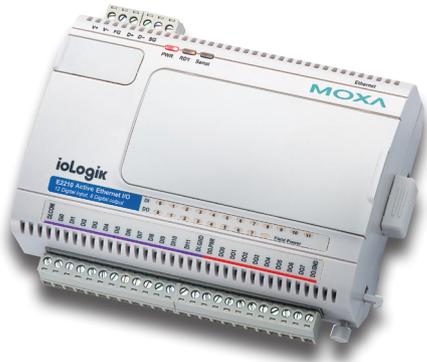


ioLogik E2200 Series

Ethernet micro RTU controllers



- Active communication with patented Active OPC Server
- Smart alarm management with e-mail, SNMP Trap, TCP, UDP
- Save time and wiring costs with peer-to-peer communication
- Front-end intelligence with patented Click&Go control logic, up to 24 rules
- Simplify I/O management with MXIO library for Windows or Linux
- Friendly configuration with web browser
- Supports SNMPv1/v2c/v3 protocol
- Wide operating temperature range of -40 to 75°C (-40 to 167°F)



Introduction

Moxa's ioLogik E2200 is a new type of Ethernet micro RTU controller, which is a PC-based data acquisition and control device that uses proactive, event-based reporting to control I/O devices. Unlike traditional RTUs, which are passive and must poll for data, Moxa's ioLogik E2200 series with Active OPC Server makes seamless connection with SCADA systems a reality. In addition, SNMP is used

for communicating with an NMS (Network Management System) for IT field users. The I/O status of an Ethernet micro RTU controller can be reported and controlled automatically on-site based on user specified conditions. This report-by-exception approach, which is new to PC-based monitoring, requires far less bandwidth than traditional polling methods.

ioLogik E2200 Series Selection Table

Models	I/O Combinations							
	Digital Inputs	Digital Outputs	Analog Inputs	Analog Outputs	RTD Inputs	TC Inputs	Relay Outputs	Configurable DIOs
ioLogik E2210	12	8	–	–	–	–	–	–
ioLogik E2212	8	8	–	–	–	–	–	4
ioLogik E2214	6	–	–	–	–	–	6	–
ioLogik E2240	–	–	8	2	–	–	–	–
ioLogik E2242	–	–	4	–	–	–	–	12
ioLogik E2260	–	4	–	–	6	–	–	–
ioLogik E2262	–	4	–	–	–	8	–	–

ioLogik E2210 Specifications

Inputs and Outputs

Digital Inputs: 12 channels
Digital Outputs: 8 channels
Isolation: 3K VDC or 2K Vrms

Digital Input

Sensor Type: Wet Contact (NPN), Dry Contact
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

Common Type: 12 points per COM

Counter Frequency: 900 Hz

Digital Filtering Time Interval: Software selectable

Digital Output

Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 1 kHz

Over-voltage Protection: 45 VDC

Over-current Protection: 2.6 A (4 channels @ 650 mA)

Over-temperature Shutdown: 175°C (min.)

Current Rating: 200 mA per channel

Power Requirements

Power Consumption: 203 mA @ 24 VDC

MTBF (mean time between failure)

Time: 213,673 hrs

Database: Telcordia (Bellcore)

ioLogik E2212 Specifications

Inputs and Outputs

Digital Inputs: 8 channels
Digital Outputs: 8 channels
Configurable DIOs: 4 channels
Isolation: 3K VDC or 2K Vrms

Digital Input

Sensor Type: Wet Contact (NPN or PNP) and Dry Contact

I/O Mode: DI or Event Counter

Dry Contact:

- On: short to GND
- Off: open

Wet Contact (GI to GND):

- On: 0 to 3 VDC
- Off: 10 to 30 VDC

Common Type: 6 points per COM

Counter Frequency: 900 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Digital Output

Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 1 kHz

Over-voltage Protection: 45 VDC

Over-current Protection: 2.6 A (4 channels @650 mA)

Over-temperature Shutdown: 175°C (min.)

Current Rating: 200 mA per channel

Power Requirements

Power Consumption: 136 mA @ 24 VDC

MTBF (mean time between failure)

Time: 217,722 hrs

Database: Telcordia (Bellcore)

ioLogik E2214 Specifications

Inputs and Outputs

Digital Inputs: 6 channels
Relay Outputs: 6 channels
Isolation: 3K VDC or 2K Vrms

Digital Input

Sensor Type: Wet Contact (NPN or PNP) and Dry Contact

I/O Mode: DI or Event Counter

Dry Contact:

- On: short to GND
- Off: open

Wet Contact:

- On: 0 to 3 VDC
- Off: 10 to 30 VDC

Common Type: 3 points per COM

Counter Frequency: 900 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Relay Output

Type: Form A (N.O.) power relay

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

Initial Insulation Resistance: 1000 M ohms (min.) @ 500 VDC

Mechanical endurance: 1,000,000 operations

Electrical endurance: 100,000 operations @ 5 A resistive load

Contact Resistance: 100 m ohms (max.)

