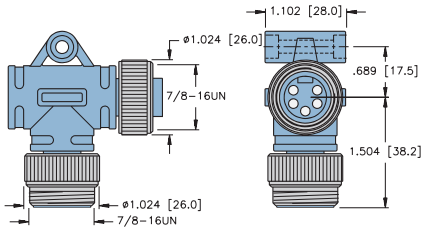
Pinouts

eurofast	
Male	Female
	

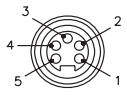
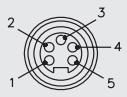
TURCK
Industrial
Automation

DeviceNet™, Gender Changers and Elbow Connectors

- **Allows Quick and Easy Changes from Male to Female Connectors**
- **Available in Straight and Right Angle Styles with *minifast*® Connectors**

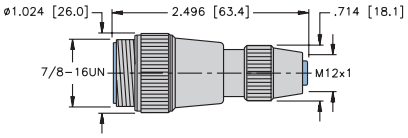
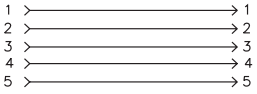
Housing	Part Number	Specs	Application
	RSM RSM 57	PUR (Polyurethane) 300 V, 9 A -40° to +75°C	Male ***minifast*** Gender Changer • Changes female cordset to male cordset
	RKM RKM 57		Female ***minifast*** Gender Changer • Changes male cordset to female cordset • Changes straight male or female cordset to right angle cordset
	WSM RKM 57		***minifast*** Elbow • Right angle male to female connector

Pinouts

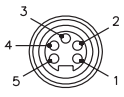
minifast	
Male	**Female**
	

DeviceNet™, Gender Changers and Elbow Connectors

- **Allows Quick and Easy Changes from Male to Female and *minifast*® to *eurofast*® Connectors**

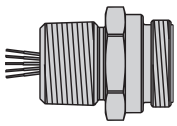
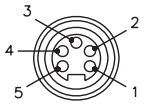
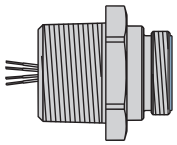
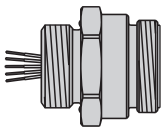
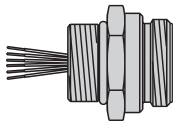
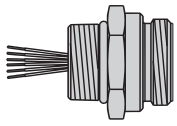
Housing	Part Number	Specs	Application	Wiring Diagram
	RSM 57-FK 4.5	Nickel Plated CuZn or Stainless Steel 250 V, 4 A -40° to +75°C	Female ***eurofast*** to male ***minifast*** adapter	

Pinouts

minifast	*eurofast*
Male	**Female**
	

DeviceNet™, (7/8-16UN) *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**

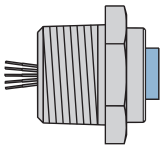
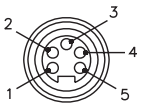
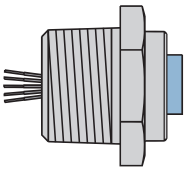
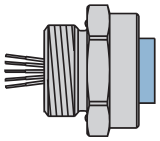
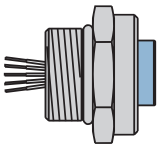
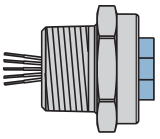
Housing	Part Number	Specs	Application	Pinouts	
23 	RSF 57-*M/14.5	Nickel Plated CuZn or Stainless Steel 300 V, 9 A -40° to +105°C	1/2-14NPT full length threads	1. GY 2. RD 3. BK 4. WH 5. BU	Male 
25 	RSF 57-*M/14.75		3/4-14NPT full length threads		
24 	RSF 57-*M/M20		M20x1.5 threads		
26 	RSF 57-*M		1/2-14NPSM threads		
27 	RSF 57-*M/NPT		1/2-14NPT modified length threads		

See page G69 for dimensional drawings.

* Length in meters.
Standard cable length is 0.3 meters. Consult factory for other lengths.
Receptacles require a 13/16" (21.0 mm) clearance hole for panel mounting.
Standard housing material is nickel plated brass. "RKF .."; "RKFV .." indicates 316 stainless steel housing.
For locknuts to be included, add "W/LN" to the end of the part number.

DeviceNet™, (7/8-16UN) *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**

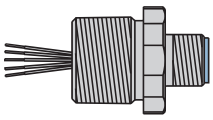
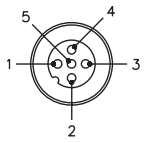
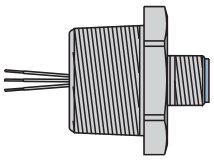
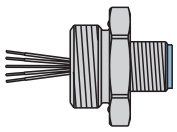
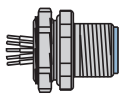
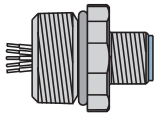
Housing	Part Number	Specs	Application	Pinouts	
28 	RKF 57-*M/14.5	Nickel Plated CuZn or Stainless Steel 300 V, 9 A -40° to +105°C	1/2-14NPT full length threads	1. GY 2. RD 3. BK 4. WH 5. BU	Female 
30 	RKF 57-*M/14.75		3/4-14NPT full length threads		
29 	RKF 57-*M/M20		M20x1.5 threads		
31 	RKF 57-*M		1/2-14NPSM threads		
32 	RKF 57-*M/NPT		1/2-14NPT modified length threads		

See page G70 for dimensional drawings.

* Length in meters.
Standard cable length is 0.3 meters. Consult factory for other lengths.
Receptacles require a 13/16" (21.0 mm) clearance hole for panel mounting.
Standard housing material is nickel plated brass. "RKF .."; "RKFV .." indicates 316 stainless steel housing.
For locknuts to be included, add "W/LN" to the end of the part number.

