MOXA®
Reliable Networks ▲ Sincere Service

Your Trusted Partner in Automation

Moxa is a leading provider of edge connectivity, industrial computing, and network infrastructure solutions for enabling connectivity for the Industrial Internet of Things. With over 30 years of industry experience, Moxa has connected more than 50 million devices worldwide and has a distribution and service network that reaches customers in more than 70 countries. Moxa delivers lasting business value by empowering industry with reliable networks and sincere service for industrial communications infrastructures.

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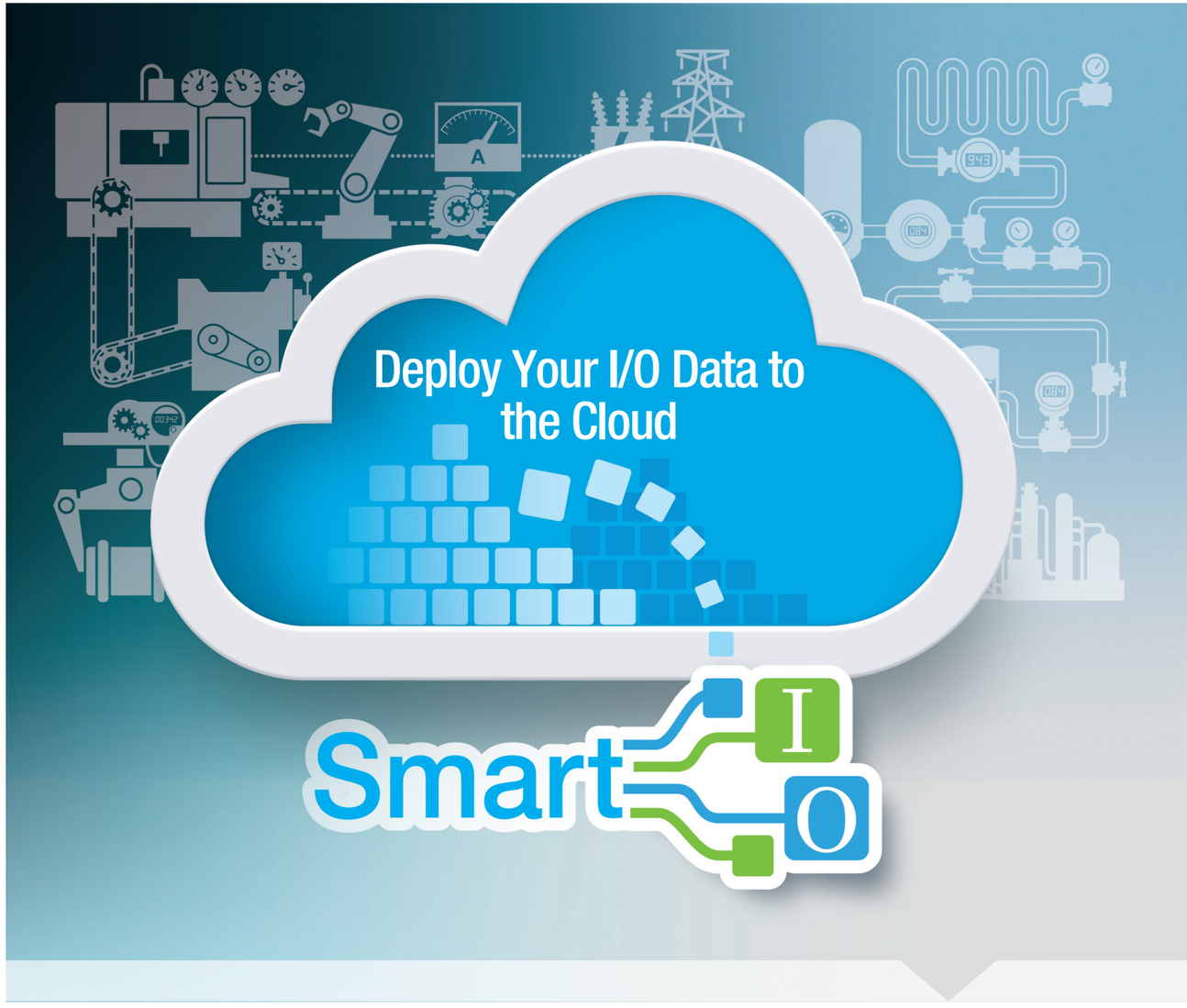

Moxa's Smart Data Acquisition Solutions


Modular Programmable Controller


Smart Remote I/O with Click&Go Plus


Smart Remote I/O with Click&Go


Remote I/O


Automation Software

www.moxa.com

Deploy Your I/O Data to the Cloud

Data collection is the first step to realizing Industrial Internet of Things (IIoT) applications. More and more IIoT technologies are being quickly adopted, such as cloud services or pub/sub protocols, to collect more data from monitored systems. This move is essentially mandatory, due to the fact that the amount of data involved is expanding at an ever-increasing rate. Moxa's Smart I/O and MX-AOPC UA Suites are designed for deploying data to a private, public, or hybrid cloud, which provides the most seamless and efficient way to reduce integration effort and lower the total cost of ownership.

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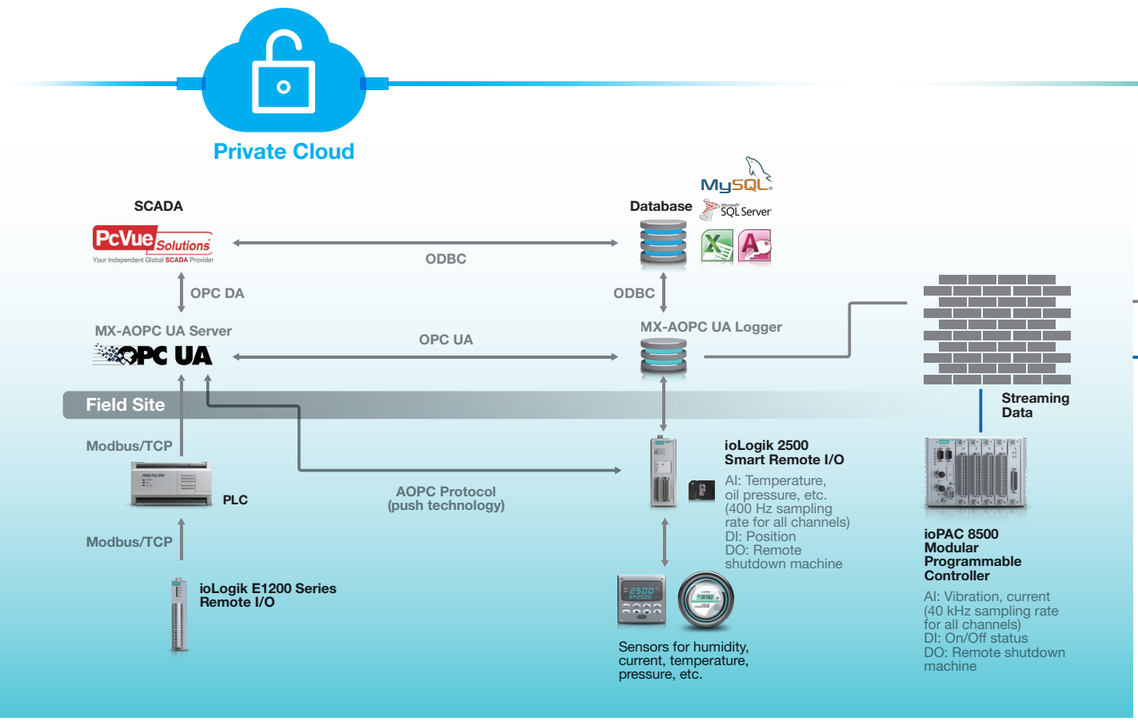


