

## IO-Link Master 8-EIP

Part Number: 99608-8



### KEY FEATURES AND BENEFITS

- Eight M12 IO-Link ports to EtherNet/IP™, which allows up to eight sensor or actuator connections on a single master
- L-Coded power connectors
- Rugged IP67 housing design for harsh environments
- Additional digital input on every port
- Power port sharing capability
- 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
- 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 (-25° to +60°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.

This IO-Link Master features a rugged IP67 slim-line design incorporating two Fast Ethernet ports, eight M12 IO-Link ports with L-Coded power connectors. Designed for harsh environments, its machine-mount design uses industrial grade components. The IO-Link Master is easily integrated into a system network and is compatible with existing and new industrial Ethernet installations.

# IO-LINK MASTER SPECIFICATIONS

## HARDWARE

Network Interfaces	10/100BASE-TX
Enclosure	
Molded Polyamide 66 (potted)	
Ingress Protection Rating	IP67
Installation and Grounding Method	
Machine or panel mount	
Two-hole M4 or #8 screws	
Network Protocols	
EtherNet/IP™, Modbus/TCP (slave)	
Channels	
8 x IO-Link / Digital I/O (configurable)	
8 x Digital Input DI	
2 x Ethernet	
LED Indicators	
Power, Module Status, Network Status, IO-Link, DI and Ethernet Port Status	
Dimensions	
8.35" x 2.56" x 1.18"	
212 x 65 x 30 mm	
Product Weight	
1.0 lb	
454 g	

## ELECTRICAL SPECIFICATIONS

Power Connectors	1 x Power Input 1 x Power Output
Connector type	M12, T-coded, 4-position
Power Connector Pin-Out	
Pin 1 - US+ (Master electronics & sensor supply)	
Pin 2 - UA- (Actuator supply)	
Pin 3 - US- (Master electronics & sensor supply)	
Pin 4 - UA- (Actuator supply)	
DC Input Voltage Range	20 VDC - 30 VDC
Power Supply In	
Module electronics and sensor (Us)	12A (max.)
Actuator supply (UA)	12A (max.)
Power Consumption (module electronics)	
100mA @ 24VDC	
Power Supply Out	
US	12A (max.) *
UA	12A (max.) **

\* US output available is determined by subtracting the following from the available input current:

- Module electronics
- Total C/Q current for all IO-Link ports
- Total sensor supply current

\*\* UA output available is the same as the available UA input current

## ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-25°C to +60°C
Storage Temperature	-40°C to +70°C
Operating Humidity (Non-Condensing)	
10% to 95%	
Storage Humidity (Non-Condensing)	
10% to 95%	
Ingress Protection	IP67 (EN / IEC 60529)
Shock / Vibrations	EN60068-2-6 EN60068-2-27
Environmental / Mechanical Approvals	IEC 61131-2

## ETHERNET INTERFACE SPECIFICATION

Number of Ports	2
Connector Type	M12 D-coded, 4-pin
Ethernet Specification	10/100BASE-TX
Standards	
IEEE 802.3: 10BASE-T	
IEEE 802.3u: 100BASE-TX	
Auto-MDI/MDI-X	Yes
Auto-Negotiation	Yes
Link Distance	100 m
Cable Types	
Unshielded/shielded twisted pair (Cat 5 or higher)	
IPv4 Addressing	Yes

## IO-LINK PORTS SPECIFICATIONS

IO-Link Version	
Supports V1.0 and V1.1	
Connectors	8 (Port 1 - 8)
Connector type	
M12, A-coded Female, 5-position	
Channels	
8 x IO-Link / Digital I/O (configurable)	
8 x DI	

## Connector Pinout

Pin 1 = L+
Pin 2 = DI
Pin 3 = L-
Pin 4 = C/Q
Pin 5 = no connect

## Configurations per connector

Pin 4 (configurable):	
IO-Link	
DI (SIO mode)	
DO (SIO mode)	
Pin 3: DI	
Output Current L+/L- (sensor)	
1.6 A (Port 1)	
500 mA (Port 2 - 8; each)	
Output Current C/Q	200 mA
Output Current per Master (C/Q & L+/L-)	
6.7 A (max.)	
IO-Link Mode Transfer Rates	4.8K (COM1) 38.4K (COM2) 230.4K (COM3)
Baud Rate Recognition	Automatic
Cable Length	20 m (max.)
Protection	
Overload and short circuit protection (Self recovers)	
Cable Length (Max.)	20 m

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

Input Characteristics	
IEC 61131-2 Type 1 and Type 3 Compliant	
Input Threshold	High: 10.5 - 13.0V Low: 8.0 - 11.5V
Typical Input Current	3 mA
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	1.6 A (max.)
Lamp Load (max.)	4W
Protection	
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

## ETHERNET/IP INTERFACE SPECIFICATIONS

Supported PLCs	
Including but not limited to:	
Control Logix	
Compact Logix	
RSLogix	
SLC 500	
PLCS	
MicroLogix	
Other Class 1 or Class 3 EtherNet/IP PLCs 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

## IO-LINK MASTER FEATURES

Configuration	Embedded web interface, IO-Link, EtherNet/IP, and 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 <ul style="list-style-type: none"> <li>Firmware upgradable</li> <li>Password protected with Admin, Operator, and User accounts</li> <li>ISDU batch handling</li> <li>Load IODD files to configure the IO-Link Device</li> <li>IODD Handler parses xml files making them readable and configurable</li> <li>Log files</li> </ul>
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 Shipping Weight	1.2 lb 544.3 g
Package Dimensions	10.5" x 4.5" x 1.5" 267 x 114 x 38mm
UPC Code	7-56727-99608-8
Country of Origin	USA
ECCN	5A992
Schedule B Number	8517.62.0050

## REGULATORY APPROVALS

Immunity	European Standard EN 61000-6-2 International Standard IEC 61000-6-2 IEC/EN 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 Part 15 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
Other	Ingress Protection rating IP67 (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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