DeviceNet™, (M12x1) *eurofast*® Male Receptacles

- **Provides Quick Connection to Field Devices**
- **Available for 1/2-14NPT, 1/2-14NPSM, 3/4-14NPT and M20 Threads**

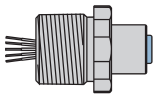
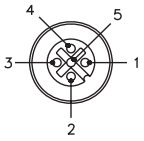
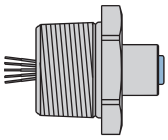
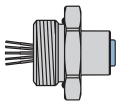
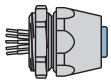
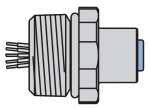
Housing	Part Number	Specs	Application	Pinout	
33 	FS 57-*M/14.5	Nickel Plated CuZn or Stainless Steel 250 V, 4 A -40° to +105°C	1/2-14NPT full length threads	1. GY 2. RD 3. BK 4. WH 5. BU	Male 
35 	FS 57-*M/14.75		3/4-14NPT full length threads		
34 	FS 57-*M/M20		M20x1.5 threads		
36 	FS 57-*M		PG 9 threads		
37 	FS 57-*M/NPT		1/2-14NPT modified length threads		

See page G71 for dimensional drawings.

* Length in meters.
Standard cable length is 0.3 meters. Consult factory for other lengths.
Receptacles require a 13/16" (21.0 mm) clearance hole for panel mounting.
Standard housing material is nickel plated brass. "RKF .."; "RKFV .." indicates 316 stainless steel housing.

DeviceNet™, (M12x1) *eurofast*® Female Receptacles

- **Mounted for Quick Connection to Enclosures**
- **Available for 1/2-14NPT, 1/2-14NPSM, 3/4-14NPT and M20 Threads**

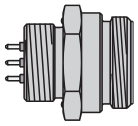
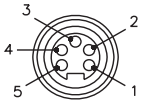
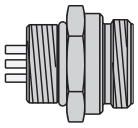
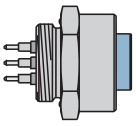
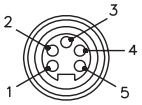
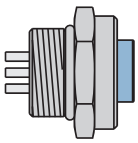
Housing	Part Number	Specs	Application	Pinouts	
38 	FK 57-*M/14.5	Nickel Plated CuZn or Stainless Steel 250 V, 4 A -40° to +105°C	1/2-14NPT full length threads	1. GY 2. RD 3. BK 4. WH 5. BU	Female 
40 	FK 57-*M/14.75		3/4-14NPT full length threads		
39 	FK 57-*M/M20		M20x1.5 threads		
41 	FK 57-*M		PG 9 threads		
42 	FK 57-*M/NPT		1/2-14NPT modified length threads		

See page G72 for dimensional drawings.

* Length in meters.
Standard cable length is 0.3 meters. Consult factory for other lengths.
Receptacles require a 13/16" (21.0 mm) clearance hole for panel mounting.
Standard housing material is nickel plated brass. "RKF .."; "RKFV .." indicates 316 stainless steel housing.

DeviceNet™, *minifast*® PCB and Solder Cup Receptacles

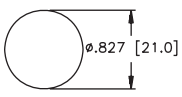
- **Provides (7/8-16UN) *minifast* Connection to Field Devices**

Housing	Part Number	Specs	Application	Pinouts
43 	**RSF 57 PCB**	Nickel Plated CuZn or Stainless Steel 300 V, 9 A -40° to +105°C	Male ***minifast*** PCB pins	1. BARE 2. RD 3. BK 4. WH 5. BU **Male** 
45 	**RSF 57**		Male ***minifast*** solder cups	
44 	**RKF 57 PCB**		Female ***minifast*** PCB pins	**Female** 
46 	**RKF 57**		Female ***minifast*** solder cups	

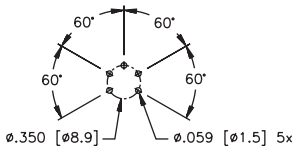
See page G73 for dimensional drawings.

Standard housing material is nickel plated brass "RSFV .."; "RKFV .." indicates 316 stainless steel.

Panel Cutout
FK ... FS

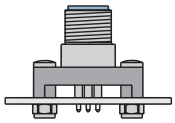
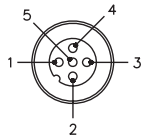
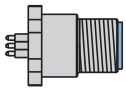
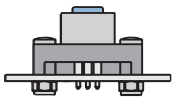
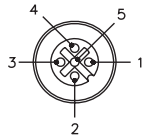
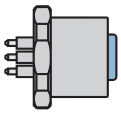


Board Layout (reference only)
FK ... FS



DeviceNet™, *eurofast*® PCB and Solder Cup Receptacles

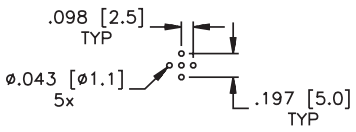
- **Provides (M12x1) *eurofast* Connection to Field Devices**

Housing	Part Number	Specs	Application	Pinouts	
50 	FS 57 PCB KIT	Nickel Plated CuZn or Stainless Steel 250 V, 4 A -40° to +105°C	Male ***eurofast*** with mounting kit	1. BARE 2. RD 3. BK 4. WH 5. BU	**Male** 
51 	FS 57 PCB		Male ***eurofast***		
54 	FK 57 PCB KIT		Female ***eurofast*** with mounting kit		**Female** 
55 	FK 57 PCB		Female ***eurofast***		

See page G74 for dimensional drawings.

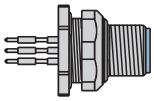
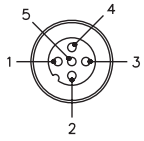
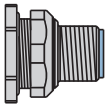
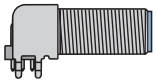
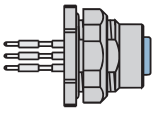
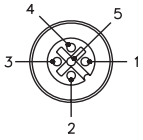
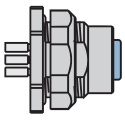
Standard housing material is nickel plated brass "FSV .."; "FKV .." indicates 316 stainless steel.

