# IO-Link® HUBS & CONVERTERS



## Convert to a Unified Protocol

Legacy devices are common in most industrial settings. These devices have data outputs that include discrete NPN/PNP signals, 4–20 mA signals, 0–10 V signals, and many more types. You can incorporate all these disparate signals into your IO-Link system with Banner's extensive line of IO-Link converters and hubs. After the physical connections are made, the next step is to get all the devices speaking the same language. With Banner IO-Link products, all these signals can be quickly converted to a unified communications protocol. This enables facilities to build a flexible IO-Link network. Many of Banner's IO-Link converters are the size of an AA battery, are simply inserted inline via an M12 connector, and can begin converting signals the instant they're installed.


## S15C Converter

Break free from protocol limitations with S15C in-line converters. S15C converters take various types of signals such as discrete, analog, and others and convert these signals to smart protocols like IO-Link. This makes it easy to incorporate existing legacy sensors into a standard protocol to enable process monitoring. S15C Converters are designed to connect directly to a sensor, indicator, or other device and begin operating immediately, fitting seamlessly into your factory applications.

- Previously incompatible devices can be connected to a smart system
- Compact form factor
- Rugged over-molded design meets IP65, IP67, and IP68 standards
- Simple M12 connection for easy installation wherever needed in the circuit

S15C Converter IO-Link®

Easily converts signals like 4–20 mA analog to IO-Link without any setup required

ANALOG
PWM / PFM
Discrete (NPN/PNP)
Modbus

IO-Link®

| S15C | – | I | – | KQ |
|---|---|---|---|---|

**I** = 4–20 mA
**U** = 0–10 V DC
**B21** = Discrete Input/Output
**MGN** = Modbus
**MGP** = Modbus GPS
**MVT**= Modbus V/T Sensor
**MEZ** = EZ-ARRAY
**MTH** = Modbus T/H Sensor
**MUL** = Modbus Ultrasonic Sensor





## R45C IO-Link to Analog Out Converter

- Compact analog to IO-Link device converter outputs an analog value, voltage, or current, as presented by the IO-Link Master
- Rugged over-molded design meets IP65, IP67, and IP68 standards
- Connects directly to a sensor or anywhere in-line for ease of use

| Housing | Function | | Male | | Female 1 | Connector |
|---|---|---|---|---|---|---|
| R45 | C | – | K | – | I | Q |

**C** = Converter
**K** = IO-Link
**I** = Analog current out
**U** = Analog voltage out
**Q** = Integral M12 quick disconnect

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# IO-Link® HUBS & CONVERTERS




## R45C IO-Link to Analog Input-Output Converter

- Compact IO-Link device to analog converter that outputs an analog value, voltage or current, as presented by the IO-Link Master
- The converter also connects to an analog source, voltage or current, and outputs the value to the IO-Link Master
- Rugged over-molded design meets IP65, IP67, and IP68 standards
- Connects directly to a sensor or anywhere in-line for ease of use

| Housing | Function | | Male | | Female 1 | | Connector |
|---|---|---|---|---|---|---|---|
| **R45** | **C** | – | **K** | – | **II** | | **Q** |

**C** = Converter; **K** = IO-Link; **II** = Analog current in/out, **UU** = Analog voltage in/out; **Q** = Integral M12 quick disconnect


## R45C IO-Link to Dual Analog Input-Output Converter

- Compact IO-Link device to analog converter that outputs an analog value, voltage or current, as presented by the IO-Link master
- The converter also connects to an analog source, voltage or current, and outputs the value to the IO-Link master and as a representative PFM output
- Rugged over-molded design meets IP65, IP67, and IP68 standards
- Connects directly to a sensor or anywhere in-line for ease of use

| Housing | Function | | Male | Female 1 and 2 | Connector |
|---|---|---|---|---|---|
| **R45** | **C** | – | **K** | **II — II** | **Q** |

**C** = Converter; **K** = IO-Link; **II–II** = Analog 1 current in/out, Analog 2 current in/out; **UU–UU** = Analog 1 voltage in/out, Analog 2 voltage in/out; **Q** = Integral M12 quick disconnect


## R130C Discrete IO-Link Hub

- Cost-efficiently integrate up to 16 devices into an IO-Link system
- Simplify wiring and installation with M12 QD cables
- Minimize the size of the control panel by locating I/O remotely on the machine, closer to sensors and other devices
- Provide power to lighting products and other devices that draw higher current with 4 amps shared across ports
- Streamline troubleshooting with I/O status LEDs viewable from top or side of device

| Housing | Function | Port | Port | Control | Connector |
|---|---|---|---|---|---|
| **R130** | **C** | – | **8P22** | **K** | **Q** |

