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ioLogik 4000 Series (M) Modules

Remote I/O modules



Features and Benefits

- I/O expansion without a backplane
- Active communication with MX-AOPC UA Server
- Supports SNMP v1/v2c
- Easy configuration with Modular ioAdmin utility
- Friendly configuration via web browser
- Simplifies I/O management with MXIO library for Windows or Linux

Certifications

Introduction

The ioLogik 4000 Series is suitable for remote monitoring and alarm systems, such as those used for water treatment systems, water supply systems, wastewater treatment systems, and power monitoring systems. These kinds of applications need more I/O points and a variety of I/O types, including temperature sensors, gas detectors, and water quality detectors, all of which can benefit from the versatile mixture of I/O features supported by the ioLogik 4000 Series.

Specifications

Input/Output Interface

Digital Input Channels	M-1450/1451: 4 M-1800/1801: 8 M-1600/1601: 16
Digital Output Channels	M-2800/2801: 8 M-2600/2601: 16
Analog Input Channels	M-3802/3810: 8
Analog Output Channels	M-4402/4410: 4
Thermocouple Channels	M-6201: 2
RTD Channels	M-6200: 2
Isolation	3k VDC or 2k Vrms

Digital Inputs

Connector	M-1450/1451/1800/1801: Spring-type Euroblock terminal M-1600/1601: I/O flat cable, 20-pin
I/O Mode	DI
Points per COM	M-1450/1451: 2 channels M-1600/1601/1800/1801: 8 channels
Sensor Type	M-1800/1801: NPN M-1600/1601: PNP

Digital Outputs

Connector	M-2800/2801: Spring-type Euroblock terminal M-2600/2601: I/O flat cable, 20-pin
Current Rating	500 mA per channel
I/O Type	M-2600/2800: Sink M-2601/2801: Source
I/O Mode	DO

Relays

Connector	Spring-type Euroblock terminal
Contact Current Rating	Resistive load: 2 A @ 24 VDC Resistive load: 0.5 A @ 110 VDC Resistive load: 2 A @ 230 VAC
Type	Form A (N.O.) power relay

Analog Inputs

Accuracy	±0.1% FSR @ 25°C ±0.3% FSR @ 0 and 60°C
Connector	Spring-type Euroblock terminal
I/O Mode	Voltage/Current
Input Impedance	M-3810: 500 kilo-ohms (min.) M-3801: 120 ohms
Input Range	M-3810: 0 to 10 VDC M-3802: 4 to 20 mA

Analog Outputs

Accuracy	±0.1% FSR @ 25°C ±0.3% FSR @ 0 and 60°C
Connector	Spring-type Euroblock terminal
Output Range	M-4410: 0 to 10 VDC M-4402: 4 to 20 mA
Resolution	12-bit
I/O Mode	Static
I/O Type	Single-ended
Output Impedance	500 ohms

RTDs

Accuracy	±0.1% FSR @ 25°C ±0.3% FSR @ 0 and 60°C
Connector	Spring-type Euroblock terminal
Input Impedance	500 kilo-ohms (min.)

Sensor Type	JPT100, JPT200, JPT500 (-200 to 640°C) JPT1000 (-200 to 350°C) NI100, NI50, NI500 (-60 to 250°C) NI1000 (-60 to 150°C) NI120 (-80 to 260°C) CU10
Resolution	0.1°C or 0.1 ohms

Thermocouples

Millivolt Accuracy	±0.1% FSR @ 25°C ±0.3% FSR @ 0 and 60°C
Connector	Spring-type Euroblock terminal
Millivolt Type	±19.532 mV ±39.062 mV ±78.126 mV
Resolution	12-bit 0.1°C or 10 µV
Sensor Type	J, K, T, E, R, S, B, N
Input Impedance	500 kilo-ohms (min.)

