

## IO-Link Master DR-8-EIP

Part Number: 99590-6



### KEY FEATURES AND BENEFITS

- Eight port IO-Link Master to EtherNet/IP™ with additional digital inputs on every port allowing for a possible 10 DI ports with the two dedicated DI/DO ports
- Screw terminal connectors for IO-Link, Power, and Digital IO
- IP20 DIN rail mount enclosure
- Dual Ethernet ports
- MultiLink™ – Simultaneously provides IO-Link device access to multiple controllers
- EtherNet/IP™ Class 1 (Implicit) and Class 3 (Explicit) interfaces
- EtherNet/IP™ and Modbus TCP access to IO-Link process, event, and service data
- HMI, SCADA, and PLC access to IO-Link ISDU blocks without complex programming
- EDS files and sample programs
- Convenient EtherNet/IP Write-to-Tag/File, Read-from-Tag/File data exchange option
- Supports OPC UA
- Powerful web GUI for configuration and diagnostics, including: IO-Link device management using the IO-Link device manufacturers IODD file for easy device configuration, Automatic data storage (upload and download), Manual data storage (upload and download), Device validation, and Data validation.
- Works with PortVision DX - a discovery management application
- LEDs for device, network, and port status
- Wide operating temperature (-40° to +70°C)
- IO-Link V1.0 and V1.1 compatibility
- IO-Link COM1, COM2 and COM3 (230K baud rate) support



### PRODUCT DESCRIPTION

Control's IO-Link Master combines the benefits of the IO-Link standard with the EtherNet/IP™ and Modbus TCP protocols. The IO-Link Master effectively shields the PLC programmers from the IO-Link complexities by handling those complexities itself. The result is simplified EtherNet/IP™ and Modbus TCP interfaces, which decreases system development time and installation efforts.

The IO-Link Master easily installs on a standard DIN rail and incorporates two Fast Ethernet ports, eight IO-Link ports, two DI/DO ports and two DI ports. This product is designed with industrial grade components and redundant power inputs to make it exceptionally reliable for critical applications. The IO-Link Master is easily integrated into a system network, and is compatible with existing and new industrial Ethernet environments.

# IO-LINK MASTER SPECIFICATIONS

## HARDWARE

Network Interfaces	10/100BASE-TX
Enclosure	
Polyamide UL94V-0	
Ingress Protection Rating	IP20
Installation and Grounding Method	DIN rail
Connectors (PWR, IO-Link, DI/DO)	Screw Terminal Blocks
Connection Methods	Screw Terminals
Network Protocols	
EtherNet/IP™, Modbus/TCP (slave)	
Channels	
8 x IO-Link	
10 x Digital I/O configurable (Pin 4)	
10 x Digital Input DI (Pin 3)	
2 x Ethernet	
LED Indicators	
Power, Module Status, Network Status, IO-Link, DI, DO states, and Ethernet Port Status	
Dimensions (L x W x H)	
1.78" x 4.13" x 4.5"	
45 mm x 105 mm x 114 mm	
Product Weight	10 oz 285 g

## Electrical Specifications

DC Input Voltage Range	18 VDC – 30VDC
Current Consumption (max.)	4.3A at 24VDC
Current Consumption (system electronics)	100mA at 24VDC
Power Consumption (system electronics)	2.4W
Power Input Connectors	2

## ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40°C to +70°C
Storage Temperature	-40°C to +85°C
Operating Humidity (non-condensing)	10% to 95%
Storage Humidity (non-condensing)	10% to 95%
Shock/Vibrations	EN60068-2-6 EN60068-2-27
Environmental / Mechanical Approvals	IEC 61131-2 IEC 60529

## ETHERNET INTERFACE SPECIFICATIONS

Connector Type	RJ45
Number of Ports	2
Ethernet Specification Standards	10/100BASE-TX IEEE802.3: 10BASE-T IEEE 802.3u: 100BASE-TX
Auto-MD/MDI-X	Yes
Auto-Negotiation	Yes
Link Distance	100m
Cable Types	
Unshielded or Shielded twisted pair	
IPv4 Addressing	Yes

