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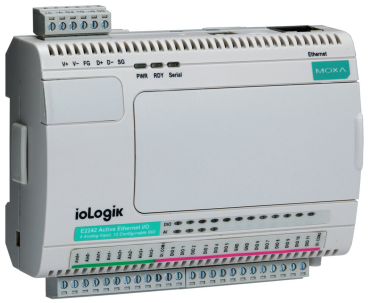
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ioLogik E2200 Series

Smart Ethernet remote I/O with Click&Go Logic



Features and Benefits

- Front-end intelligence with Click&Go control logic, up to 24 rules
- Active communication with MX-AOPC UA Server
- Saves time and wiring costs with peer-to-peer communications
- Supports SNMP v1/v2c/v3
- Friendly configuration via web browser
- Simplifies I/O management with MXIO library for Windows or Linux
- Wide operating temperature models available for -40 to 75°C (-40 to 167°F) environments

Certifications

Introduction

Moxa's ioLogik E2200 Series Ethernet Remote I/O is a PC-based data acquisition and control device that uses proactive, event-based reporting to control I/O devices and features the Click&Go programming interface. Unlike traditional PLCs, which are passive and must poll for data, Moxa's ioLogik E2200 Series will, when paired with our MX-AOPC UA Server, communicate with SCADA systems using active messaging that is pushed to the server only when state changes or configured events occur. Additionally, the ioLogik E2200 features SNMP for communications and control using an NMS (Network Management System), allowing IT professionals to configure the device to push I/O status reports according to configured specifications. This report-by-exception approach, which is new to PC-based monitoring, requires far less bandwidth than traditional polling methods.

PC-Free Alarm and Control Intelligence

This device supports simple yet powerful Click&Go™ technology to configure event-driven reports and alarms delivered over email, TCP/UDP, or SNMP traps, giving you a powerful and effective tool for delivering timestamped status updates in real time.

With built-in Click&Go™ intelligence, this device can be configured for simple outputs paired up with simple input triggers without the need for a PC controller. This allows it to be configured to automatically report I/O events according to conditions specified by the user.

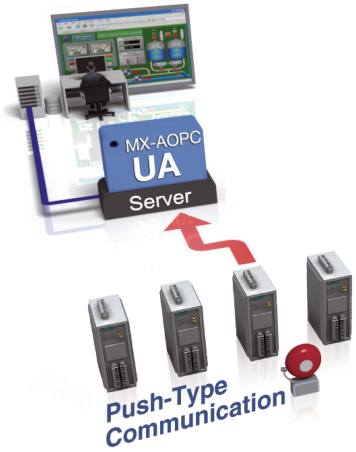


SNMP for Ethernet Device Management

By using SNMP, IT engineers can configure the device to deliver alarms (traps) for specific I/O events, or use it to read or write directly to the I/O registers. For the strongest security, the device features SNMPv3, with authentication and encryption. With Moxa's SNMP-capable I/O, even IT professionals can easily integrate industrial sensors and servos over an Ethernet backbone, and with its strong network management tools, it is ideal for a wide variety of industrial applications, including environmental monitoring, telecommunications, power production and delivery, and transportation.

Push Technology for Events and Alarms

When used with MX-AOPC UA Server, devices can use active push communications when communicating changes in state and/or events to a SCADA system. Unlike a polling system, when using a push architecture for communications with a SCADA system, messages will only be delivered when changes in state or configured events occur, resulting in higher accuracy and lower amounts of data that need to be transferred.



Specifications

Control Logic

Language	Click&Go

Input/Output Interface

Digital Input Channels	ioLogik E2210 Series: 12 ioLogik E2212 Series: 8 ioLogik E2214 Series: 6
Digital Output Channels	ioLogik E2210/E2212 Series: 8 ioLogik E2260/E2262 Series: 4
Configurable DIO Channels (by software)	ioLogik E2212 Series: 4 ioLogik E2242 Series: 12
Relay Channels	ioLogik E2214 Series: 6
Analog Input Channels	ioLogik E2240 Series: 8 ioLogik E2242 Series: 4
Analog Output Channels	ioLogik E2240 Series: 2
RTD Channels	ioLogik E2260 Series: 6
Thermocouple Channels	ioLogik E2262 Series: 8
Buttons	Reset button
Rotary Switch	0 to 9
Isolation	3k VDC or 2k Vrms

