# R95C-L-4MDR-KQ IO-Link Motor Driven Roller Controller Product Manual

Original Instructions
p/n: 251927 Rev. B
19-Mar-26

# Contents

Chapter Contents



# Chapter 1 Features


- Efficiently control four motor driven rollers from a PLC using IO-Link communication
- Simplify installation of multiple R95Cs on a conveyor using M12 connectors and motor power connections in series
- Compact bimodal to IO-Link device converter that reports and controls two channels of discrete inputs/outputs, and an analog output voltage value (0 V DC to 18 V DC) via IO-Link process data
- Enabled Delay Modes: Ramp On, Ramp Off, ON/OFF Delay, ON/OFF One-shot, ON/OFF/Retriggerable One-shot, ON/OFF Pulse-stretcher and Totalizer
- Measurement Metrics: Motor Run Time, Count, Counts Per Minute (CPM), and Duration
- Discrete input/output can be independently configured as NPN or PNP
- L-Code power pass-through
- Rugged over-molded design meets IP65, IP67, and IP68
- Connects directly to a sensor or anywhere in-line for ease of use
- R95C controllers are a quick, easy, and economical way to integrate non-Modbus devices into a Modbus system

## Models

| Model Name | Function | Control | Connectors |
|---|---|---|---|
| **R95C-L-4MDR-KQ** | L-Code ports with bimodal function: 2 inputs, 2 outputs, and an analog voltage output | IO-Link | (4) Integral 5-pin M12 A-Code female quick-disconnect connectors<br>(1) Integral 5-pin M12 A-Code male quick-disconnect connector<br>(1) Integral 5-pin M12 L-Code female quick-disconnect connector<br>(1) Integral 5-pin M12 L-Code male quick-disconnect connector |

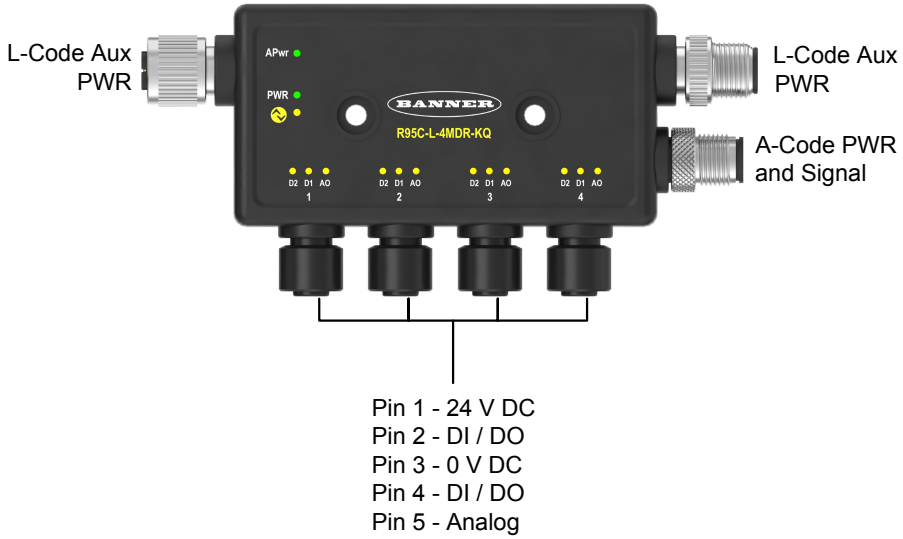
## Overview

Motor Driven Rollers (MDR) are used to control product flow through a conveyor line. They are normally connected to multiple idler rollers to make up a zone of conveyance. This design creates a modular and controllable conveyor system, often used in material handling applications.

With two discrete channels that can be configured as inputs or outputs on each of the four motor driven roller ports, the R95C allows for precise control over start/stop functions, direction, and error conditions. These discrete channels can also be used to transmit discrete inputs from sensors as part of the motor driven roller system logic. The 0–18 volt analog output on the four motor driven roller ports ensures accurate speed control for both standard and high-speed motor driven roller systems. LED indicators provide clear status monitoring and facilitate troubleshooting, ensuring smooth and efficient operation.

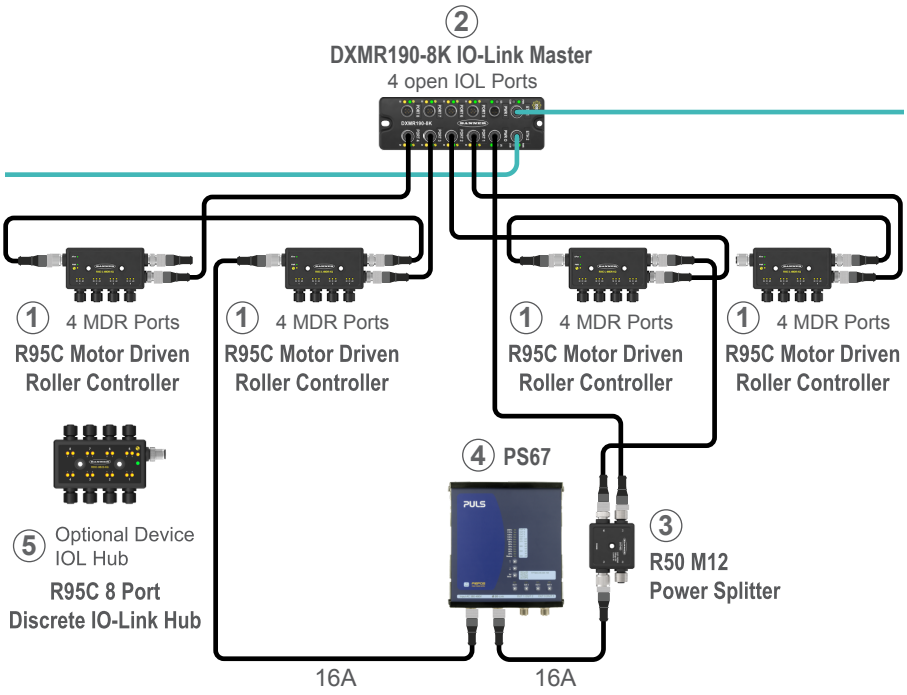
The use of compact sealed M12 connectors and motor power connections in series simplifies the installation process, making it easy to set up multiple R95Cs on a conveyor. The M12 L-coded connections support higher current demands and share up to 16 amps of power, delivering more power while occupying less space than traditional connectors.

The IP67-rated fully-sealed housing and -40° C to 70° C operating range make the R95C suitable for use in challenging environments without the need for additional protective enclosures. This robustness ensures reliability and longevity in harsh conditions.




# Example Setup

The following is a diagram of an example setup for the R95C, along with a list of devices used in the setup.