Pulse Output: 0.3 Hz at rated load

Power Requirements

Power Consumption: 170 mA @ 24 VDC

MTBF (mean time between failure)

Time: 307,239 hrs

Database: Telcordia (Bellcore)

ioLogik E2240 Specifications

Inputs and Outputs

Analog Inputs: 8 channels
Analog Outputs: 2 channels

Analog Input

Type: Differential input

Resolution: 16 bits

I/O Mode: Voltage / Current

Input Range: ±150 mV, ±500 mV, ±5 V, ±10 V, 0 to 20 mA, 4 to 20 mA

Accuracy:

- ±0.1% FSR @ 25°C
- ±0.3% FSR @ -10 and 60°C
- ±0.5% FSR @ -40 and 75°C

Sampling Rate:

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

Input Impedance: 900K ohms (min.)

Built-in Resistor for Current Input: 120 ohms

Isolation: 3K VDC or 2K Vrms

Analog Output

Resolution: 12 bits

Output Range: 0 to 10 V, 4 to 20 mA

Drive Voltage: 15 VDC for current output

Accuracy:

- ±0.1% FSR @ 25°C,
- ±0.3% FSR @ -10 and 60°C

Load Resistor: Less than 250 ohms

Power Requirements

Power Consumption: 198 mA @ 24 VDC

MTBF (mean time between failure)

Time: 155,941 hrs

Database: Telcordia (Bellcore)

ioLogik E2242 Specifications

Inputs and Outputs

Analog Inputs: 4 channels
Configurable DIOs: 12 channels

Analog Input

Type: Differential input

Resolution: 16 bits

I/O Mode: Voltage / Current

Input Range: ±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:

±0.1% FSR @ 25°C

±0.3% FSR @ -10 and 60°C

±0.5% FSR @ -40 and 75°C

Sampling Rate:

All channels:

- 32 samples/sec

Per channel:

- 8 samples/sec

Single channel:

- 100 samples/sec

Input Impedance: 200K ohms (min.)

Built-in Resistor for Current Input: 120 ohms

Digital Input

Sensor Type: Wet Contact (NPN or PNP) and Dry Contact

I/O Mode: DI or event counter

Dry Contact:

- On: short to GND

- Off: Open

Wet Contact:

- On: 0 to 3 VDC

- Off: 10 to 30 VDC

Common Type: 6 points per COM

Isolation: 3K VDC or 2K Vrms

Counter Frequency: 900 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Digital Output

Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 1 kHz

Over-voltage Protection: 45 VDC

Over-current Protection: 2.6 A (4 channels @ 650 mA)

Over-temperature Shutdown: 175°C (min.)

Current Rating: 200 mA per channel

Isolation: 3K VDC or 2K Vrms

Power Requirements

Power Consumption: 178 mA @ 24 VDC

MTBF (mean time between failure)

Time: 204,391 hrs

Database: Telcordia (Bellcore)

ioLogik E2260 Specifications

Inputs and Outputs

RTD Inputs: 6 channels

Digital Outputs: 4 channels

Isolation: 3K VDC or 2K Vrms

RTD Inputs

Input Type: PT50, PT100, PT200, PT500, PT1000; JPT100, JPT200, JPT500, JPT1000; NI100, NI120, NI200, NI500, NI1000; Resistance of 310, 620, 1250, and 2200 ohms

Sampling Rate: 12 samples/sec (all channels)

Resolution: 0.1°C or 0.1 ohm

Accuracy:

±0.1% FSR @ 25°C

±0.3% FSR @ -10 and 60°C

±0.5% FSR @ -40 and 75°C

Input Impedance: 625K ohms

Digital Output

Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 100 Hz

Over-voltage Protection: 45 VDC

Over-current Protection: 2.6 A (4 channels @ 650 mA)

Over-temperature Shutdown: 175°C

Current Rating: 200 mA per channel

Power Requirements

Power Consumption: 95 mA @ 24 VDC

MTBF (mean time between failure)

Time: 327,282 hrs

Database: Telcordia (Bellcore)

ioLogik E2262 Specifications

Inputs and Outputs

Thermocouple Inputs: 8 channels

Digital Outputs: 4 channels

Thermocouple Input

Sensor Type: J (0 to 750°C), K (-200 to 1250°C), T (-200 to 350°C), E (-200 to 900°C), R (-50 to 1600°C), S (-50 to 1760°C), B (600 to 1700°C), N (-200 to 1300°C)

Millivolt Type:

- Mode: ±78.126 mV, ±39.062 mV, ±19.532 mV

- Fault and over-voltage protection: -35 to +35 VDC (power off); -25 to +30 VDC (power on)

Sampling Rate: 12 samples/sec (all channels)

Resolution: 16 bits

Accuracy:

±0.1% FSR @ 25°C

±0.3% FSR @ -10 and 60°C

±0.5% FSR @ -40 and 75°C

Input Impedance: 1 M ohms

Digital Output

Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 100 Hz

Over-voltage Protection: 45 VDC

Over-current Protection: 2.6 A (4 channels @ 650 mA)

Over-temperature Shutdown: 175°C

Current Rating: 200 mA per channel

Isolation: 3K VDC or 2K Vrms

Power Requirements

Power Consumption: 160 mA @ 24 VDC

MTBF (mean time between failure)

