ioLogik 2500 Series

Smart remote I/O with Click&Go Plus Logic



- New Click&Go Plus logic provides powerful front-end intelligence
- 4-port unmanaged switch built in for linking to Ethernet devices
- Optimized I/O expansion port for daisy chaining up to 8 ioLogik E1200 units
- 2 serial ports (RS-232/422/485) for connecting field devices
- Built-in datalogger supports an FTP server and microSD™ card with up to a 32 GB
- Transforms Modbus RTU into Modbus TCP or Active Tags
- Active communication with patented MX-AOPC UA Server
- Smart alarm management: Email, SNMP traps, TCP, UDP
- Wide operating temperature: -40 to 75°C (-40 to 167°F)

Introduction

The ioLogik 2500 is a smart remote I/O product with unique hardware and software designs, making it an ideal solution for a variety of industrial data acquisition applications.

The ioLogik 2500's hardware design includes a 4-port unmanaged Ethernet switch and 2 serial ports, enabling the ioLogik 2500 to seamlessly connect to a variety of field devices. One of the Ethernet ports can be used to link to 8 daisy-chained ioLogik E1200 expansion modules to provide more than 100 channels. The ioLogik 2500 acts as the "head" unit, with Click&Go Plus logic used to control the entire I/O array. Most importantly, the ioLogik 2500's single IP is all that's required to connect the entire I/O array to your network, providing the perfect solution for industrial field sites that have an insufficient number of IP addresses.

Powerful Control Logic from the New Click&Go Plus™

The new Click&Go Plus™ control logic now supports up to 48 rules with further upgrades to 8 conditions/actions. In addition, its graphical user interface provides 3 logic gates and 3 multi-layers, helping you build more powerful and efficient IO solutions.

Once you finish setting up your Click&Go Plus™ logic rules, IOxpress's easy-to-use simulation function can be used to find potential errors in your Click&Go Plus™ rules before uploading them to your online devices.

Peer-to-peer (P2P) mode is widely used for industrial applications. Traditionally, you would need to use P2P devices on both sides of the connection. However, if a configuration mismatch occurred between the P2P devices, the P2P connection would fail, after which you would need to spend extra time and effort to check the P2P settings. With IOxpress, all you need to do is set up the output device, and the P2P connection will be established automatically.

One IP for Multiple Expansion I/Os Gives You a Smarter Data Acquisition Solution

The ioLogik 2500's unique IO expansion hardware design lets you link up to 8 ioLogik E1200 modules into a versatile I/O array with 100+ different I/O channels. The ioLogik 2500 acts as the perfect "head" unit, using Click&Go Plus logic to control the entire I/O array, and providing a single IP to connect the entire I/O array to your network.

User-Friendly IOxpress with Offline/Online Configuration for Easy Device Management

IOxpress integrates a user-friendly interface with offline/online configuration, allowing you to configure every I/O parameter offline, and then upload the settings to your online devices, greatly reducing the time and cost needed to manage and configure your IO solutions.