**DXMR190-8K IO-Link Master**

- Allows PLC communication with MDR controller via IO-Link process data
- Eight dedicated IO-Link client ports allow communication with multiple motor driver roller controllers

**R50-M12LM5-M12LF5- 2M12F5-P13**
R50 M12 Power Splitter

L-Code Pass-Through with A-Code Power Drops

**Optional: R95C-8B22-KQ**
R95C 8 Port Discrete IO-Link Hub

**4-Pin M12 Double-Ended** (1)
Straight connector models for device power and communications

- **BC-M12F4-M12M4-22-2**: 2 m (6.5 ft)
- **BC-M12F4-M12M4-22-5**: 5 m (16.4 ft)
- **BC-M12F4-M12M4-22-10**: 10 m (32.8 ft)

**5-Pin M12 to M8 Double-Ended** (2)
Straight connector models for connection between R50C MDR controller and motor driven roller

- **BC-M8F5B-M12M5-24-0.5**: 0.5 m (1.6 ft)
- **BC-M8F5B-M12M5-24-1**: 1 m (3.2 ft)
- **BC-M8F5B-M12M5-24-2**: 2 m (6.5 ft)

**4-Pin D-Code M12 to RJ45 Double-ended** (3)
Straight connector models for Ethernet connection on DXMR90-X1E

- **STP-M12D-403**: 0.9 m (2.9 ft)
- **STP-M12D-406**: 1.83 m (6 ft)
- **STP-M12D-415**: 4.57 m (15 ft)
- **STP-M12D-430**: 9.14 m (30 ft)

**4-Pin M12 D-Code Double-Ended** (4)
Straight connector models for Ethernet connections between DXMR90-X1E controllers

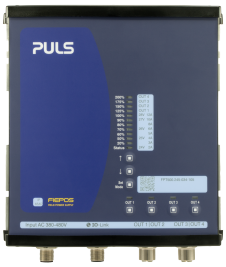
- **BCD-M12DM-M12DM-2M**: 2 m (6.5 ft)
- **BCD-M12DM-M12DM-5M**: 5 m (16.4 ft)
- **BCD-M12DM-M12DM-10M**: 10 m (32.8 ft)

**5-Pin M12 L-Code Double-Ended** (5)
Straight connector models for high amp power connections between R50C MDR controllers

- **BCP-M12LF5-M12LM5-14-2**: 2 m (6.5 ft)
- **BCP-M12LF5-M12LM5-14-10**: 10 m (32.8 ft)
- **BCP-M12LF5-M12LM5-14-15**: 15 m (49.2 ft)

**5-Pin M12 L-Code Single-Ended**
Straight connector models for high amp power connections to R50C MDR controllers

- **BCP-M12LF5-14-2**: 2 m (6.5 ft)
- **BCP-M12LF5-14-5**: 5 m (16.4 ft)
- **BCP-M12LF5-14-10**: 10 m (32.8 ft)




| Features | PS67K-1S-24L-150:<br>1-Phase IP67 Power Supply | PS67K-3S-24L-250:<br>3-Phase IP67 Power Supply |
|---|---|---|
| **Input Voltage** | 100 V AC to 240 V AC | 380 V AC to 480 V AC |
| **Output Voltage** | 24 V DC | 24 V DC |
| **Output Current** | 15 A | 25 A |
| **Input Connector** | M12 S-Code | M12 S-Code |
| **Output Connectors** | 2x M12 L-Code | 2x M12 L-Code |

For more information on product accessories, see "Accessories" on page 23.

# Compatible Motor Driven Rollers

The R95C is compatible with the following motor driven rollers:

- Itoh Denki PM- XE, XP
- Itoh Denki PM- XC
- Interoll EC310
- Interoll EC5000
- PulseRoller Senergy IDC
- Lenze MDR o450
- Rulmeca BL3
- Johnson Controls True Drive

Other motor driven rollers may be compatible. Contact Banner Engineering Corp. to verify compatibility.

Chapter Contents



# Chapter 2 IO-Link®

IO-Link® is a point-to-point communication link between a master device and a sensor and/or light. It can be used to automatically parameterize sensors or lights and to transmit process data. For the latest IO-Link protocol and specifications, please visit www.io-link.com.

For the latest IODD files, please refer to the Banner Engineering Corp website at: www.bannerengineering.com.

# IO-Link Data Map

This document refers to the following IODD file: Banner_Engineering-R95C-L-4MDR-KQ-20250131-IODD1.1.xml.

The IODD file and support files can be found on www.bannerengineering.com under the download section of the product family page.

## Communication Parameters

The following communication parameters are used.

| Parameter | Value |
|---|---|
| IO-Link revision | V1.1.4 |
| Process Data In length | 32-bits |
| Process Data Out length | 32-bits |
| Bit Rate | 38400 bps |
| Minimum cycle time | 4ms |
| Port class | A |
| SIO mode | Yes |
| Smart sensor profile | No |
| Block parameterization | Yes |
| Data Storage | Yes |
| Device ID | 659484 |

## IO-Link Process Data In (Device to Master)

| Subindex | Name | Number of Bits | Data Values |
|---|---|---|---|
| 1 | MDR 4 Short Circuit | 1 | false = Inactive, true = Active |
| 2 | MDR 4 Overcurrent | 1 | false = Current below limit, true = Current above limit |
| 3 | MDR 3 Short Circuit | 1 | false = Inactive, true = Active |
| 4 | MDR 3 Overcurrent | 1 | false = Current below limit, true = Current above limit |
| 5 | MDR 2 Short Circuit | 1 | false = Inactive, true = Active |
| 6 | MDR 2 Overcurrent | 1 | false = Current below limit, true = Current above limit |
| 7 | MDR 1 Short Circuit | 1 | false = Inactive, true = Active |
| 8 | MDR 1 Overcurrent | 1 | false = Current below limit, true = Current above limit |
| 9 | MDR OverVoltage | 1 | false = Voltage within Range, true = Voltage above Range |
| 10 | MDR UnderVoltage | 1 | false = Voltage within Range, true = Voltage below Range |

Continued on page 8

Continued from page 7

| Subindex | Name | Number of Bits | Data Values |
|---|---|---|---|
| 11 | Block Temperature | 1 | false = Temp below limit, true = Temp above limit |
| 12 | Aux Power | 1 | false = No Aux Power, true = Aux Power Present |
| 13 | Port 4 Pin2-Channel2 | 1 | false = Inactive, true = Active |
| 14 | Port 4 Pin4-Channel1 | 1 | false = Inactive, true = Active |
| 15 | Port 3 Pin2-Channel2 | 1 | false = Inactive, true = Active |
| 16 | Port 3 Pin4-Channel1 | 1 | false = Inactive, true = Active |
| 17 | Port 2 Pin2-Channel2 | 1 | false = Inactive, true = Active |
| 18 | Port 2 Pin4-Channel1 | 1 | false = Inactive, true = Active |
| 19 | Port 1 Pin2-Channel2 | 1 | false = Inactive, true = Active |
| 20 | Port 1 Pin4-Channel1 | 1 | false = Inactive, true = Active |
| 21 | Port 4 Pin 5 - Analog Value | 16 | |
| 22 | Port 3 Pin 5 - Analog Value | 16 | |
| 23 | Port 2 Pin 5 - Analog Value | 16 | |
| 24 | Port 1 Pin 5 - Analog Value | 16 | |

| Octet 0 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | - | - | - | - | 1 | 2 | 3 | 4 |
| Bit Offset | 87 | 86 | 85 | 84 | 83 | 82 | 81 | 80 |

| Octet 1 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Bit Offset | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 |

| Octet 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Bit Offset | 71 | 70 | 69 | 68 | 67 | 66 | 65 | 64 |

| Octet 3 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| Bit Offset | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 |

| Octet 4 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| Bit Offset | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 |

| Octet 5 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Bit Offset | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 |

| Octet 6 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| Bit Offset | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 |

| Octet 7 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| Bit Offset | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 |

| Octet 8 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| Bit Offset | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |

| Octet 9 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Bit Offset | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 |

| Octet 10 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| Bit Offset | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

