

# **Data Highway Plus (Blue Hose®)**

The Data Highway Plus (DH+) network is a local area network that is very simple to implement. It is designed to provide simple communication between PLC's, SLC's and PC's.

The Data Highway Plus network allows connection to a maximum of 64 devices per link although 15 or fewer nodes are recommended per link. Devices include:

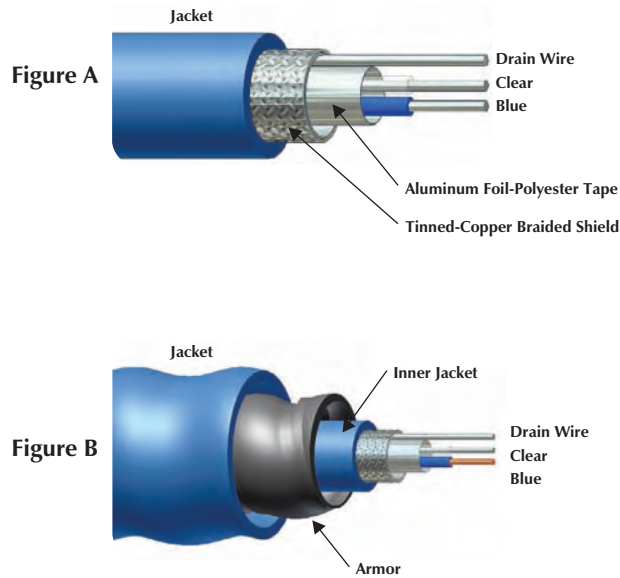
- PLC-5 and SLC 5/04 programmable controllers
- Color graphics systems
- Personal computers
- Host computers
- Numerical controls
- Programmable RS-232-C/RS-422 devices

A network can be configured with 99 links. With a multi-link network, more nodes in the network are possible.

By placing nodes in the proper link with some nodes and separate from other nodes, the efficiency of message delivery can be improved. Using simple twisted-pair wiring, DH+ can be configured as a trunk-line drop or a daisy-chain topology.

**Data Highway Plus (Blue Hose®), Cable Specifications**

Blue Hose is a shielded, twisted pair network cable. The cable consists of blue, clear and shield wires. A terminating resistor must be attached across the blue and clear wires at each end of the network. The resistor value depends on the baud rate selected. The cable shield must be connected to chassis ground only at the scanner end of the network.

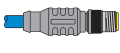

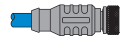

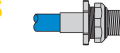
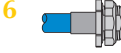

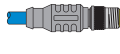
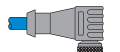
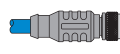
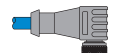


|            |                           |
|------------|---------------------------|
| Baud Rate  | Maximum Cable Length      |
| 57.6 Kbps  | 10,000 feet (3048 meters) |
| 115.2 Kbps | 5,000 feet (1524 meters)  |
| 230.4 Kbps | 2,500 feet (762 meters)   |

| Type                                     | Approvals                               | Data Pair             |                             | Outer Jacket                 | Shields              | Bulk Cable Part Number / Weight/300 M        | Figure   |
|--|---|-----------------------|-----------------------------|------------------------------|----------------------|--|----------|
|  |   | AWG Color Code        | DCR (/1000 feet) Insulation | Material Color Nominal O.D.  | Type Drain Wire      |  |          |
| <b>390</b><br>AWM 2464<br>80°C 300 Volts | NEC CC CL2<br>CEC CC                    | 2/20 AWG<br>BU, Clear | 9.5 Ohms<br>PC              | PC Blue<br>6 CC (.238 in)    | Braid/Coil<br>20 AWG | RB51157-*M<br>36 lbs.                        | <b>A</b> |
| <b>391A</b><br>60°C 300 Volts            | NEC CC CL2<br>CEC CC<br>CCG FT4 [HLBCD] | 2/20 AWG<br>BU, Clear | 9.5 Ohms<br>PC              | Aluminum<br>Armor/PC<br>Blue | Armor<br>Foil Braid  | RB51199-*M<br>122 lbs.<br><i>armorfast</i> ® | <b>B</b> |

\* Indicates length in meters.  
Blue Hose is a registered trademark of Belden CDT Inc.  
Standard cable lengths are 1.0, 2.0, 4.0, 6.0, 10....15 meters.

