# R95C-L-4MDR-MQ Motor Driven Roller Controller Product Manual

Original Instructions
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# Chapter 1 Features



- Efficiently control four motor driven rollers from a PLC using Modbus communication
- Simplify installation of multiple R95Cs on a conveyor using M12 connectors and motor power connections in series
- Compact bimodal to Modbus® 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 register settings on a Modbus RTU server
- 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

## Model

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


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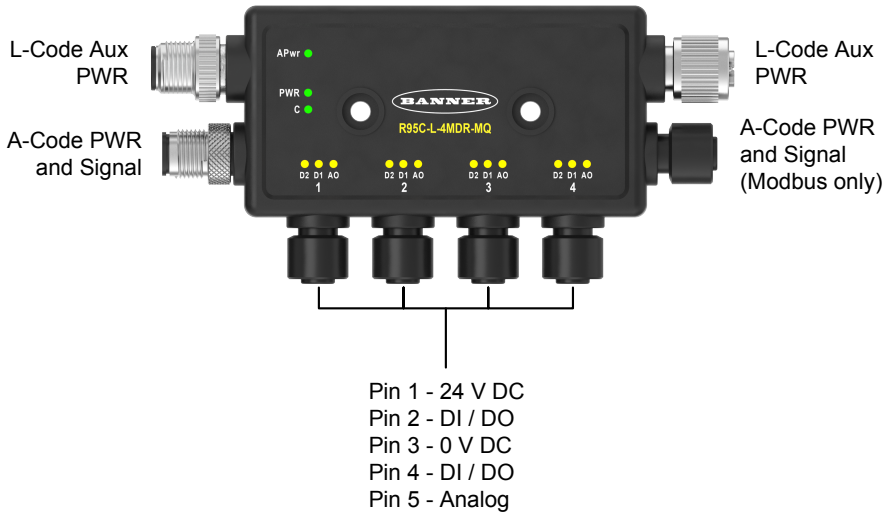
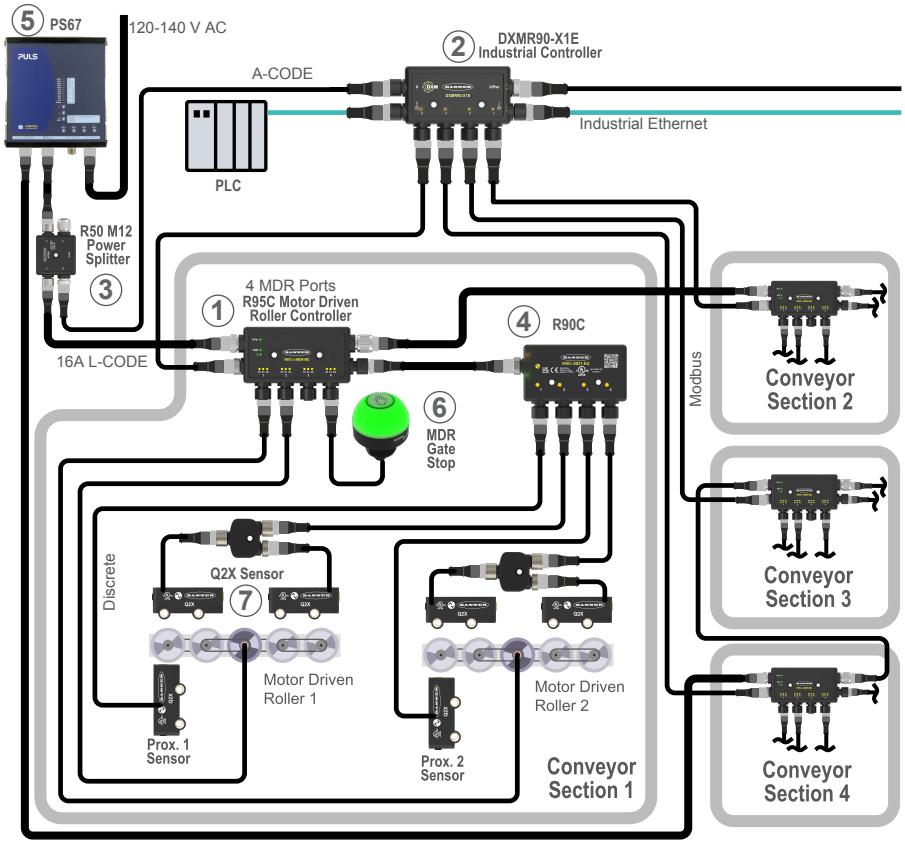



# Example Setup

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





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**DXMR90-X1E Industrial Controller** (2)

- 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** (3)
R50 M12 Power Splitter

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



**Optional: R90C-4K-MQ or R95C-8B21-MQ** (4)
Modbus Discrete I/O Hub



**4-Pin M12 Double-Ended**
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**
Straight connector models for connection between R95C 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**
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**
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**
Straight connector models for high amp power connections between R95C 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 R95C 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)


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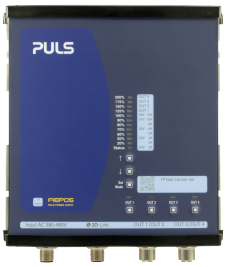


| Features | PS67K-1S-24L-150:<br>1-Phase IP67 Power Supply (5) | PS67K-3S-24L-250:<br>3-Phase IP67 Power Supply (5) |
|---|---|---|
| **Input Voltage** | 100 V AC to 240 V AC | 380 V AC to 480 V AC |
| **Output Voltage** | 24 V DC | 24 V DC |
| **Output Current** | 15 A | 25 A |
| **Input Connector** | 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 20.