Board Layout (reference only)
FK ... FS



DeviceNet™, *eurofast*® PCB Pins and Solder Cup Receptacles

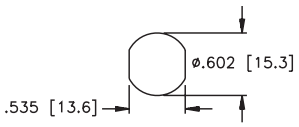
- **Provides (M12x1) *eurofast* Connection to Field Devices**

Housing	Part Number	Specs	Application	Pinouts	
49 	**FSFD 57 PCB**	Nickel Plated CuZn or Stainless Steel 250 V, 4 A -40° to +105°C	Male ***eurofast*** PCB pins	1. BARE 2. RD 3. BK 4. WH 5. BU	**Male** 
48 	**FSFDL 57**		Male ***eurofast*** solder cups		
47 	**WFS 57 PCB**		Male ***eurofast*** right angle PCB pins		
53 	**FKFD 57 PCB**		Female ***eurofast*** PCB pins		**Female** 
52 	**FKFDL 57**		Female ***eurofast*** solder cups		

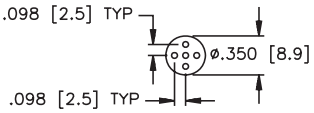
See pages G73 - G74 for dimensional drawings.

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

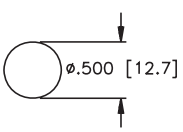
Panel Cutout
FKFD ... FSFD



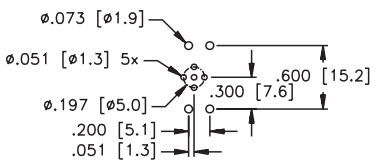
Board Layout (reference only)
FKFD ... FSFD



Panel Cutout
WFS

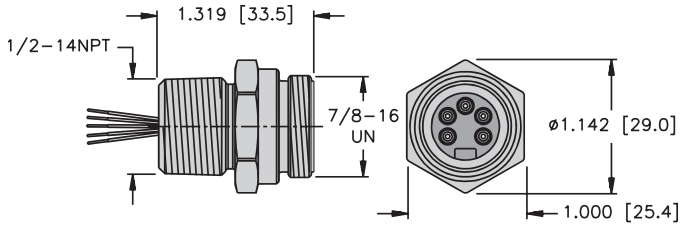


Board Layout (reference only)
WFS



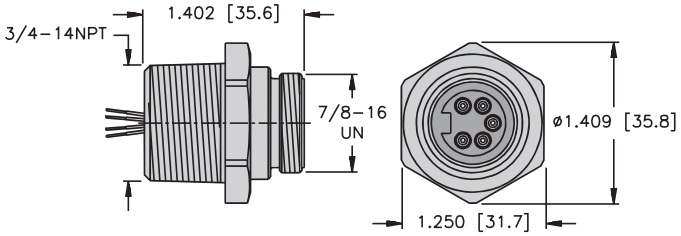
minifast® Male Receptacles

23



RSF ..14.5 **Page G62**

25



RSF ..14.75 **Page G62**

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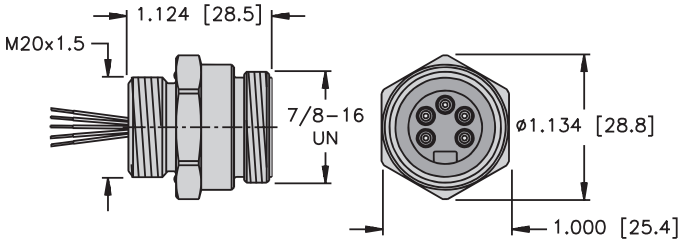

RSF .. M20 **Page G62**

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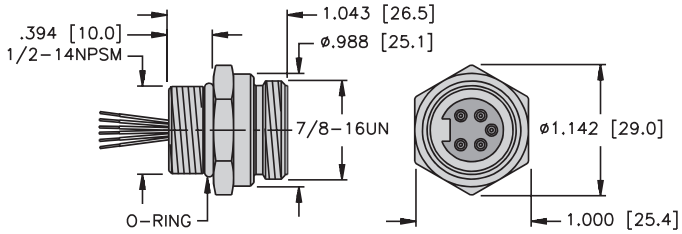
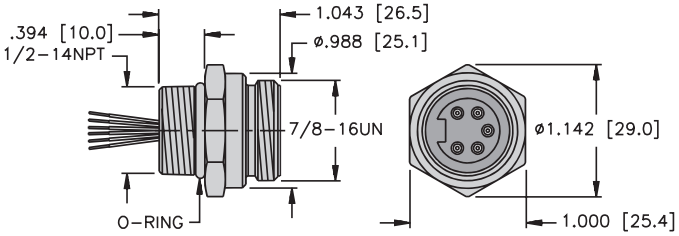


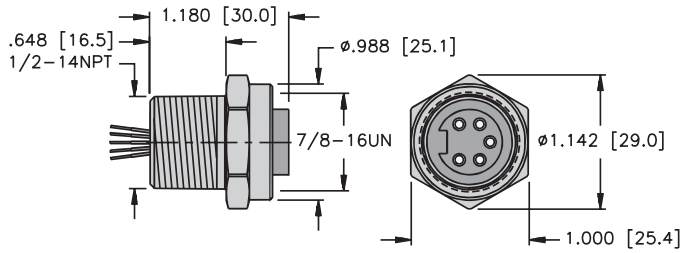
RSF .. **Page G62**

27



RSF .. NPT **Page G62**

28



RKF .. 14.5 **Page G63**

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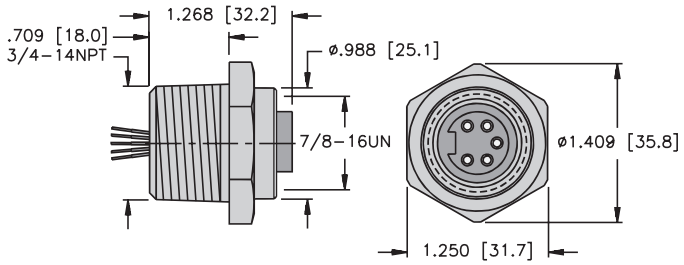

