ioLogik E1200 Series

Remote Ethernet I/O with 2-port Ethernet switch

> Built-in 2-port Ethernet switch for daisy-chain topologies
> Free support of Moxa's push-based Active OPC Server Lite
  - Seamlessly connect to any SCADA system
  - Save 80% on network bandwidth
  - I/O response that's seven times faster
> User-defined Modbus/TCP addressing
> MXIO programming library for Windows and WinCE VB/VC.NET and Linux C APIs
> Web configuration with Import/Export function

: Introduction

Daisy-chained Ethernet I/O Connection

A new daisy-chained Ethernet I/O concept is now available. The ioLogik E1200 industrial remote Ethernet 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 remote Ethernet 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.
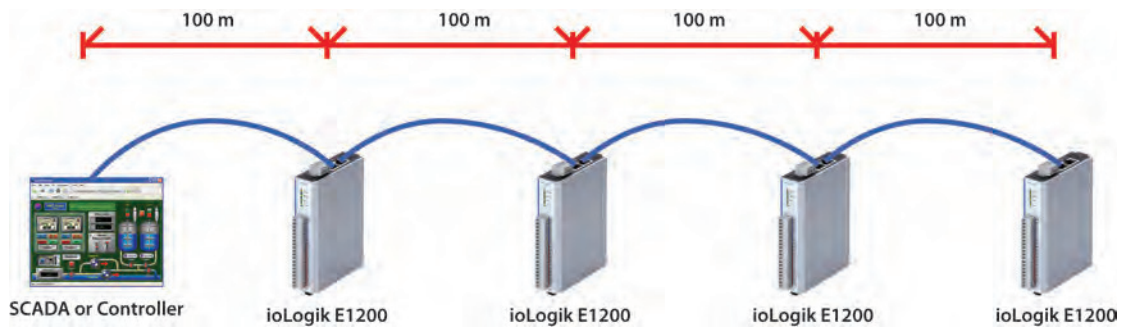
ioLogik E1200 Series Selection Table

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

Digital Input

Sensor Type: NPN, PNP, and Dry contact
I/O Mode: DI or Event Counter
Dry Contact:
• Logic 0: short to GND
• Logic 1: open

Wet Contact:
• Logic 0: 0 to 3 VDC
• Logic 1: 10 to 30 VDC (DI COM to DI)
Isolation: 3K VDC or 2K Vrms
Counter/Frequency: 250 Hz, power off storage

ioLogik E1211 Specifications

Digital Output

I/O Mode: DO or Pulse Output
Pulse Wave Width/Frequency: 1 ms/500 Hz
Over-voltage Protection: 45 VDC

Over-current Limit: 600 mA per channel
Over-temperature Shutdown: 175°C (typical), 150°C (min.)
Output Current Rating: Max. 200 mA per channel
Isolation: 3K VDC or 2K Vrms

ioLogik E1212 Specifications

Digital Input

Sensor Type: NPN, PNP, and Dry contact
I/O Mode: DI or Event Counter
Dry Contact:
• Logic 0: short to GND
• Logic 1: open
Wet Contact:
• Logic 0: 0 to 3 VDC
• Logic 1: 10 to 30 VDC (DI COM to DI)
Isolation: 3K VDC or 2K Vrms
Counter/Frequency: 250 Hz, power off storage

Digital Output

I/O Mode: DO or Pulse Output
Pulse Wave Width/Frequency: 1 ms/500 Hz
Over-voltage Protection: 45 VDC
Over-current Limit: 600 mA per channel
Over-temperature Shutdown: 175°C (typical), 150°C (min.)
Output Current Rating: Max. 200 mA per channel
Isolation: 3K VDC or 2K Vrms

ioLogik E1214 Specifications

Digital Input

Sensor Type: NPN, PNP, and Dry contact
I/O Mode: DI or Event Counter
Dry Contact:
• Logic 0: short to GND
• Logic 1: open
Wet Contact:
• Logic 0: 0 to 3 VDC
• Logic 1: 10 to 30 VDC (DI COM to DI)
Isolation: 3K VDC or 2K Vrms
Counter/Frequency: 250 Hz, power off storage

Relay Output

Type: Form A (N.O.) relay outputs, 5A
Contact Rating: 5 A @ 30 VDC, 5 A @ 250 VAC, 5 A @ 110 VAC
Inductance Load: 2 A
Resistance Load: 5 A
Breakdown Voltage: 500 VAC
Relay On/Off Time: 1500 ms (Max.)
Initial Insulation Resistance: 1G min. @ 500 VDC
Expected Life: 100,000 times (Typical)
Initial Contact Resistance: 30 milli-ohms (Max.)
Pulse Output: 0.3 Hz at rated load

ioLogik E1240 Specifications

Analog Input

Type: Differential input
Resolution: 16 bits
I/O Mode: Voltage / Current
Input Range: 0 to 10 VDC, 4 to 20 mA

Accuracy:
±0.1% FSR @ 25°C
±0.3% FSR @ -10 and 60°C
Sampling Rate (all channels): 12 samples/sec
Input Impedance: 10M ohms (minimum)
Built-in Resistor for Current Input: 120 ohms

ioLogik E1241 Specifications

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 @ -10 and 60°C
Load Resistor:
• Internal power: 400 ohms
• External 24V power: 1000 ohms

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⋮ ioLogik E1242 Specifications

Analog Input

Type: Differential input
Resolution: 16 bits
I/O Mode: Voltage / Current
Input Range: 0 to 10 VDC, 4 to 20 mA
Accuracy:
±0.1% FSR @ 25°C
±0.3% FSR @ -10 and 60°C
Sampling Rate (all channels): 12 samples/sec
Input Impedance: 10M ohms (minimum)
Built-in Resistor for Current Input: 120 ohms