# Motor-Driven Rollers with Supported I/O Interfaces

Based on published electrical and interface specifications, the R95C can provide the control signals required by the motor-driven roller families listed below. This indicates I/O interface compatibility only and does not constitute validation of roller or conveyor performance in a specific application.

- 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

Application Validation Required: Motor current and operating characteristics may vary by roller model, configuration, mechanical load, acceleration and deceleration settings, duty cycle, installation, and other application conditions, and may differ from the roller manufacturer’s published specifications. The system designer or end user must test the selected motor-driven roller with the R95C under all expected operating conditions and verify that actual electrical requirements remain within the R95C specifications. Banner does not warrant or guarantee the performance, suitability, or application compatibility of third-party motor-driven rollers.


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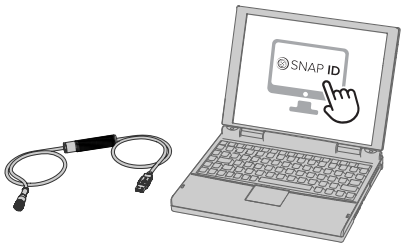
# Chapter 2 Configuration Instructions

## SNAP SIGNAL® Configuration Software




Banner's SNAP SIGNAL® Configuration Software offers an easy way to configure and demonstrate Banner Modbus devices.

Users have full control of device configuration, the ability to visualize device data, and to demonstrate device features. The easy-to-use software provides a variety of tools and works with Banner Modbus devices.

Download the free SNAP SIGNAL Configuration Software at https://www.bannerengineering.com/sg/en/products/software/snap-signal-configuration-software.html .

For instructions on how to use the software to configure Modbus devices, use the SNAP SIGNAL Configuration Software Instruction Manual available from the software by going to **Help › Documentation**. The SNAP SIGNAL Configuration Software Instruction Manual can also be downloaded directly from www.bannerengineering.com.

## Modbus Configuration

*Device Port States*

| Modbus Register Address | Description | I/O range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 40001 | Active States | 0..255 | Port 4..Port 1 → Pin 4 and Pin 2 Active States | - | RO | $0_b$\|P4.4\|P4.2\|P3.4\|P3.2\| P2.4\|P2.2\|P1.4\|P1.2\| |
| 40002 | Pin 4 / Black Output - Port 1 | 0..1 | Black wire discrete output - Port 1 | 0 | RW | 0 = Inactive, 1 = Active |
| 40003 | Pin 2 / White Output - Port 1 | 0..1 | White wire discrete output - Port 1 | 0 | RW | 0 = Inactive, 1 = Active |
| 40004 | Pin 4 / Black Output - Port 2 | 0..1 | Black wire discrete output - Port 2 | 0 | RW | 0 = Inactive, 1 = Active |
| 40005 | Pin 2 / White Output - Port 2 | 0..1 | White wire discrete output - Port 2 | 0 | RW | 0 = Inactive, 1 = Active |
| 40006 | Pin 4 / Black Output - Port 3 | 0..1 | Black wire discrete output - Port 3 | 0 | RW | 0 = Inactive, 1 = Active |
| 40007 | Pin 2 / White Output - Port 3 | 0..1 | White wire discrete output - Port 3 | 0 | RW | 0 = Inactive, 1 = Active |
| 40008 | Pin 4 / Black Output - Port 4 | 0..1 | Black wire discrete output - Port 4 | 0 | RW | 0 = Inactive, 1 = Active |
| 40009 | Pin 2 / White Output - Port 4 | 0..1 | White wire discrete output - Port 4 | 0 | RW | 0 = Inactive, 1 = Active |

*Analog Out Value*

| Modbus Register Address | Description | I/O range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 40010 | Pin 5 / Gray Output - Port 1 | 0..18200 | Voltage = mV | 0 | RW | Max. Voltage = Maximum Analog Setting |

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| Modbus Register Address | Description | I/O range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 40011 | Pin 5 / Gray Output - Port 2 | 0..18200 | Voltage = mV | 0 | RW | Max. Voltage = Maximum Analog Setting |
| 40012 | Pin 5 / Gray Output - Port 3 | 0..18200 | Voltage = mV | 0 | RW | Max. Voltage = Maximum Analog Setting |
| 40013 | Pin 5 / Gray Output - Port 4 | 0..18200 | Voltage = mV | 0 | RW | Max. Voltage = Maximum Analog Setting |

*Status / Monitoring*

| Modbus Register Address | Description | I/O range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 40014 | Aux Power and Port specific alarms | 0..65535 | Bit Mapped 16 bits:<br>0 = Aux Power<br>1 = Temp Alarm<br>2 = Undervoltage Alarm<br>3 = Overvoltage Alarm<br>4 = MDR1 overcurrent alarm<br>5 = MDR1 short circuit alarm<br>6 = MDR2 overcurrent alarm<br>7 = MDR2 short circuit alarm<br>8 = MDR3 overcurrent alarm<br>9 = MDR3 short circuit alarm<br>10 = MDR4 overcurrent alarm<br>11 = MDR4 short circuit alarm<br>12..15 = 0 | - | RO | $0_b$[0\|0\|0\|0\|MDR4SC\|MDR4OC\|MDR3SC\|MDR3OC\|MDR2SC\|MDR2OC\|MDR1SC\|MDR1OC\|OVolt\|UVolt\|Temp\|Aux] |
| 40015 | Thermostat Reading °F | 0..65535 | Divide by 100 | - | RO | Temperature in Fahrenheit |
| 40016 | Thermostat Reading °C | 0..65535 | Divide by 100 | - | RO | Temperature in Celsius |
| 40017 | Voltage Reading | 0, 10000..30000 | 0 = no reading<br>Divide by 1000, as the value is in millivolts | - | RO | |
| 40018 | Current 1 Reading | 0..20000 | Divide by 1000 | - | RO | |
| 40019 | Current 2 Reading | 0..20000 | Divide by 1000 | - | RO | |
| 40020 | Current 3 Reading | 0..20000 | Divide by 1000 | - | RO | |
| 40021 | Current 4 Reading | 0..20000 | Divide by 1000 | - | RO | |

