ioLogik 2500 Series

Smart Ethernet remote I/O with Click&Go Plus Logic

Features and Benefits

- Front-end intelligence with Click&Go Plus control logic, up to 48 rules
- Active communication with MX-AOPC UA Server
- Automatically complement disconnection period data with MX-AOPC UA Logger software
- 4-port unmanaged switch built in for linking to Ethernet devices
- I/O expansion port for daisy chaining up to 8 ioLogik E1200 units
- 3-in-1 serial port: RS-232, RS-422, or RS-485
- Supports SNMP v1/v2c/v3
- Simplifies I/O management with MXIO library for Windows or Linux
- Wide operating temperature models available for -40 to 75°C (-40 to 167°F) environments

Certifications

Introduction

ioLogik 2500 smart Ethernet remote I/O devices feature unique hardware and software designs, making them ideal solutions 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 it 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, a single IP is all that is 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.

Programming-Free Click&Go Plus™ Logic

Click&Go Plus™ control logic supports up to 48 rules and 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.

Multi-Protocol Data Concentrator

By supporting multiple protocols, the ioLogik 2500 improves the efficiency of collecting field-site data and then sending it to upper-level systems. For field-site data collection, an ioLogik 2500 can collect data from other third-party devices via both Modbus TCP and Modbus RTU, and also lets you link up to 8 ioLogik E1200 modules to create a versatile I/O array with over 100 different I/O channels, allowing all field-site data to be accessed by upper-level systems. For the upper-level systems, the ioLogik 2500 supports Modbus TCP, SNMP, SNMP Trap, RESTful API, Active OPC tag, and C++ library for easy integration with various IT/OT systems, making the ioLogik 2500 the perfect data concentrator for connecting field sites to your network.

Data Completeness with Local Storage Data Logging

The ioLogik 2500 supports microSD cards, turning it into a powerful data logger for storing valuable data. Important data from field sites can be accessed remotely by different systems via an FTP, and the ioLogik's data completeness function enables real-time monitoring of data through MX-AOPC UA Suite when the network goes down unexpectedly.

Specifications

Memory	
microSD Slot	Up to 32 GB (SD 2.0 compatible) Note: For units operating in extreme temperatures, industrial-grade, wide-temperature microSD cards are required.

Control Logic	
Language	Click&Go Plus

Input/Output Interface	
Digital Input Channels	ioLogik 2512/2512-T: 8
Configurable DIO Channels (by software)	ioLogik 2512/2512-T: 8 ioLogik 2542/2542-T: 12
Analog Input Channels	ioLogik 2542/2542-T: 4
Buttons	Reset button
Isolation	3k VDC or 2k Vrms

Digital Inputs	
Connector	Screw-fastened Euroblock terminal
Sensor Type	Dry contact Wet contact (NPN or PNP)
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
Counter Frequency	2.5 kHz
Digital Filtering Time Interval	Software configurable
Points per COM	ioLogik 2512/2512-T: 8 channels ioLogik 2542/2542-T: 6 channels

Digital Outputs	
Connector	Screw-fastened Euroblock terminal
I/O Type	Sink
I/O Mode	DO or pulse output
Current Rating	500 mA per channel
Pulse Output Frequency	5 kHz (max.)
DIO Output Leakage Current	< 1 mA @ 30 VDC
Over-Current Protection	1.5 A per channel @ 25°C

Over-Temperature Shutdown	175°C (typical), 150°C (min.)
Over-Voltage Protection	45 VDC (typical)

Analog Inputs

Connector	ioLogik 2542/2542-T: Screw-fastened Euroblock terminal
I/O Mode	ioLogik 2542/2542-T: Voltage/Current
I/O Type	ioLogik 2542/2542-T: Differential
Resolution	ioLogik 2542/2542-T: 16 bits
Input Range	ioLogik 2542/2542-T: ±10 VDC 0 to 10 VDC 0 to 20 mA 4 to 20 mA 4 to 20 mA (with burn-out detection)
Accuracy	ioLogik 2542: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ioLogik 2542-T: ±0.1% FSR @ 25°C ±0.3% FSR @ -10 to 60°C ±0.5% FSR @ -40 to 75°C
Sampling Rate	ioLogik 2542/2542-T: All channels combined: 400 samples/sec Per channel: 100 samples/sec
Built-in Resistor for Current Input	ioLogik 2542/2542-T: 120 ohms
Input Impedance	ioLogik 2542/2542-T: 1 mega-ohms (min.)
Over-Voltage Protection	ioLogik 2542/2542-T: -25 to +30 VDC (power on) -35 to +35 VDC (power off)

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	4, 1 MAC address
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Web Console (HTTP/HTTPS) Windows Utility (IOxpress)
Industrial Protocols	CGI commands Modbus TCP Client (Master) Modbus TCP Server (Slave) Moxa AOPC (Active Tag) MXIO Library RESTful API SNMPv1/v2c/v3 SNMPv1/v2c Trap
Management	BOOTP, IPv4, SMTP, TCP/IP, DHCP Client
MIB	Device Settings MIB
Security	HTTPS/SSL
Time Management	SNTP

