ioLogik E1200 Series
Quick Installation Guide

Second Edition, February 2011

1. Overview

The ioLogik E1200 series comes with 2 embedded Ethernet switch ports that can form a daisy-chain topology, which is the easiest way to add more Ethernet devices to a network or connect your ioLogiks in series. Moxa's free Active OPC Server offers active (or "push") communication that works between Moxa's ioLogik units and HMI/SCADA systems, providing instant I/O status reports by "Active Tags." The event-driven active tags result in an I/O response time that is 7 times faster than other OPC Server packages and an 80% reduction in network traffic.

Model Selection:

ioLogik	DI	DO	DIO	Relay	AI	AO	RTD	TC
E1210	16	–	–	–	–	–	–	–
E1211	–	16	–	–	–	–	–	–
E1212	8	–	8	–	–	–	–	–
E1214	6	–	–	6	–	–	–	–
E1240	–	–	–	–	8	–	–	–
E1241	–	–	–	–	–	4	–	–
E1242	4	–	4	–	4	–	–	–
E1260	–	–	–	–	–	–	6	–
E1262	–	–	–	–	–	–	–	8

Package Checklist

- 1 ioLogik E1200 series remote I/O product
- Documentation and software CD
- Quick installation guide (printed)

2. Specifications

System	
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 Input:	24 VDC nominal, 12 to 36 VDC
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

P/N: 1802012001011

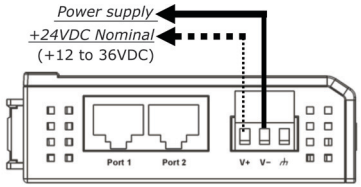
Operating Temperature:	Standard Models: -10 to 60°C (14 to 140°F)
Operating Temperature:	Wide Temperature Models: -40 to 75°C (-40 to 167°F)
Storage Temperature:	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity:	5 to 95% (non-condensing)
Standards and Certifications:	UL 508, CE, FCC Class A
Warranty Period:	5 years (excluding ioLogik E1214*)
Details:	See www.moxa.com/warranty
*Because of the limited lifetime of power relay, products that use this component are covered by a 2-year warranty.	
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 Protection:	2.6 A (4 channels @650 mA)
Over-temperature Shutdown:	175°C (typical), 150°C (min.)
Current Rating:	200 mA per channel
Isolation:	3K VDC or 2K Vrms
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
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 ±0.5% FSR @ -40 and 75°C
Sampling Rate (all channels):	12 samples/sec
Input Impedance:	10M ohms (minimum)
Built-in Resistor for Current Input:	120 ohms
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
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 @ -40 and 75°C
Input Impedance:	625K ohms
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 @ -40 and 75°C
Input Impedance:	10M ohms

3. Installation

Power and Networking

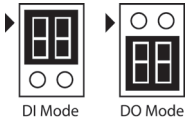
Connect the +12 to +36 VDC power line to the ioLogik E1200's terminal block V+ terminal; connect the ground from the power supply to the V- terminal. Connect the ground pin (⏚) if earth ground is available.



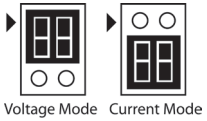
NOTE For safety reasons, the wires attached to the power should be at least 2 mm in diameter.

Jumper Settings

The models with DIO or AI channels require configuring the jumpers inside the enclosure. Remove the screw located on the back panel and open the cover to configure the jumpers.



DIO mode configuration is shown to the right (default: DO Mode).



Analog mode configuration is shown to the right (default: Voltage Mode).

Mounting

The ioLogik E1200 is designed with a vertical form factor, and can be used with both DIN-Rail and wall mounting applications. When mounting on a rail, release the bottom mounting kit, install the ioLogik on the rail, and then restore the bottom mounting kit to fix the ioLogik to the rail. When using wall mounting, release both the upper and bottom DIN-Rail kits.

The ioLogik E1200 has two built-in Ethernet switch ports for connecting either a standard direct or cross-over Ethernet cable to either RJ45 port.