*Block Configuration*

| Modbus Register Address | Description | I/O range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 40101 | Temperature High Setpoint | 0..65535 | Divide by 100 | 20000 | RW | Temperature alarm setpoint |
| 40102 | Temperature Scale | 0..1 | 0 = F<br>1 = C | 0 | RW | Temperature unit select<br>Looks at 40015 or 40016, depending on the setting |
| 40103 | Undervoltage Alarm Setpoint | 0..30000 | Divide by 1000, as the value is in millivolts | 18000 | RW | Undervoltage alarm setpoint |

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| Modbus Register Address | Description | I/O range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 40104 | Overvoltage Alarm Setpoint | 0..30000 | Divide by 1000, as the value is in millivolts | 28000 | RW | Overvoltage alarm setpoint |

*Motor Current Fault*

| Modbus Register Address | Description | I/O range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 40105 | Motor Current Fault Reset 1 | 0..1 | 0 = No action, 1 = Reset | 0 | RW | When set to 1, it resets and toggles back to 0 |
| 40106 | Motor Current Fault Reset 2 | 0..1 | 0 = No action, 1 = Reset | 0 | RW | When set to 1, it resets and toggles back to 0 |
| 40107 | Motor Current Fault Reset 3 | 0..1 | 0 = No action, 1 = Reset | 0 | RW | When set to 1, it resets and toggles back to 0 |
| 40108 | Motor Current Fault Reset 4 | 0..1 | 0 = No action, 1 = Reset | 0 | RW | When set to 1, it resets and toggles back to 0 |

*Modbus Configuration*

| Modbus Register Address | Description | I/O range | Comments | Default | Access |
|---|---|---|---|---|---|
| 40601 | Baud Rate | 0 = 9.6k<br>1 = 19.2k<br>2 = 38.4k | 0 = 9.600<br>1 = 19200<br>2 = 38400 | 1 | RW |
| 40602 | Parity | 0 = None<br>1 = Odd<br>2 = Even | 0 = None<br>1 = Odd<br>2 = Even | 0 | RW |
| 40603 | Address | 1-254 | - | 1 | RW |
| 40604 | Reserved (cannot be read or written) | None | - | - | - |
| 40605 | Restore Factory Configuration | 0 = No Operation, 1 = Restore | - | - | WO |

*Device Information*

| Modbus Register Address | Description | I/O range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 40606-40615 | Banner Name | 0..65535 | - | Banner Engineering | RO | (9 words/18 Characters) |
| 40616-40631 | Product Name | 0..65535 | - | R95C-L-4MDR-MQ | RO | (16 words/32 Characters) |
| 40632 | Item H | 0..65535 | 817147 split into two 16-bit registers | 12 | RO | Banner Item Number |
| 40633 | Item L | 0..65535 | - | 30715 | RO | - |
| 40634 | Serial Number H | 0..65535 | - | - | RO | Serial Number is split into (4) 16-bit registers |
| 40635 | Serial Number | 0..65535 | - | - | RO | |
| 40636 | Serial Number | 0..65535 | - | - | RO | - |
| 40637 | Serial Number L | 0..65535 | - | - | RO | - |
| 40644-40659 | User Define Tag | 0..65535 | User Writable Space | More Sensors. More Solutions. | RW | (16 words/32 Characters) |

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| Modbus Register Address | Description | I/O range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 40680 | Discovery | 0..1 | 0 = Disabled, 1 = Enabled | - | RW | Flash all LEDs to find controller |
| 40681 | All-Time Run Time H | 0..65535 | - | - | RO | Upper 16 of 32 bits |
| 40682 | All-Time Run Time L | 0..65535 | - | - | RO | Lower 16 of 32 bits |
| 40683 | Resettable Run Time H | 0..65535 | - | - | RW | Upper 16 of 32 bits |
| 40684 | Resettable Run Time L | 0..65535 | - | - | RW | Lower 16 of 32 bits |

# Multi-Port Support

*Register Ranges for Each of the 8 Ports*

| Modbus Register Range | Description |
|---|---|
| 41001-41037 | Port 1 |
| 42001-42037 | Port 2 |
| 43001-43037 | Port 3 |
| 44001-41037 | Port 4 |

*Pin 4 Port Configuration (Black - Female, Discrete 1)*

| Modbus Register Address | Description | I/O Range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 41001 | Pin 4 IO Selection | 0..5 | 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 | PNP input |
| 41002 | Pin 4 Mode | 0..3 | 0 = Disabled<br>1 = On off Delay<br>2 = On One-shot<br>3 = Off One-shot | 0 | RW | - |
| 41003 | Pin 4 Delay Timer 1 Upper | 0..65535 | Pin 4 On Delay, One-shot | 0 | RW | Upper 16 of 32 Bits:<br>Mode 1, 2, 3, 4, 5, 7, 8 = Milliseconds<br>Mode 6 = Count |
| 41004 | Pin 4 Delay Timer 1 Lower | 0..65535 | Pin 4 On Delay, One-shot | 0 | RW | Lower 16 of 32 Bits:<br>Mode 1, 2, 3, 4, 5, 7, 8 = Milliseconds<br>Mode 6 = Count |
| 41005 | Pin 4 Delay Timer 2 Upper | 0..65535 | Pin 4 Off Delay | 0 | RW | Upper 16 of 32 Bits = Milliseconds |
| 41006 | Pin 4 Delay Timer 2 Lower | 0..65535 | Pin 4 Off Delay | 0 | RW | Lower 16 of 32 Bits = Milliseconds |


