ioLogik E1200H Series

Ethernet remote I/O for offshore wind power applications

Features and Benefits

- User-definable Modbus TCP Slave addressing

- 2-port Ethernet switch for daisy-chain topologies

- Active communication with MX-AOPC UA Server

- Easy mass deployment and configuration with ioSearch utility

- Friendly configuration via web browser

- Simplifies I/O management with MXIO library for Windows or Linux

- IEC 60945 approval for harsh offshore environments

- Wide operating temperature range: -40 to 75°C (-40 to 167°F)

Certifications

Introduction

Installation of remote Ethernet I/O in offshore environments is a real challenge. It is critical to find devices properly designed for protected, safe use in these environments. Moxa's IEC 60945-certified ioLogik E1200H Series is ideal for these kinds of demanding industrial applications. Packaged in a compact metal housing, this rugged hardware supports operating temperatures ranging from -40 to 75°C, meeting the stringent demands of IEC 60945 needed for harsh offshore applications.

### Daisy-Chained Ethernet I/O Connection

This industrial Ethernet remote I/O comes with two switched Ethernet ports to allow for the free flow of information downstream to another local Ethernet device, or upstream to a control server via expandable daisy-chained Ethernet I/O arrays. Applications such as factory automation, security and surveillance systems, and tunneled connections can make use of daisy-chained Ethernet for building multidrop I/O networks over standard Ethernet cables. Many industrial automation users are familiar with multidrop as the configuration most typically used in fieldbus solutions.

The daisy-chain capabilities supported by ioLogik Ethernet remote I/O units not only increase the expandability and installation possibilities for your remote I/O applications, but also lower overall costs by reducing the need for separate Ethernet switches. Daisy-chaining devices in this way will also reduce overall labor and cabling expenses.

SCADA System or Computer   Moxa I/O   Moxa I/O   Moxa I/O   Moxa I/O   Moxa I/O
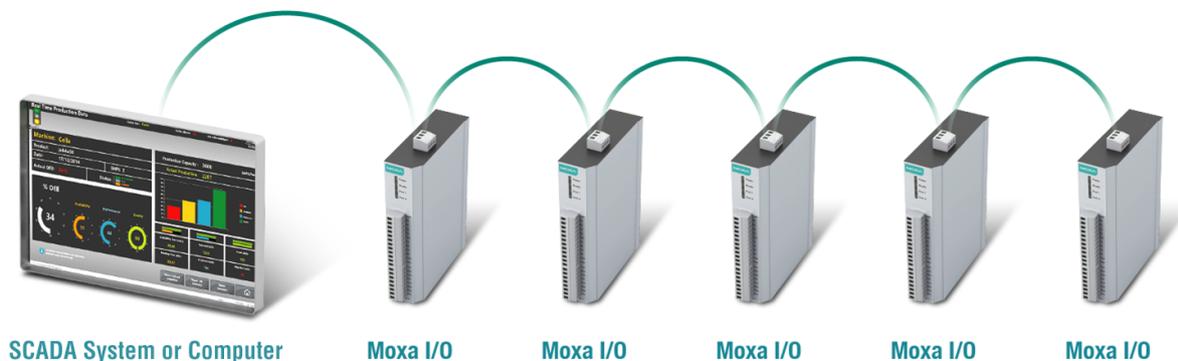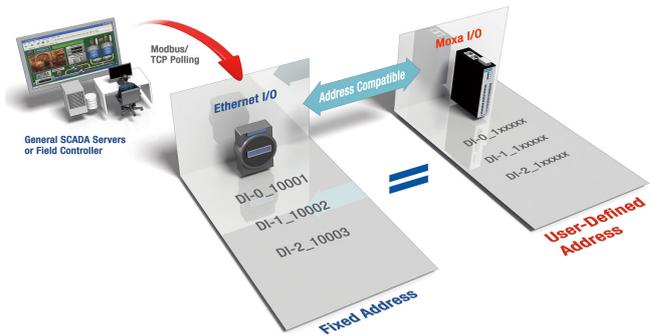
Push Technology for Events

When used with MX-AOPC UA Server, devices can use active push communications when communicating changes in state and/or events to a SCADA system. Unlike a polling system, when using a push architecture for communications with a SCADA system, messages will only be delivered when changes in state or configured events occur, resulting in higher accuracy and lower amounts of data that need to be transferred.