Deploying Data to a Private Cloud

Private clouds are implemented within a corporate firewall, under the control of the IT department. Data is transferred from monitored systems through the corporate intranet or virtual private network to the private cloud.

Moxa's Smart I/O can poll local meters and sensors as frequently as it likes without putting any burden on the Ethernet network, and only sends readings to the MX-AOPC UA Server (over the Ethernet network) when certain pre-configured conditions are met. Moxa's MX-AOPC UA Server receives real-time data from Smart I/O and converts data to the OPC UA standard, which is secure and widely adopted in Industrial 4.0 applications for sending data to SCADA software. MX-AOPC UA Logger is an OPC UA client for converting data from MX-AOPC UA Server to a database.

Deploying Data to Private and Public Clouds (Hybrid Cloud)

A hybrid cloud combines private clouds and public clouds, in which critical data often resides in the enterprise's private cloud, while other data is stored in and accessible from a public cloud.

Moxa's MX-AOPC UA Logger allows users to easily deploy data to a private cloud or public cloud without any programming effort. Data sent to a public cloud is converted from OPC tag format to the format that the public cloud supports, such as JSON files, and includes all OPC-tag attributes, such as tag ID, value, unit, and timestamp. Data is easily integrated by the public cloud's services, such as dashboards, analytics tools, and database storage.

Deploying Data to a Public Cloud

Public clouds are a form of cloud computing in which a company relies on a third-party cloud service provider, such as Microsoft Azure, who provides services such as servers, data storage, and applications.

Moxa's programmable Smart I/O can be easily embedded with SDKs from cloud service providers for connecting Smart I/O to a public cloud. Moxa Smart I/O supports multiple protocols, including Modbus and SNMP, to collect data from meters and sensors as frequently as needed. Smart I/O's tag-centric service represents each I/O value or status as a tag. Each tag can be easily sent to a public cloud using C/C++ programming tools. Moreover, Smart I/O's programmable capabilities allow users to minimize data size before sending data to a public cloud to ensure data quality and reduce transmission and storage costs.

Moxa's Technology Enables Seamless and Efficient Data Collection

Moxa has developed a variety of innovative technologies to provide seamless and efficient data collection through the cloud.

With more and more field devices being connected to the industrial IoT (Internet of Things), the need to keep all those "things" continuously connected to the Internet has put a premium on networking products that can deliver continuous connectivity without human intervention. To deploy your I/O data to the cloud easily and effortlessly, you first need to retrieve the I/O data and then convert it to the appropriate protocol. Once all of the data has been prepared for transmission, the final step is to push the data up to your cloud platform.

Solutions for Various Data Collection Scenarios

I/O to IT/OT Protocol Conversion

Cloud services are provided by the Information Technology (IT) industry, but most users are from the Operational Technology (OT) industry. The problems this presents is that IT and OT applications use different technologies. Moxa's Smart I/O can understand both IT and OT protocols. Once it collects the I/O signals, it converts the data to both IT and OT protocols.

Complete, Efficient Data Collection

Moxa's ioLogik 2500 series, MX-AOPC UA Server, and MX-AOPC UA Logger, when used together, form a turnkey solution that provides real-time push data acquisition, data buffering in local storage devices, and automatic data completeness after network failures.

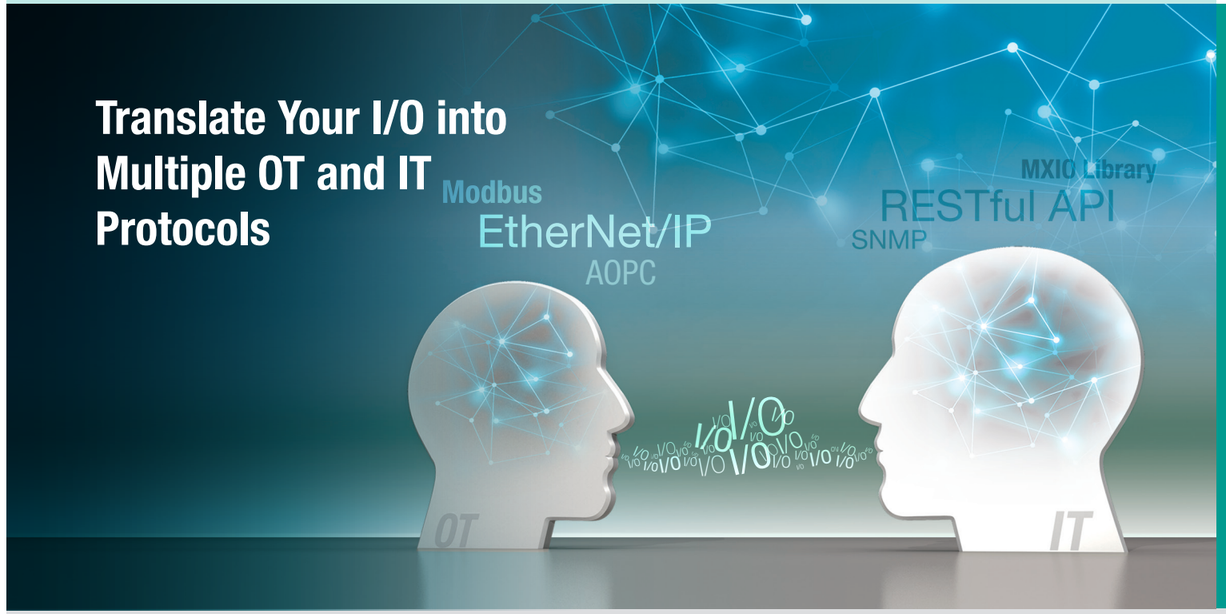
Easy Configuration and Programming

Moxa's patented Click&Go software provides smart, front-end intelligent control logic that implements local control without needing to communicate with a remote host. Click&Go's intuitive, graphical interface and simple IF-THEN-ELSE control logic, which defines how Moxa's remote IO devices respond to different events, is easy and straightforward to set up.