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*Pin 2 Port Configuration (White - Female, Discrete 2)*

| Modbus Register Address | Description | I/O Range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 41007 | Pin 2 IO Selection | 0..5 | 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 | PNP output |
| 41008 | Pin 2 Mode | 0..6 | 0 = Disabled<br>1 = On off Delay<br>2 = On One-shot<br>3 = Off One-shot | 0 | RW | - |
| 41009 | Pin 2 Delay Timer 1 Upper | 0..65535 | Pin 2 On Delay, One-shot | 0 | RW | Upper 16 of 32 Bits:<br>Mode 1, 2, 3, 4, 5, 7, 8 = Milliseconds<br>Mode 6 = Count |
| 41010 | Pin 2 Delay Timer 1 Lower | 0..65535 | Pin 2 On Delay, One-shot | 0 | RW | Lower 16 of 32 Bits:<br>Mode 1, 2, 3, 4, 5, 7, 8 = Milliseconds<br>Mode 6 = Count |
| 41011 | Pin 2 Delay Timer 2 Upper | 0..65535 | Pin 2 Off Delay | 0 | RW | Upper 16 of 32 Bits = Milliseconds |
| 41012 | Pin 2 Delay Timer 2 Lower | 0..65535 | Pin 2 Off Delay | 0 | RW | Lower 16 of 32 Bits = Milliseconds |

*Pin 5 Port Configuration (Gray - Female, Analog / Voltage)*

| Modbus Register Address | Description | I/O Range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 41013 | Analog Channel Enable | 0..1 | 0 = Off, 1 = On | 1 | RW | Enable or disable analog output on Pin 5 |
| 41014 | Maximum Analog Setting | 0..18200 | Millivolts | 10200 | RW | Maximum analog output voltage allowed |
| 41015 | Maximum Current Setting | 0..4000 | Milliamps | 4000 | RW | Maximum continuous current setting before shutdown or motor switch is disabled |
| 41016 | Current In-Rush Delay Setting | 0..1000 | Milliseconds | 20 | RW | Time delay after detection of Maximum Current Setting to account for in-rush current |
| 41017 | Ramp On Delay | 0..65535 | Milliseconds | 0 | RW | Ramp the analog voltage output up to the setting over a programmable period of time for motor start up |
| 41018 | Ramp Off Delay | 0..65535 | Milliseconds | 0 | RW | Ramp the analog voltage output off over a programmable period of time for motor power down |


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*Measurement Reads*

| Modbus Register Address | Description | I/O Range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 41019 | Motor Current ON Setting | 0..4000 | Milliamps | 50 | RW | On current for activating the motor run timer |
| 41020 | Resettable Motor Run Time H | 0..65535 | Upper 16 of 32 bits | | RW | Tracks the time that the motor driven roller is running based on the monitored current greater than or equal to the motor current on the setting |
| 41021 | Resettable Motor Run Time L | 0..65535 | Lower 16 of 32 bits | | RW | 15 minute increments |
| 41022 | Pin 4 Count H | 0..65535 | Pin 4 Count Value Upper | - | RO | Upper 16 of 32 bits = Running count of the received input pulses |
| 41023 | Pin 4 Count L | 0..65535 | Pin 4 Count Value Lower | - | RO | Lower 16 of 32 bits = Running count of the received input pulses |
| 41024 | Pin 4 Duration H | 0..65535 | Pin 4 Duration Value Upper | - | RO | Upper 16 of 32 bits = Duration of the last input pulse in µs with 50 µs granularity |
| 41025 | Pin 4 Duration L | 0..65535 | Pin 4 Duration Value Lower | - | RO | Lower 16 of 32 bits = Duration of the last input pulse in µs with 50 µs granularity |
| 41026 | Pin 4 Events Per Minute H | 0..65535 | Pin 4 Events Per Minute Value Upper | - | RO | Upper 16 of 32 bits = Running count of the number of pulses received averaged over one minute. Range 1 to 37,500 |
| 41027 | Pin 4 Events Per Minute L | 0..65535 | Pin 4 Events Per Minute Value Lower | - | RO | Lower 16 of 32 bits = Running count of the number of pulses received averaged over one minute. Range 1 to 37,500 |
| 41028 | Pin 2 Count H | 0..65535 | Pin 2 Count Value Upper | - | RO | Upper 16 of 32 bits = Running count of the received input pulses |
| 41029 | Pin 2 Count L | 0..65535 | Pin 2 Count Value Lower | - | RO | Lower 16 of 32 bits = Running count of the received input pulses |
| 41030 | Pin 2 Duration H | 0..65535 | Pin 2 Duration Value Upper | - | RO | Upper 16 of 32 bits = Duration of the last input pulse in µs with 50 µs granularity |
| 41031 | Pin 2 Duration L | 0..65535 | Pin 2 Duration Value Lower | - | RO | Lower 16 of 32 bits = Duration of the last input pulse in µs with 50 µs granularity |
| 41032 | Pin 2 Events Per Minute H | 0..65535 | Pin 2 Events Per Minute Value Upper | - | RO | Upper 16 of 32 bits = Running count of the number of pulses received averaged over one minute. Range 1 to 37,500 |
| 41033 | Pin 2 Events Per Minute L | 0..65535 | Pin 2 Events Per Minute Value Lower | - | RO | Lower 16 of 32 bits = Running count of the number of pulses received averaged over one minute. Range 1 to 37,500 |