Digital Input

Sensor Type: NPN, PNP, and Dry contact
I/O Mode: DI or Event Counter
Dry Contact:
• Logic 0: short to GND
• Logic 1: open

Wet Contact:
• Logic 0: 0 to 3 VDC
• Logic 1: 10 to 30 VDC (DI COM to DI)
Isolation: 3K VDC or 2K Vrms
Counter/Frequency: 250 Hz, power off storage

Digital Output

I/O Mode: DO or Pulse Output
Pulse Wave Width/Frequency: 1 ms/500 Hz
Over-voltage Protection: 45 VDC
Over-current Limit: 600 mA per channel
Over-temperature Shutdown: 175°C (typical), 150°C (min.)
Output Current Rating: Max. 200 mA per channel
Isolation: 3K VDC or 2K Vrms

⋮ ioLogik E1260 Specifications

RTD

Input Type: PT50, PT100, PT200, PT500, PT1000;
Resistance of 10 ohms, 20 ohms, and 100 ohms
Sampling Rate: 12 samples/sec (all channels)
Resolution: 16 bits
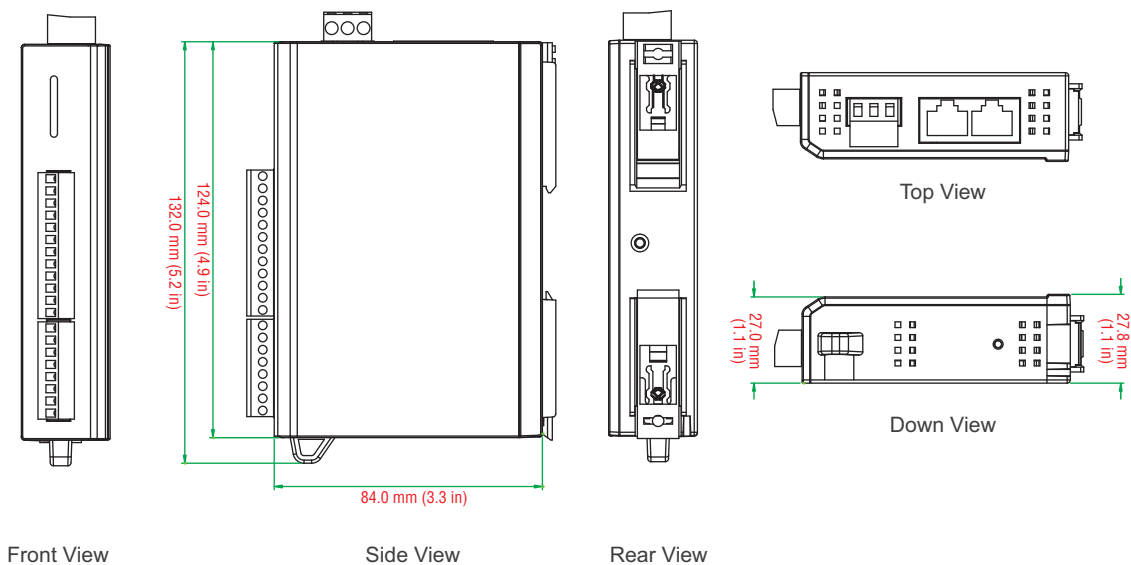
Accuracy:
±0.1% FSR @ 25°C
±0.3% FSR @ -10 and 60°C
Input Impedance: 625K ohms

⋮ ioLogik E1262 Specifications

Thermocouple Input

Sensor Type: J, K, T, E, R, S, B, N
Mili Volt Type: ±78.126 mV, ±39.062 mV, ±19.532 mV
Fault and Overvoltage protection: ±35 VDC (power off); +30 VDC, -25 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
Input Impedance: 10M ohms

⋮ 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
Power Consumption: 130 mA typical @ 24 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

Environmental Limits

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

Regulatory Approvals

EMI: FCC Part 15, CISPR (EN55022) class A
EMS: IEC 61000-4, IEC 61000-6
Safety: UL508
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32
Vibration: IEC 60068-2-6
Note: Please check Moxa's website for the most up-to-date certification status.

Warranty

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

Dimensions

124.0 mm (4.9 in)
132.0 mm (5.2 in)
84.0 mm (3.3 in)
27.0 mm (1.1 in)
27.8 mm (1.1 in)

Top View
Down View
Front View
Side View
Rear View

Ordering Information

Available Models

ioLogik E1210: Remote Ethernet I/O with 2-port Ethernet switch and 16 DIs
ioLogik E1211: Remote Ethernet I/O with 2-port Ethernet switch and 16 DOs
ioLogik E1212: Remote Ethernet I/O with 2-port Ethernet switch, 8 DIs, and 8 DIOs
ioLogik E1214: Remote Ethernet I/O with 2-port Ethernet switch, 6 DIs, and 6 Relays
ioLogik E1240: Remote Ethernet I/O with 2-port Ethernet switch and 8 AIs
ioLogik E1241: Remote Ethernet I/O with 2-port Ethernet switch and 4 AOs
ioLogik E1242: Remote Ethernet I/O with 2-port Ethernet switch, 4 AIs, 4 DIs, and 4 DIOs
ioLogik E1260: Remote Ethernet I/O with 2-port Ethernet switch and 6 RTDs
ioLogik E1262: Remote Ethernet I/O with 2-port Ethernet switch and 8 TCs

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