## IO-Link Process Data Out (Master to Device)

| Subindex | Name | Number of Bits | Data Values |
|---|---|---|---|
| 1 | Motor 4 Current Fault Reset | 1 | false = No action, true = Reset |
| 2 | Motor 3 Current Fault Reset | 1 | false = No action, true = Reset |
| 3 | Motor 2 Current Fault Reset | 1 | false = No action, true = Reset |
| 4 | Motor 1 Current Fault Reset | 1 | false = No action, true = Reset |
| 5 | Port 4 Pin2-Channel 2 Control | 1 | false = Inactive, true = Active |
| 6 | Port 4 Pin4-Channel 1 Control | 1 | false = Inactive, true = Active |
| 7 | Port 3 Pin2-Channel 2 Control | 1 | false = Inactive, true = Active |
| 8 | Port 3 Pin4-Channel 1 Control | 1 | false = Inactive, true = Active |
| 9 | Port 2 Pin2-Channel 2 Control | 1 | false = Inactive, true = Active |
| 10 | Port 2 Pin4-Channel 1 Control | 1 | false = Inactive, true = Active |
| 11 | Port 1 Pin2-Channel 2 Control | 1 | false = Inactive, true = Active |
| 12 | Port 1 Pin4-Channel 1 Control | 1 | false = Inactive, true = Active |
| 13 | Port 4 Pin 5 - Analog Output Control (mV) | 16 | |
| 14 | Port 3 Pin 5 - Analog Output Control (mV) | 16 | |
| 15 | Port 2 Pin 5 - Analog Output Control (mV) | 16 | |
| 16 | Port 1 Pin 5 - Analog Output Control (mV) | 16 | |

| Octet 0 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | - | - | - | - | 1 | 2 | 3 | 4 |
| Bit Offset | 79 | 78 | 77 | 76 | 75 | 74 | 73 | 72 |

| Octet 1 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Bit Offset | 71 | 70 | 69 | 68 | 67 | 66 | 65 | 64 |

| Octet 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| Bit Offset | 63 | 62 | 61 | 60 | 59 | 58 | 57 | 56 |

| Octet 3 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| Bit Offset | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 |

| Octet 4 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Bit Offset | 47 | 46 | 45 | 44 | 43 | 42 | 41 | 40 |

| Octet 5 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Bit Offset | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 |

| Octet 6 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Bit Offset | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 |

| Octet 7 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Bit Offset | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 |

| Octet 8 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Bit Offset | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 |

| Octet 9 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subindex | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Bit Offset | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

## Parameters Set Using IO-Link

These parameters can be read from and/or written to an R95C-L-4MDR-KQ device. Also included is information about whether the variable in question is saved during Data Storage and whether the variable came from the IO-Link Smart Sensor Profile. Unlike Process Data In, which is transmitted from the IO-Link device to the IO-Link master cyclically, these parameters are read or written acyclically as needed.

| Index | Subindex | Name | Length | Value Range | Default | Access Rights | Data Storage? |
|---|---|---|---|---|---|---|---|
| 0 | 1-16 | Direct Parameter Page 1 (incl. Vendor ID & Device ID) | | | | ro | |
| 2 | | System Command | | 126 = Locator Start<br>127 = Locator Stop<br>129 = Application Reset<br>131 = Back to Box<br>164 = Reset All Metrics | | wo | |
| 3-15 | | *Reserved by IO-Link Specification* | | | | | |

Continued on page 11

Continued from page 10

| Index | Subindex | Name | Length | Value Range | Default | Access Rights | Data Storage? |
|---|---|---|---|---|---|---|---|
| 16 | | Vendor Name string | | Banner Engineering Corporation | | ro | |
| 17 | | Vendor Text string | | More Sensors. More Solutions. | | ro | |
| 18 | | Product Name string | | R95C-4MDR-KQ | | ro | |
| 19 | | Product ID string | | R95C-4MDR-KQ | | ro | |
| 20 | | Product Text string | | R95C-4MDR-KQ | | ro | |
| 21 | | Serial Number | | | | ro | |
| 23 | | Firmware Version | | | | ro | |
| 24 | | App Specific Tag (user-defined) | | | | rw | y |
| 25 | | Function Tag | | | | | |
| 26 | | Location Tag | | | | | |
| 32 | | Error Count | 16-bit integer | | | ro | |
| 36 | | Device Status | 8-bit integer | 0 = Device is OK<br>1 = Maintenance required<br>2 = Out of specification<br>3 = Functional check<br>4 = Failure<br>5..255 Reserved | | ro | |
| 37 | | Detailed Device Status | Array[6] of 3-octet | List of all currently pending events in the device. | | ro | |
| 38-39 | | Reserved | | | | | |
| 40 | | Process Data Input | | *See Process Data In* | | ro | |
| 41 | | Process Data Output | | *See Process Data Out* | | ro | |
| **69** | | **All-Time Run Time** | | | | | |
| 69 | 1 | Run counter | 32-bit Uinteger | 0..2147483647 | | ro | y |
| **70** | | **Resettable Run Time** | | | | | |
| 70 | 1 | Run counter | 32-bit Uinteger | 0..2147483647 | 0 | rw | |
| **71** | | **IO Metrics Port 1** | | | | | |
| 71 | 1 | Port1 Discrete 1 Count | 32-bit Integer | | | ro | |
| 71 | 2 | Port1 Discrete 1 Duration | 32-bit Integer | | | ro | |
| 71 | 3 | Port1 Discrete 1 Events per Minute | 32-bit Integer | | | ro | |
| 71 | 4 | Port1 Discrete 1 Totalizer Counter | 32-bit Integer | | | ro | |
| 71 | 5 | Port1 Discrete 2 Count | 32-bit Integer | | | ro | |
| 71 | 6 | Port1 Discrete 2 Duration | 32-bit Integer | | | ro | |
| 71 | 7 | Port1 Discrete 2 Events per Minute | 32-bit Integer | | | ro | |
| 71 | 8 | Port1 Discrete 2 Totalizer Counter | 32-bit Integer | | | ro | |
| **72** | | **IO Metrics Port 2** | | | | | |
| 72 | 1 | Port2 Discrete 1 Count | 32-bit Integer | | | ro | |
| 72 | 2 | Port2 Discrete 1 Duration | 32-bit Integer | | | ro | |
| 72 | 3 | Port2 Discrete 1 Events per Minute | 32-bit Integer | | | ro | |
| 72 | 4 | Port2 Discrete 1 Totalizer Counter | 32-bit Integer | | | ro | |
| 72 | 5 | Port2 Discrete 2 Count | 32-bit Integer | | | ro | |