Solutions for Specific Vertical Markets

Moxa's Smart I/O can be used with applications that operate in extreme environments, including smart factory, smart energy, smart transportation, and smart city automation applications.

Industry	Applications	Recommended Products
Smart Factory	Machine Condition Monitoring	ioLogik 2500 Series, ioLogik E2200 Series, ioLogik E4200 Series
	Motor 3 Phase AC Power Monitoring	ioLogik E1230EM Series
	Machine Original Equipment Manufacturing	ioLogik E1200 Series, ioLogik P1200 Series
Smart Energy	Critical Power Management	ioLogik E1230EM Series, ioLogik E1200 Series
	Wind Power Transformer Monitoring	ioLogik E1200H Series, ioLogik E1200W Series
	Solar Grid and Inverter Monitoring	ioLogik 2500 Series, ioLogik E1200 Series
	Oil & Gas Wellhead, Pipeline Monitoring	ioLogik 2500 Series, ioLogik E1200 Series
Smart Transportation	Electronic Toll Collection	ioLogik E2200 Series
	Parking Automation	ioLogik E1200 Series, ioLogik P1200 Series
	Marine Automation	ioLogik E1200H Series
	Railway Onboard Passenger Information System	ioLogik E1500 Series, ioPAC 8000 Series, ioPAC 5500 Series
	Railway Wayside Asset Monitoring	ioLogik E1500 Series, ioPAC 8000 Series, ioPAC 5500 Series
Smart City	Water and Wastewater Wellhead, Pump, and Pipeline Monitoring	ioLogik 2500 Series, ioLogik E1200 Series
	Disaster Prevention System	ioLogik 2500 Series
	Surveillance System	ioLogik E1200 Series, ioLogik P1200 Series, ioLogik E2200 Series



I/O to IT/OT Protocol Conversion

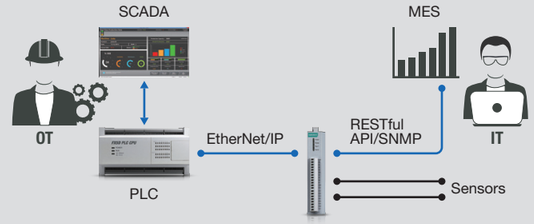
Are you still looking for a protocol gateway to translate back and forth between OT and IT protocols? Moxa's Smart I/O does just what you need by supporting the most often-used protocols for retrieving I/O data. Most IT engineers use SNMP or RESTful API protocols, but Industrial Automation (IA) engineers are more familiar with Operational Technologies (OT), such as Modbus and EtherNet/IP. Moxa Smart I/O makes it possible for both IT and IA engineers to conveniently retrieve data from the same I/O device.

Moxa's multiprotocol Smart I/O speaks six different protocols, including the Modbus/TCP, EtherNet/IP, and Moxa AOPC OT protocols, as well as the SNMP, RESTful API, and Moxa MXIO library IT protocols. The Smart I/O retrieves I/O data and converts the data to any of these protocols at the same time, allowing you to get your applications connected easily and effortlessly.

Product Series	OT Protocols			IT Protocols		
	Modbus	EtherNet/IP	AOPC	SNMP	RESTful API	MXIO Library
ioLogik E1200 Series	✓	✓	✓	✓	✓	✓
ioLogik P1200 Series	✓	–	✓	✓	✓	✓
ioLogik 2500 Series	✓	–	✓	✓	✓	✓
ioLogik E2200 Series	✓	–	✓	✓	–	✓
ioLogik E4200 Series	✓	–	✓	✓	–	✓

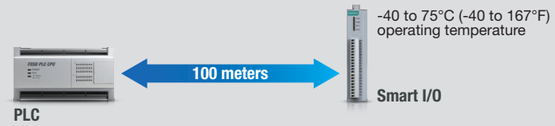
Please check Moxa's website for the most up-to-date product specifications.

Easily connect to the IIoT without installing a separate protocol gateway

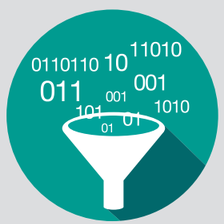


Reduce your integration cost by using SNMP or RESTful APIs to collect data from the Smart I/O device, without needing to install an extra protocol gateway to connect to IIoT applications.

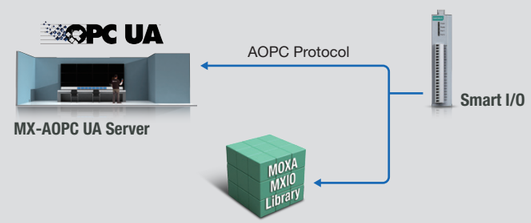
Easily expand PLC I/O points, especially in harsh environments