Digital Inputs

Connector	Screw-fastened Euroblock terminal
Sensor Type	ioLogik E2210 Series: Dry Contact and Wet Contact (NPN) ioLogik E2212/E2214/E2242 Series: Dry Contact and Wet Contact (NPN or PNP)
I/O Mode	DI or event counter
Dry Contact	On: short to GND Off: open
Wet Contact (DI to GND)	On: 0 to 3 VDC Off: 10 to 30 VDC
Counter Frequency	900 Hz

Digital Filtering Time Interval	Software configurable
Points per COM	ioLogik E2210 Series: 12 channels ioLogik E2212/E2242 Series: 6 channels ioLogik E2214 Series: 3 channels

Digital Outputs

Connector	Screw-fastened Euroblock terminal
I/O Type	Sink
I/O Mode	DO or pulse output
Current Rating	200 mA per channel
Pulse Output Frequency	1 kHz
DIO Output Leakage Current	4.0 mA @ 24 VDC
Over-Current Protection	0.65 A per channel @ 25°C
Over-Temperature Shutdown	175°C (min.)
Over-Voltage Protection	45 VDC (typical)

Relays

Connector	Screw-fastened Euroblock terminal
Type	Form A (N.O.) power relay
I/O Mode	Relay or pulse output
Pulse Output Frequency	0.3 Hz at rated load
Contact Current Rating	Inductive load: 2 A @ 30 VDC, 250 VAC, 110 VAC Resistive load: 5 A @ 30 VDC, 250 VAC, 110 VAC
Minimum Permitted Load	1 A @ 5 VDC
Contact Resistance	100 milli-ohms (max.)
Electrical Endurance	100,000 operations @ 5 A resistive load
Mechanical Endurance	1,000,000 operations
Note	Ambient humidity must be non-condensing and remain between 5 and 95%. The relays may malfunction when operating in high condensation environments below 0°C.

Analog Inputs

Connector	Screw-fastened Euroblock terminal
I/O Mode	Voltage/Current
I/O Type	Differential
Resolution	16 bits
Input Range	ioLogik E2240 Series: ±150 mV, ±500 mV, ±5 V, ±10 V, 0 to 20 mA, 4 to 20 mA ioLogik E2242 Series: ±150 mV, 0 to 150 mV, ±500 mV, 0 to 500 mV, ±5 V, 0 to 5 V, ±10 V, 0 to 10 V, 0 to 20 mA, 4 to 20 mA
Accuracy	ioLogik E2240/E2242: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ioLogik E2240-T/E2242-T:

	±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ±0.5% FSR @ -40 to 75°C
Sampling Rate	ioLogik E2240 Series: All Channels: 10 samples/sec for voltage; 6 samples/sec for current Per Channel: 1.25 samples/sec for voltage; 0.75 samples/sec for current Single channel: 1.25 samples/sec for voltage; 0.75 samples/sec for current ioLogik E2242 Series: All channels: 32 samples/sec Per channel: 8 samples/sec Single channel: 100 samples/sec
Built-in Resistor for Current Input	120 ohms
Input Impedance	ioLogik E2240 Series: 900 kilo-ohms (min.) ioLogik E2242 Series: 200 kilo-ohms (min.)
Over-Voltage Protection	-25 to +30 VDC (power on) -35 to +35 VDC (power off)

Analog Outputs

Connector	Screw-fastened Euroblock terminal
I/O Mode	Voltage/Current
Output Range	0 to 10 VDC 4 to 20 mA
Resolution	12-bit
Accuracy	ioLogik E2240: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ioLogik E2240-T: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ±0.5% FSR @ -40 to 75°C
Load (Current Mode)	Internal power: 250 ohms (max.)

RTDs

Connector	Screw-fastened Euroblock terminal
Sensor Type	JPT100, JPT200, JPT500 (-200 to 640°C) JPT1000 (-200 to 350°C) NI100, NI200, NI500 (-60 to 250°C) NI1000 (-60 to 150°C) NI120 (-80 to 260°C) PT1000 (-200 to 350°C) PT50, PT100, PT200, PT500 (-200 to 850°C) Resistance of 310, 620, 1250, and 2200 ohms
Input Connection	2- or 3-wire
Sampling Rate	All channels: 12 samples/sec Per channel: 2 samples/sec
Resolution	0.1°C or 0.1 ohms

Accuracy	ioLogik E2260: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ioLogik E2260-T: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ±0.5% FSR @ -40 to 75°C
Input Impedance	625 kilo-ohms (min.)