**C** = Converter; **8P22** = 8 ports, PNP with 2 inputs/outputs per port; **K** = IO-Link; **Q** = M12 integral quick disconnect


## R90C Discrete IO-Link Hub

- Connect two discrete signals to each of the unique ports, providing access to monitoring and configuring those ports with an IO-Link Master
- Host mirroring is available where a selected port input/ output discrete signal can be routed to Pin 2 (male) on the PLC/Host connection

| Housing | Function | | Converter | | Control | Connector |
|---|---|---|---|---|---|---|
| **R90** | **C** | – | **4B21** | – | **K** | **Q** |

**C** = Converter; **4B21** = 4 port, bimodal, 2 inputs or 1 input/ 1 output per port; **K** = IO-Link; **Q** = M12 Integral quick disconnect


## R95C Discrete IO-Link Hub

- Connect two discrete signals to each of the unique ports, providing access to monitoring and configuring those ports with an IO-Link Master
- Host mirroring is available where a selected port input/ output discrete signal can be routed to Pin 2 (male) on the PLC/Host connection

| Housing | Function | | Converter | | Control | Connector |
|---|---|---|---|---|---|---|
| **R95** | **C** | – | **8B21** | – | **K** | **Q** |

**R95** = 8-port; **C** = Converter; **8B21** = 8 port, bimodal, 2 inputs or 1 input/1 output per port; **8B22** = 8 port, bimodal, 2 inputs/ outputs per port; **K** = IO-Link; **Q** = M12 Integral quick disconnect


## R95C Discrete and Analog Input-Output IO-Link Hub

- Compact IO-Link device converter with the ability to send 4 ports of discrete input and 4 ports of analog input data (voltage or current) to an IO-Link Master
- The IO-Link Master Process Data Output can also output discrete values and analog outputs (voltage or current) through any of the respective sets of 4 ports
- Rugged overmolded design meets IP65, IP67, and IP68

| Housing | Function | Converter | Control | Connector |
|---|---|---|---|---|
| **R95** | **C** | **4B4UI** | **K** | **Q** |

**C** = Converter; **4B4UI** = 4-port, bimodal, 2 inputs/outputs per port 4 port, analog, 4 inputs and 4 outputs.; **K** = IO-Link; **Q** = M12 integral quick disconnect

# IO-Link® HUBS & CONVERTERS




## R95C Analog Input to IO-Link Hub

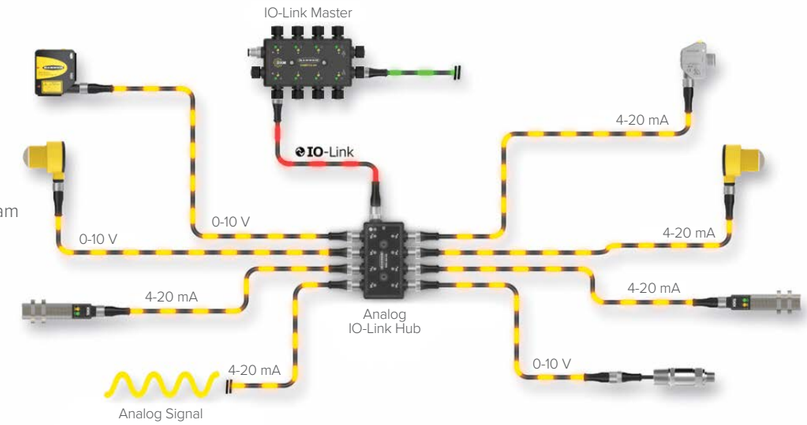
- Compact analog to IO-Link device converter that receives an analog source and outputs the value to the IO-Link master
- R95C IO-Link hubs are a quick, easy, and economical way to integrate non-IO-Link devices into an IO-Link system
- Rugged over-molded design meets IP65, IP67, and IP68 standards
- Connects directly to a sensor or anywhere in-line for ease of use

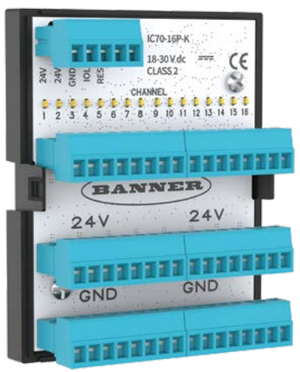
| Housing | Function | | Converter | | Control | Connector |
|---|---|---|---|---|---|---|
| R95 | C | – | 8UI | – | K | Q |
| | C = Converter | | 8UI = 8 port, analog, 1 input per port | | K = IO-Link | Q = M12 Integral quick disconnect |

## Integrate Analog Devices Into Your IO-Link System

Banner's R95C 8-port Analog Input IO-Link Hub simplifies adding analog devices to an IO-Link system. It takes up to eight analog signal inputs (either current or voltage) and consolidates them into one IO-Link data stream. The R95C reduces the need for shielded cabling, using simple 4-wire M12 cordsets and connections to save installation time and hardware costs, while eliminating the need for expensive PLC analog input cards.

