

ioLogik E1200 Series

Ethernet remote I/O with 2-port Ethernet switches



- > Active communication with patented Active OPC Server
- > 2-port Ethernet switch for daisy-chain topologies
- > Easy mass deployment and configuration with ioSearch utility
- > Friendly configuration with web browser.
- > Save time and wiring cost with peer-to-peer communication
- > User-defined Modbus/TCP addressing
- > Simplify I/O management with MXIO library on Windows or Linux platform
- > Wide operating temperature: -40 to 75°C (-40 to 167°F)

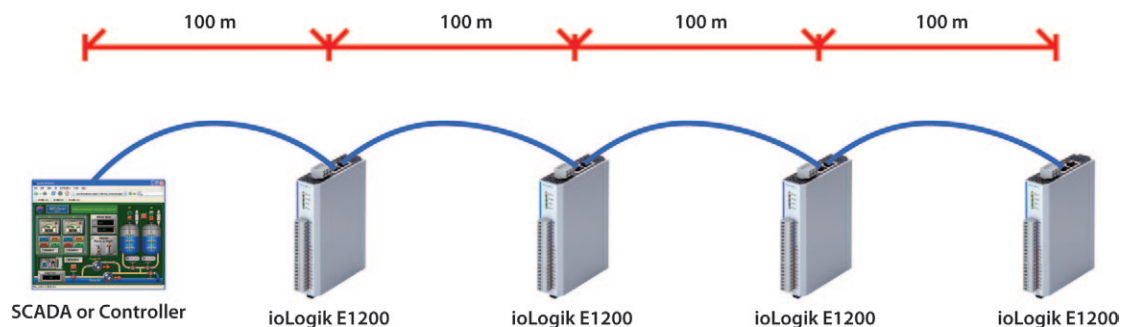


Introduction

Daisy-chained Ethernet I/O Connection

A new daisy-chained Ethernet I/O concept is now available. The ioLogik E1200 industrial Ethernet remote I/O has two embedded Ethernet switch ports that allow information to flow to another local Ethernet device or connect to the next ioLogik in the daisy-chain. Applications such as factory automation, security and surveillance systems, and tunnel monitoring, can make use of daisy-chained Ethernet for building multi-drop I/O networks over standard Ethernet cables. Many industrial automation users are familiar with the multi-drop configuration

typically used in fieldbus applications. The daisy-chain function on the Ethernet remote I/O ioLogik E1200 not only increases the connection between machines and panels, but also lowers the cost of buying separate Ethernet switches, and at the same time reduces labor fees and cabling by a large percentage. For example, if a production facility contains 700 stations (20 points per station), the wiring cost reduction can reach 15% of the total implementation cost.



ioLogik E1200 Series Selection Table

Models	I/O Combinations							
	Digital Inputs	Digital Outputs	Analog Inputs	Analog Outputs	RTD Inputs	TC Inputs	Relay Outputs	Configurable DIOs
ioLogik E1210	16	—	—	—	—	—	—	—
ioLogik E1211	—	16	—	—	—	—	—	—
ioLogik E1212	8	—	—	—	—	—	—	8
ioLogik E1214	6	—	—	—	—	—	6	—
ioLogik E1240	—	—	8	—	—	—	—	—
ioLogik E1241	—	—	—	4	—	—	—	—
ioLogik E1242	4	—	4	—	—	—	—	4
ioLogik E1260	—	—	—	—	6	—	—	—
ioLogik E1262	—	—	—	—	—	8	—	—

ioLogik E1210 Specifications

Inputs and Outputs

Digital Inputs: 16 channels

Isolation: 3K VDC or 2K Vrms

Digital Input

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

I/O Mode: DI or Event Counter

Dry Contact:

- On: short to GND
- Off: open

Wet Contact:

NPN (DI to GND):

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

PNP (DI to GND):

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

Common Type: 8 points per COM

Counter Frequency: 250 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Power Requirements

Power Consumption: 110 mA @ 24 VDC

MTBF (mean time between failures)

Time: 671,345 hrs

Database: Telcordia (Bellcore)

ioLogik E1211 Specifications

Inputs and Outputs

Digital Outputs: 16 channels

Isolation: 3K VDC or 2K Vrms

Digital Output

Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 500 Hz

Over-voltage Protection: 45 VDC

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

Over-temperature Shutdown: 175°C (typical), 150°C (min.)

Current Rating: 200 mA per channel

Power Requirements

Power Consumption: 208 mA @ 24 VDC

MTBF (mean time between failures)

Time: 221,662 hrs

Database: Telcordia (Bellcore)

ioLogik E1212 Specifications

Inputs and Outputs

Digital Inputs: 8 channels

Configurable DIOs: 8 channels

Isolation: 3K VDC or 2K Vrms

Digital Input

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

I/O Mode: DI or Event Counter

Dry Contact:

- On: short to GND
- Off: open

Wet Contact:

NPN (DI to GND):

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

PNP (DI to GND):

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

Common Type: 8 points per COM

Counter Frequency: 250 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Digital Output

Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 500 Hz

Over-voltage Protection: 45 VDC

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

Over-temperature Shutdown: 175°C (typical), 150°C (min.)