*Metric Count Presets*

| Modbus Register Address | Description | I/O Range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 41034 | Pin 4 Count H | 0..65535 | Pin 4 Count Value Upper | - | RW | Upper 16 of 32 bits |

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| Modbus Register Address | Description | I/O Range | Comments | Default | Access | Notes |
|---|---|---|---|---|---|---|
| 41035 | Pin 4 Count L | 0..65535 | Pin 4 Count Value Lower | - | RW | Lower 16 of 32 bits |
| 41036 | Pin 2 Count H | 0..65535 | Pin 2 Count Value Upper | - | RW | Upper 16 of 32 bits |
| 41037 | Pin 2 Count L | 0..65535 | Pin 2 Count Value Lower | - | RW | Lower 16 of 32 bits |


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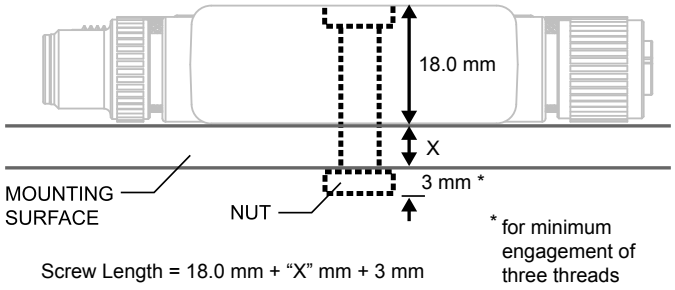
# Chapter 3 Mechanical Installation

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.

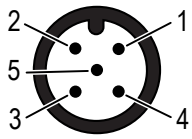
See the figure below to help in determining the minimum screw length.



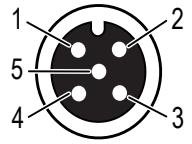

**CAUTION:** Do not overtighten the R95C's mounting screw during installation. Overtightening can affect the performance of the R95C.

## Wiring

*A-Code Male and Female Pinouts*

| Modbus - Male | Pin | Signal Description |
|---|---|---|
|  | 1 | 12 V DC to 30 V DC |
| | 2 | RS485/D0/A- |
| | 3 | GND |
| | 4 | RS485/D1/B+ |
| | 5 | BannerBus |



| 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 |

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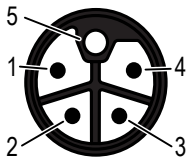
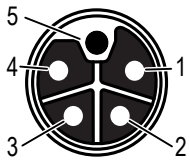
*L-Code Male and Female Pinouts (16A)*

| 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 |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# 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 four pairs of amber LEDs:

- C: Modbus 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 |

*Modbus Communications Amber LEDs*

| Indication | Status |
|---|---|
| Off | Modbus communications are not present |
| Flashing Amber (4 Hz) | Modbus communications are active |
| Solid Amber for 2 seconds, then off | Modbus communications are lost after connection |
| Solid Amber for 2 seconds, then to flashing amber (4 Hz) | Modbus communications are momentarily lost, but then communication is reestablished |

*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) |


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*Discrete Channel 1 and Discrete Channel 2 Amber LEDs*

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


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# Chapter 5 Specifications

**Supply Voltage**
12 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**
(5) 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)

**Certifications**

Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

Turck Banner LTD Blenheim House
Blenheim Court
Wickford, Essex SS11 8YT
GREAT BRITAIN

**Product Identification**

SNAP SIGNAL®

**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.


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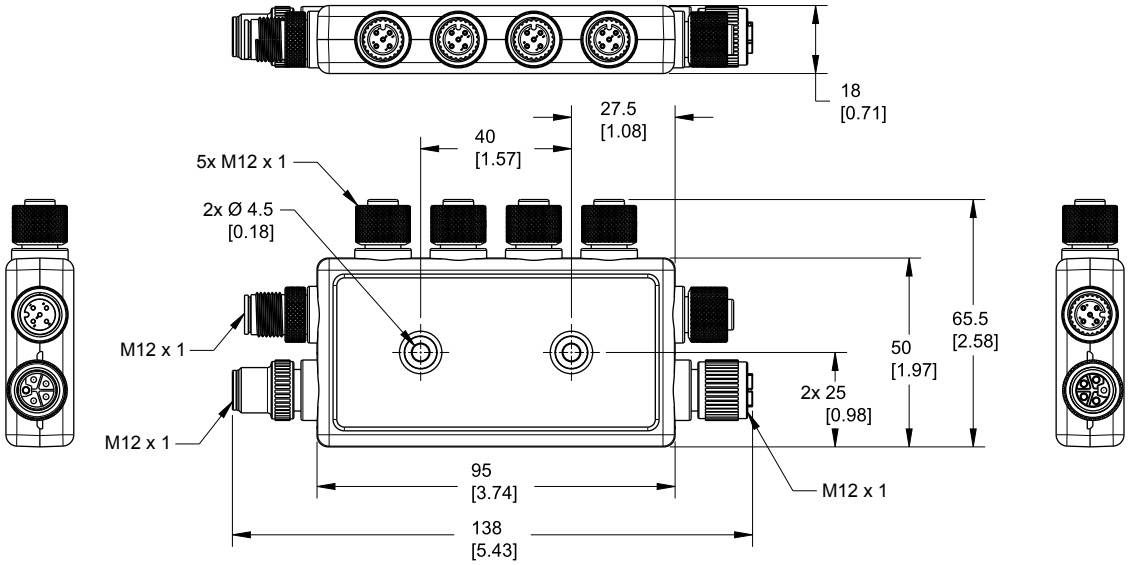
# Industry Canada ICES-003(B)

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.