RKF .. 14.75 **Page G63**

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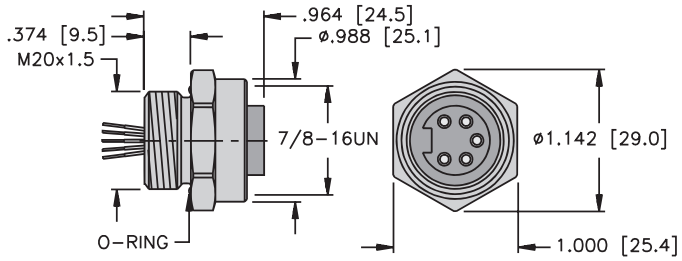

RKF .. M20 **Page G63**

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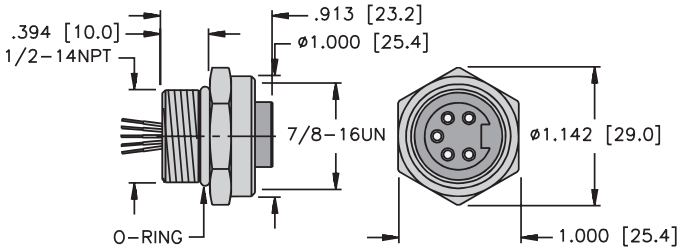

RKF .. **Page G63**

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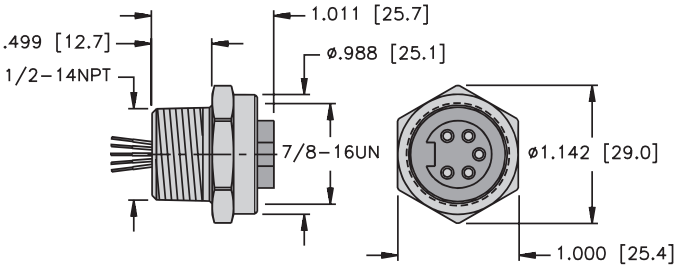
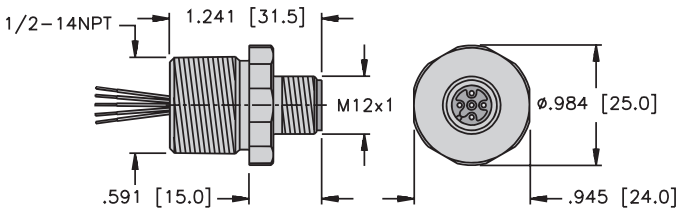


RKF .. NPT **Page G63**

eurofast® Male Receptacles

33



FS .. 14.5 **Page G64**

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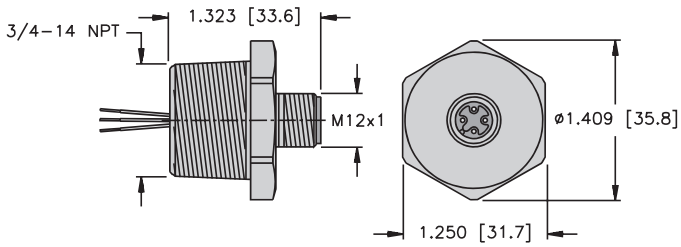

FS .. 14.75 **Page G64**

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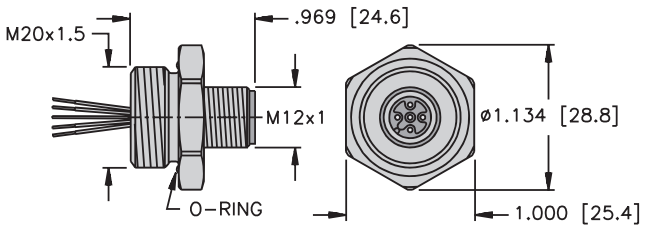

FS .. M20 **Page G64**

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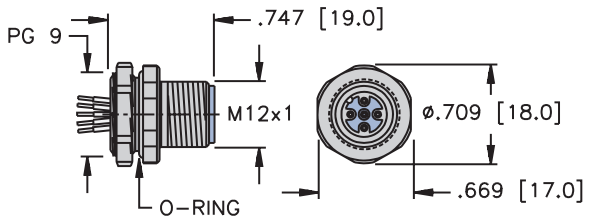

FS .. **Page G64**

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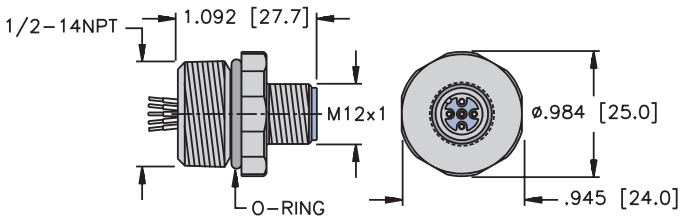

FS .. NPT **Page G64**

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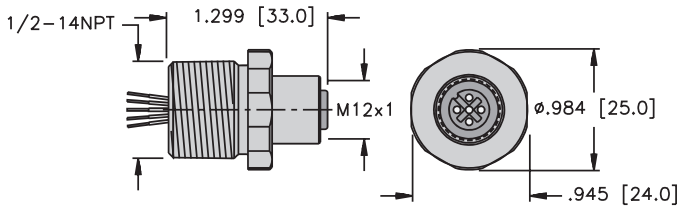

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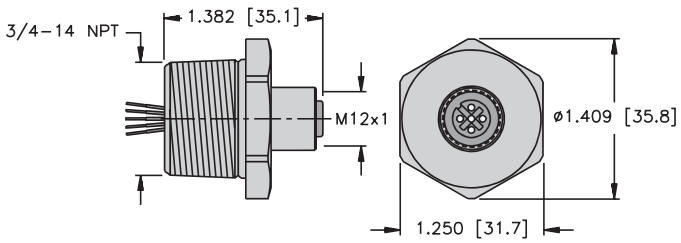

FK .. 14.75 **Page G65**

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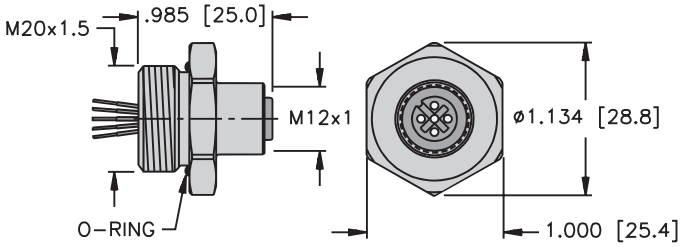