Continued on page 12

Continued from page 11

| Index | Subindex | Name | Length | Value Range | Default | Access Rights | Data Storage? |
|---|---|---|---|---|---|---|---|
| 72 | 6 | Port2 Discrete 2 Duration | 32-bit Integer | | | ro | |
| 72 | 7 | Port2 Discrete 2 Events per Minute | 32-bit Integer | | | ro | |
| 72 | 8 | Port1 Discrete 2 Totalizer Counter | 32-bit Integer | | | ro | |
| **73** | | **IO Metrics Port 3** | | | | | |
| 73 | 1 | Port3 Discrete 1 Count | 32-bit Integer | | | ro | |
| 73 | 2 | Port3 Discrete 1 Duration | 32-bit Integer | | | ro | |
| 73 | 3 | Port3 Discrete 1 Events per Minute | 32-bit Integer | | | ro | |
| 73 | 4 | Port3 Discrete 1 Totalizer Counter | 32-bit Integer | | | ro | |
| 73 | 5 | Port3 Discrete 2 Count | 32-bit Integer | | | ro | |
| 73 | 6 | Port3 Discrete 2 Duration | 32-bit Integer | | | ro | |
| 73 | 7 | Port3 Discrete 2 Events per Minute | 32-bit Integer | | | ro | |
| 73 | 8 | Port3 Discrete 2 Totalizer Counter | 32-bit Integer | | | ro | |
| **74** | | **IO Metrics Port 4** | | | | | |
| 74 | 1 | Port4 Discrete 1 Count | 32-bit Integer | | | ro | |
| 74 | 2 | Port4 Discrete 1 Duration | 32-bit Integer | | | ro | |
| 74 | 3 | Port4 Discrete 1 Events per Minute | 32-bit Integer | | | ro | |
| 74 | 4 | Port4 Discrete 1 Totalizer Counter | 32-bit Integer | | | ro | |
| 74 | 5 | Port4 Discrete 2 Count | 32-bit Integer | | | ro | |
| 74 | 6 | Port4 Discrete 2 Duration | 32-bit Integer | | | ro | |
| 74 | 7 | Port4 Discrete 2 Events per Minute | 32-bit Integer | | | ro | |
| 74 | 8 | Port4 Discrete 2 Totalizer Counter | 32-bit Integer | | | ro | |
| 80 | | Input Configuration | 8-bit integer | 0 = BannerBus, 1 = Discrete Input | 0 | rw | |
| **81** | | **Motor Run Time Configuration** | | | | | |
| 81 | 1 | Motor Current ON Setting | 16-bit Uinteger | | 50 | rw | |
| 81 | 2 | Resettable Motor 1 Run Time | 32-bit Uinteger | 0..2147483647 | 0 | rw | |
| 81 | 3 | Resettable Motor 2 Run Time | 32-bit Uinteger | 0..2147483647 | 0 | rw | |
| 81 | 4 | Resettable Motor 3 Run Time | 32-bit Uinteger | 0..2147483647 | 0 | rw | |
| 81 | 5 | Resettable Motor 4 Run Time | 32-bit Uinteger | 0..2147483647 | 0 | rw | |
| **83** | | **Selectable Metric Reset** | | | | | |
| 83 | 1 | Port1 Discrete1 | Boolean | false = Do Not Reset, true = Reset | FALSE | rw | |
| 83 | 2 | Port1 Discrete2 | Boolean | false = Do Not Reset, true = Rese | FALSE | rw | |
| 83 | 3 | Port2 Discrete1 | Boolean | false = Do Not Reset, true = Reset | FALSE | rw | |
| 83 | 4 | Port2 Discrete2 | Boolean | false = Do Not Reset, true = Rese | FALSE | rw | |
| 83 | 5 | Port3 Discrete1 | Boolean | false = Do Not Reset, true = Reset | FALSE | rw | |
| 83 | 6 | Port3 Discrete2 | Boolean | false = Do Not Reset, true = Rese | FALSE | rw | |
| 83 | 7 | Port4 Discrete1 | Boolean | false = Do Not Reset, true = Reset | FALSE | rw | |
| 83 | 8 | Port4 Discrete2 | Boolean | false = Do Not Reset, true = Rese | FALSE | rw | |

Continued on page 13

Continued from page 12

| Index | Subindex | Name | Length | Value Range | Default | Access Rights | Data Storage? |
|---|---|---|---|---|---|---|---|
| 83 | 9 | Port1 Discrete1 Reset Count | 32-bit Integer | 0..2147483647 | 0 | rw | |
| 83 | 10 | Port1 Discrete2 Reset Count | 32-bit Integer | 0..2147483647 | 0 | rw | |
| 83 | 11 | Port2 Discrete1 Reset Count | 32-bit Integer | 0..2147483647 | 0 | rw | |
| 83 | 12 | Port2 Discrete2 Reset Count | 32-bit Integer | 0..2147483647 | 0 | rw | |
| 83 | 13 | Port3 Discrete1 Reset Count | 32-bit Integer | 0..2147483647 | 0 | rw | |
| 83 | 14 | Port3 Discrete2 Reset Count | 32-bit Integer | 0..2147483647 | 0 | rw | |
| 83 | 15 | Port4 Discrete1 Reset Count | 32-bit Integer | 0..2147483647 | 0 | rw | |
| 83 | 16 | Port4 Discrete2 Reset Count | 32-bit Integer | 0..2147483647 | 0 | rw | |
| **84** | | **Port1 Configuration** | | | | | |
| 84 | 1 | Discrete1 IO Selection | 8-bit integer | 0 = NPN Input<br>1 = PNP Input<br>2 = NPN Output with Pull Up<br>3 = PNP Output with Pull Down<br>4 = NPN Output Push Pull<br>5 = PNP Output Push Pull | 1 | rw | y |
| 84 | 2 | Discrete1 Delay Mode | 8-bit integer | 0 = Disabled<br>1 = On Off Delay<br>2 = On One-shot<br>3 = Off One-shot | 0 | rw | y |
| 84 | 3 | Discrete1 Delay Timer 1 | 32-bit Integer | | 0 | rw | y |
| 84 | 4 | Discrete1 Delay Timer 2 | 32-bit Integer | | 0 | rw | y |
| 84 | 5 | Discrete2 IO Selection | 8-bit integer | 0 = NPN Input<br>1 = PNP Input<br>2 = NPN Output with Pull Up<br>3 = PNP Output with Pull Down<br>4 = NPN Output Push Pull<br>5 = PNP Output Push Pull | 3 | rw | y |
| 84 | 6 | Discrete2 Delay Mode | 8-bit integer | 0 = Disabled<br>1 = On Off Delay<br>2 = On One-shot<br>3 = Off One-shot | 0 | rw | y |
| 84 | 7 | Discrete2 Delay Timer 1 | 32-bit Integer | | 0 | rw | y |
| 84 | 8 | Discrete2 Delay Timer 2 | 32-bit Integer | | 0 | rw | y |
| **85** | | **Port2 Configuration** | | | | | |
| 85 | 1 | Discrete1 IO Selection | 8-bit integer | 0 = NPN Input<br>1 = PNP Input<br>2 = NPN Output with Pull Up<br>3 = PNP Output with Pull Down<br>4 = NPN Output Push Pull<br>5 = PNP Output Push Pull | 1 | rw | y |
| 85 | 2 | Discrete1 Delay Mode | 8-bit integer | 0 = Disabled<br>1 = On Off Delay<br>2 = On One-shot<br>3 = Off One-shot | 0 | rw | y |
| 85 | 3 | Discrete1 Delay Timer 1 | 32-bit Integer | | 0 | rw | y |
| 85 | 4 | Discrete1 Delay Timer 2 | 32-bit Integer | | 0 | rw | y |