R95C System Diagram




## IC70 In-Cabinet IO-Link Hub

- Save space with a compact, DIN-rail mountable design
- Increase system flexibility with configurable input/output channels
- Reduce wiring and PLC logic with built-in delays and port mirroring
- Speed up troubleshooting with real-time status LEDs

| Description | Connections | Model |
|---|---|---|
| 16-Channel PNP IO-Link Hub | Screw terminals | IC70-16P-K |
| 16-Channel NPN IO-Link Hub | | IC70-16N-K |

## Accessories

**SMBR90S**
Mounting Bracket (use multiples to stack)

**SMBR95RA**
Right-angle Mounting Bracket

**LMBM12MAG**
Attaches to M12 cordset end (magnetic)

**BWA-M12CAB-MAG**
Attaches to M12 cable (magnetic)

**LMBM12SP**
Attaches to M12 cordset end

**LMBS15MAG**
Attaches to S15C (magnetic)

**LMBS15SP**
Attaches to S15C

# IO-Link® MASTERS



## Build Your Network

Banner IO-Link masters serve as the gateway for the connection of IO-Link devices, including sensors, lighting products, IO-Link Hubs, and more. Banner IO-Link masters are the most compact in the industry and enable users to flexibly send IO-Link data where it needs to go, whether it's to a PLC, HMI, SCADA or cloud platform such as Banner CDS.

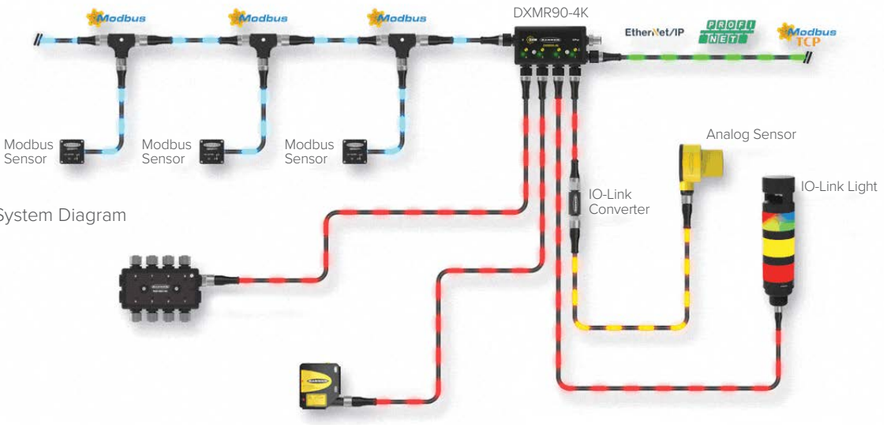

## DXMR90-4K Multiprotocol IO-Link Master


The DXMR90-4K IO-Link Master houses a processor that receives signals from sensors and other connected devices through four dedicated IO-Link ports. As a centralized hub, the DXMR90 combines all these signals into one unified stream of insightful data, which can be exported via industrial Ethernet protocols. The controller also has advanced programmability via scriptbasic and action rules that allows facilities to use the IO-Link master as a controller in a standalone application, eliminating the need for a PLC. The DXMR90-4K IO-Link Master also has a Modbus RTU client port for expanding your connection possibilities.

| Ethernet Connection | Master Connections | Other Connections | Models |
|---|---|---|---|
| One female M12 D-Code Ethernet connector | Four female M12 connections for IO-Link | One male M12 (Port 0) for incoming power and Modbus RS-485, one female M12 for daisy chaining Port 0 signals | **DXMR90-4K** |

## Connect More Devices with Ease

The DXMR90-4K allows for the connection and control of up to four IO-Link devices, replacing multiple traditionally expensive input cards. The DXMR90-4K can communicate with higher-level control systems via EtherNet/IP, Modbus/TCP, and PROFINET. This IO-Link master also has an additional serial port that allows for the connection of more devices for maximum flexibility.