**Data Highway Plus (Blue Hose®), Cable and Cordset Selection Matrix**

|   |   | eurofast®   |   |   |  | eurofast Bulkhead  |  |                 |
|---|---|---|---|---|--|--|--|-----------------|
|   |   | Pin (Male)  |   | Socket (Female)   |  | Pin (Male)   | Socket (Female)  |                 |
|   |   | <b>1</b> <br>RSC | <b>3</b> <br>WSC | <b>2</b> <br>RKC | <b>4</b> <br>WKC | <b>5</b> <br>FSFD | <b>6</b> <br>FKFD |                 |
| <br>Bare |   | RSC 39x-*M  | WSC 39x-*M  | RKC 39x-*M  | WKC 39x-*M   | FSFD 39x-*M  | FKFD 39x-*M  |                 |
| <b>eurofast</b>   | <b>Pin (Male)</b>   | <b>1</b> <br>RSC | RSC RSC 39x-*M  | RSC WSC 39x-*M  | RSC RKC 39x-*M   | RSC WKC 39x-*M   | RSC FSFD 39x-*M  | RSC FKFD 39x-*M |
|   | <b>3</b> <br>WSC   |   | WSC WSC 39x-*M  | WSC RKC 39x-*M  | WSC WKC 39x-*M   | WSC FSFD 39x-*M  | WSC FKFD 39x-*M  |                 |
|   | <b>2</b> <br>RKC   |   |   | RKC RKC 39x-*M  | RKC WKC 39x-*M   | RKC FSFD 39x-*M  | RKC FKFD 39x-*M  |                 |
|   | <b>4</b> <br>WKC |   |   |   | WKC WKC 39x-*M   | WKC FSFD 39x-*M  | WKC FKFD 39x-*M  |                 |

See page S4 for dimensional drawings.

\* Indicates length in meters.

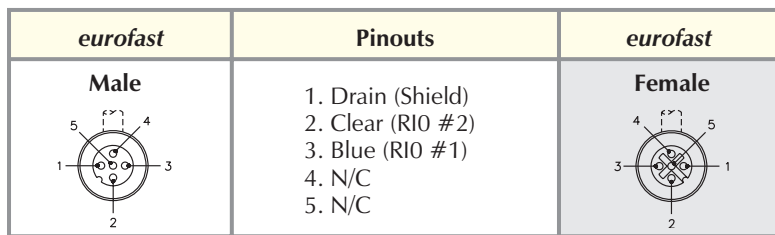
x Indicates cable type.

For **armorfast**® cable: Change part number (RSC RSC 39-\*M to RSA RSA 391A-\*M)

For stainless steel connectors: Change part number (RSC RSC 39-\*M to RSCV RSCV 39-\*M)

Refer to the Cordset Builder at [www.turck.com](http://www.turck.com) for assistance with cordset/cable combinations.

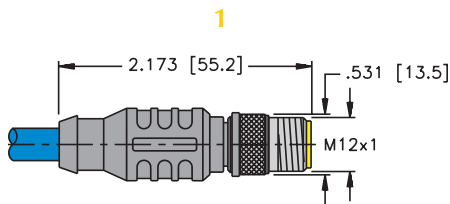
Standard cable lengths are 1.0, 2.0, 4.0, 6.0, 10....15 Meters.