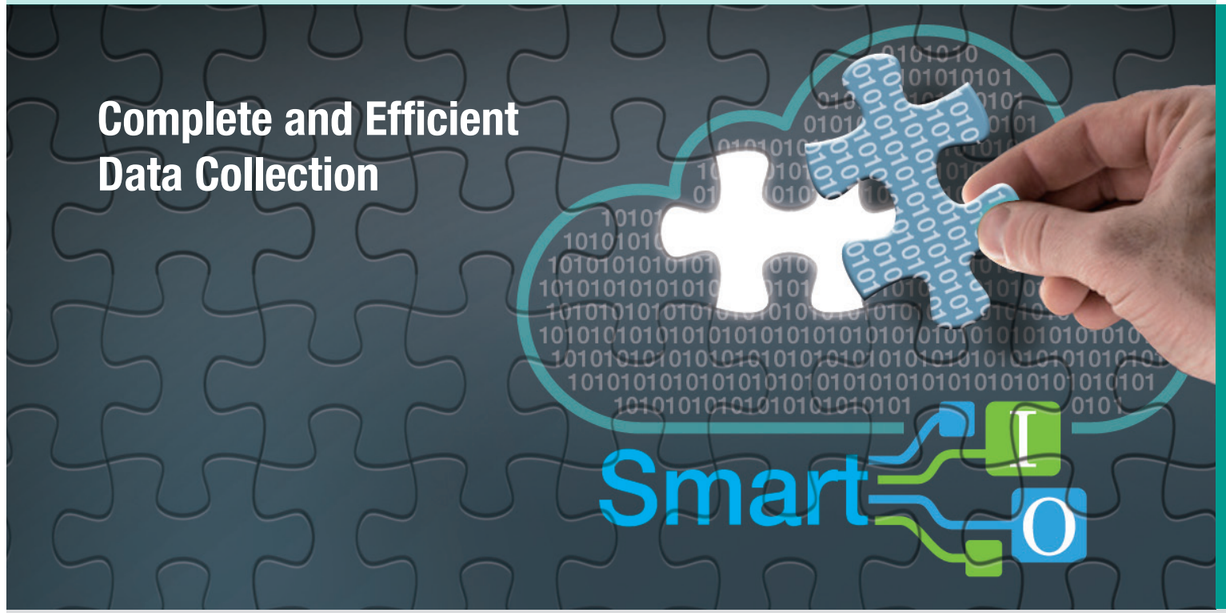
Moxa's Smart I/O devices are designed for a wide range of operating temperatures, making them ideal for collecting data from harsh environment applications. The ioLogik E1200 supports the most common PLC-type protocols, including Modbus/TCP and EtherNet/IP.



Actively and easily collect data to use in your own system



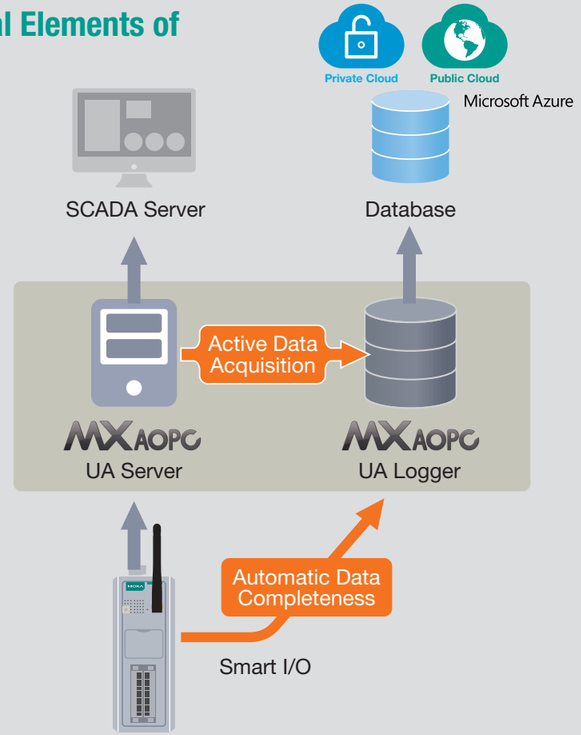
Use Moxa's MX-AOPC UA Server to connect to the Smart I/O device with the AOPC protocol, and enjoy the benefits of "push technology." If you would like to program your own system, Moxa's MXIO Library helps you complete your tasks easily, both for Windows and Linux operating systems.



Complete and Efficient Data Collection

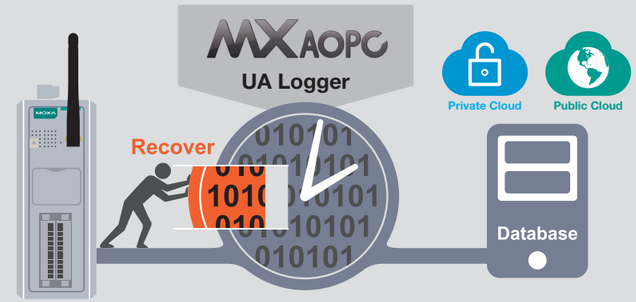
Big Data Quality and Integrity, Fundamental Elements of the Industrial Internet of Things

Automated analysis can sometimes lead to surprising results, in which case systems engineers would be justified to question whether or not the big data, and the automated analysis, is accurate. Everyone has heard the old adage, “garbage in, garbage out,” but the reality is that ensuring the quality and integrity of big data is not particularly easy. In fact, the sheer quantity of data churned out by thousands and thousands of sensors can put a tremendous load on legacy data acquisition methods. In addition, with wireless technology quickly becoming the connection option of choice for IIoT applications, mainly due to its convenience and mobility, the stability of wireless communications is a critical issue. A cause for concern is the inevitable unexpected connection interruptions that plague any wireless network, and which could result in data loss and expensive shutdowns of important business processes. Moxa’s smart data acquisition method helps to shrink the amount of data that needs to be transmitted and ensure data completeness. In short, smart data acquisition enhances the quality and integrity of big data, resulting in more accurate analyses.



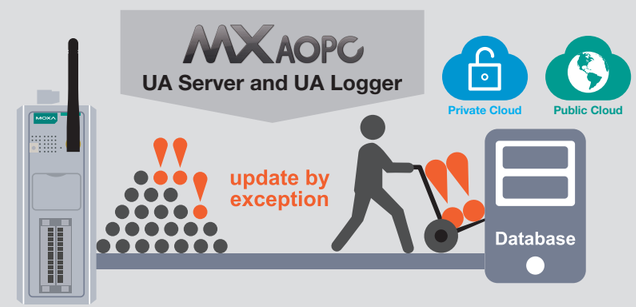
Complete Data Collection

When used together, Moxa’s ioLogik 2500 series, MX-AOPC UA Server, and MX-AOPC UA Logger form a turnkey solution that provides real-time data acquisition, data buffering in local storage devices, and automatic data completeness after network failures. MX-AOPC UA Logger imports data from MX-AOPC UA Server into a database in real time. When the network fails and then recovers, the logger automatically retrieves data logs, with timestamp matching the duration of the disconnection, from the data buffers of specific ioLogik 2500 devices, and then pushes the supplementary data into the database.