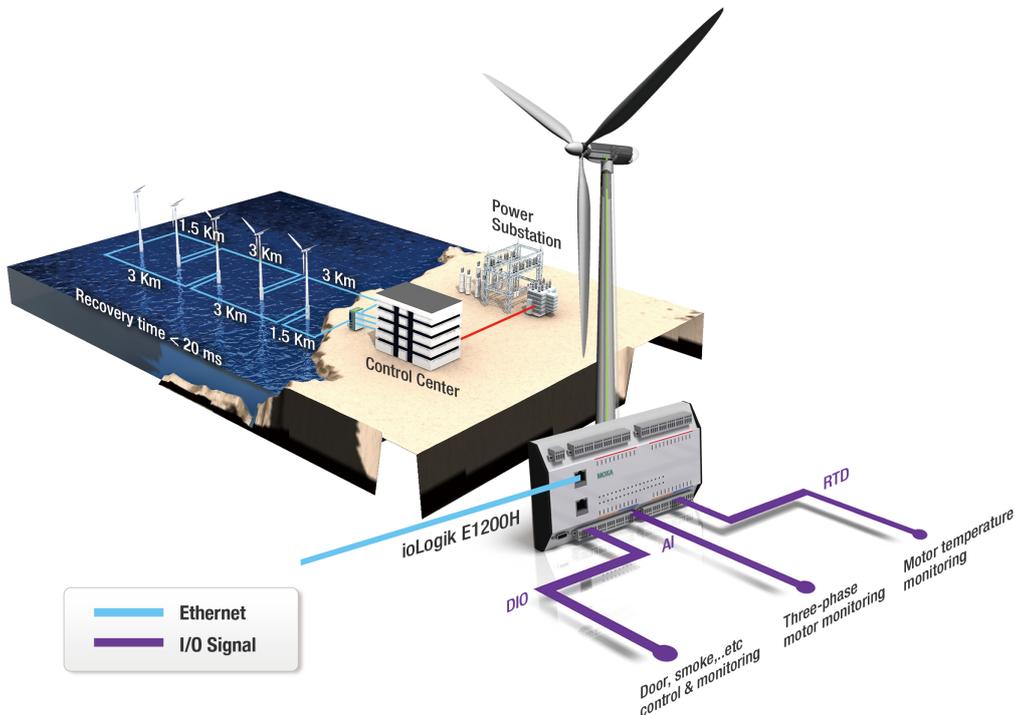MX-AOPC
UA
Server

Push-Type
Communication
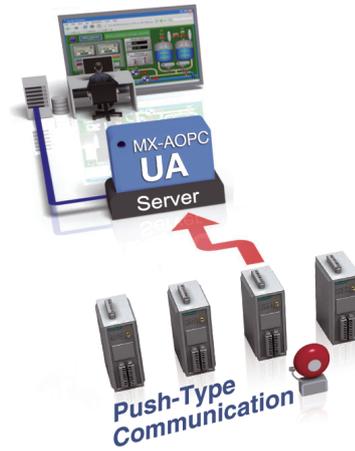
User-Definable Modbus TCP Addressing for Painless Upgrading of Existing Systems

For Modbus devices that are controlled and detected by fixed addresses, users need to spend a vast amount of time researching and verifying initial configurations. Users need to locate each device's networking details, such as I/O channels or vendor-defined addresses, to enable the initial or start address of a SCADA system or PLC. Devices that implement user-definable Modbus TCP addressing offer greater flexibility, and setup is easy. Instead of worrying about individual devices, users simply configure the function and address map to fit their needs.