Power Parameters

Power Connector	Spring-type Euroblock terminal
No. of Power Inputs	M-7001: 2 M-7002: 1
Input Voltage	M-7001: 24 VDC, 11 to 28.8 VDC M-7002: 5/24/48 VDC, 110/220 VAC
Power Consumption	M-1450/1451/1800/1801: 35 mA @ 5 VDC M-1600/1601: 40 mA @ 5 VDC M-2450: 65 mA @ 5 VDC M-2600/2601/2800/2801/3810/4402/4410: 60 mA @ 5 VDC M-3802/6200/6201: 80 mA @ 5 VDC
Channels	M-7804: 8 M-7805: 8
Mode	M-7804: 0 VDC M-7805: 24 VDC

Physical Characteristics

Housing	Plastic
Dimensions	14.1 x 99 x 70 mm (0.56 x 3.90 x 2.76 in)
Weight	Under 80 g
Installation	DIN-rail mounting
Wiring	I/O cable, 14 to 28 AWG

Environmental Limits

Operating Temperature	-10 to 60°C (14 to 140°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

EMC	EN 55032/24, EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Safety	UL 508
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

Declaration

Green Product	RoHS, CRoHS, WEEE

MTBF

Time	M-1450: 19,482,240 hrs M-1451: 19,727,520 hrs M-1600: 11,659,560 hrs M-1601: 11,694,600 hrs M-1800: 15,759,240 hrs M-1801: 15,811,800 hrs M-2450: 14,033,520 hrs M-2600: 9,732,360 hrs M-2601: 9,749,880 hrs M-2800: 13,884,600 hrs M-2801: 14,340,120 hrs M-3802: 7,375,920 hrs M-3810: 7,288,320 hrs M-4402: 7,840,200 hrs M-4410: 6,219,600 hrs M-6200: 3,644,160 hrs M-6201: 3,828,120 hrs M-7001: 19,569,840 hrs M-7002: 75,528,720 hrs M-7804: 73,750,440 hrs M-7805: 73,750,440 hrs
Standards	Telcordia SR332

Warranty

Warranty Period	2 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x ioLogik 4000 Series (M) Module

Ordering Information

Model Name	Input/Output Interface	Digital Input	Digital Output	Relay	Analog Input Type	Analog Output Type	System Power Module	Field Power Module	Potential Distributor Module
M-1450	4 x DI	110 VAC	–	–	–	–	–	–	–
M-1451	4 x DI	220 VAC	–	–	–	–	–	–	–
M-1600	16 x DI	Sink 24 VDC	–	–	–	–	–	–	–

Model Name	Input/Output Interface	Digital Input	Digital Output	Relay	Analog Input Type	Analog Output Type	System Power Module	Field Power Module	Potential Distributor Module
M-1601	16 x DI	Source 24 VDC	–	–	–	–	–	–	–
M-1800	8 x DI	Sink 24 VDC	–	–	–	–	–	–	–
M-1801	8 x DI	Source 24 VDC	–	–	–	–	–	–	–
M-2450	4 x Relay	–	–	Form A 24 VDC/230 VAC, 2 A	–	–	–	–	–
M-2600	16 x DO	–	Sink 24 VDC	–	–	–	–	–	–
M-2601	16 x DO	–	Source 24 VDC	–	–	–	–	–	–
M-2800	8 x DO	–	Sink 24 VDC	–	–	–	–	–	–
M-2801	8 x DO	–	Source 24 VDC	–	–	–	–	–	–
M-3802	8 x AI	–	–	–	4-20 mA	–	–	–	–
M-3810	8 x AI	–	–	–	0-10 V	–	–	–	–
M-4402	4 x AO	–	–	–	–	4-20 mA	–	–	–
M-4410	4 x AO	–	–	–	–	0-10 V	–	–	–
M-6200	2 x RTD	–	–	–	RTD	–	–	–	–
M-6201	2 x TC	–	–	–	TC	–	–	–	–
M-7001	–	–	–	–	–	–	10A/5 VDC	–	–
M-7002	–	–	–	–	–	–	–	DC: 5 VDC, 24 VDC, 48 VDC AC: 110 VAC, 220 VAC	–
M-7804	–	–	–	–	–	–	–	–	8-ch, 0 VDC
M-7805	–	–	–	–	–	–	–	–	8-ch, 24 VDC

Accessories (sold separately)

Cables

20P To 20P Flat Cable-500mm	20-to-20-pin flat cable for connecting the TB 1600 and ioLogik 4000 Series, 50 cm Applicable Models: M-1600 M-1601 M-2600 M-2601

Terminal Modules

TB1600	DIN-rail mounting screw terminal module, 20-pin connector, 3.81 mm pitch, 77.5 x 67.5 x 51 mm Applicable Models: M-1600 M-1601 M-2600 M-2601

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