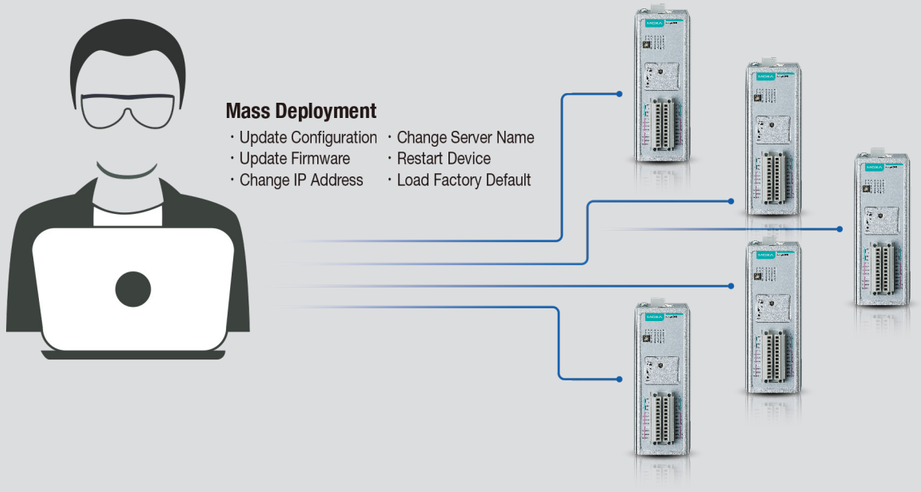
Efficient Data Collection

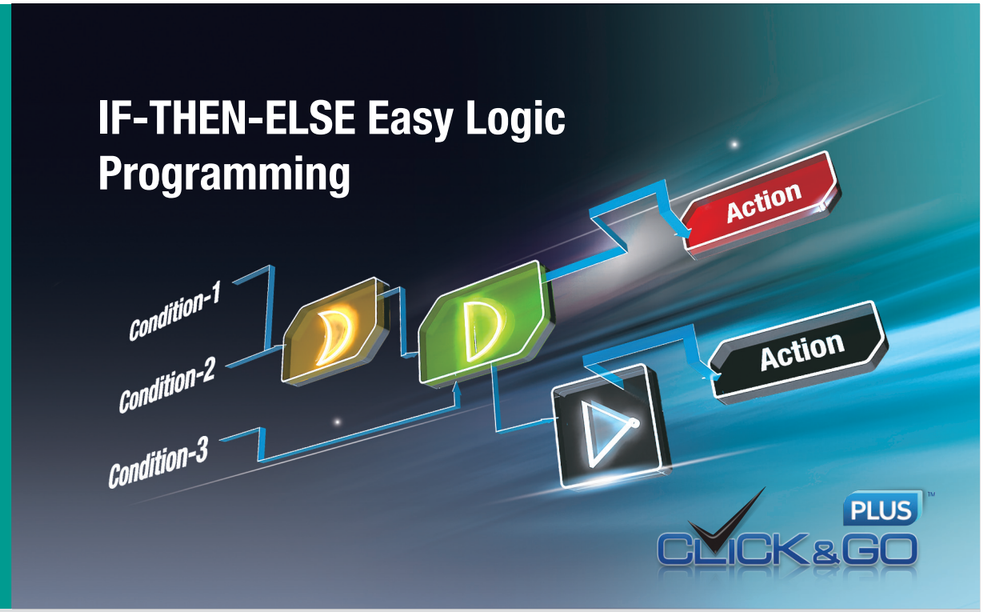
About ten years ago, Moxa introduced its patented Active OPC concept, which is implemented by Moxa’s ioLogik products. The ioLogik can poll local meters and sensors as frequently as it likes without putting any burden on the Ethernet network, and only sends readings to the OPC server (over the Ethernet network) when certain pre-configured conditions are met. Engineers can decide between updating data by polling and updating data by exception for efficient data collection. With this efficient data collection method, MX-AOPC UA Logger can deploy higher quality data to the private or public cloud for big data analysis.



IOxpress and RTUxpress

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. RTUxpress is an intuitive, user-friendly offline deployment tool for basic setup, tag management, and configuring services on Moxa's ioPAC controllers. IOxpress and RTUxpress are provided free of charge, and may be upgraded as required, as new versions become available.





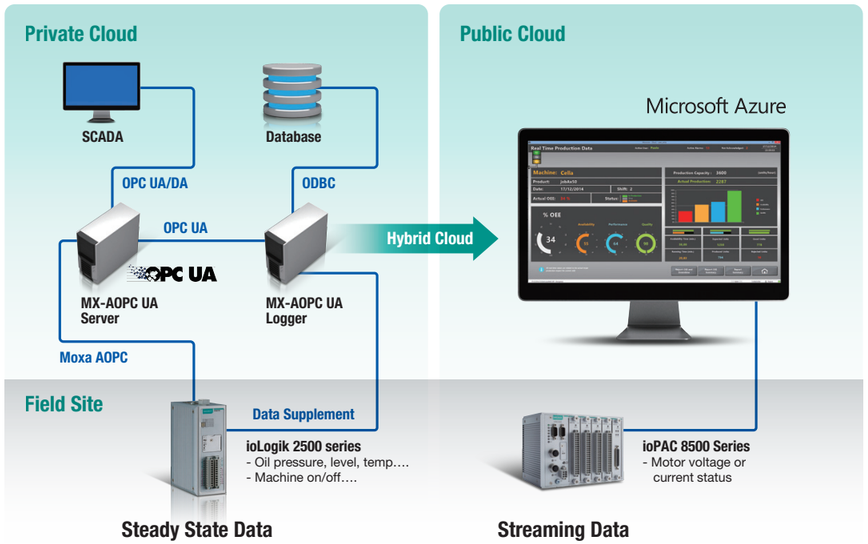
Click&Go Plus

Moxa's patented Click&Go Plus™ front-end control logic makes it extremely easy for even novice users to program Moxa's data acquisition products. Click&Go Plus™ control logic 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. Click&Go Plus supports active alarming and communication methods, including TCP, UDP, SNMP Trap, email, and CGI commands, making it extremely easy to integrate Click&Go with any monitoring system.

IF Condition	THEN/ELSE Action
DI	DO
DO	DO Pulse Output
Relay	Relay
System Start-Up	Relay Counter (Current)
Modbus Host Connection Fail	Relay Pulse Output
Schedule	Internal Register
Timer	Float Internal Register
Remote Action	Timer
SMS	Data Log
CGI Command	FTP Upload
Serial Tag (Boolean/Float/DWORD/WORD)	Counter
AI	Remote Action
Float Internal Register	AO
Virtual Channel	SNMP Trap
Internal Register	TCP/UDP Message
Relay Counter (Lifetime)	E-Mail
Relay Counter (Current)	SMS
Counter	CGI Command

Machine Condition Monitoring with Hybrid Cloud Solution

Steady state and transient data collection



Background and Requirements

- **Improve production OEE (Overall Equipment Effectiveness) in a factory**
- **Customer needs:**
  - Some data needs to be sent to a public cloud based on an existing private cloud solution
  - Solutions for collecting steady state and streaming data

Why Moxa?