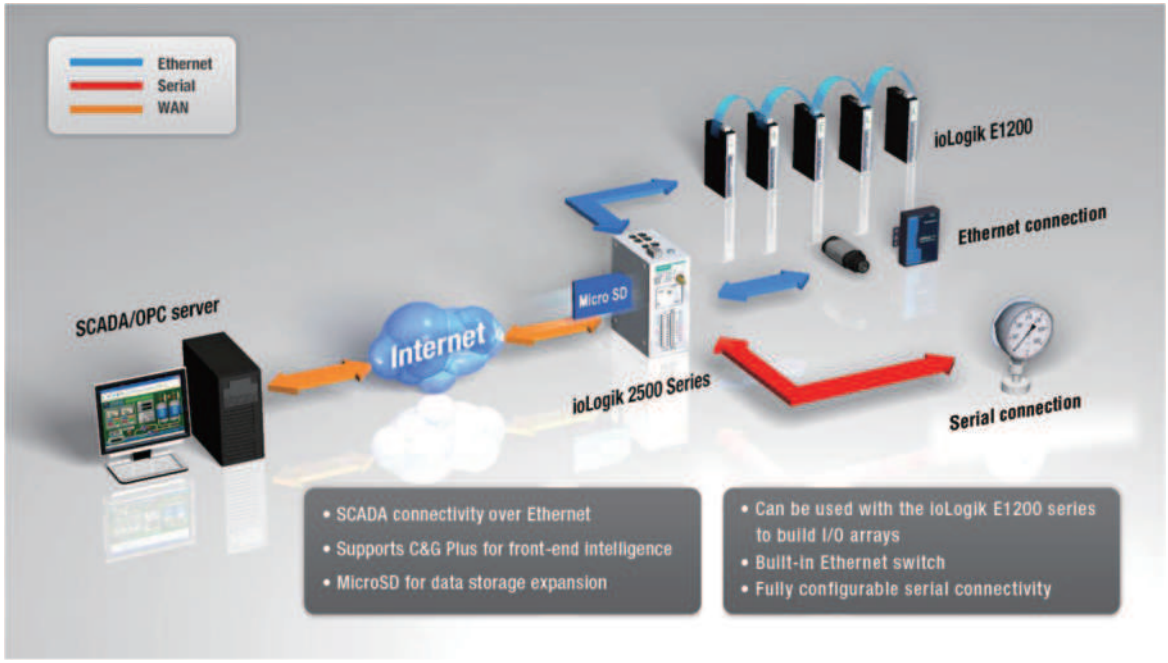
Powerful Datalogger and Value-added MODBUS Gateway

The ioLogik 2500 supports micro SD cards with up to 32 GB of memory, turning the ioLogik into a powerful datalogger for storing valuable data. And with a built-in FTP server, important data from field sites can be accessed remotely by different systems. In addition, the 2 serial communication ports can be used to input data from devices using the Modbus RTU protocol, and then transform the data into Modbus TCP or AOPC tag format before sending it out over the Ethernet network.

New MX-AOPC UA Server Efficiently Reduces System Response Time

The new MX-AOPC UA supports both UA server and DA server types. MX-AOPC UA server has a number of strengths. UA server provides a standard, state of the art security model, assuring your system's security, and supports communication channels via the standard UA TCP port. This means that messages can be relayed through third party proxies. In addition, configuring the firewall is be easier, since you won't need to worry about DCOM settings.

In addition, MX-AOPC supports both the traditional Modbus protocol and Moxa's patented Push type communication. Unlike the traditional passive "pull" method, "active" messages are automatically "pushed" from the ioLogik 2500 to the SCADA system when the I/O state changes or pre-configured events occur. In this way, information can be accurately and efficiently pushed to the SCADA system as it becomes available.



ioLogik 2512 Specifications

Inputs and Outputs

Digital Inputs: 8 channels
Configurable DI/Os: 8 channels
Isolation: 3k VDC or 2k Vrms

Digital Input

Sensor Type: Wet Contact (NPN or PNP) and Dry Contact
Input Leakage Current: < 1 mA (@ 30 VDC)
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
Common Type: 8 points per COM
Counter Frequency: 2.5 kHz
Digital Filtering Time Interval: Software configurable

Digital Output

Type: Sink
I/O Mode: DO or Pulse Output
Pulse Output Frequency: 5 kHz
Over-voltage Protection: 45 VDC
Over-current Protection: 1.5 A per channel @ 25°C
Over-temperature Shutdown: 175°C (min.)
Current Rating: 500 mA per channel @ 25°C

ioLogik 2542 Specifications

Inputs and Outputs
Analog Inputs: 4 channels
Configurable DI/Os: 12 channels
Isolation: 3k VDC or 2k Vrms

Analog Input
Type: Differential input
Resolution: 16 bits
I/O Mode: Voltage / Current (software selectable)
Input Range: ±10 V, 0 to 10 V, 0 to 20 mA, 4 to 20 mA (with burn-out detection)
Accuracy:
• ±0.1% FSR @ 25°C
• ±0.3% FSR @ -10 and 60°C
• ±0.5% FSR @ -40 and 75°C
Sampling Rate:
• All channels: 400 samples/sec
• Per channel: 100 samples/sec
Input Impedance: > 1M ohms (min.)
Built-in Resistor for Current Input: 120 ohms