LED Interface

LED Indicators	PWR, RDY, Serial port (P1, P2), Ethernet port (L1 to L4), I/O Channel Status (0 to 15)

Serial Interface

Baudrate	300, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200 bps
Connector	8-pin RJ45
Data Bits	5, 6, 7, 8
Flow Control	None RTS/CTS XON/XOFF
No. of Ports	2
Parity	None Even Odd
Serial Standards	RS-232 RS-422 RS-485
Stop Bits	1, 2

Serial Signals

RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND

Serial Software Features

Industrial Protocols	Modbus RTU Master

Platform

Real-time Clock (RTC)	Real-time clock with capacitor backup

Power Parameters

Power Connector	Screw-fastened Euroblock terminal
No. of Power Inputs	1
Input Voltage	12 to 48 VDC
Power Consumption	ioLogik 2512/2512-T: 254 mA @ 24 VDC, 529 mA @ 12 VDC, 133 mA @ 48VDC ioLogik 2542/2542-T: 281 mA @ 24 VDC, 589 mA @ 12 VDC, 144 mA @ 48 VDC

Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	61 x 157 x 115 mm (2.4 x 6.18 x 4.53 in)
Weight	1,265 g (2.79 lb)

Installation	DIN-rail mounting Wall mounting (with optional kit)
Wiring	I/O cable, 16 to 26 AWG Power cable, 12 to 24 AWG

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 (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)
Altitude	2000 m

Standards and Certifications

EMC	EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 1 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF
Vibration	IEC 60068-2-6
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Hazardous Locations	ATEX Class I Division 2
Safety	UL 508
Radio	EN 301 489-1/17
Radio Frequency	EN 301 908 EN 301 489-24 EN 301 511

Declaration

Green Product	RoHS, CRoHS, WEEE

MTBF

Time	ioLogik 2512/2512-T: 467,032 hrs ioLogik 2542/2542-T: 375,439 hrs
Standards	Telcordia SR332

Warranty

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

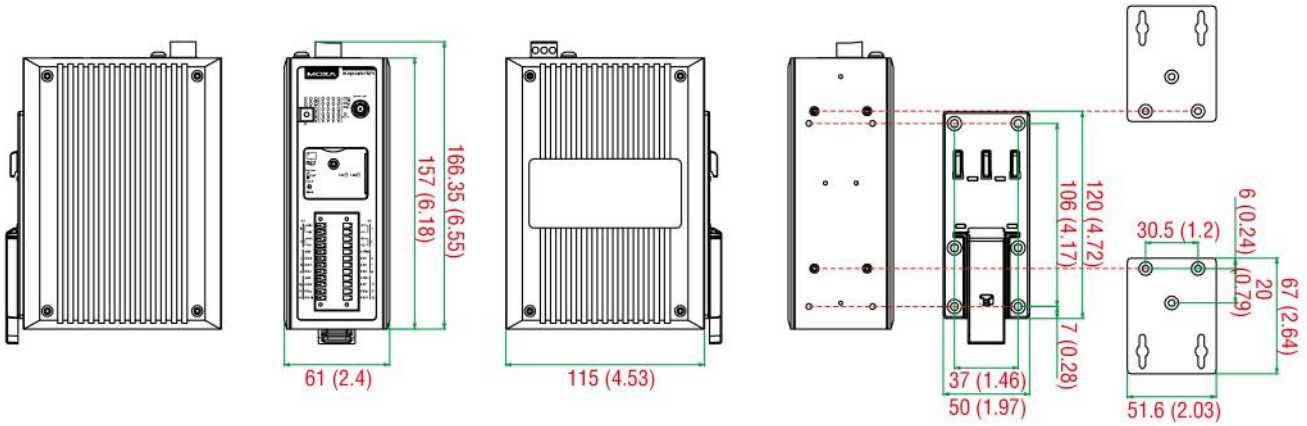
Package Contents

Device	1 x ioLogik 2500 Series remote I/O
Cable	2 x RJ45-to-DB9 console cable

Installation Kit	1 x cable holder with screw 6 x cap, plastic, for RJ45 port
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	Input/Output Interface	Wireless Standard	Operating Temp.
ioLogik 2512	8 x DI, 8 x DIO	–	-10 to 60°C
ioLogik 2512-T	8 x DI, 8 x DIO	–	-40 to 75°C
ioLogik 2542	4 x AI, 12 x DIO	–	-10 to 60°C
ioLogik 2542-T	4 x AI, 12 x DIO	–	-40 to 75°C

Accessories (sold separately)

Software

MX-AOPC UA Server	OPC UA Server software for converting fieldbus to the OPC UA standard

Wall-Mounting Kits

WK-51-01	Wall mounting kit with 2 plates (51.6 x 67 x 2 mm) and 6 screws

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