**Data Highway Plus (Blue Hose®), eurofast® Cordset and Receptacle Connector Dimensions**

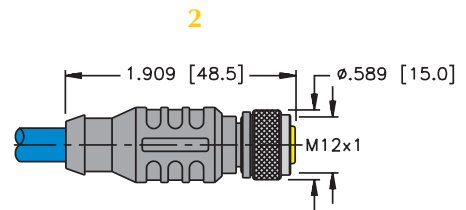
**Specifications**

|                             |                                       |
|-----------------------------|---------------------------------------|
| <b>Housing:</b>             | PUR (polyurethane)                    |
| <b>Coupling Nut:</b>        | Nickel Plated CuZn or Stainless Steel |
| <b>Contact Carrier:</b>     | TPU (Polyurethane) or POM (Nylon)     |
| <b>Contacts:</b>            | Gold Plated CuZn                      |
| <b>Protection:</b>          | NEMA 1, 3, 4, 6P and IEC IP 68        |
| <b>Rated Voltage:</b>       | 250 V                                 |
| <b>Rated Current:</b>       | 4 A                                   |
| <b>Ambient Temperature:</b> | -40° to +60°C (-40° to +140°F)        |



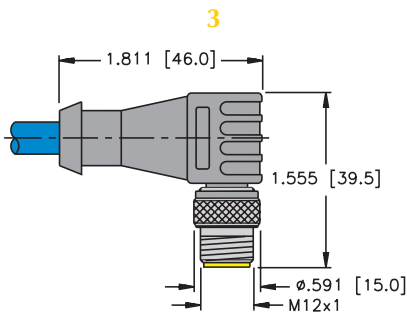
RSC ..

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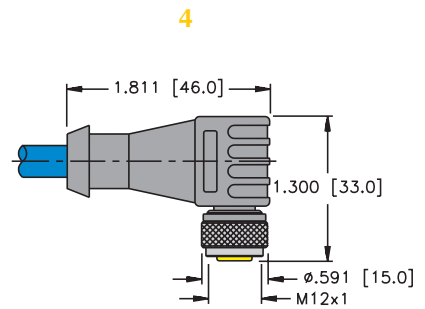
RKC ..

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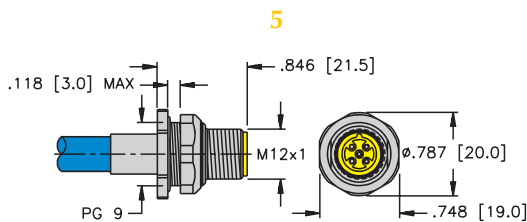
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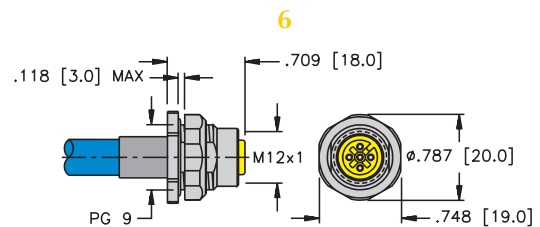
WKC ..

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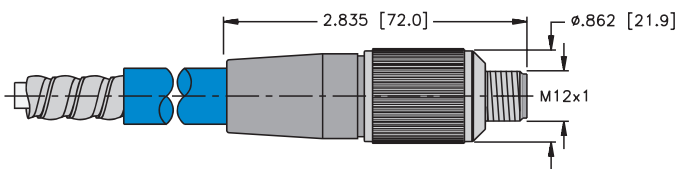
FSFD ..

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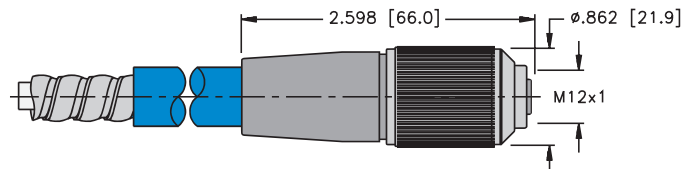
FKFD ..

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RSA ..

(armorfast® only)



RKA ..

(armorfast only)

Blue Hose