- **Easy to deploy data to both private and public clouds**
- **Automatic data supplement ensures data integrity**

Background and Requirements

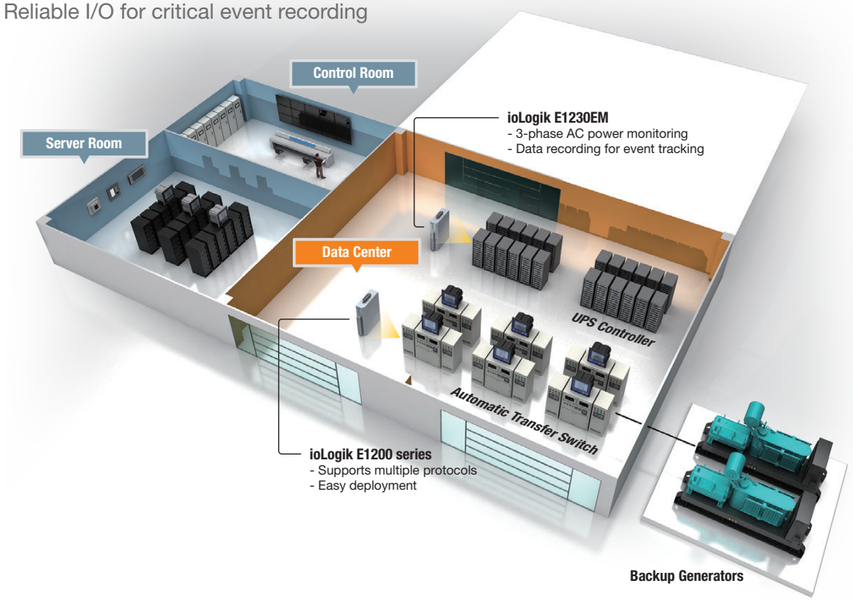
- **Ensure power stability and longevity**
- **Customer needs:**
  - 3-phase AC power monitoring with data recording for event tracking
  - Modbus and SNMP protocols

Why Moxa?

- **Supports 3-phase AC power data pre-recording**
- **Supports both Modbus and SNMP protocols**
- **Daisy-chain topology for easy I/O expansion**

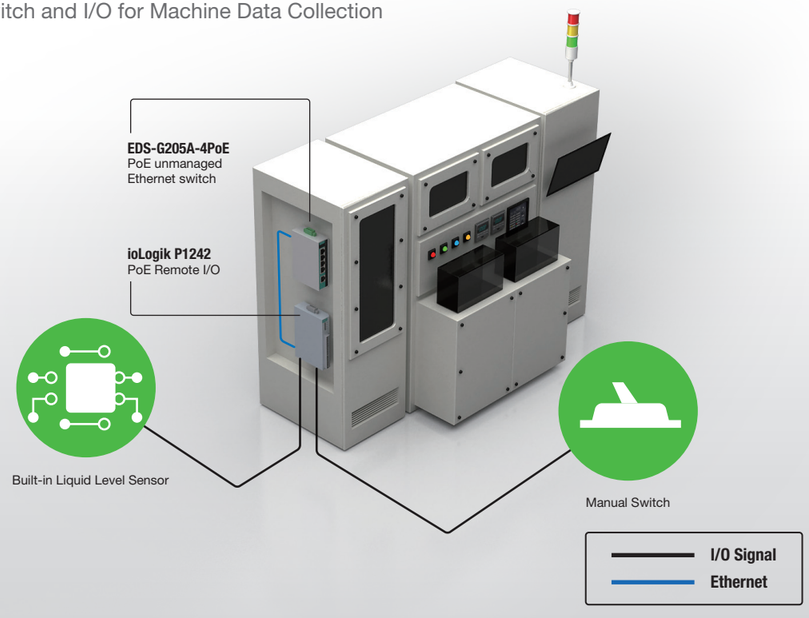
Critical Power Management at a Data Center

Reliable I/O for critical event recording



Semiconductor Equipment Manufacturing

PoE Switch and I/O for Machine Data Collection



Background and Requirements

- **Machine OEM to reduce total cost of ownership**
- **Customer needs:**
  - Compact size for installation in locations with limited space
  - PoE solution to reduce power supply and wiring cost

Why Moxa?

- **Compact size for machine OEM design-in**
- **Power daisy-chain topology for easy I/O expansion**

Background and Requirements

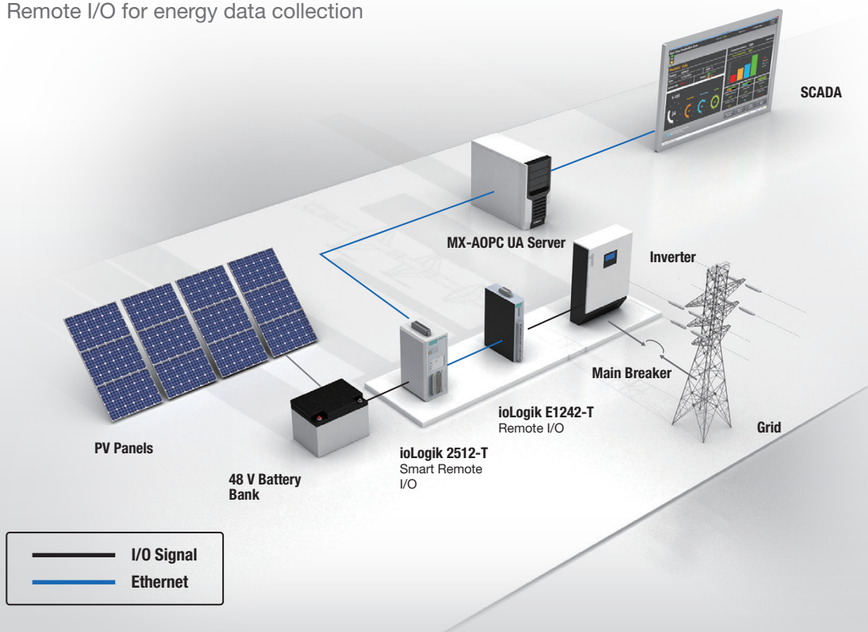
- **Ensure solar power generation efficiency**
- **Customer needs:**
  - Real-time data collection and display on SCADA software
  - Local data logging and files uploaded on schedule
  - SNMP trap alert for critical events

Why Moxa?