Continued on page 14

Continued from page 13

| Index | Subindex | Name | Length | Value Range | Default | Access Rights | Data Storage? |
|---|---|---|---|---|---|---|---|
| 85 | 5 | Discrete2 IO Selection | 8-bit integer | 0 = NPN Input<br>1 = PNP Input<br>2 = NPN Output with Pull Up<br>3 = PNP Output with Pull Down<br>4 = NPN Output Push Pull<br>5 = PNP Output Push Pull | 3 | rw | y |
| 85 | 6 | Discrete2 Delay Mode | 8-bit integer | 0 = Disabled<br>1 = On Off Delay<br>2 = On One-shot<br>3 = Off One-shot | 0 | rw | y |
| 85 | 7 | Discrete2 Delay Timer 1 | 32-bit Integer | | 0 | rw | y |
| 85 | 8 | Discrete2 Delay Timer 2 | 32-bit Integer | | 0 | rw | y |
| **86** | | **Port3 Configuration** | | | | | |
| 86 | 1 | Discrete1 IO Selection | 8-bit integer | 0 = NPN Input<br>1 = PNP Input<br>2 = NPN Output with Pull Up<br>3 = PNP Output with Pull Down<br>4 = NPN Output Push Pull<br>5 = PNP Output Push Pull | 1 | rw | y |
| 86 | 2 | Discrete1 Delay Mode | 8-bit integer | 0 = Disabled<br>1 = On Off Delay<br>2 = On One-shot<br>3 = Off One-shot | 0 | rw | y |
| 86 | 3 | Discrete1 Delay Timer 1 | 32-bit Integer | | 0 | rw | y |
| 86 | 4 | Discrete1 Delay Timer 2 | 32-bit Integer | | 0 | rw | y |
| 86 | 5 | Discrete2 IO Selection | 8-bit integer | 0 = NPN Input<br>1 = PNP Input<br>2 = NPN Output with Pull Up<br>3 = PNP Output with Pull Down<br>4 = NPN Output Push Pull<br>5 = PNP Output Push Pull | 3 | rw | y |
| 86 | 6 | Discrete2 Delay Mode | 8-bit integer | 0 = Disabled<br>1 = On Off Delay<br>2 = On One-shot<br>3 = Off One-shot | 0 | rw | y |
| 86 | 7 | Discrete2 Delay Timer 1 | 32-bit Integer | | 0 | rw | y |
| 86 | 8 | Discrete2 Delay Timer 2 | 32-bit Integer | | 0 | rw | y |
| **87** | | **Port4 Configuration** | | | | | |
| 87 | 1 | Discrete1 IO Selection | 8-bit integer | 0 = NPN Input<br>1 = PNP Input<br>2 = NPN Output with Pull Up<br>3 = PNP Output with Pull Down<br>4 = NPN Output Push Pull<br>5 = PNP Output Push Pull | 1 | rw | y |

Continued on page 15

Continued from page 14

| Index | Subindex | Name | Length | Value Range | Default | Access Rights | Data Storage? |
|---|---|---|---|---|---|---|---|
| 87 | 2 | Discrete1 Delay Mode | 8-bit integer | 0 = Disabled<br>1 = On Off Delay<br>2 = On One-shot<br>3 = Off One-shot | 0 | rw | y |
| 87 | 3 | Discrete1 Delay Timer 1 | 32-bit Integer | | 0 | rw | y |
| 87 | 4 | Discrete1 Delay Timer 2 | 32-bit Integer | | 0 | rw | y |
| 87 | 5 | Discrete2 IO Selection | 8-bit integer | 0 = NPN Input<br>1 = PNP Input<br>2 = NPN Output with Pull Up<br>3 = PNP Output with Pull Down<br>4 = NPN Output Push Pull<br>5 = PNP Output Push Pull | 3 | rw | y |
| 87 | 6 | Discrete2 Delay Mode | 8-bit integer | 0 = Disabled<br>1 = On Off Delay<br>2 = On One-shot<br>3 = Off One-shot | 0 | rw | y |
| 87 | 7 | Discrete2 Delay Timer 1 | 32-bit Integer | | 0 | rw | y |
| 87 | 8 | Discrete2 Delay Timer 2 | 32-bit Integer | | 0 | rw | y |
| **88** | | **Motor 1 Control Configuration** | | | | | |
| 88 | 1 | Motor Power Enable | 8-bit UInteger | 0 = Disabled, 1 = Enabled | 1 | rw | y |
| 88 | 2 | Maximum Analog Setting | 16-bit Integer | | 10200 | rw | y |
| 88 | 3 | Maximum Current Setting | 16-bit Integer | | 4000 | rw | y |
| 88 | 4 | Current In-Rush Delay Setting | 16-bit Integer | | 20 | rw | y |
| 88 | 5 | Ramp On Delay | 16-bit Integer | | 0 | rw | y |
| 88 | 6 | Ramp Off Delay | 16-bit Integer | | 0 | rw | y |
| **89** | | **Motor 2 Control Configuration** | | | | | |
| 89 | 1 | Motor Power Enable | 8-bit UInteger | 0 = Disabled, 1 = Enabled | 1 | rw | y |
| 89 | 2 | Maximum Analog Setting | 16-bit Integer | | 10200 | rw | y |
| 89 | 3 | Maximum Current Setting | 16-bit Integer | | 4000 | rw | y |
| 89 | 4 | Current In-Rush Delay Setting | 16-bit Integer | | 20 | rw | y |
| 89 | 5 | Ramp On Delay | 16-bit Integer | | 0 | rw | y |
| 89 | 6 | Ramp Off Delay | 16-bit Integer | | 0 | rw | y |
| **90** | | **Motor 3 Control Configuration** | | | | | |
| 90 | 1 | Motor Power Enable | 8-bit UInteger | 0 = Disabled, 1 = Enabled | 1 | rw | y |
| 90 | 2 | Maximum Analog Setting | 16-bit Integer | | 10200 | rw | y |
| 90 | 3 | Maximum Current Setting | 16-bit Integer | | 4000 | rw | y |
| 90 | 4 | Current In-Rush Delay Setting | 16-bit Integer | | 20 | rw | y |
| 90 | 5 | Ramp On Delay | 16-bit Integer | | 0 | rw | y |
| 90 | 6 | Ramp Off Delay | 16-bit Integer | | 0 | rw | y |
| **91** | | **Motor 4 Control Configuration** | | | | | |
| 91 | 1 | Motor Power Enable | 8-bit UInteger | 0 = Disabled, 1 = Enabled | 1 | rw | y |
| 91 | 2 | Maximum Analog Setting | 16-bit Integer | | 10200 | rw | y |
| 91 | 3 | Maximum Current Setting | 16-bit Integer | | 4000 | rw | y |
| 91 | 4 | Current In-Rush Delay Setting | 16-bit Integer | | 20 | rw | y |