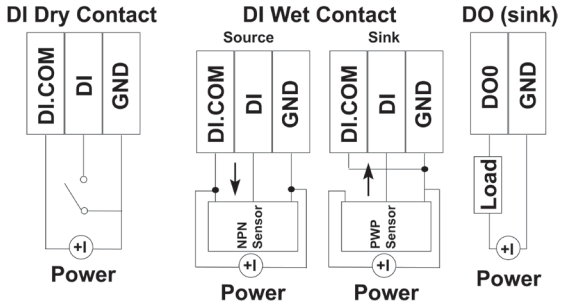
LED Indicators

Type	Color	Description
Power	Amber	System power is ON
	Off	System power is OFF
Ready	Green	System is ready
	Flashing	Flashes every 1 sec when the "Locate" function is triggered
	Flashing	Flashes every 0.5 sec when the firmware is being upgraded
	Flashing	An on/off period cycle: 0.5 second shows "Safe Mode"
	Off	System is not ready.
Port 1	Green	Ethernet connection enabled
	Flashing	Transmitting or receiving data

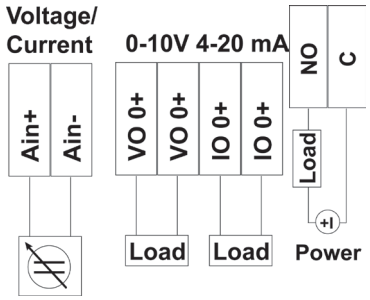
Port 2	Green	Ethernet connection enabled
	Flashing	Transmitting or receiving data

4. I/O Wiring

Digital Input/Output (Sink Type)

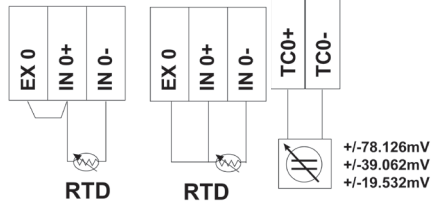


Analog Input

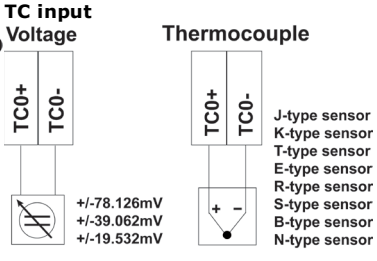


Relay Output (Form A)

RTD Input



TC input



5. System Configuration

Configuration via Web Console

Main configuration of an ioLogik E1200 is via its web console.

- Default IP Address: 192.168.127.254
- Subnet Mask: 255.255.255.0

Note: Be sure to configure the host PC's IP address to the same subnet as the ioLogik E1200. For example, 192.168.127.253

ioSearch Utility

ioSearch is a search utility that helps users locate an ioLogik E1200 on the local network. The utility can be found in the Document and Software CD → Software → ioSearch; the latest version can be downloaded from Moxa's website.

Load Factory Default Settings

There are three ways to restore the ioLogik E1200 to the factory default settings.

1. Hold the RESET button for 5 seconds.
2. Right click the specified ioLogik in the ioSearch utility and select "Reset to Default."
3. Select "Load Factory Default" from the web console.

Modbus Address Table

Please refer to the user's manual for details of the ioLogik's Modbus address, or refer to the start address of the I/O channels in web console → User-defined Modbus Addressing → Default Address.

Active OPC Server Connection

Take the following steps to connect the ioLogik E1200 to an Active OPC Server:

1. Disable the user-defined Modbus address function.
2. Install the Active OPC Server Lite Package from Document and Software CD → Software → AOPC Lite → ActiveOPCSetup → Install.exe
3. Install from Web console → Active OPC Server Settings → AOPC & I/O Settings; specify the IP address where the Active OPC Server is installed. Specify the I/O channels that need to be added to Active OPC Server Lite. Submit the settings and then Save/Restart.
4. From web console → Active OPC Server Settings → Create AOPC Tag, click the "Create Tag" button.
5. Launch Active OPC Server Lite from Start → Programs → MOXA → IOServer → ActiveOPC → ActiveOPC. Save the configuration before exiting the Active OPC Server Lite program.

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