Thermocouples

Connector	Screw-fastened Euroblock terminal
Sensor Type	J, K, T, E, R, S, B, N
Millivolt Type	±19.532 mV ±39.062 mV ±78.126 mV Fault and over-voltage protection: -35 to +35 VDC (power off); -25 to +30 VDC (power on)
Resolution	16 bits
Millivolt Accuracy	ioLogik E2262: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ioLogik E2262-T: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ±0.5% FSR @ -40 to 75°C
TC Accuracy	Types J, T, E, S, B: ±5°C Types K, R, N: ±8°C
CJC Accuracy	±0.5°C @ 25°C ±1.5°C @ -40 to 75°C
Sampling Rate	All channels: 12 samples/sec Per channel: 1.5 samples/sec
Input Impedance	1 mega-ohms (min.)

LED Interface

LED Indicators	PWR, RDY, Serial, I/O Status

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Windows Utility (ioAdmin), Web Console (HTTP)
Industrial Protocols	Modbus TCP Server (Slave), SNMPv1/v2c/v3, SNMPv1 Trap, Moxa AOPC (Active Tag), MXIO Library, CGI commands
Management	BOOTP, IPv4, SMTP, DHCP Client, HTTP, TCP/IP
MIB	Device Settings MIB
Time Management	SNTP

Security Functions

Authentication	Local database
Encryption	HMAC
Security Protocols	SNMPv3

Modbus TCP

Functions Supported	1, 2, 3, 4, 5, 6, 15, 16
Mode	Server (Slave)

Serial Interface

Connector	Terminal block
Serial Standards	RS-485
No. of Ports	1
Baudrate	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps
Parity	None
Data Bits	8
Stop Bits	1
Flow Control	None

Serial Signals

RS-485-2w	Data+, Data-, GND

Serial Software Features

Industrial Protocols	Modbus RTU Master

Platform

Real-time Clock (RTC)	Real-time clock with battery backup

Power Parameters

Power Connector	Screw-fastened Euroblock terminal
No. of Power Inputs	1
Input Voltage	12 to 36 VDC
Power Consumption	ioLogik E2210 Series: 202 mA @ 24 VDC ioLogik E2212 Series: 136 mA @ 24 VDC ioLogik E2214 Series: 170 mA @ 24 VDC ioLogik E2240 Series: 198 mA @ 24 VDC ioLogik E2242 Series: 178 mA @ 24 VDC ioLogik E2260 Series: 95 mA @ 24 VDC ioLogik E2262 Series: 160 mA @ 24 VDC

Physical Characteristics

Dimensions	115 x 79 x 45.6 mm (4.53 x 3.11 x 1.80 in)
Weight	250 g (0.55 lb)
Installation	DIN-rail mounting, Wall mounting

Wiring	I/O cable, 16 to 26 AWG Power cable, 16 to 26 AWG
Housing	Plastic

Environmental Limits

Operating Temperature	Standard Models: -10 to 60°C (14 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Altitude	2000 m[1]

Standards and Certifications

Safety	UL 508
EMC	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: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6
Freefall	IEC 60068-2-32

Declaration

Green Product	RoHS, CRoHS, WEEE

MTBF

Time	ioLogik E2210 Series: 213,673 hrs ioLogik E2212 Series: 217,722 hrs ioLogik E2214 Series: 307,329 hrs ioLogik E2240 Series: 155,941 hrs ioLogik E2242 Series: 204,391 hrs ioLogik E2260 Series: 327,282 hrs ioLogik E2262 Series: 341,063 hrs
Standards	Telcordia SR332

Warranty

Warranty Period	ioLogik E2214 Series: 2 years[2] ioLogik E2210/E2212/E2240/E2242/E2260/E2262 Series: 5 years
Details	See www.moxa.com/warranty