DXMR90-4K System Diagram

## Accessories

(use multiples to stack) Mounting Bracket Mounting Bracket

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# IO-Link® MASTERS




## DXMR110-8K Multiprotocol IO-Link Master

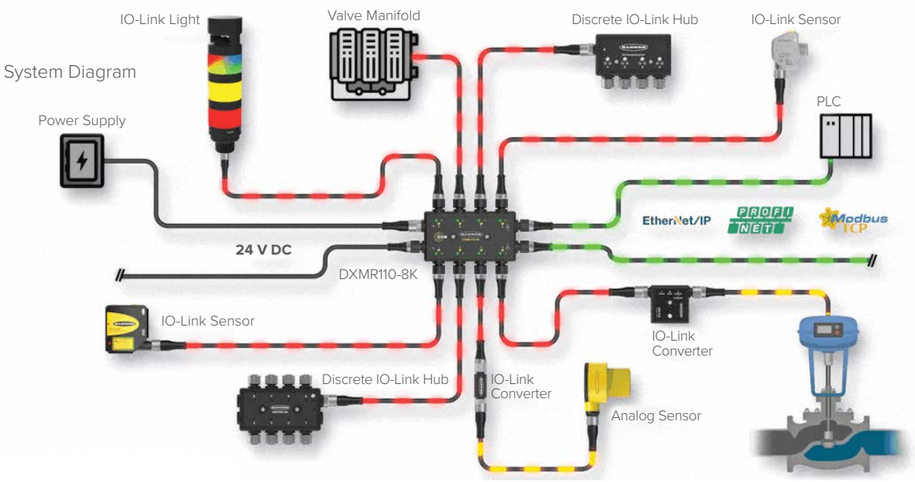
- Local control or connectivity with automation protocols, including EtherNet/IP, Modbus/TCP, and PROFINET
- Logic processing and problem-solving capable of deploying solutions to process and control data from multiple devices
- IP67 housing simplifies installation in any location by eliminating the need for a control cabinet
- Consolidation of cable runs to minimize cabling and associated weight, especially in weight-critical applications such as robotics
- Flexible and customizable: Expanded internal logic controller with action rules and ScriptBasic programming

| Ethernet Connection | IO-Link Master Connections | Other Connections | Models |
|---|---|---|---|
| Two female M12 D-Code Ethernet connectors for daisy chaining and communication to a higher-level control system | Eight female M12 connections for IO-Link | One male M12 for incoming power, one female M12 for daisy chaining power | DXMR110-8K |

## Streamline Your IO-Link Network

The compact DXMR110-8K allows for the connection and control of up to eight IO-Link devices, such as sensors, indicator lights, or IO-Link hubs, without the need for multiple traditionally expensive input cards. The DXMR110-8K can communicate with higher-level control systems via EtherNet/IP, Modbus/TCP, and PROFINET. The DXMR110-8K also has the ability to push IO-Link data to cloud platforms.

DXMR110-8K System Diagram




to IO-Link quickly, giving you the flexibility to build the system you need.


## R45C IO-Link Master with Modbus RTU Interface

- Connects two IO-Link devices and provides access via Modbus RTU interface
- Rugged design: Easy installation with no assembly or individual wiring required
- 5-pin M12 male quick-disconnects
- Two 4-pin M12 female quick-disconnects
- Built-in indication for two IO-Link master ports
- Built-in indication for Modbus RTU connection status
- Rugged over-molded design meets IP65, IP67, and IP68 standards

| Housing | Function | | Converter | | Connection | Connector |
|---|---|---|---|---|---|---|
| R45 | C | – | 2K | – | M | Q |
| | C = Converter | | 2K = 2-port IO-Link Master (female) | | M = Modbus Server Connection (male) | Q = M12 Integral QD |

## R90C IO-Link Master with Modbus RTU Interface

The R90C 4-Port IO-Link Master connects to four IO-Link devices and provides access to IO-Link data and functionality via a Modbus RTU connection. Modbus registers allow for access to both IO-Link devices and their functions:

- Process Data In
- Process Data Out
- Connected device information
- ISDU data
- Discrete I/O configuration
- IO-Link events
- Data storage
- SIO mode


| Housing | Function | | Converter | | Connection | Connector |
|---|---|---|---|---|---|---|
| R90 | C | – | 4K | – | M | Q |
| | C = Converter | | 4K = 4-port IO-Link Master (female) | | M = Modbus Server Connection (male) | Q = M12 Integral Quick Disconnect (female) |

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