Continued on page 16

Continued from page 15

| Index | Subindex | Name | Length | Value Range | Default | Access Rights | Data Storage? |
|---|---|---|---|---|---|---|---|
| 91 | 5 | Ramp On Delay | 16-bit Integer | | 0 | rw | y |
| 91 | 6 | Ramp Off Delay | 16-bit Integer | | 0 | rw | y |
| **92** | | **Block Configuration** | | | | | |
| 92 | 1 | Temperature High Setpoint | 16-bit Integer | | 20000 | rw | y |
| 92 | 2 | Temperature Scale | 8-bit UInteger | 0 = °F, 1 = °C | 0 | rw | y |
| 92 | 3 | Undervoltage Alarm Setpoint | 16-bit Integer | | 18000 | rw | y |
| 92 | 4 | Overvoltage Alarm Setpoint | 16-bit Integer | | 28000 | rw | y |
| 92 | 5 | Analog Fix Speed Setting | 16-bit Integer | | 0 | rw | y |
| **93** | | **Monitoring** | | | | | |
| 93 | 1 | Temperature Fahrenheit Reading | Float32 | | 0 | ro | |
| 93 | 2 | Temperature Celsius Reading | Float32 | | 0 | ro | |
| 93 | 3 | Block Voltage Reading | Float32 | | 0 | ro | |
| 93 | 4 | Motor 1 Current Reading | Float32 | | 0 | ro | |
| 93 | 5 | Motor 2 Current Reading | Float32 | | 0 | ro | |
| 93 | 6 | Motor 3 Current Reading | Float32 | | 0 | ro | |
| 93 | 7 | Motor 4 Current Reading | Float32 | | 0 | ro | |

## IO-Link Events

Events are acyclic transmissions from the IO-Link device to the IO-Link master. Events can be error messages and/or warning or maintenance data.

| Code | Type | Name | Description |
|---|---|---|---|
| 0 (0x0000) | Notification | No malfunction | |
| 20480 (0x5000) | Error | Device hardware fault | Exchange device |

Chapter Contents

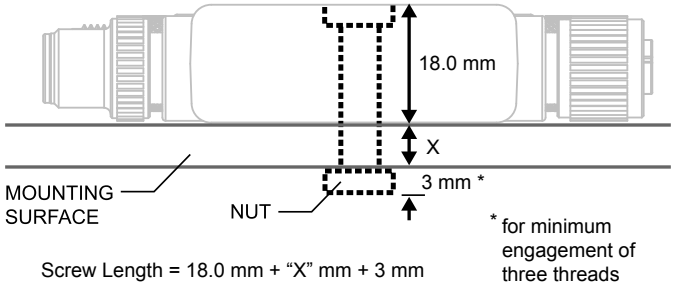


# Chapter 3 Mechanical Installation

Install the R95C to allow access for functional checks, maintenance, and service or replacement. Do not install the R95C in such a way to allow for intentional defeat.

Fasteners must be of sufficient strength to guard against breakage. The use of permanent fasteners or locking hardware is recommended to prevent the loosening or displacement of the device. The mounting hole (4.5 mm) in the R95C accepts M4 (#8) hardware.

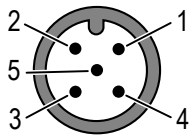
See the figure below to help in determining the minimum screw length.



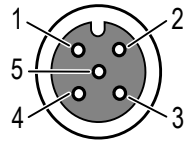

**CAUTION:** Do not overtighten the R95C's mounting screw during installation. Overtightening can affect the performance of the R95C.

## Wiring

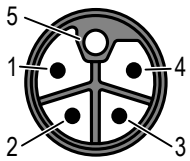
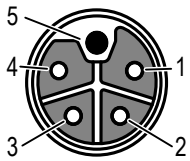
*A-Code Male and Female Pinouts*

| IO-Link - Male | Pin | Signal Description |
|---|---|---|
|  | 1 | 18 V DC to 30 V DC |
| | 2 | Not used |
| | 3 | GND |
| | 4 | IO-Link |
| | 5 | Not used |



| Motor Driven Roller (MDR) - Female | Pin | Signal Description |
|---|---|---|
|  | 1 | 12 V DC to 30 V DC (supplied from Aux L-Code M12 Power) |
| | 2 | Discrete Channel 2 |
| | 3 | GND |
| | 4 | Discrete Channel 1 |
| | 5 | Analog Out |

*L-Code Male and Female Pinouts (16A)*

| Male Pinout | Female Pinout | Pin | Wire Color | Signal Description |
|---|---|---|---|---|
|  |  | 1 | Brown | +24 V DC |
| | | 2 | White | GND |
| | | 3 | Blue | GND |
| | | 4 | Black | +24 V DC |
| | | 5 | Gray | FE |

Chapter Contents

# Chapter 4 Status Indicators

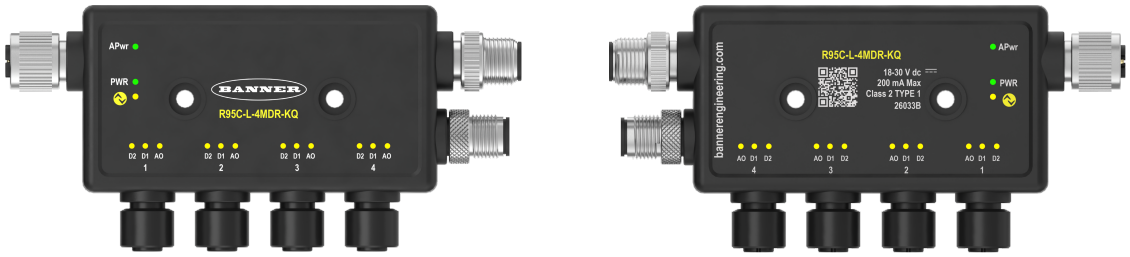
The R95C has matching LED indicators on both sides of the converter to allow for installation needs, while still providing adequate indication visibility.

There are two pairs of green LEDS:

- PWR: A-Code power indication
- APwr: L-Code power indication

Additionally, there are thirteen pairs of amber LEDs:

- : IO-Link communications
- AO: Analog Out
- D1: Discrete Channel 1 (Pin 4)
- D2: Discrete Channel 2 (Pin 2)




front back

*A-Code Power Indicator Green LEDs*

| Indication | Status |
|---|---|
| Off | Power off |
| Solid Green | Power on |

*L-Code Power Indicator Green LEDs*

| Indication | Status |
|---|---|
| Off | L-Code power is off or not attached |
| Solid Green | L-Code power is on or active |

*IO-Link Communications Amber LEDs*

| Indication | Status |
|---|---|
| Off | IO-Link communications are not present |
| Flashing Amber (900 ms ON, 100 ms OFF) | IO-Link communications are active |

*Analog Out Amber LEDs*

| Indication | Status |
|---|---|
| Off | Analog output value is outside the allowable output range (0 V DC to 18 V DC) |
| Solid Amber | Analog output value is inside the allowable output range (0 V DC to 18 V DC) |

*Discrete Channel 1 and Discrete Channel 2 Amber LEDs*

| Indication | Status |
|---|---|
| Off | Discrete is inactive |
| Solid Amber | Discrete is active |

Chapter Contents



# Chapter 5 Specifications

**Supply Voltage**
18 V DC to 30 V DC at 400 mA maximum

**Power Pass-Through Current**
16 A maximum

**Discrete Output Load Rating**
185 mA

**Analog Output Load Requirements**
Resistance > 1000 Ω

**Supply Protection Circuitry**
Protected against reverse polarity and transient voltages

**Leakage Current Immunity**
400 µA

**Indicators**
See Status Indicators

**Connections**
(4) Integral 5-pin M12 A-Code female quick-disconnect connectors
(1) Integral 5-pin M12 A-Code male quick-disconnect connector
(1) Integral 5-pin M12 L-Code female quick-disconnect connector
(1) Integral 5-pin M12 L-Code male quick-disconnect connector

