IO-Link Master 8-EIP-L

Part Number: 99609-5

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

Comtrol'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, L-coded, 4 + FE
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) 16A (max.)
Actuator supply (UA) 16A (max.)
Power Consumption (module electronics)
100mA @ 24VDC
Power Supply Out
US 16A (max.) *
UA 16A (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

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)
1.0 A (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.) 30m

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 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

MODBUS TCP

Supported Controllers (Modbus TCP Masters)
PLC
HMI
SCADA
OPC Server
Supported Clients
Any Modbus TCP Client
Applications on phones/tables
Web Page Configuration
Port configuration for ISDU Response Timeout, Process Data, and Transfer Mode.
Diagnostics 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
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 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 7-56727-99609-5
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
EN/IEC 61131-2 and EN/IEC 61131-9
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
UL File # E360395
Vibration
EN 60068-2-6/ IEC 60068-2-6
Mechanical Shock
EN 60068-2-27/ IEC 60068-2-27
Environmental / Mechanical Test Approvals
IEC 61131-2
IEC 60529
Ingress Protection Rating
Ingress Protection rating IP20 (IEC 60529)
Other
European Standard: 2011/65/EU (RoHS2) Directive.
Regulatory Approval Symbols

COMTROL
Pepperl+Fuchs

Warranty Information
Comtrol offers a 30-day satisfaction guarantee and 5-year limited warranty.

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