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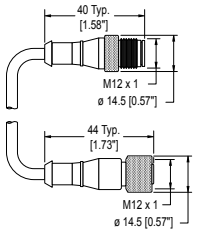
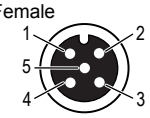
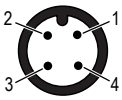
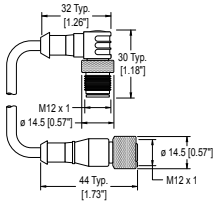
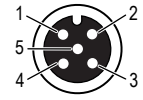
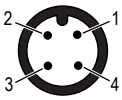
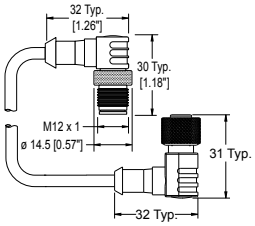
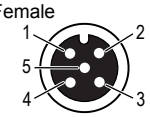
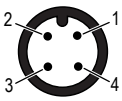
# Chapter 6 Accessories

## 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>cULus 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>cULus 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>cULus 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) | | | |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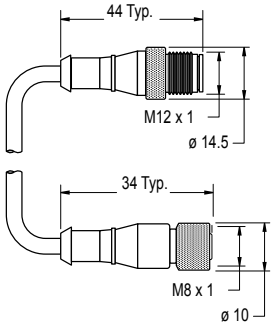
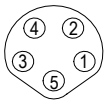
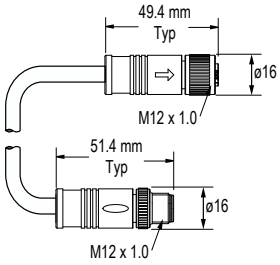
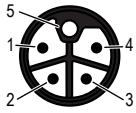
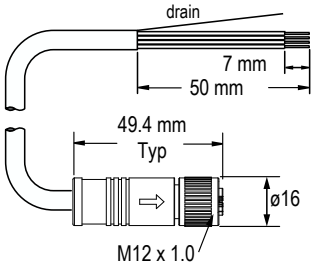
| 5-Pin Double-Ended M8 B-Code Female to M12 A-Code Male Cordset (datasheet p/n 242461) | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Dimensions (mm)** | **Pinout (M8 Female B-Code)** | **Pinout (M12 Male A-Code)** |
| **BC-M8F5B-M12M5-24-0.5** | 0.5 m (1.64 ft) |  | <br>1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Gray | <br>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 (datasheet p/n 242456) | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Dimensions (mm)** | **Pinout (Female)** | **Pinout (Male)** |
| **BCP-M12LF5-M12LM5-14-1** | 1 m (3.28 ft) |  | <br>1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Yellow/Green<br>Shell = Braid | <br>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 (datasheet p/n 242454) | | | | |
|---|---|---|---|---|
| **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 Female RS-485 to USB Adapter Cordset, with Wall Plug (datasheet p/n 140377) | | | |
|---|---|---|---|
| **Model** | **Length** | | **Pinout (Female)** |
| **BWA-UCT-900** | 1 m (3.28 ft) |  | <br>1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black |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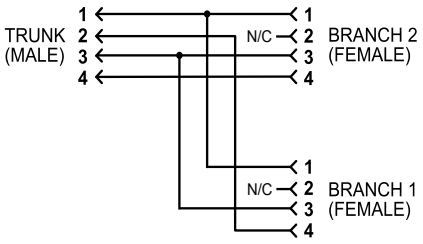
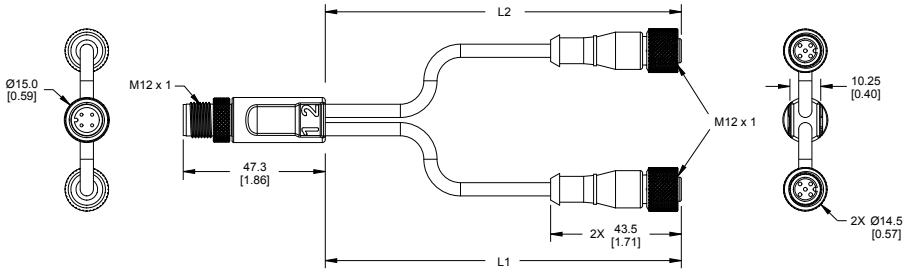
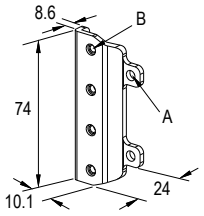
| 4-Pin M12 Male to 5-Pin M12 Female Splitter Cordset (datasheet p/n 234098) | | |
|---|---|---|
| **Model** | **Branches (Female)** | **Wiring** |
| **S15YA4-M124-M124-0.2M** | **L1, L2**<br>2 × 0.2 m (7.9 in) |  |
|  | | |

# Brackets

| | |
|---|---|
| **SMBR90S**<br>• Stainless steel bracket<br>• 4x M4-07 pemnuts (B)<br>• Includes 2x M4 stainless steel hex head screws and flat washers<br>• CAD Files: DXF, PDF, IGS, STP<br>**Hole center spacing:** A = 40, B = 20<br>**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 | | |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# 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 and Translations (No Field-Replaceable Parts)