FK .. M20 **Page G65**

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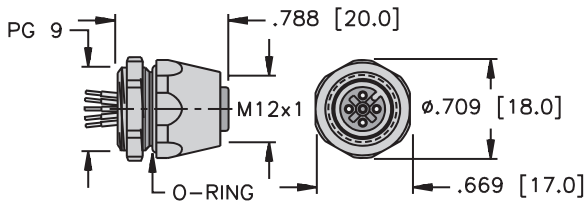

FK .. **Page G65**

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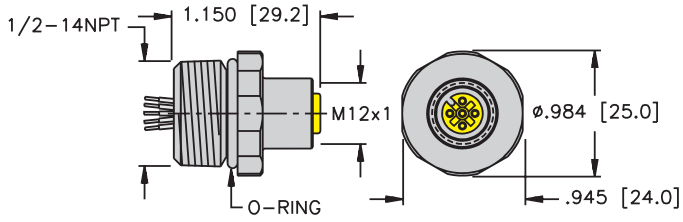
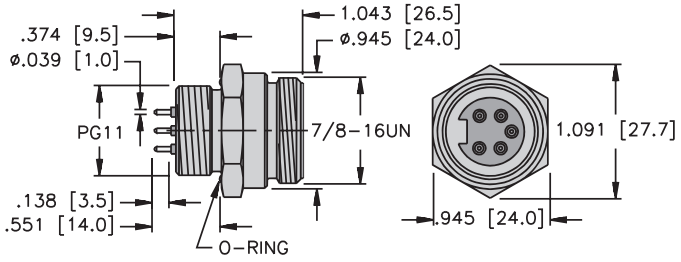


FK .. NPT **Page G65**

DeviceNet Media

minifast® PCB Mount Male and Female Receptacles

43



RSF ..PCB **Page G66**

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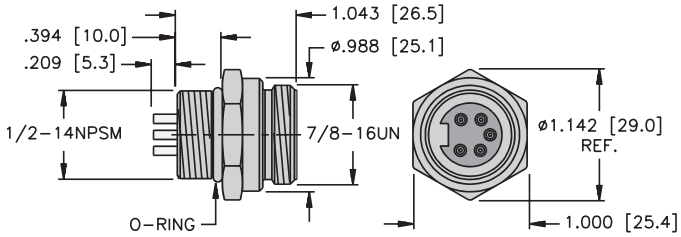

RSF .. **Page G66**

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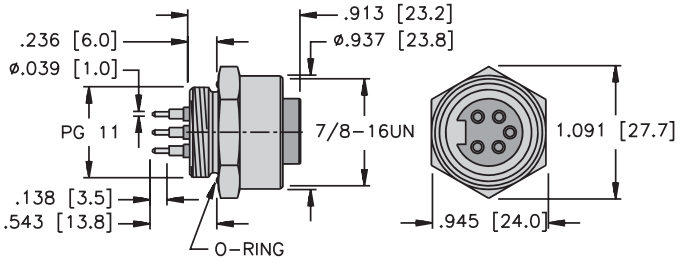

RKF ..PCB **Page G66**

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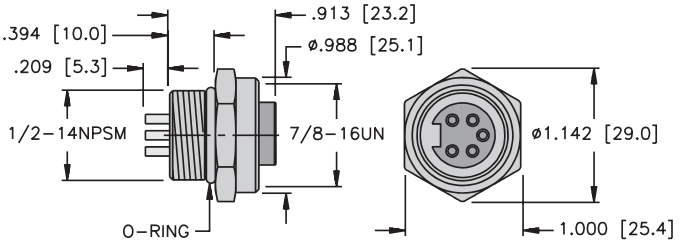

RKF .. **Page G66**

eurofast® PCB Mount Male and Female Receptacles

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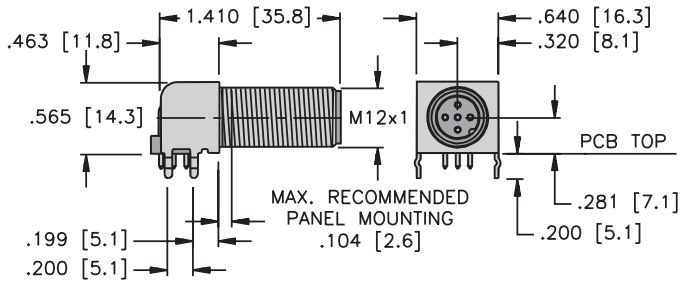
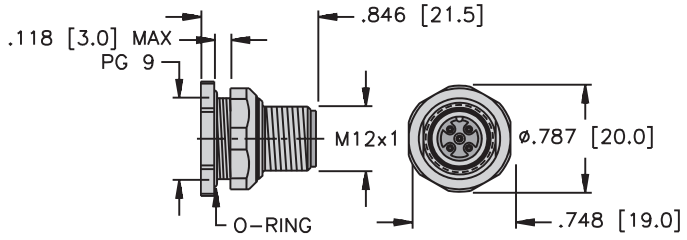


WFS ..PCB **Page G68**

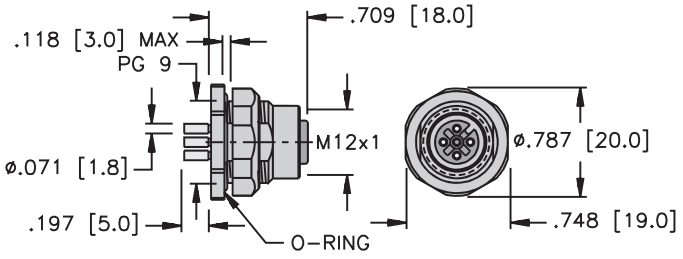
eurofast® PCB Mount Male and Female Receptacles

