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 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

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<th>Models</th>
<th>Digital Inputs</th>
<th>Digital Outputs</th>
<th>Analog Inputs</th>
<th>Analog Outputs</th>
<th>RTD Inputs</th>
<th>TC Inputs</th>
<th>Relay Outputs</th>
<th>Configurable DIOs</th>
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<td>ioLogik E2210</td>
<td>12</td>
<td>8</td>
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<td>ioLogik E2214</td>
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<tr>
<td>ioLogik E2240</td>
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<tr>
<td>ioLogik E2242</td>
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<td>4</td>
<td>–</td>
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<td>–</td>
<td>12</td>
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<td>ioLogik E2260</td>
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<td>6</td>
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<tr>
<td>ioLogik E2262</td>
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<td>8</td>
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</tbody>
</table>

Inputs and Outputs

- **Digital Inputs:** 12 channels
- **Digital Outputs:** 8 channels
- **Sensor Type:** Wet Contact (NPN), Dry Contact
- **I/O Mode:** DI or Event Counter
- **Dry Contact:**
  - Logic 0 (On): short to GND
  - Logic 1 (Off): open
- **Wet Contact:** (source type)
  - Logic 0 (On): 0 to 3 VDC
  - Logic 1 (Off): 10 to 30 VDC
- **Common Type:** 12 points per COM
- **Isolation:** 3K VDC or 2K Vrms
- **Counter Frequency:** 900 Hz

Digital Filtering Time Interval: Software selectable

- **Over-voltage Protection:** 36 VDC

**Digital Output**

- **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:** 203 mA @ 24 VDC

**MTBF** (mean time between failure)

- **Time:** 213,673 hrs

Database: Telcordia (Belcore)
### Inputs and Outputs

#### Digital Inputs
- 8 channels

#### Digital Outputs
- 8 channels

#### Configurable DIOs
- 4 channels

#### Digital Input
- **Sensor Type:** Wet Contact (NPN or PNP) and Dry Contact
- **I/O Mode:** DI or Event Counter
  - **Dry Contact:** Logic 0 (On): short to GND, Logic 1 (Off): open
  - **Wet Contact:**
    - **DI Type**
      - **Status**: ON, OFF
      - **Source**: 0 to 3 VDC, 10 to 30 VDC
      - **Sink**: 10 to 30 VDC, 0 to 3 VDC

#### Digital Output
- **I/O Mode:** DO or Pulse Output
- **Pulse Output Frequency:** 1 kHz

### Power Requirements
- **Power Consumption:** 136 mA @ 24 VDC
- **MTBF (mean time between failure):** 217,722 hrs
- **Database:** Telcordia (Bellcore)

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### Analog Inputs
- 8 channels

### Analog Outputs
- 2 channels

### Analog 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
- **Sampling Rate (all channels):** 10 samples/sec for voltage, 6 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):** 155,941 hrs
- **Database:** Telcordia (Bellcore)
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 V, 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
Sampling Rate (all channels): 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:
• Logic 0 (On): short to GND
• Logic 1 (Off): Open
Wet Contact:

<table>
<thead>
<tr>
<th>Status</th>
<th>DI Type</th>
<th>Source</th>
<th>Sink</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON</td>
<td></td>
<td>0 to 3 VDC</td>
<td>10 to 30 VDC</td>
</tr>
<tr>
<td>OFF</td>
<td></td>
<td>10 to 30 VDC</td>
<td>0 to 3 VDC</td>
</tr>
</tbody>
</table>

Inputs and Outputs

RTD Inputs: 6 channels
Digital Outputs: 4 channels

RTD Inputs
Input Type: Pt, JPt, Ni, RTD sensor, resistor
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
Input Impedance: 625K ohms (min.)

Digital Output
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: 2K Vrms or 3K VDC (Magnetic)

Power Requirements
Power Consumption: 178 mA @ 24 VDC
MTBF (mean time between failure)
Time: 204,391 hrs
Database: Telcordia (Bellcore)

Inputs and Outputs

Thermocouple Inputs: 8 channels
Digital Outputs: 4 channels

Thermocouple Input
Sensor Type: J, K, T, E, R, S, B, N, and mV modes
Conversion Time: Less than 90 ms
Sampling Rate: 12 samples/sec (all channels)
Effective Resolution: 16 bits
Accuracy:
±0.1% FSR @ 25°C
±0.3% FSR @ -10 and 60°C
Input Impedance: 1 M ohm or better

Digital Output
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)
RTU Controllers

**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, SMTP

**Serial Communication**
- **Interface**: RS-485-2w: Data+, Data-, GND
- **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

**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)

**Standards and Certifications**
- **Safety**: UL 508
- **EMI**: FCC Part 15 Subpart B Class A, EN 55022 Class A
- **EMS**: IEC 61000-4-4, IEC 61000-6

**Warranty**
- **Warranty Period**: 5 years (excluding ioLogik E2214*)

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

**Dimensions**

![Dimensions Image]

**Available Models**
- **ioLogik E2210**: Ethernet micro RTU controller with 12 digital inputs and 8 digital outputs, -10 to 60°C operating temperature
- **ioLogik E2212**: Ethernet micro RTU controller with 8 digital inputs, 8 digital outputs, and 4 DIOs, -10 to 60°C operating temperature
- **ioLogik E2214**: Ethernet micro RTU controller with 6 digital inputs and 6 relay outputs, -10 to 60°C operating temperature
- **ioLogik E2240**: Ethernet micro RTU controller with 8 analog inputs and 2 analog outputs, -10 to 60°C operating temperature
- **ioLogik E2242**: Ethernet micro RTU controller with 4 analog inputs and 12 configurable DIOs, -10 to 60°C operating temperature
- **ioLogik E2248**: Ethernet micro RTU controller with 6 RTD inputs and 4 digital outputs, -10 to 60°C operating temperature
- **ioLogik E2262**: Ethernet micro RTU controller with 8 thermocouple inputs and 4 digital outputs, -10 to 60°C operating temperature
- **ioLogik E2242-T**: Ethernet micro RTU controller with 4 analog inputs and 12 configurable DIOs, -40 to 75°C operating temperature

**Accessories**
- **(can be purchased separately)**
  - **LDP1602**: LCD module with 16 x 2 text and 5 buttons

**Package Checklist**
- 1 ioLogik E2200 series RTU controller
- Document and software CD

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