Time: 341,063 hrs

Database: Telcordia (Bellcore)

Common Specifications

LAN

Ethernet: 1 x 10/100 Mbps, RJ45

Protection: 1.5 kV magnetic isolation

Protocols: Modbus/TCP, TCP/IP, UDP, DHCP, Bootp, SNMP, HTTP, CGI, SNTp, SMTP

Serial Communication

Interface: RS-485-2w: Data+, Data-, GND (3-contact terminal block)

Serial Line Protection: 15 kV ESD for all signals

Serial Communication Parameters

Parity: None

Data Bits: 8

Stop Bits: 1

Flow Control: None

Baudrate: 1200 to 115200 bps

Protocol: Modbus/RTU

Power Requirements

Power Input: 24 VDC nominal, 12 to 36 VDC

Physical Characteristics

Wiring: I/O cable max. 14 AWG

Dimensions: 115 x 79 x 45.6 mm (4.53 x 3.11 x 1.80 in)

Weight: under 250 g

Mounting: DIN-rail or wall

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: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Altitude: Up to 2000 m

Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Standards and Certifications

Safety: UL 508

EMI:

EN 61000-3-2; EN 61000-3-3; EN 61000-6-4;

FCC Part 15, Subpart B, Class A

EMS:

EN 61000-4-2, EN 61000-4-3, EN 61000-4-4,

EN 61000-4-5, EN 61000-4-6, EN 61000-4-8,

EN 61000-4-11, EN 61000-6-2

Shock: IEC 60068-2-27

Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Green Product: RoHS, CRoHS, WEEE

Note: Please check Moxa's website for the most up-to-date certification status.

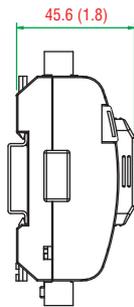
Warranty

Warranty Period: 5 years (excluding ioLogik E2214*)

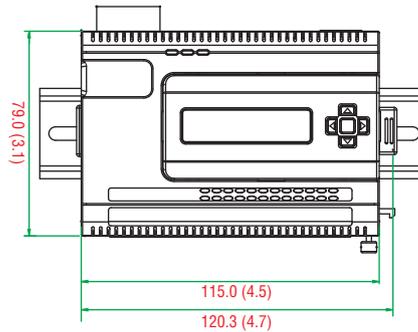
*Because of the limited lifetime of power relays, products that use that component are covered by a 2-year warranty.

Details: See www.moxa.com/warranty

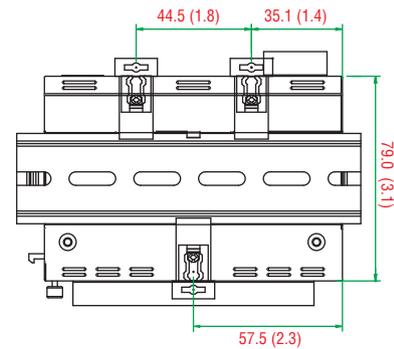
Dimensions



Side View



Front View



Rear View

Unit: mm (inch)

Ordering Information

Available Models

- ioLogik E2210:** Ethernet micro RTU controller with 12 DIs, 8 DOs, -10 to 60°C operating temperature
- ioLogik E2212:** Ethernet micro RTU controller with 8 DIs, 8 DOs, 4 DIOS, -10 to 60°C operating temperature
- ioLogik E2214:** Ethernet micro RTU controller with 6 DIs, 6 relays, -10 to 60°C operating temperature
- ioLogik E2240:** Ethernet micro RTU controller with 8 AIs, 2 AOs, -10 to 60°C operating temperature
- ioLogik E2242:** Ethernet micro RTU controller with 4 AIs, 12 DIOS, -10 to 60°C operating temperature
- ioLogik E2260:** Ethernet micro RTU controller with 6 RTDs, 4 DOs, -10 to 60°C operating temperature
- ioLogik E2262:** Ethernet micro RTU controller with 8 TCs and 4 DOs, -10 to 60°C operating temperature
- ioLogik E2210-T:** Ethernet micro RTU controller with 12 DIs, 8 DOs, -40 to 75°C operating temperature
- ioLogik E2212-T:** Ethernet micro RTU controller with 8 DIs, 8 DOs, 4 DIOS, -40 to 75°C operating temperature
- ioLogik E2214-T:** Ethernet micro RTU controller with 6 DIs, 6 relays, -40 to 75°C operating temperature
- ioLogik E2240-T:** Ethernet micro RTU controller with 8 AIs, 2 AOs, -40 to 75°C operating temperature
- ioLogik E2242-T:** Ethernet micro RTU controller with 4 AIs, 12 DIOS, -40 to 75°C operating temperature
- ioLogik E2260-T:** Ethernet micro RTU controller with 6 RTDs, 4 DOs, -40 to 75°C operating temperature
- ioLogik E2262-T:** Ethernet micro RTU controller with 8 TCs and 4 DOs, -40 to 75°C operating temperature

Optional Accessories (can be purchased separately)

LDP1602: LCD module with 16 x 2 text and 5 buttons

Package Checklist

- ioLogik E2200 series device
- Documentation and software CD