Current Rating: 200 mA per channel

Power Requirements

Power Consumption: 155 mA @ 24 VDC

MTBF (mean time between failures)

Time: 179,098 hrs

Database: Telcordia (Bellcore)

ioLogik E1214 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), Dry Contact

I/O Mode: DI or Event Counter

Dry Contact:

- On: short to GND
- Off: open

Wet Contact:

NPN (DI to GND):

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

PNP (DI to GND):

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

Common Type: 6 points per COM

Counter Frequency: 250 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Relay Output

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

Contact Current Rating:

- Resistive Load: 5 A @ 30 VDC, 250 VAC, 110 VAC

Breakdown Voltage: 500 VAC

Relay On/Off Time: 1500 ms (Max.)

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

Mechanical Endurance: 5,000,000 operations

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

Contact Resistance: 100 m ohms (max.)

Pulse Output: 0.3 Hz at rated load

**Note: Ambient humidity must be non-condensing and remain between 5 and 95%. The relays of the ioLogik E1214 may malfunction when operating in condensing environments below 0°C Celsius.*

Power Requirements

Power Consumption: 188 mA @ 24 VDC

MTBF (mean time between failures)

Time: 808,744 hrs

Database: Telcordia (Bellcore)

: ioLogik E1240 Specifications

Inputs and Outputs

Analog Inputs: 8 channels

Isolation: 3K VDC or 2K Vrms

Analog Input

Type: Differential input

Resolution: 16 bits

I/O Mode: Voltage / Current

Input Range: 0 to 10 VDC, 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): 12 samples/sec

Input Impedance: 10M ohms (min.)

Built-in Resistor for Current Input: 120 ohms

Power Requirements

Power Consumption: 121 mA @ 24 VDC

MTBF (mean time between failures)

Time: 474,053 hrs

Database: Telcordia (Bellcore)

: ioLogik E1241 Specifications

Inputs and Outputs

Analog Outputs: 4 channels

Isolation: 3K VDC or 2K Vrms

Analog Output

Resolution: 12 bits

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

Voltage Output: 10 mA (max.)

Accuracy:

±0.1% FSR @ 25°C

±0.3% FSR @ -40 and 75°C

Load Resistor:

• Internal power: 400 ohms

• External 24V power: 1000 ohms

Power Requirements

Power Consumption: 194 mA @ 24 VDC

MTBF (mean time between failures)

Time: 888,656 hrs

Database: Telcordia (Bellcore)

: ioLogik E1242 Specifications

Inputs and Outputs

Analog Inputs: 4 channels

Digital Inputs: 4 channels

Configurable DIOs: 4 channels

Isolation: 3K VDC or 2K Vrms

Analog Input

Type: Differential input

Resolution: 16 bits

I/O Mode: Voltage / Current

Input Range: 0 to 10 VDC, 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): 12 samples/sec

Input Impedance: 10M ohms (min.)

Built-in Resistor for Current Input: 120 ohms

Digital Input

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

I/O Mode: DI or Event Counter

Dry Contact:

• On: short to GND

• Off: open

Wet Contact:

NPN (DI to GND):

• On: 0 to 3 VDC

• Off: 10 to 30 VDC

PNP (DI to GND):

• Off: 0 to 3 VDC

• On: 10 to 30 VDC

Common Type: 4 points per COM

Counter Frequency: 250 Hz, power off storage

Digital Filtering Time Interval: Software selectable

Digital Output

Type: Sink

I/O Mode: DO or Pulse Output

Pulse Output Frequency: 500 Hz

Over-voltage Protection: 45 VDC

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

Over-temperature Shutdown: 175°C (typical), 150°C (min.)

Current Rating: 200 mA per channel

Power Requirements

Power Consumption: 139 mA @ 24 VDC

MTBF (mean time between failures)

Time: 502,210 hrs

Database: Telcordia (Bellcore)

: ioLogik E1260 Specifications

Inputs and Outputs

RTD Inputs: 6 channels

Isolation: 3K VDC or 2K Vrms

RTD Inputs

Input Type:

• PT50, PT100, PT200, PT500 (-200 to 850°C)

• PT1000 (-200 to 350°C)

• 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 @ -40 and 75°C

Input Impedance: 625K ohms

Power Requirements

Power Consumption: 110 mA @ 24 VDC

MTBF (mean time between failures)

Time: 660,260 hrs

Database: Telcordia (Bellcore)

: ioLogik E1262 Specifications

Inputs and Outputs

Thermocouple Inputs: 8 channels

Isolation: 3K VDC or 2K Vrms

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:

$\pm 0.1\%$ FSR @ 25°C

$\pm 0.3\%$ FSR @ -40 and 75°C

Input Impedance: 10M ohms

Power Requirements

Power Consumption: 118 mA @ 24 VDC

MTBF (mean time between failures)

