Package Checklist

- ioLogik 2500 series device
- 3-pin screw terminal block (for power input)
- 2 12-pin screw terminal blocks (for I/O)
- 2 8-pin RJ45-to-DB9 cables (CBL-RJ45M9-150)
- 1 antenna (only for wireless modules)
- Quick installation guide (printed)

Appearance

Top View

Front View

LED indicators for I/O module (rotate dial to select model*)
Antenna connector (only for wireless modules)
Dial for selecting I/O module*
- Micro SD card
- DIP switch for I/O expansion
- Reset button
- Debug port

I/O terminal block

*0 = ioLogik 2500
1-8 = E1200 expansion modules
9-F (reserved)
Specifications

**LAN**

- **Ethernet**
  - 4 switched 10/100 Mbps RJ45 ports
  - 1 optimized port for faster downstream communications with daisy-chained ioLogik E1200 units

*Note: The optimized daisy-chain port is not supported on wind industry devices (ioLogik E1261W-T, E1261H-T, or E1263H-T)*

- **Protection**
  - 1.5 kV magnetic isolation

- **Protocols**
  - Modbus/TCP, TCP/IP, UDP, DHCP, BOOTP, SNMP, HTTP, CGI, SNTP, SMTP

**WLAN (ioLogik 25xx-WL1)**

- **Standards**
  - IEEE 802.11a/b/g for wireless LAN
  - IEEE 802.11i for wireless security

- **Spread Spectrum and Modulation (typical)**
  - DSSS with DBPSK, DQPSK, CCK
  - OFDM with BPSK, QPSK, 16QAM, 64QAM
  - 802.11b:
    - CCK @ 11/5.5 Mbps, DQPSK @ 2 Mbps, DBPSK @ 11 Mbps
  - 802.11a/g:
    - 64QAM @ 54/48 Mbps, 16QAM @ 36/24 Mbps, QPSK @ 18/12 Mbps, BPSK @ 9/6 Mbps

- **Operating Channels (central frequency)**
  - US:
    - 2.412 to 2.462 GHz (11 channels)
    - 5.18 to 5.24 GHz (4 channels)
  - EU:
    - 2.412 to 2.472 GHz (13 channels)
    - 5.18 to 5.24 GHz (4 channels)

- **Security**
  - 64-bit and 128-bit WEP encryption
  - Full WPA/WPA2 Personal

- **Transmission Rates**
  - 802.11b: 1, 2, 5.5, 11 Mbps
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
TX Transmit Power

- **802.11b:**
  - Typ. 18±1.5 dBm @ 1 to 11 Mbps
- **802.11g:**
  - Typ. 18±1.5 dBm @ 6 to 24 Mbps,
  - Typ. 17±1.5 dBm @ 36 Mbps,
  - Typ. 16±1.5 dBm @ 48 Mbps,
  - Typ. 16±1.5 dBm @ 54 Mbps
- **802.11a:**
  - Typ. 18±1.5 dBm @ 6 to 24 Mbps,
  - Typ. 16±1.5 dBm @ 36 Mbps,
  - Typ. 15±1.5 dBm @ 48 Mbps,
  - Typ. 14±1.5 dBm @ 54 Mbps

RX Sensitivity

- **802.11b:**
  - -97 dBm @ 1 Mbps, -94 dBm @ 2 Mbps,
  - -92 dBm @ 5.5 Mbps, -90 dBm @ 11 Mbps
- **802.11g:**
  - -88 dBm @ 6 to 24 Mbps, -85 dBm @ 36 Mbps,
  - -75 dBm @ 48 Mbps, -70 dBm @ 54 Mbps
- **802.11a:**
  - -88 dBm @ 6 to 24 Mbps, -85 dBm @ 36 Mbps,
  - -75 dBm @ 48 Mbps, -70 dBm @ 54 Mbps

Cellular (IoLogik 25xx-GPRS/HSPA)

**Band Options**

- Five-Band:
  - UMTS/HSPA+(WCDMA/FDD) 800/850/AWS1700/1900/2100 MHz
- Quad-band:
  - GSM/GPRS/EDGE 850/900/1800/1900 MHz

**SIM Control Voltage**

3.0 V/1.8 V

Power Requirements

**Power Input**

24 VDC nominal, 9 to 48 VDC

Physical Characteristics

**Wiring**

I/O cable max. 14 AWG

**Dimensions**

61 x 157 x 115 mm (2.4 x 6.18 x 4.53 in)

**Weight**

under 1.2 kg

Environment Limits

**Operating Temperature**

- Standard Models: -10 to 60°C (14 to 140°F)
- Ethernet: -40 to 75°C (-40 to 167°F)
- Wireless: -30 to 70°C (-22 to 158°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.