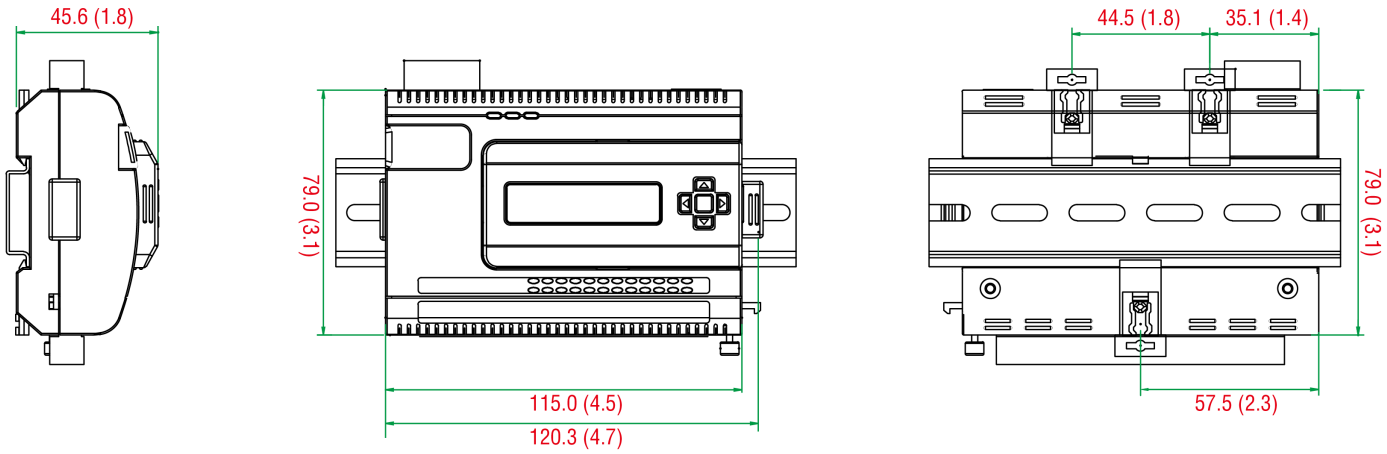
Package Contents

Device	1 x ioLogik E2200 Series remote I/O
Documentation	1 x quick installation guide 1 x warranty card

1. Please contact Moxa if you require products guaranteed to function properly at higher altitudes.
2. Because of the limited lifetime of power relays, products that use this component are covered by a 2-year warranty.

Dimensions

Unit: mm (inch)



Side View

Front View

Rear View

Ordering Information

Model Name	Input/Output Interface	Digital Input Sensor Type	Analog Input Range	Operating Temp.
ioLogik E2210	12 x DI, 8 x DO	Wet Contact (NPN), Dry Contact	–	-10 to 60°C
ioLogik E2210-T	12 x DI, 8 x DO	Wet Contact (NPN), Dry Contact	–	-40 to 75°C
ioLogik E2212	8 x DI, 4 x DIO, 8 x DO	Wet Contact (NPN or PNP), Dry Contact	–	-10 to 60°C
ioLogik E2212-T	8 x DI, 4 x DIO, 8 x DO	Wet Contact (NPN or PNP), Dry Contact	–	-40 to 75°C
ioLogik E2214	6 x DI, 6 x Relay	Wet Contact (NPN or PNP), Dry Contact	–	-10 to 60°C
ioLogik E2214-T	6 x DI, 6 x Relay	Wet Contact (NPN or PNP), Dry Contact	–	-40 to 75°C
ioLogik E2240	8 x AI, 2 x AO	–	±150 mV, ±500 mV, ±5 V, ±10 V, 0-20 mA, 4-20 mA	-10 to 60°C
ioLogik E2240-T	8 x AI, 2 x AO	–	±150 mV, ±500 mV, ±5 V, ±10 V, 0-20 mA, 4-20 mA	-40 to 75°C
ioLogik E2242	12 x DIO, 4 x AI	Wet Contact (NPN or PNP), Dry Contact	±150 mV, 0-150 mV, ±500 mV, 0-500 mV, ±5 V, 0-5 V, ±10 V, 0-10 V, 0-20 mA, 4-20 mA	-10 to 60°C
ioLogik E2242-T	12 x DIO, 4 x AI	Wet Contact (NPN or PNP), Dry Contact	±150 mV, 0-150 mV, ±500 mV, 0-500 mV, ±5 V, 0-5 V, ±10 V, 0-10 V, 0-20 mA, 4-20 mA	-40 to 75°C
ioLogik E2260	4 x DO, 6 x RTD	–	–	-10 to 60°C
ioLogik E2260-T	4 x DO, 6 x RTD	–	–	-40 to 75°C
ioLogik E2262	4 x DO, 8 x TC	–	–	-10 to 60°C
ioLogik E2262-T	4 x DO, 8 x TC	–	–	-40 to 75°C

Accessories (sold separately)

Software

MX-AOPC UA Server	OPC UA Server software for converting fieldbus to the OPC UA standard

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