## IO-LINK PORTS SPECIFICATIONS

Number of Connectors	8 (PORT 1 – 8)
Number of Channels	
8 x IO-Link / Digital I/O (configurable)	
8 x DI	
IO-Link Version	Supports V1.0 and V1.1
Port Pinout	Pin 1 – L+ Pin 2 – L- Pin 3 – DI Pin 4 – C/Q (configurable)
Configurations per port	
Pin 4 (configurable):	
IO-Link	
DI (SIO mode)	
DO (SIO mode)	
Pin 3: DI	
Output Current L+/L- (Pins 1 & 3)	200 mA
Output Current C/Q (Pin 4)	200 mA
Output Current per Master	3.2 A (max.)
IO-Link Mode Transfer Rates	4.8K (COM1) 38.4K (COM2) 230.4K (COM3)
Baud Rate Recognition	Automatic
Cable Length (Max.)	20m

## IO-LINK PORTS – DIGITAL INPUT SIO MODE (PORT PIN 4)

Input Characteristics	
IEC 61131-2 Type 1 and Type 3 Compliant	
Sensor supply current (L+/L-)	200 mA
Sensor Supply current per Master	1.6 A (max.)
Input Threshold	High: 10.5 – 13.0V Low: 8.0 – 11.5V
Cable length (max.)	30 m

## IO-LINK PORTS – DIGITAL OUTPUT SIO MODE (PORT PIN 4)

Typical Output Voltage	24 VDC
Output Current (max.)	200 mA
Output Current per Master Protection	1.6 A (max.)
Overload and short circuit protection	
Output Function	PNP/NPN (Push-Pull)
Cable length (max.)	30 m

## IO-LINK PORTS – DIGITAL INPUT (PORT PIN 3; DEDICATED)

Input Characteristics	
IEC 61131-2 Type 1 and Type 3 Compliant	
Typical Input Current	3 mA
Input Threshold	High: 6.8 – 8.0V Low: 5.2 – 6.4V
Reverse Polarity Protected	Yes (-40V to +40V)
Cable length (max.)	30 m

## IO-LINK & DIO PORTS – DIGITAL INPUT (PORT PIN 3; DEDICATED)

Number of Channels	10
Input Characteristics	
IEC 61131-2 Type 1 and Type 3 Compliant	
Typical Input Current	3 mA
DI Input Threshold	High: 6.8 – 8.0V Low: 5.2 – 6.4V
Reverse Polarity Protected	Yes (-40V to +40V)
Cable length (max.)	30 m

## DIO PORTS

Connector Type	Screw Terminal
Number of Ports	2
Number of Channels	2 x DI/DO (configurable)
Configurations per port	
DI/DO (configurable) = 1	
DI = 1	
Pin 1 – L+	
Pin 2 – L-	
Pin 3 – DIO	
Pin 4 – DIO	
200 mA (max.)	
30 m	
Output Current L+/L- (Pins 1 & 3)	
Cable Length (max.)	

## DIO PORTS – DIGITAL OUTPUT MODE (PORT PIN 4)

Number of Channels	2
Typical Output Voltage	24 VDC
Output Load Current (max.)	200mA
Total Output Current per device	2 A (max.)
Lamp Load (max.)	4W
Protection	
Overload and short circuit protection	
Output Function	PNP/NPN (Push-Pull)
Cable length (max.)	30 m

## DIGITAL INPUTS/OUTPUTS

Connector Type	Screw Terminal
Number of Ports	2 (D2 & D4)
Configurations per port	
DI/DO (configurable) = 1	
DI (dedicated) = 1	
Cable Length (Max.)	30m

## DIO Ports – Digital Input Mode (Port Pin 4)

Number of Channels	2
Input Characteristics	
IEC 61131-2 Type 1 and Type 3 Compliant	
Sensor supply current (L+/L-)	200 mA
DI Input Threshold	High: 10.5 – 13.0V Low: 8.0 – 11.5V
Cable length (max.)	30 m