- **Easy-to-configure Click&Go logic simplifies setting up automatic control routines**
- **Supports SNMP trap for alert management**
- **Wide operating temperature**

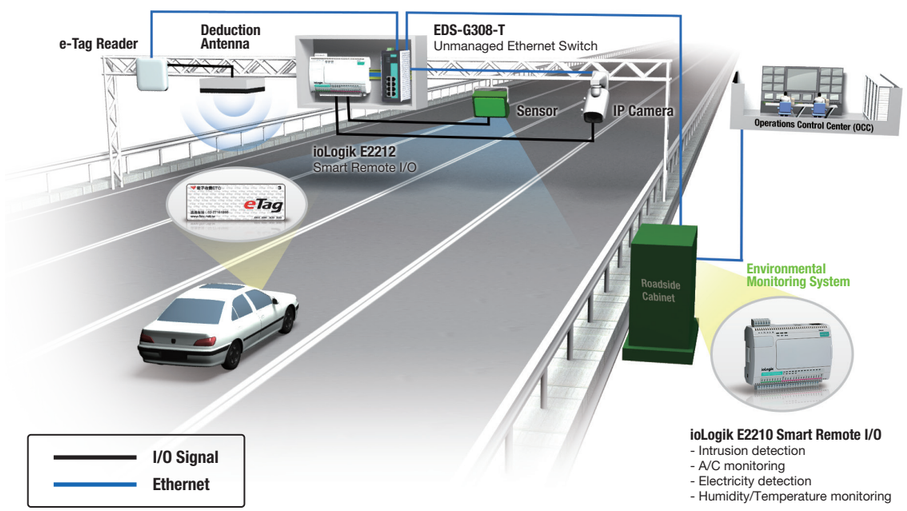
Solar Power System Monitoring

Remote I/O for energy data collection



Electronic Toll Collection System

Smart I/O for data collection in critical conditions



ioLogik E2210 Smart Remote I/O
- Intrusion detection
- A/C monitoring
- Electricity detection
- Humidity/Temperature monitoring

Background and Requirements

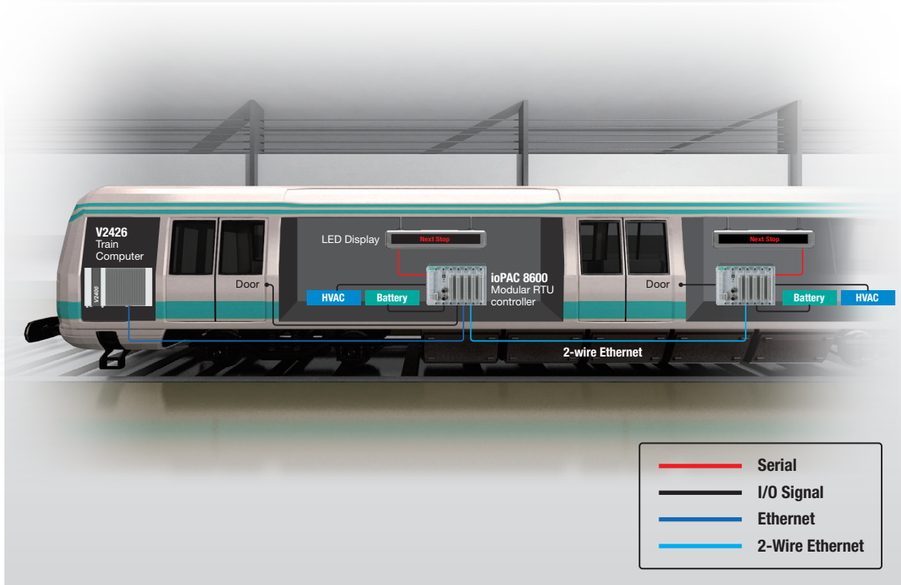
- **Reliable data collection in harsh environments**
- **Customer needs:**
  - Front-end control logic
  - Snapshots of non-compliant vehicles triggered automatically

Why Moxa?

- **Click&Go logic provides intelligent front-end control logic capability**
- **CGI commands that trigger IP cameras to photograph non-compliant vehicles**
- **Multiple IOs and serial interfaces for different sensors**

Railway Onboard Condition Monitoring

Robust I/O for train data collection



Background and Requirements

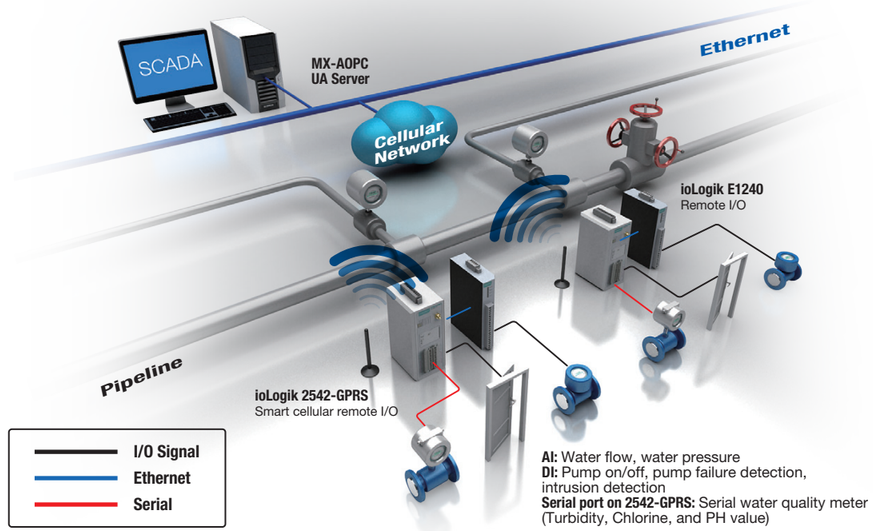
- **Upgrade existing trains for IIoT**
- **Customer needs:**
  - Installation in limited space
  - Legacy 2-wire network infrastructure connection
  - Multiple IOs and serial interfaces are required
  - Compliance with railway certifications

Why Moxa?

