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

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.

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, DIO 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 10/100BASE-TX
Standards 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 1.6 A (max.)
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

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)
2 x DI
Configurations per port DI/DO (configurable) = 1
DI = 1
Port Pinout Pin 1 – L+
Pin 2 – L-
Pin 3 – DI
Pin 4 – DIO
Output Current L+/L- (Pins 1 & 3) 200 mA (max.)
Cable Length (max.) 30 m

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/tables
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 capabilites:
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
Emmisions
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 pre IEC/EN 61131-2
European Standard: 2011/65/EU (RoHS2) Directive.
Regulatory Approval Symbols

COMTROL®

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

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