48



FSFDL .. **Page G68**

52



FKFDL .. **Page G68**

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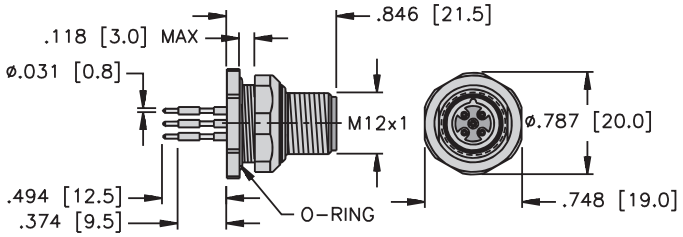

FSFD ..PCB **Page G68**

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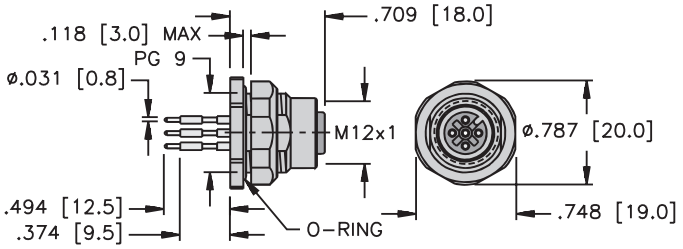

FKFD ..PCB **Page G68**

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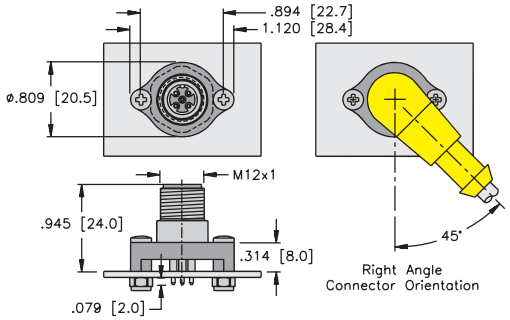

FS ..PCB KIT **Page G67**

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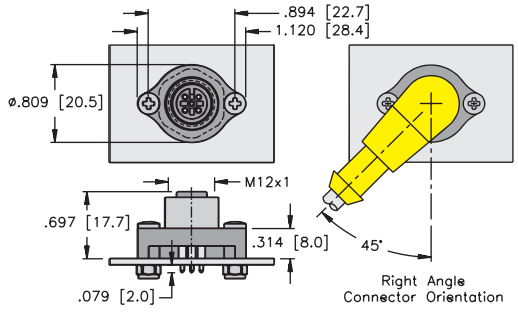

FK ..PCB KIT **Page G67**

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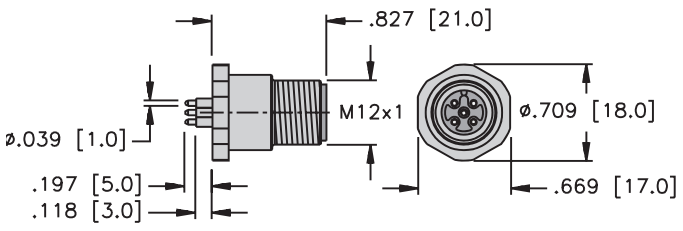

FS ..PCB KIT **Page G67**

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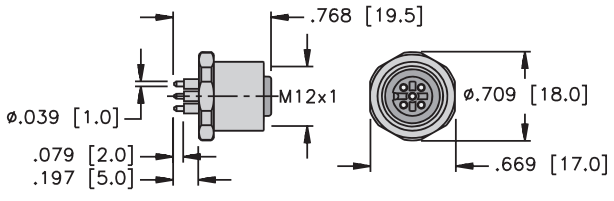
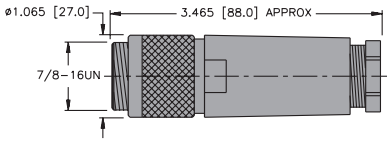
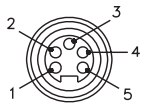
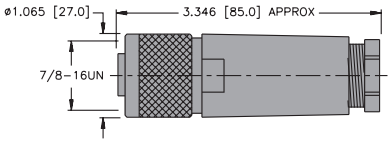
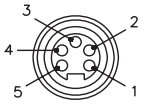


FK ..PCB KIT **Page G67**

DeviceNet Media

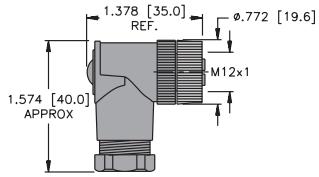
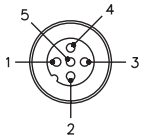
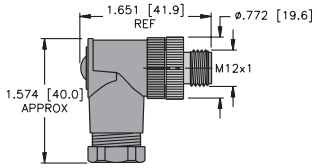
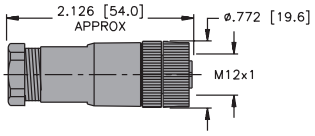
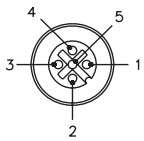
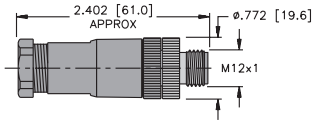
DeviceNet™, *minifast*® Field Wireable Connectors

- Allows for Quick Connection when Pre-Molded Cables not Available
- Available for Male and Female Connectors
- Color Coded Wire Connections for DeviceNet

Housing	Part Number	Housing Specs.	Application	Pinouts
	BS 4151-0/9/DNET	Glass filled nylon PG 9 cable gland accepts 6-8 mm cable diameter Screw terminals 85°C 250 V, 9 A	Mates with all 5-pin cordsets and receptacles	Male 
	BS 4151-0/13.5/DNET	Glass filled nylon PG 13.5 cable gland accepts 10-12 mm cable diameter Screw terminals 85°C 250 V, 9 A		
	B 4151-0/9/DNET	Glass filled nylon PG 9 cable gland accepts 6-8 mm cable diameter Screw terminals 85°C 250 V, 9 A		Female 
	B 4151-0/13.5/DNET	Glass filled nylon PG 13.5 cable gland accepts 10-12 mm cable diameter Screw terminals 85°C 250 V, 9 A		