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 (DI to COM)**

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

**Isolation**

3k VDC or 2k Vrms

**Counter/Frequency**

2.5 kHz
<table>
<thead>
<tr>
<th>Digital Output (Sink)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I/O Mode</strong></td>
</tr>
<tr>
<td><strong>Pulse Output Frequency</strong></td>
</tr>
<tr>
<td><strong>Over-voltage Protection</strong></td>
</tr>
<tr>
<td><strong>Over-temperature Shutdown</strong></td>
</tr>
<tr>
<td><strong>Over-current Protection</strong></td>
</tr>
<tr>
<td><strong>Current Rating</strong></td>
</tr>
<tr>
<td><strong>Isolation</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analog Input (ioLogik 2542)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
</tr>
<tr>
<td><strong>I/O Mode</strong></td>
</tr>
<tr>
<td><strong>Input Range</strong></td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Sampling Rate</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Input Impedance</strong></td>
</tr>
<tr>
<td><strong>Built-in Resistor for Current Input</strong></td>
</tr>
</tbody>
</table>

**Warranty**
- **Warranty Period**: 5 years
- **Details**: See www.moxa.com/warranty

**Hardware Installation**

**I/O Wiring**

**Digital Inputs/Outputs**

**Analog Inputs**

**Mounting**

There are two sliders on the back of the unit for DIN rail and wall mounting.

- **Mounting on a DIN rail**
  Pull out the bottom slider; latch the unit onto the DIN rail, and the push the slider back in.

- **Mounting on a wall (optional)**
  Pull out both the top and bottom sliders and align the screws accordingly.
Connecting the Power

Connect a 9 to 48 VDC power line to the ioLogik 2500’s terminal block V+ terminal; connect the ground from the power supply to the V- terminal.

For most applications, it is desirable to ground the system by connecting the system’s power supply common wire to the chassis or panel ground. The negative (–V) side of the DC power input terminal as well as all I/O point terminals labeled GND should be connected to chassis ground.

**NOTE** For safety reasons, wires connecting the power supply should be at least 2 mm in diameter (e.g., 12 gauge wires).

Connecting to a Network

The ioLogik 2500 has four built-in RJ45 Ethernet ports for connecting standard direct or crossover Ethernet cables.

**LED Indicators**

<table>
<thead>
<tr>
<th>Type</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power (PWR)</td>
<td>Green</td>
<td>System power is ON</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>System power is OFF</td>
</tr>
<tr>
<td>Ready (RDY)</td>
<td>Green</td>
<td>System ready</td>
</tr>
<tr>
<td></td>
<td>Red</td>
<td>System error</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>System is not ready</td>
</tr>
<tr>
<td>Ethernet Port (L1/L2/L3/L4)</td>
<td>Green</td>
<td>Ethernet connection enabled in 100 Mbps</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>Ethernet connection enabled in 10 Mbps</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
<td>Data transmitting</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>Disconnected</td>
</tr>
<tr>
<td>Type</td>
<td>Color</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Serial Port (P1/P2)</td>
<td>Green</td>
<td>Tx</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>Rx</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
<td>Data transmitting</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>Disconnected</td>
</tr>
<tr>
<td>SD</td>
<td>Green</td>
<td>SD card inserted</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
<td>SD card being accessed</td>
</tr>
<tr>
<td>I/O Channel Status*</td>
<td>Green</td>
<td>Channel ON</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>Channel OFF or No Counter/Pulse Signal</td>
</tr>
<tr>
<td>W.Link**</td>
<td>Green</td>
<td>Cellular connection established</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>Signal Status**</td>
<td>Off</td>
<td>No signal, or No SIM card</td>
</tr>
<tr>
<td></td>
<td>1 LED</td>
<td>Weak or insufficient (SMS only)</td>
</tr>
<tr>
<td></td>
<td>2 LEDs</td>
<td>Average (good for cellular connections)</td>
</tr>
<tr>
<td></td>
<td>3 LEDs</td>
<td>Excellent signal</td>
</tr>
</tbody>
</table>

*Use the rotary switch to select which module's I/O channel status is displayed.

**Wireless Modules Only.

**System Configuration**

**Configuration via IOxpress Utility**

The configuration of the ioLogik 2500 is mainly done with the IOxpress utility. IOxpress is a search utility that helps users locate an ioLogik 2500 device on the local network. The latest version of the utility can be downloaded from Moxa's website.

- Default IP Address: 192.168.127.253
- Default Subnet Mask: 255.255.255.0

NOTE Be sure to configure the host PC's IP address to the same subnet as the ioLogik 2500. For example, 192.168.127.253

**Load Factory Default Settings**

There are three ways to restore the ioLogik 2500 to factory default settings.

1. Hold the **RESET** button for 5 seconds.
2. In the **IOxpress** utility, right-click on the ioLogik device to be reset and select **Reset to Default**.
3. Select **Load Factory Default** from the web console.

**WARNING**

This equipment is intended to be used in Restricted Access Locations. External metal parts are hot! Before touching it, special attention or protection is necessary.

**How to Download the Software**

**Step 1:** Click on the following link to open the Support & Downloads search tool:

http://www.moxa.com/support/support_home.aspx?isSearchShow=1
Step 2: Type the model name in the search box or select a product from the drop down box and then click Search.

Step 3: Click the Software Packages link to download the latest software for the product.

ATEX Information

1. Certificate number: DEMKO 15 ATEX 1603X
2. Certification string: Ex nA IIC T4 Gc
3. Standards covered:
4. The equipment shall be installed in an enclosure that provides a degree of protection not less than IP54 in accordance with EN 60079-15 and accessible only by the use of a tool.
5. These products are for use in an area of not more than pollution degree 2 in accordance with EN 60664-1.