**Construction**
Coupling Material: Nylon
Connector Body: PVC translucent black

**Vibration and Mechanical Shock**
Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 0.5 mm amplitude, 5 minutes sweep, 30 minutes dwell)
Meets IEC 60068-2-27 requirements (Shock: 15G 11 ms duration, half sine wave)

**Product Identification**

**Environmental Rating**
IP65, IP67, IP68

**Operating Conditions**
**Temperature:** –40 °C to +70 °C (–40 °F to +158 °F)
90% at +70 °C maximum relative humidity (non-condensing)
**Storage Temperature:** –40 °C to +80 °C (–40 °F to +176 °F)

**Required Overcurrent Protection**

**WARNING:** Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

For additional product support, go to www.bannerengineering.com.

| Supply Wiring (AWG) | Required Overcurrent Protection (A) | Supply Wiring (AWG) | Required Overcurrent Protection (A) |
|---|---|---|---|
| 20 | 5.0 | 26 | 1.0 |
| 22 | 3.0 | 28 | 0.8 |
| 24 | 2.0 | 30 | 0.5 |

# FCC Part 15 Class B for Unintentional Radiators

(Part 15.105(b)) This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

(Part 15.21) Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

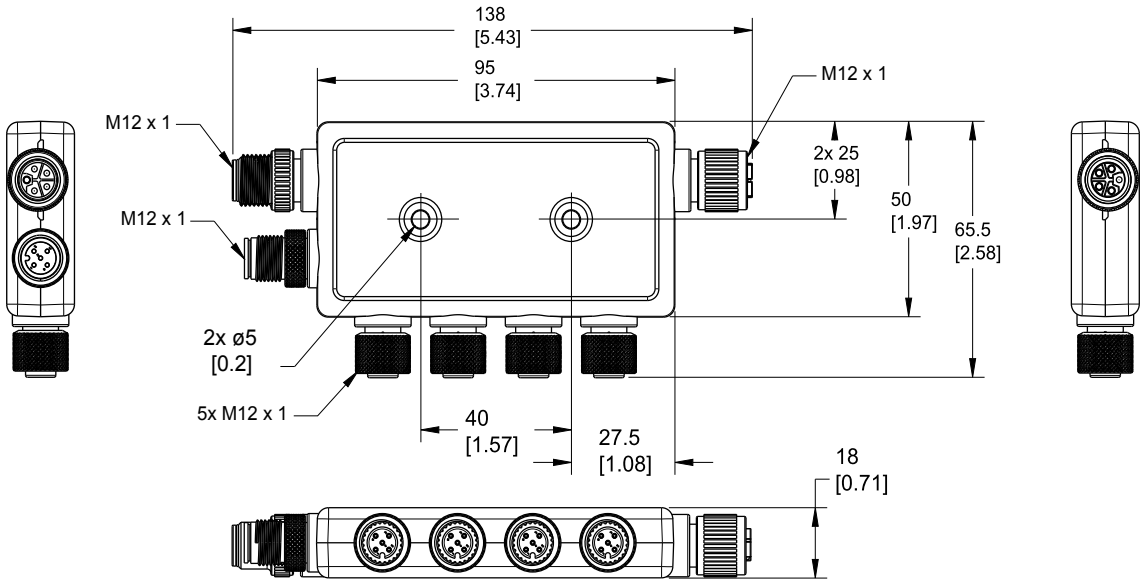
# Industry Canada ICES-003(B)

This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la norme NMB-3(B). Le fonctionnement est soumis aux deux conditions suivantes : (1) ce dispositif ne peut pas occasionner d'interférences, et (2) il doit tolérer toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité du dispositif.

# Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.

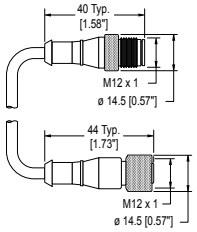
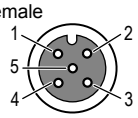
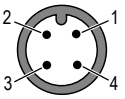


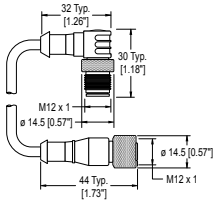
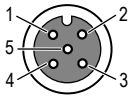
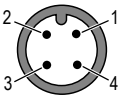
Chapter Contents

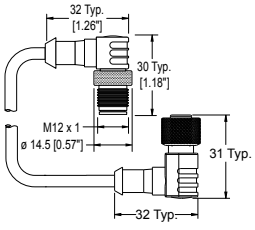
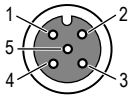


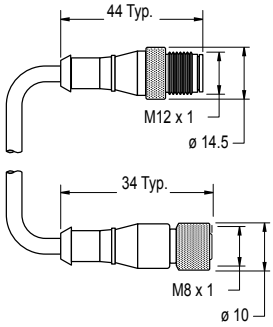
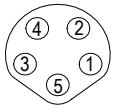
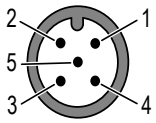
# Chapter 6 Accessories

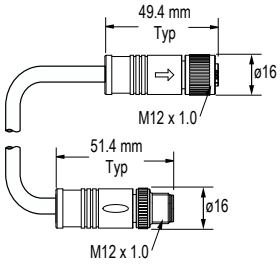
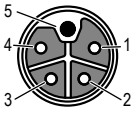
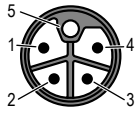
## Cordsets

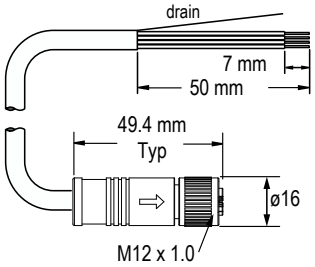
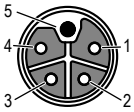
| 4-pin A-Code Double-Ended M12 Female to M12 Male Cordsets (datasheet p/n 236186) | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Dimensions (mm)** | **Pinouts** | |
| **BC-M12F4-M12M4-22-1** | 1 m (3.28 ft) |  | Female<br>  <br>Male<br>  | 1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Unused<br>c UL us LISTED |
| **BC-M12F4-M12M4-22-2** | 2 m (6.56 ft) | | | |
| **BC-M12F4-M12M4-22-3** | 3 m (9.84 ft) | | | |
| **BC-M12F4-M12M4-22-4** | 4 m (13.12 ft) | | | |
| **BC-M12F4-M12M4-22-5** | 5 m (16.4 ft) | | | |
| **BC-M12F4-M12M4-22-10** | 10 m (30.81 ft) | | | |
| **BC-M12F4-M12M4-22-15** | 15 m (49.2 ft) | | | |