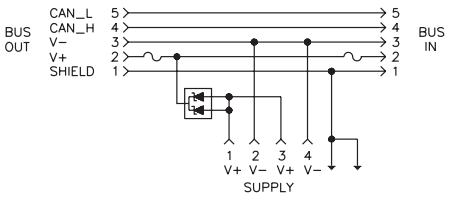
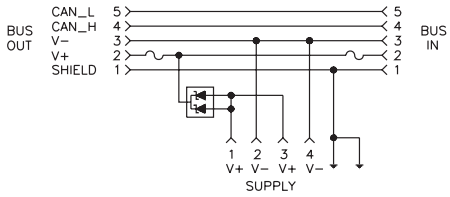
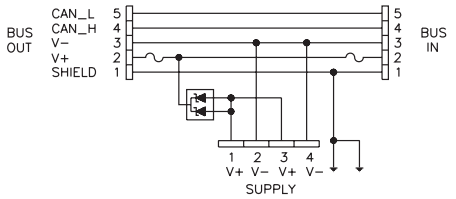
DeviceNet™, *eurofast*® Field Wireable Connectors

- Allows for Quick Connection when Pre-Molded Cables not Available
- Available for Male and Female Connectors in Straight or Right-Angle Configurations
- Color Coded Wire Connections for DeviceNet

Housing	Part Number	Housing Specs.	Application	Pinouts
	**B 8251-0/PG9/DNET**	PBT, Black PG 9 cable gland accepts 4-8 mm cable diameter Screw terminals 85°C 125 V, 4 A	Mates with 5-pin cordsets and receptacles	Male 
	**BS 8251-0/PG9/DNET**	PBT, Black PG 9 cable gland accepts 4-8 mm cable diameter Screw terminals 85°C 125 V, 4 A		
	**B 8151-0/PG9/DNET**	PBT, Black PG 9 cable gland accepts 4-8 mm cable diameter Screw terminals 85°C 250 V, 4 A		Female 
	**BS 8151-0/PG9/DNET**	PBT, Black PG 9 cable gland accepts 4-8 mm cable diameter Screw terminals 85°C 250 V, 4 A		

DeviceNet™, Power Taps

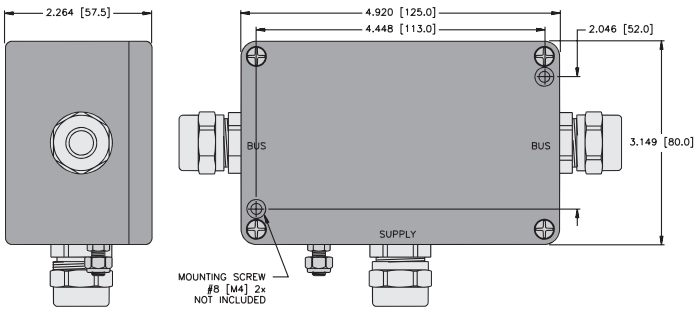
- **Allows Connection to Bus Line for Bringing in 12 VDC Power**
- **Available with *minifast*® Bus Line and Drop Connectors or Terminal Connectors**

Part Number	Application	Wiring Diagrams
SPTC1	Power Tap with ***minifast*** Connectors • (7/8-16UN) ***minifast*** male to female bus connector • (7/8-16UN) ***minifast*** female power connector	
SPTC2	Power Tap with ***minifast*** Connectors • (7/8-16UN) ***minifast*** female to female bus connector • (7/8-16UN) ***minifast*** female power connector	
SPTT1	Power Tap with Terminal Connectors • Terminal strip bus connectors • Terminal strip power connector	

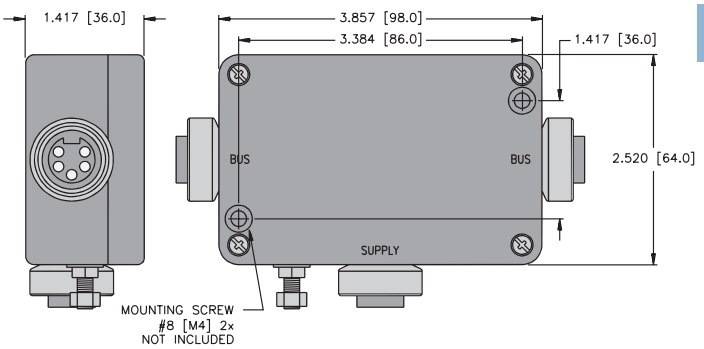
Specifications

Housing:	Anodized Aluminum
Coupling Nut:	Nickel Plated CuZn or Stainless Steel
Contact Carrier:	PUR (Polyurethane)
Contacts:	Gold Plated CuZn
Protection:	NEMA 1, 3, 4, 6P and IEC IP 68
Rated Voltage:	300 V
Rated Current:	9 A
Ambient Temperature:	-30° to +75°C (-22° to +167°F)