## ETHERNET/IP INTERFACE SPECIFICATIONS

Supported PLCs	Including but not limited to:
Control Logix	
Compact Logix	
RSLogix	
SLC 500	
PLC5	
MicroLogix	
Other Class 1 or Class 3 EtherNet/IP may be supported	
ISDU Read & Writes	Up to 40 individual commands in one EtherNet/IP message
ISDU Commands	Selectable byte swapping (none, 16-bit, or 32-bit) Selectable payload sizes (4 to 232 bytes) ISDU block index ISDU sub-index Length of read or write Data payload

## Web Page Configuration

Provides the following capabilities:	
• Port configuration for ISDU Data, Process Data, Transfer Mode, Read/Write, Write PDI to Tag/File, and Read PDO from Tag/File.	
• EtherNet/IP configuration:	
• Time to Live (TTL) Network Value	
• Multicast IP Address Allocation Control	
• User-Defined Number of Multicast IP Addresses	
• User-Defined Multicast Starting IP Address	
• Session Encapsulation Timeout	

Diagnostics	Yes
Electronic Data Sheets (EDS)	Yes
Sample PLC Programs	Yes

## MODBUS TCP INTERFACE

Supported Controllers (Modbus TCP Masters)	
PLC	
HMI	
SCADA	
OPC Server	
Supported Clients	
Any Modbus TCP Client	
Applications on phones/tablets	

Web Page Configuration	Port configuration for ISDU Response Timeout, Process Data, and Transfer Mode
Diagnostics	Yes

## DR-8-EIP FEATURES

Configuration	Embedded web interface, IO-Link, Digital IO, EtherNet/IP, Modbus TCP
Data Storage	Automatic or Manual - Upload and/or Download
Device Validation	Yes
Data Validation	Yes
Diagnostics	IO-Link, EtherNet/IP, and Modbus TCP
Powerful Web Interface	Provides the following capabilities:
Firmware upgradable	
Password protected with Admin, Operator, and User accounts	
ISDU batch handling	
Load IODD files to configure the IO-Link device	
IODD Handler parses xml files making them readable and configurable	
Log files	
Upgradable Firmware	Yes (Web page or using PortVision DX)
Remote Parameterization	Yes
Mobile App Support	Simplify monitoring of control system Process and Service Data using simple standard clients available for free in Google Play and Apple App Store

## EXPORT INFORMATION

Package Weight	1.1 lbs 482g
Package Dimensions	5.7" x 5.7" x 3.4" 145mm x 145mm x 86.4mm
UPC Code	7-56727-99590-6
Country of Origin	USA
ECCN	5A992
Schedule B Number	8517.62.0050

## REGULATORY APPROVALS

Immunity	European Standard 61000-6-2 International Standard IEC 61000-6-2 IEC 61131-2 IEC 1000-4-2/EN 61000-4-2: Electrostatic Discharge (ESD) IEC 1000-4-3/EN 61000-4-3: Radiated, Radio-Frequency (RF) IEC 1000-4-4 /EN 61000-4-4: Fast Transient/Burst IEC 1000-4-5/EN 61000-4-5: Surge IEC 1000-4-6/EN 61000-4-6: Conducted disturbance IEC 1000-4-8/EN 61000-4-8: Magnetic Field IEC 1000-4-11/EN 61000-4-11: Dips and Voltage Variations
Emissions	European Standard EN 61000-6-4 International Standard IEC 61000-6-4 AS/NZS CISPR-11 FCC Part15 Subpart B: Class A limit Canadian EMC requirements ICES-001
Safety	CSA C22.2 No. 61010-1-12 / CSA C22.2 No. 61010-1-201 UL 61010-1/UL 61010-1-201
Other	Ingress Protection rating IP@) (IEC 60529) Environmental & Mechanical testing per IEC/EN 61131-2 European Standard: 2011/65/EU (RoHS2) Directive.
Regulatory Approval Symbols	



## Warranty Information

Control offers a 30-day satisfaction guarantee and 5-year limited warranty.

## Sales Support

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## Technical Support

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