**English**

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.
```

Obtain assistance with product repairs by contacting your local Banner Engineering Corp distributor or by calling Banner directly at (763) 544-3164. Access literature translated into your native language on the Banner website at www.bannerengineering.com or contact Banner directly at (763) 544-3164.

**Deutsch**

Wenden Sie sich zur Fehlerbehebung dieses Geräts an Banner Engineering. **Versuchen Sie nicht, Reparaturen an diesem Banner-Gerät vorzunehmen. Das Gerät enthält keine am Einsatzort auszuwechselnden Teile oder Komponenten.** Wenn ein Banner-Anwendungstechniker zu dem Schluss kommt, dass dieses Gerät, ein Teil oder eine Komponente davon defekt ist, erhalten Sie von dem Techniker Erläuterungen zu Banners RMA-Verfahren (Return Merchandise Authorization) für die Warenrückgabe.

```
WICHTIG: Wenn Sie der Techniker anweist, das Gerät zurückzusenden, verpacken Sie es bitte
sorgfältig. Transportschäden bei der Rücksendung werden von der Garantie nicht abgedeckt.
```

Unterstützung bei Produktreparaturen erhalten Sie von Ihrem örtlichen Banner Engineering Corp Händler oder direkt von Banner unter Tel. (763) 544-3164. Die in Ihre Muttersprache übersetzte Literatur finden Sie auf der Banner-Website unter www.bannerengineering.com oder kontaktieren Sie Banner direkt unter Tel. (763) 544-3164.

**Français**

Pour plus d'informations sur le dépannage du produit, contactez Banner Engineering. **Ne tentez pas de réparer ce dispositif Banner. Il ne contient aucun composant ou pièce qui puisse être remplacé sur place.** Si un ingénieur de Banner conclut que le dispositif ou l'une de ses pièces ou composants est défectueux, il vous informera de la procédure à suivre pour le retour des produits (RMA).

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Important : Si vous devez retourner le dispositif, emballez-le avec soin. Les dégâts
occasionnés pendant le transport de retour ne sont pas couverts par la garantie.
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Pour vous aider lors de la réparation de produits, contactez votre distributeur Banner local our appelez directement Banner au (763) 544-3164. La documentation traduite dans votre langue est disponible sur le site internet de Banner www.bannerengineering.com ou contactez directement Banner au (763) 544-3164.

**Italiano**

Per le procedure di individuazione e riparazione dei guasti di questo dispositivo, contattare Banner Engineering. **Non tentare di riparare questo dispositivo Banner, in quanto non contiene parti o componenti sostituibili dall'utente.** Se il dispositivo, una parte del dispositivo o un componente del dispositivo viene riscontrato difettoso da un tecnico Banner, il nostro personale vi comunicherà la procedura da seguire per ottenere l'autorizzazione al reso.

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Importante: Se si ricevono istruzioni di rispedire il dispositivo al produttore, imballarlo con
cura. I danni dovuti al trasporto non sono coperti dalla garanzia.
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Per assistenza nelle riparazioni dei prodotti, contattare il distributore locale Banner Engineering Corp o contattare direttamente Banner al numero (763) 544-3164. È possibile accedere alla documentazione tradotta nella propria lingua madre sul sito Web Banner all'indirizzo www.bannerengineering.com o contattare direttamente Banner al numero (763) 544-3164.


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**Español**

Comuníquese con Banner Engineering para solucionar de problemas de este dispositivo. **No intente ninguna reparación a este dispositivo de Banner, contiene piezas o componente que no se pueden cambiar en terreno.** Si algún ingeniero de aplicaciones de Banner determina que el dispositivo, alguna de las piezas o alguno de los componentes del dispositivo está defectuoso, le informará el procedimiento de autorización de devolución de mercancía (RMA, por sus siglas en inglés) de Banner.

**Importante:** Si se le solicita devolver el dispositivo, empáquelo con cuidado. Puede haber daños durante el envío de devolución que no estén cubiertos por la garantía.

Para reparaciones de productos, por favor contacte a su distribuidor local de Banner Engineering o llame a Banner directamente al 00 1 (763) 544-3164. Vea la literatura traducida en su idioma en el sitio web Banner en www.bannerengineering.com o comuníquese con Banner directamente al 00 1 (763) 544-3164.

**中国人**

如需对本装置进行故障排查，请联系邦纳。**请勿尝试自行维修该邦纳装置；本装置不包含任何可在现场更换的部件或组件。** 若经邦纳应用工程师确认设备、设备部件或组件存在缺陷，他们将告知您邦纳退货授权 (RMA) 流程。

**重要注意事项：** 如被要求退回装置，请妥善包装后寄回。退货运输过程中发生的损坏不在保修范围内。

请联系当地的 Banner Engineering Corp 经销商或直接致电 Banner +1 (763) 544-3164，以获得产品维修帮助。请访问邦纳网站 www.bannerengineering.com 或直接拨打 +1 (763) 544-3164 联系邦纳，获取翻译成您母语的资料。