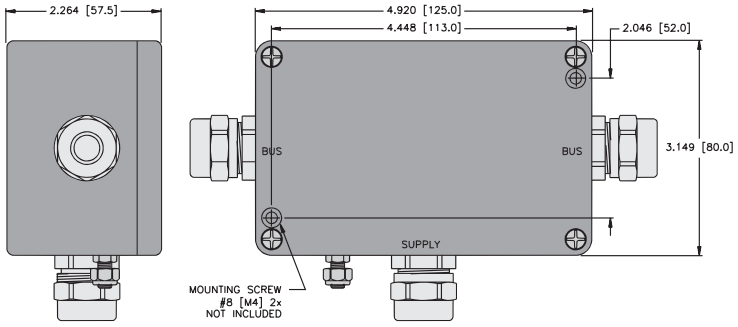
SPTC1



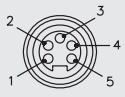
SPTC2



SPTT1



Pinouts

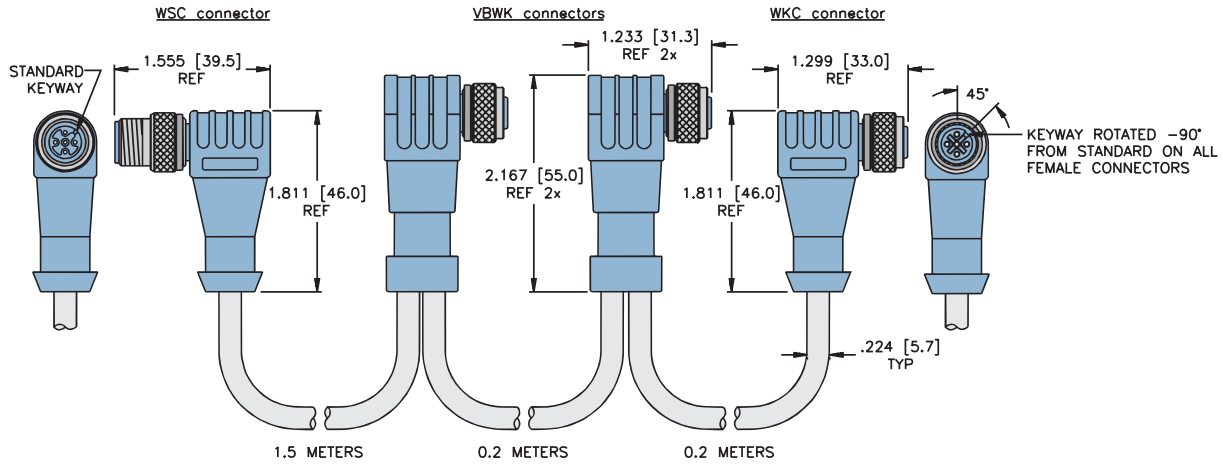
minifast® - Bus Line		*minifast* - Auxiliary Power	
Female 	1. Bare (Shield) 2. Red (+ Voltage) 3. Black (- Voltage) 4. White (CAN_H) 5. Blue (CAN_L)	**Female** 	1. + Voltage 2. - Voltage 3. + Voltage 4. - Voltage

DeviceNet™, *eurofast*® Daisy Chain Configurations

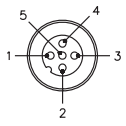
- **Multi-drop Harnesses Designed for OEM Applications**
- **Provides Cost Effective Solution vs. Single Tees and Drops**

Part Number	Specs	Application
WSC 2VBWK WKC 5724-DCL	PUR (Polyurethane) 250 V, 4 A -40° to +75°C	(M12x1) ***eurofast*** Trunk and Drop Harness • Available in custom configurations including length, number of drops and end connector styles

Consult factory for other designs.



Pinouts

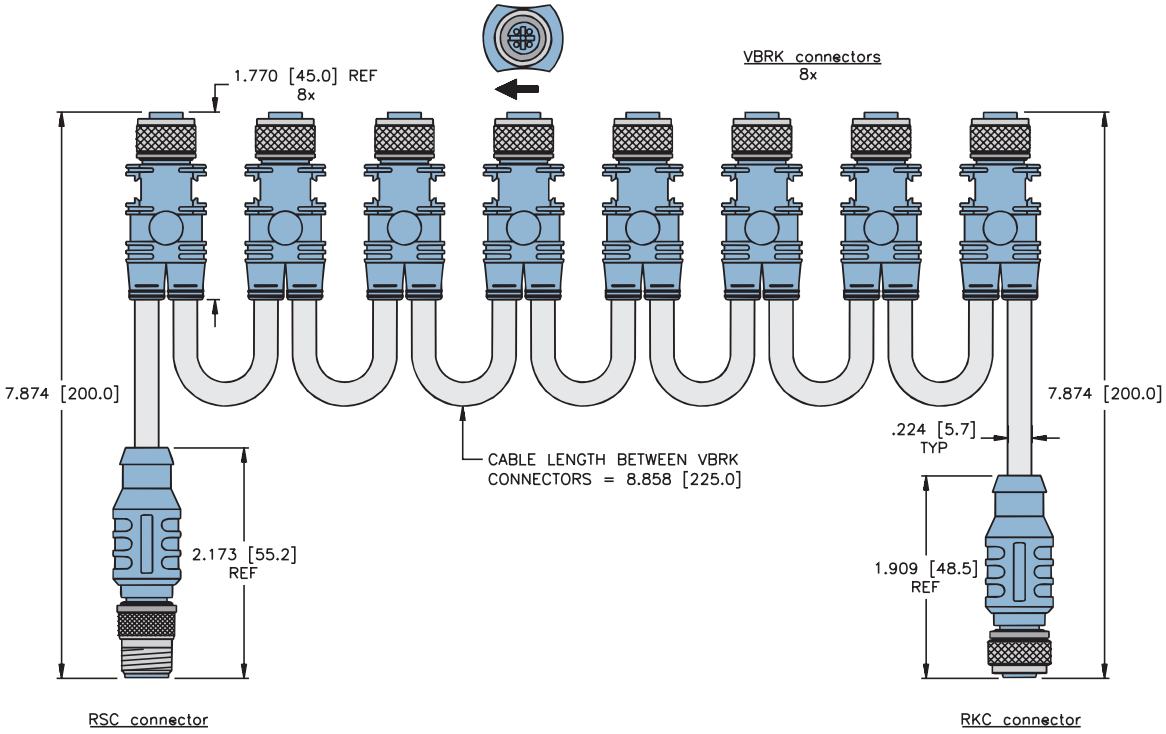
eurofast	
Male	**Female**
	

DeviceNet™, *eurofast*® Daisy Chain Configurations

- **Multi-drop Harnesses Designed for OEM Applications**
- **Provides Cost Effective Solution vs. Single Tees and Drops**

Part Number	Specs	Application
RSC 8VBRK RKC 5724-DCL	PUR (Polyurethane) 250 V, 4 A -40° to +75°C	(M12x1) ***eurofast*** Trunk and Drop Harness • Available in custom configurations including length, number of drops and end connector styles

Consult factory for other designs.



Pinouts

eurofast	
Male	**Female**