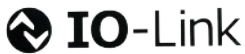# IO-Link Master DR-8-PNIO-P

Part Number: 99671-2

KEY FEATURES AND BENEFITS

- Eight port IO-Link Master to PROFINET IO with pluggable/removable push-in plug connectors for IO-Link and Power
- IP20 DIN rail mount enclosure
- Dual Ethernet ports
- Additional digital input on every port
- MultiLink™ – Simultaneously provides IO-Link device access to multiple controllers
- PLC access to IO-Link ISDU blocks without complex programming
- PROFINET Certification
- Supports the IOL_CALL function
- GDSML files
- 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 PROFINET IO 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 PROFINET IO and Modbus TCP interfaces, which decreases system development time and installation efforts.

This IO-Link Master easily installs on a standard DIN rail and incorporates two Fast Ethernet ports, eight pluggable/removable push-in plug IO-Link 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.

Your automation, our passion.

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)	
Pluggable Push-In screwless terminal plugs	
Connection Methods	
Push-In spring screwless terminals	
Connectors (Ethernet)	RJ45
Network Protocols	
PROFINET IO, Modbus/TCP	
Channels	
8 x IO-Link / Digital I/O (configurable)	
8 x Digital Input DI	
2 x Ethernet	
LED Indicators	
Module Status, Network Status, IO-Link, DI, Ethernet Link & Activity	
Dimensions (L x W x H)	
1.78" x 4.65" x 4.5"	
45 mm x 1018 mm x 114 mm	
Product Weight	8.8 oz
	249.5 g

Electrical Specifications

DC Input Voltage Range	18 VDC – 30VDC
Current Consumption (max.)	3.7A at 24VDC
Current Consumption (system electronics)	155mA at 24VDC
Power Consumption (system electronics)	3.75W
Power Input Connector	1

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

PROFINET IO

Web Page Configuration	
PROFINET IO Device Name	
IOL_CALL Function Block Timeout (1-20)	
Diagnostics	Yes
GSD Files	Yes
Diagnostics	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

DR-8-PNIO 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, PROFINET IO, 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
- Save/Load Configuration Files
- 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	0.85 lbs.
	385.5 g
Package Dimensions	
5.7" x 5.7" x 3.4""	
145mm x 145mm x 86.4mm	
UPC Code	7-56727-99671-2
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

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
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
The components of this product comply with the requirements of the EMC/EMI Directive 2014/30/EU, Directive 2011/65/EU on the Restriction of the use of certain Hazardous Substances (RoHS2).

Regulatory Approval Symbols

CE FC cULus