**한국인**

이 장치의 문제를 해결하려면 Banner Engineering에 문의하십시오. **이 Banner 장치에는 현장에서 교체할 수 있는 부품 또는 구성품이 없으므로 수리를 시도하지 마십시오.** Banner 애플리케이션 엔지니어가 장치, 장치 부품 또는 장치 구성품에 결함이 있는 것으로 판정하면, Banner의 RMA(제품 반송 승인)절차에 대해 안내해 드립니다.

**중요:** 제품을 반송하도록 안내 받으셨다면 잘 포장해주십시오. 반송 도중에 발생한 손상은 보증 서비스가 적용되지 않습니다.

제품 수리에 대한 지원은 지역 Banner Engineering Corp 대리점에 문의하거나 Banner에 직접 (763) 544-3164로 문의하실 수 있습니다. 사용자의 모국어로 번역된 자료는 Banner 웹사이트 www.bannerengineering.com에서 액세스하거나 Banner에 직접 (763) 544-3164로 문의하실 수 있습니다.

**日本語**

この装置のトラブルシューティングについては、バナーエンジニアリングにお問い合わせください。**このバナー装置には、現場では交換できない部品またはコンポーネントが含まれているため、修理を試みてはいけません。** バナーのアプリケーションエンジニアが装置、装置の部品、または装置のコンポーネントに欠陥があると判断した場合、バナーのRMA（返品承認）手続きについてお知らせします。

**重要 ：** 返品を指示された場合は、装置を丁寧に梱包してください。返品時に発生した破損は保証の対象外となります。

製品の修理については、最寄りのBanner Engineering Corp代理店にお問い合わせいただくか、米国+1 (763) 544-3164まで直接お電話でお問い合わせください。バナーのウェブサイト（www.bannerengineering.com）でお客様の言語に翻訳された資料にアクセスするか、米国+1 (763) 544-3164まで直接お電話でお問い合わせください。

**čeština**

Pro řešení problémů se zařízením kontaktujte společnost Banner Engineering. **Neprovádějte žádné opravy zařízení Banner. Neobsahují žádné komponenty nebo části, které by byly vyměnitelné.** Pokud je zařízení, jeho část nebo díl označen technikem společnosti Banner jako poškozený, bude Vám doporučeno vyplnit reklamační RMA protokol.

**Důležité:** Pokud byl vydán požadavek na vrácení zařízení, pečlivě ho zabalte. Poškození vzniklé při dopravě není považováno za záruční opravu.

Pokud produkt potřebuje opravu, vyžádejte si pomoc od místního distributora společnosti Banner Engineering Corp nebo přímo na telefonním čísle (763) 544-3164. Dokumentaci přeloženou do vašeho jazyka si vyhledejte na webových stránkách společnosti Banner na adrese www.bannerengineering.com nebo se obraťte přímo na společnost Banner na telefonním čísle (763) 544-3164.


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**Polski**

W celu rozwiązania problemów z urządzeniem należy skontaktować się z działem technicznym firmy Banner Engineering. **Pod żadnym pozorem nie próbuj naprawiać tego urządzenia firmy Banner; nie zawiera ono części ani elementów, które można wymieniać samodzielnie.** Jeśli urządzenie, jego część lub element zostaną uznane za wadliwe przez inżyniera technicznego Banner, poinformuje on użytkownika o firmowej procedurze zwrotu towaru (RMA) firmy Banner.

**Ważne:** Jeśli urządzenie ma zostać zwrócone, należy je starannie zapakować. Uszkodzenia powstałe podczas odsyłki nie są objęte gwarancją.

Aby uzyskać pomoc w zakresie naprawy produktu, należy skontaktować się z lokalnym dystrybutorem Banner Engineering Corp lub zadzwonić bezpośrednio do firmy Banner pod numer (763) 544-3164. Dostęp do literatury przetłumaczonej na swój język ojczysty można uzyskać na stronie internetowej firmy Banner pod adresem www.bannerengineering.com lub kontaktując się bezpośrednio z firmą Banner pod numerem (763) 544-3164.

**Português**

Entre em contato com a Engenharia da Banner para a solução de problemas deste dispositivo. **Não tente fazer nenhum reparo neste dispositivo Banner; ele não contém peças ou componentes substituíveis em campo.** Se um técnico de aplicações da Banner determinar que o dispositivo, peça ou componente do dispositivo está com defeito, ele o informará sobre o procedimento de RMA (Autorização de Devolução de Mercadoria) da Banner.

**Importante:** Se for instruído a devolver o dispositivo, embale-o com cuidado. Os danos ocorridos no transporte de devolução não são cobertos pela garantia.

Obtenha assistência para reparos do produto entrando em contato com o distribuidor local da Banner Engineering Corp ou ligando diretamente para a Banner no telefone (763) 544-3164. Acesse a literatura traduzida para seu idioma nativo no site da Banner em www.bannerengineering.com ou entre em contato diretamente com a Banner pelo telefone (763) 544-3164.

**Türkçe**

Bu cihazda sorun giderme işlemleri için Banner Engineering ile iletişime geçin. **Bu Banner cihazını onarmaya çalışmayın; cihaz sahada değiştirilebilir parça veya bileşen içermez.** Bir Banner Uygulama Mühendisi tarafından cihazın, cihazın bir parçasının veya bir cihaz bileşeninin kusurlu olduğu tespit edilirse, Banner RMA (İade Mal Yetkilendirme) prosedürü hakkında bilgilendirilirsiniz.

**ÖNEMLİ:** İade etmeniz istenirse, cihazı dikkatli bir şekilde paketleyin. İade nakliyesinde meydana gelecek hasarlar garanti kapsamında değildir.

Yerel Banner Engineering Corp distribütörünüzle iletişime geçerek veya doğrudan (763) 544-3164 numaralı telefondan Banner'ı arayarak ürün onarımlarıyla ilgili yardım alın. Ana dilinize çevrilmiş dokümanlara www.bannerengineering.com adresindeki Banner web sitesinden erişebilir veya (763) 544-3164 numaralı telefondan doğrudan Banner ile iletişime geçebilirsiniz.

# Contact Us

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

# Banner Engineering Corp Limited Warranty

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