Modbus/
TCP Polling

Moxa I/O

Ethernet I/O

Address Compatible

General SCADA Servers
or Field Controller

DI-0 _10001
DI-1 _10002
DI-2_10003

DI-0 _1xxxxx
DI-1 _1xxxxx
DI-2 _1xxxxx

Fixed Address

User-Defined Address

Application: Offshore Remote Monitoring

Offshore facilities need rugged remote Ethernet I/O devices that have the ability to withstand extreme weather conditions and wide temperature changes, and that can be used in hazardous environments. Moxa's I/O with its robust design will meet your most stringent demands, ensuring your remote data acquisition applications are reliable, consistent, and safe.

Power
Substation

1.5 Km
3 Km
3 Km
3 Km
3 Km
3 Km
1.5 Km

Recovery time < 20 ms

Control Center

ioLogik E1200H

RTD
AI
DIO

Motor temperature
monitoring

Three-phase
motor monitoring

Door, smoke,..etc
control & monitoring

— Ethernet
— I/O Signal

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Specifications

Input/Output Interface

Analog Input Channels	ioLogik E1261H-T: 5 ioLogik E1263H-T: 10
Configurable DIO Channels (by software)	ioLogik E1261H-T: 12 ioLogik E1263H-T: 24
Isolation	3k VDC or 2k Vrms
RTD Channels	3
Buttons	Reset button

Digital Inputs

Connector	Spring-type Euroblock terminal
Counter Frequency	250 Hz
Digital Filtering Time Interval	Software configurable
Dry Contact	On: short to GND Off: open
I/O Mode	DI or event counter
Points per COM	12 channels
Sensor Type	Dry contact Wet Contact (NPN or PNP)
Wet Contact (DI to GND)	On: 10 to 30 VDC Off: 0 to 3 VDC

Digital Outputs

Connector	Spring-type Euroblock terminal
Current Rating	200 mA per channel
I/O Mode	DO or pulse output
I/O Type	Sink
Over-Current Protection	0.65 A per channel @ 25°C
Over-Temperature Shutdown	175°C (typical), 150°C (min.)
Over-Voltage Protection	35 VDC
Pulse Output Frequency	500 Hz

Analog Inputs

Connector	Spring-type Euroblock terminal
Built-in Resistor for Current Input	120 ohms
I/O Mode	Voltage/Current
I/O Type	Differential
Input Impedance	10 mega-ohms (min.)
Input Range	0 to 10 VDC 0 to 20 mA 4 to 20 mA

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	4 to 20 mA (with burn-out detection)
Sampling Rate	ioLogik E1261H-T: All channels: 12 samples/sec Per channel: 1.5 samples/sec ioLogik E1263H-T: All channels: 12 samples/sec Per channel: 0.9 samples/sec
Accuracy	±0.5% FSR @ 25°C ±1% FSR @ -40 and 75°C
Resolution	16 bits

RTDs

Connector	Spring-type Euroblock terminal
Input Connection	2- or 3-wire
Input Impedance	625 kilo-ohms (min.)
Sampling Rate	ioLogik E1261H-T: All channels: 12 samples/sec Per channel: 1.5 samples/sec ioLogik E1263H-T: All channels: 12 samples/sec Per channel: 0.9 samples/sec
Accuracy	±0.5% FSR @ 25°C ±1.0% FSR @ -40 and 75°C
Sensor Type	PT100 (-200 to 850°C)
Resolution	0.5°C

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	2, 1 MAC address (Ethernet bypass)
Magnetic Isolation Protection	1.5 kV (built-in)

Ethernet Software Features

Configuration Options	Web Console (HTTP), Windows Utility (ioSearch)
Industrial Protocols	Modbus TCP Server (Slave), Moxa AOPC (Active Tag), MXIO Library
Management	BOOTP, DHCP Client, HTTP, IPv4, TCP/IP, UDP