Digital Input
Sensor Type: Wet Contact (NPN or PNP) and Dry Contact
Input Leakage Current: < 1 mA (@ 30 VDC)
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
Common Type: 6 points per COM
Counter Frequency: 2.5 kHz
Digital Filtering Time Interval: Software configurable

Digital Output
Type: Sink
I/O Mode: DO or Pulse Output
Pulse Output Frequency: 5 kHz
Over-voltage Protection: 45 VDC
Over-current Protection: 1.5 A per channel @ 25°C
Over-temperature Shutdown: 175°C (min.)
Current Rating: 500 mA per channel @ 25°C

Common 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

Serial Communication
Serial Ports: 2, RJ45, 3-in-1 interface
Protocols: Modbus/RTU (master), serial tunnel mode (client/server)
Serial Line Protection: ≥ 8 kV ESD for all signals

Serial Communication Parameters
Parity: None, Odd, Even
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Flow Control: None, RTS/CTS
Baudrate: 1200 to 115200 bps
Protocol: Modbus/RTU

Power Requirements
Power Input: 24 VDC nominal, 9 to 48 VDC

Physical Characteristics
Wiring: I/O cable max. 14 AWG
Mounting: DIN rail, wall

Storage
Expansion Slot: Up to 32 GB microSD™ memory card (SDHC compatible)
Note: For units operating in extreme temperatures, industrial grade, wide-temperature SD cards are required.

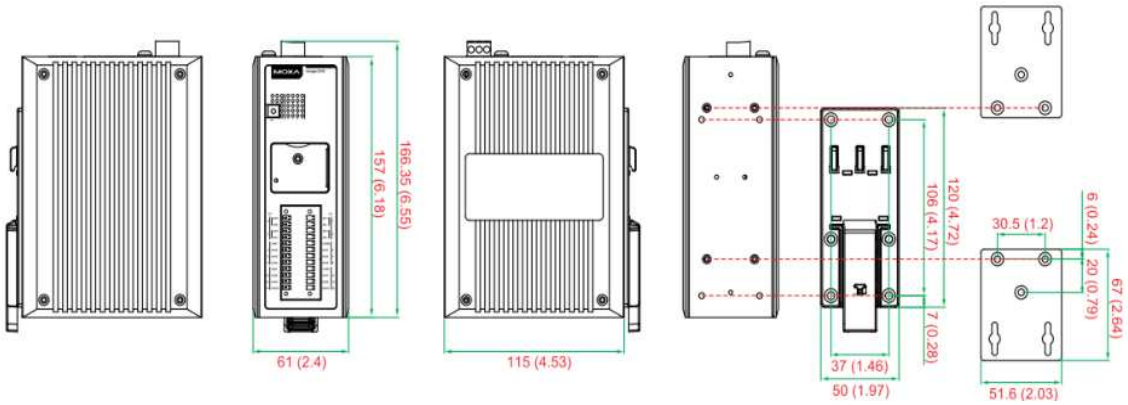
Environmental Limits
Operating Temperature:
Standard Models: -10 to 60°C (14 to 140°F)
Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)
Altitude: Up to 2000 m
Note: Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

Standards and Certifications
Safety: UL 508, EN 60950-1, NCC
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, EN 61000-6-2
Radio: FCC Part 22H, FCC Part 24E,
EN 301 489-1, EN 301 489-7, EN 301 511
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
Details: See www.moxa.com/warranty

Dimensions

Unit: mm (inch)



Ordering Information

Available Models

ioLogik 2512: Ethernet remote I/O with Click&Go Plus, 8 DIs, 8 DI/Os, -10 to 60°C operating temperature
ioLogik 2542: Ethernet remote I/O with Click&Go Plus, 4 AIs, 12 DI/Os, -10 to 60°C operating temperature
ioLogik 2512-T: Ethernet remote I/O with Click&Go Plus, 8 DIs, 8 DI/Os, -40 to 75°C operating temperature
ioLogik 2542-T: Ethernet remote I/O with Click&Go Plus, 4 AIs, 12 DI/Os, -40 to 75°C operating temperature

Package Checklist

- ioLogik 2500 series device
- 2 x RJ45 to DB9 connection cables
- Documentation and software CD
- Hardware installation guide

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