Time: 631,418 hrs

Database: Telcordia (Bellcore)

Common Specifications

LAN

Ethernet: 2 x 10/100 Mbps switch ports, RJ45

Protection: 1.5 KV magnetic isolation

Protocols: Modbus/TCP, TCP/IP, UDP, DHCP, Bootp, HTTP

Power Requirements

Power Input: 24 VDC nominal, 12 to 36 VDC

Physical Characteristics

Wiring: I/O cable max. 14 AWG

Dimensions: 27.8 x 124 x 84 mm (1.09 x 4.88 x 3.31 in)

Weight: under 200 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)

Standards and Certifications

Safety: UL 508

EMI:

EN 55022; EN 61000-3-2; EN 61000-3-3;

FCC Part 15, Subpart B, Class A

EMS:

EN 55024, 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

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.

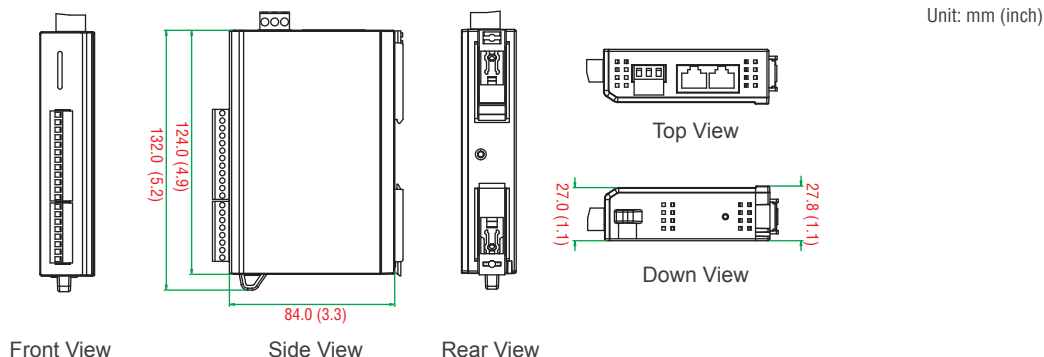
Warranty

Warranty Period: 5 years (excluding ioLogik E1214)

Details: See www.moxa.com/warranty

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

Dimensions



Ordering Information

Available Models

ioLogik E1210: Ethernet remote I/O with 2-port Ethernet switches, 16 DIs, -10 to 60°C operating temperature

ioLogik E1210-T: Ethernet remote I/O with 2-port Ethernet switches, 16 DIs, -40 to 75°C operating temperature

ioLogik E1211: Ethernet remote I/O with 2-port Ethernet switches, 16 DOs, -10 to 60°C operating temperature

ioLogik E1211-T: Ethernet remote I/O with 2-port Ethernet switches, 16 DOs, -40 to 75°C operating temperature

ioLogik E1212: Ethernet remote I/O with 2-port Ethernet switches, 8 DIs, 8 DIOs, -10 to 60°C operating temperature

ioLogik E1212-T: Ethernet remote I/O with 2-port Ethernet switches, 8 DIs, 8 DIOs, -40 to 75°C operating temperature

ioLogik E1214: Ethernet remote I/O with 2-port Ethernet switches, 6 DIs, 6 Relays, -10 to 60°C operating temperature

ioLogik E1214-T: Ethernet remote I/O with 2-port Ethernet switches, 6 DIs, 6 Relays, -40 to 75°C operating temperature

ioLogik E1240: Ethernet remote I/O with 2-port Ethernet switches, 8 AIs, -10 to 60°C operating temperature

ioLogik E1240-T: Ethernet remote I/O with 2-port Ethernet switches, 8 AIs, -40 to 75°C operating temperature

ioLogik E1241: Ethernet remote I/O with 2-port Ethernet switches, 4 AOs, -10 to 60°C operating temperature

ioLogik E1241-T: Ethernet remote I/O with 2-port Ethernet switches, 4 AOs, -40 to 75°C operating temperature

ioLogik E1242: Ethernet remote I/O with 2-port Ethernet switches, 4 AIs, 4 DIs, 4 DIOs, -10 to 60°C operating temperature

ioLogik E1242-T: Ethernet remote I/O with 2-port Ethernet switches, 4 AIs, 4 DIs, 4 DIOs, -40 to 75°C operating temperature

ioLogik E1260: Ethernet remote I/O with 2-port Ethernet switches, 6 RTDs, -10 to 60°C operating temperature

ioLogik E1260-T: Ethernet remote I/O with 2-port Ethernet switches, 6 RTDs, -40 to 75°C operating temperature

ioLogik E1262: Ethernet remote I/O with 2-port Ethernet switches, 8 TCs, -10 to 60°C operating temperature

ioLogik E1262-T: Ethernet remote I/O with 2-port Ethernet switches, 8 TCs, -40 to 75°C operating temperature

Package Checklist

- ioLogik E1200
- Documentation and software CD
- Quick installation guide (printed)