LED Interface

LED Indicators	PWR, RDY, EXP, P1, LAN 1, LAN2, AI channels, DIO channels, RTD channels

Serial Interface

Baudrate	300 bps to 115.2 kbps
Connector	Terminal block
Data Bits	8
Flow Control	None
Serial Standards	RS-232/422/485
Stop Bits	1

Serial Signals

RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND

Serial Software Features

Industrial Protocols	Modbus RTU Server (slave)

Modbus TCP

Functions Supported	1, 2, 3, 4, 5, 6, 15, 16, 23
Mode	Client

Power Parameters

Power Connector	Spring-type Euroblock terminal
No. of Power Inputs	1
Input Voltage	12 to 48 VDC
Power Consumption	ioLogik E1261H-T: 235 mA @ 24 VDC ioLogik E1263H-T: 343 mA @ 24 VDC

Physical Characteristics

Housing	Aluminum
Dimensions	ioLogik E1261H-T: 140 x 113 x 36.3 mm (5.51 x 4.45 x 1.43 in) ioLogik E1263H-T: 204 x 113 x 36.3 mm (8.03 x 4.45 x 1.43 in)
Weight	ioLogik E1261H-T: 825 g (1.82 lb) ioLogik E1263H-T: 945 g (2.08 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	-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[1]

Standards and Certifications

|	
EMC	EN 55032/24, 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: 3 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 2 kV IEC 61000-4-6 CS: 3 V IEC 61000-4-8 PFMF
Environmental Testing	IEC 60068-2-1, IEC 60945 IEC 60068-2-2, IEC 60945
Safety	UL 508

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1. Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

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Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

Declaration

Green Product	RoHS, CRoHS, WEEE

MTBF

Time	ioLogik E1261H-T: 296,094 hrs ioLogik E1263H-T: 180,390 hrs
Standards	Telcordia SR332

Warranty

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

Package Contents

Device	1 x ioLogik E1200H Series remote I/O
Installation Kit	1 x terminal block, 3-pin, 3.81 mm 1 x terminal block, 20-pin, 3.81 mm
Documentation	1 x warranty card