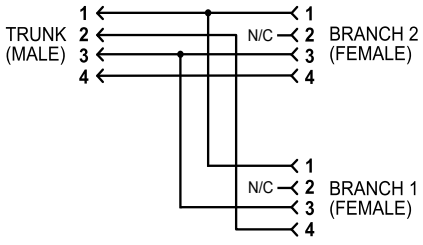
| 4-pin A-Code Double-Ended M12 Female to M12 Male Right-Angle Cordsets (datasheet p/n 236186) | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Dimensions (mm)** | **Pinouts** | |
| **BC-M12F4-M12M4A-22-1** | 1 m (3.28 ft) |  | Female<br>  <br>Male<br>  | 1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Unused<br>c UL us LISTED |
| **BC-M12F4-M12M4A-22-2** | 2 m (6.56 ft) | | | |
| **BC-M12F4-M12M4A-22-5** | 5 m (16.4 ft) | | | |
| **BC-M12F4-M12M4A-22-8** | 8 m (26.25 ft) | | | |
| **BC-M12F4-M12M4A-22-10** | 10 m (30.81 ft) | | | |
| **BC-M12F4-M12M4A-22-15** | 15 m (49.2 ft) | | | |

| 4-pin A-Code Double-Ended M12 Female Right-Angle to M12 Male Right-Angle Cordsets (datasheet p/n 236186) | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Dimensions (mm)** | **Pinouts** | |
| **BC-M12F4A-M12M4A-22-0.3** | 0.3 m (1 ft) |  | Female<br>  <br>Male<br>  | 1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Unused<br>c UL us LISTED |
| **BC-M12F4A-M12M4A-22-1** | 1 m (3.28 ft) | | | |
| **BC-M12F4A-M12M4A-22-2** | 2 m (6.56 ft) | | | |
| **BC-M12F4A-M12M4A-22-5** | 5 m (16.4 ft) | | | |
| **BC-M12F4A-M12M4A-22-8** | 8 m (26.25 ft) | | | |
| **BC-M12F4A-M12M4A-22-10** | 10 m (30.81 ft) | | | |
| **BC-M12F4A-M12M4A-22-15** | 15 m (49.2 ft) | | | |

| 5-pin Double-Ended M8 B-Code Female to M12 A-Code Male Cordset (datasheet p/n 242461) | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Dimensions (mm)** | **Pinout (M8 Female B-Code)** | **Pinout (M12 Male A-Code)** |
| **BC-M8F5B-M12M5-24-0.5** | 0.5 m (1.64 ft) |  |  1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Gray |  1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Gray |
| **BC-M8F5B-M12M5-24-1** | 1 m (3.28 ft) | | | |
| **BC-M8F5B-M12M5-24-2** | 2 m (6.56 ft) | | | |

| 5-pin L-Code Double-Ended M12 Female to M12 Male Cordsets | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Dimensions (mm)** | **Pinout (Female)** | **Pinout (Male)** |
| **BCP-M12LF5-M12LM5-14-1** | 1 m (3.28 ft) |  |  1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Yellow/Green<br>Shell = Braid |  1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Yellow/Green<br>Shell = Braid |
| **BCP-M12LF5-M12LM5-14-2** | 2 m (6.56 ft) | | | |
| **BCP-M12LF5-M12LM5-14-5** | 5 m (16.4 ft) | | | |
| **BCP-M12LF5-M12LM5-14-10** | 10 m (32.8 ft) | | | |
| **BCP-M12LF5-M12LM5-14-15** | 15 m (49.2 ft) | | | |
| **BCP-M12LF5-M12LM5-14-20** | 20 m (65.6 ft) | | | |

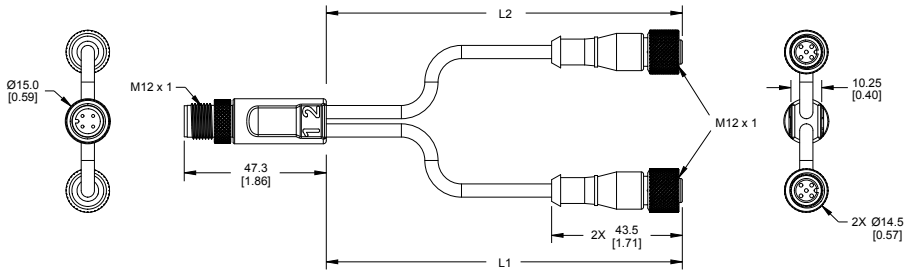
| 5-pin L-Code Single-Ended M12 Female Cordsets | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Dimensions (mm)** | **Pinout (Female)** | |
| **BCP-M12LF5-14-1** | 1 m (3.28 ft) |  |  | 1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Yellow/Green<br>Shell = Braid |
| **BCP-M12LF5-14-2** | 2 m (6.56 ft) | | | |
| **BCP-M12LF5-14-5** | 5 m (16.4 ft) | | | |
| **BCP-M12LF5-14-10** | 10 m (32.8 ft) | | | |
| **BCP-M12LF5-14-15** | 15 m (49.2 ft) | | | |
| **BCP-M12LF5-14-20** | 20 m (65.6 ft) | | | |

| 4-Pin M12 Male to 5-Pin M12 Female Splitter Cordset | | |
|---|---|---|
| **Model** | **Branches (Female)** | **Wiring** |
| **S15YA4-M124-M124-0.2M** | **L1, L2**<br>2 × 0.2 m (7.9 in) |  |

Continued on page 25

Continued from page 24

| 4-Pin M12 Male to 5-Pin M12 Female Splitter Cordset | | |
|---|---|---|
| **Model** | **Branches (Female)** | **Wiring** |
| | | |

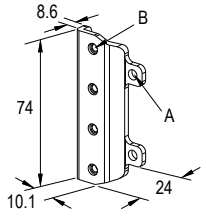



# Brackets

**SMBR90S**

- Stainless steel bracket
- 4x M4-07 pemnuts (B)
- Includes 2x M4 stainless steel hex head screws and flat washers
- CAD Files: DXF, PDF, IGS, STP

**Hole center spacing:** A = 40, B = 20
**Hole size:** A = ø 5




# Splitters

| Model | Housing | Power Connections | Power Drops | Wiring |
|---|---|---|---|---|
| **R50-M12LM5-M12LF5-2M12F5-P13** | 4-Port Molded Junction Box | 1 x L-code male M12<br>1 x L-code female M12 | 2 x A-code female M12 | V+, V- power distribution |

| Model | Female Ports | Male Input Port | Wiring |
|---|---|---|---|
| **R50-2M125L-M125-P** | Two 5-pin L-code M12 female quick-disconnect connectors, oriented in-line | One 5-pin M12 L-Code male quick-disconnect connector | Parallel |
| **R50T-2M125L-M125-P** | Two 5-pin L-code M12 female quick-disconnect connectors, oriented in a tee | | |

Chapter Contents



# Chapter 7 Product Support and Maintenance

## Clean with Mild Detergent and Warm Water

Wipe down the device with a soft cloth dampened with a mild detergent and warm water solution. Do not use any other chemicals for cleaning.

## Repairs

Contact Banner Engineering for troubleshooting of this device. **Do not attempt any repairs to this Banner device; it contains no field-replaceable parts or components.** If the device, device part, or device component is determined to be defective by a Banner Applications Engineer, they will advise you of Banner's RMA (Return Merchandise Authorization) procedure.

> **IMPORTANT:** If instructed to return the device, pack it with care. Damage that occurs in return shipping is not covered by warranty.

## Contact Us

Banner Engineering Corp. | 9714 Tenth Avenue North | Plymouth, MN 55441, USA | Phone: + 1 888 373 6767

For worldwide locations and local representatives, visit www.bannerengineering.com.

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