Dimensions
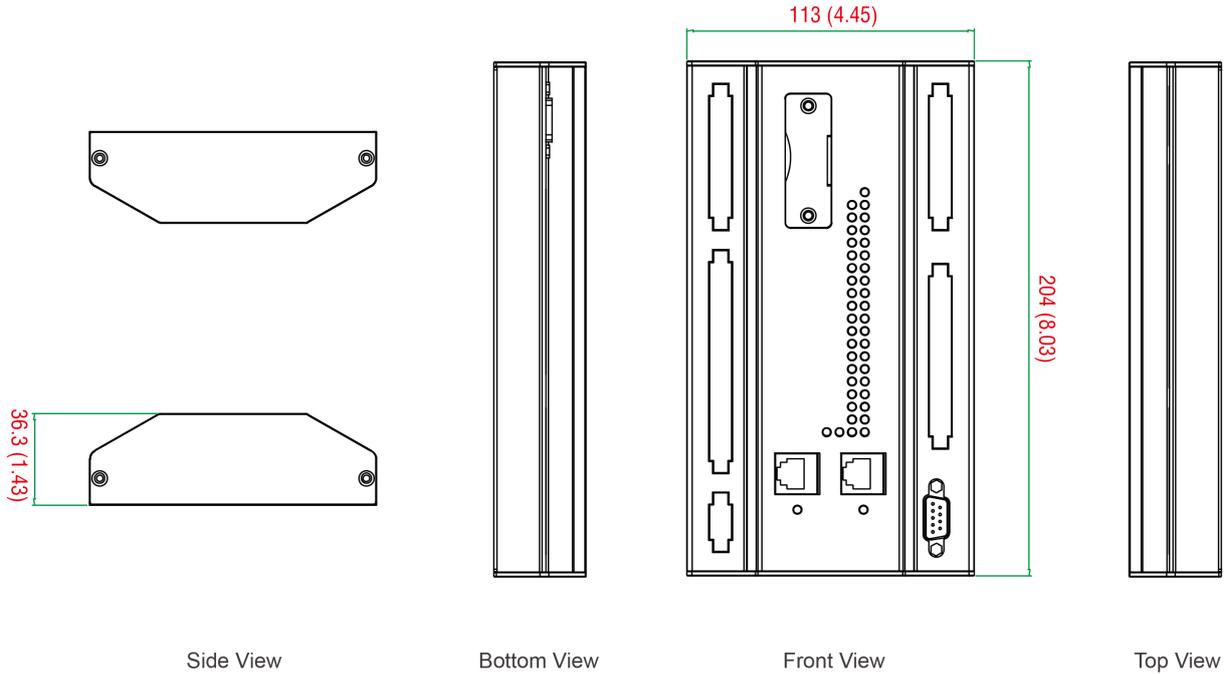
ioLogik E1261H

Unit: mm (inch)

Side View   Bottom View   Front View   Top View

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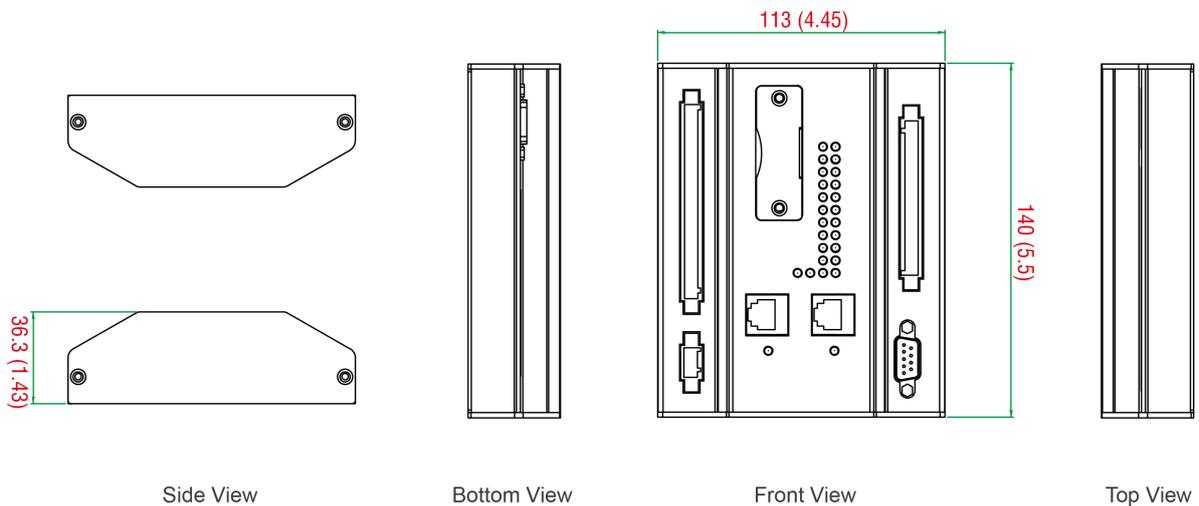
ioLogik E1263H

Unit: mm (inch)

113 (4.45)

204 (8.03)

36.3 (1.43)

Side View   Bottom View   Front View   Top View

Ordering Information

Model Name	Input/Output Interface
ioLogik E1261H-T	12 x DIO, 5 x AI, 3 x RTD
ioLogik E1263H-T	24 x DIO, 10 x AI, 3 x RTD

Accessories (sold separately)

Software

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

Wall-Mounting Kits

WK-90-01	Wall-mounting kit, 2 plates, 6 screws, 90 x 62 x 2.5 mm