- **Compact design ideal for small installation spaces**
- **2-wire Ethernet technology supports up to 100 Mbps Ethernet transmission on legacy 2-wire networks**
- **EN 50155 certified**

Remote Monitoring of a Water Distribution Network

Wireless I/O for data collection from unmanned sites



AI: Water flow, water pressure
DI: Pump on/off, pump failure detection, intrusion detection
Serial port on 2542-GPRS: Serial water quality meter (Turbidity, Chlorine, and PH value)

Background and Requirements

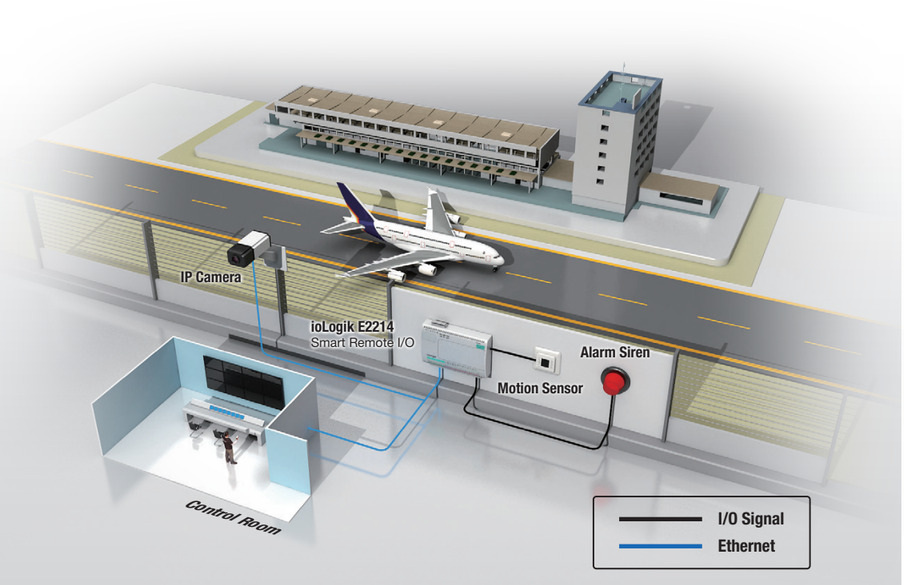
- **Remote Water Pumping Station**
- **Customer Needs:**
  - Cellular communication for remote site deployment
  - Easy to integrate SCADA with cellular communication
  - Active alarms for unexpected events

Why Moxa?

- **Bridge expandable I/O and serial data to central OPC server with 2542-GPRS**
- **MX-AOPC UA Server for easy integration with SCADA**
- **Easy logic setup with Moxa Click&Go Plus**

Airport Perimeter Security Monitoring System

Intrusion detection and alarm system with local intelligence



Background and Requirements

- **Ensure Airport Security**
- **Customer Needs:**
  - Intrusion event-driven alarm messages
  - Integration with surveillance system
  - Low bandwidth required
  - Local control capability

Why Moxa?

- **Supports CGI commands for integrating IP cameras**
- **Local control with Click&Go Logic for active alarm messages**
- **Supports SNMP Trap / E-mail / TCP-UDP messaging for active alarms**

Programmable Controllers



	ioPAC 8600 Series	ioPAC 8500 Series	ioPAC 5542 Series
Inputs/Outputs	Requires 86M or 85M I/O modules	Requires 85M I/O modules	8 DIs, 8 DIOs, 8 AIs
Cellular			
HSPA	–	–	✓
Ethernet			
Ports (Connector)	2 (M12 or RJ45)		2 (RJ45)
Speed	10/100 Mbps		
Switch (Daisy Chain)	✓	–	–
Switch (2 MACs)	✓	✓	✓
Serial			
Ports (Connector)	–	2 (DB9 male)	2 (DB9 male)
Interface	–	RS-232/422/485	RS-232/422/485
Physical Characteristics			
I/O Module Slots	5/9/12	2/5/9	–
Environmental Limits			
Operating Temp.	-40 to 75°C (-40 to 167°F)		• ioPAC 5542 Series: -40 to 75°C (-40 to 176°F) • ioPAC 5542-HSPA Series: -30 to 75°C (-22 to 176°F)
Storage Temp.	-40 to 85°C (-40 to 185°F)		
Ambient Relative Humidity	5 to 95% RH (non-condensing)		
Software			
Programmability	C/C++ or IEC 61131-3		
Standards and Certifications			
Safety	UL 508		UL 508, NCC (ioPAC 5542-HSPA)
EMC	EN 55032, EN 55024		
EMI	FCC Part 15 Subpart B Class A, CISPR 32		
EMS	IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8		
Rail Traffic	EN 50155*, EN 50121-4		EN 50121-4
Hazardous Location	–	–	Class 1 Division 2

*This product is suitable for rolling stock railway applications, as defined by the EN 50155 standard. For more information, please download the product datasheet from Moxa's website.

Smart Ethernet Remote I/O with Click&Go Logic

	ioLogik E2210	ioLogik E2212	ioLogik E2214	ioLogik E2240	ioLogik E2242	ioLogik E2260	ioLogik E2262
Inputs/Outputs							
Digital Inputs	12	8	6	–	–	–	–
Digital Outputs	8	8	–	–	–	4	4
Relays	–	–	6	–	–	–	–
Configurable DIOs	–	4	–	–	12	–	–
Analog Inputs	–	–	–	8	4	–	–
Analog Outputs	–	–	–	2	–	–	–
RTDs	–	–	–	–	–	6	–
Thermocouples	–	–	–	–	–	–	8
Ethernet							
Ports (Connector)	1 (RJ45)						
Speed	10/100 Mbps						
Protocols	Modbus/TCP (slave), TCP/IP, UDP, DHCP, BOOTP, SNMP, HTTP, CGI, SNTP, SMTP						
Serial							
Ports (Connector)	1 x RS-485 (Euroblock terminal)						
Interface	RS-485						
Protocols	Modbus/RTU (gateway)						
Environmental Limits							
Standard Operating Temp.	-10 to 60°C (14 to 140°F)						
Wide Operating Temp.	-40 to 75°C (-40 to 167°F)						
Storage Temp.	-40 to 85°C (-40 to 185°F)						
Ambient Relative Humidity	5 to 95% RH (non-condensing)						
Standards and Certifications							
Safety	UL 508						
EMC	EN 61000-6-2; EN 61000-6-4						
EMI	CISPR 22, FCC Part 15B Class A						
EMS	EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8						

Smart Remote I/O with Click&Go Plus Logic

	Ethernet		WLAN/802.11a/b/g		Cellular			
	ioLogik 2512	ioLogik 2542	ioLogik 2512-WL1	ioLogik 2542-WL1	ioLogik 2512-GPRS	ioLogik 2542-GPRS	ioLogik 2512-HSPA	ioLogik 2542-HSPA
Inputs/Outputs								
Digital Inputs	8	–	8	–	8	–	8	–
Configurable DIOs	8	12	8	12	8	12	8	12
Analog Inputs	–	4	–	4	–	4	–	4
Cellular								
Band Options	–	–	–	–	GSM/GPRS/EDGE: quad-band 850/900/1800/1900 MHz		UMTS/HSPA+: five-band 800/850/900/1900/2100 MHz GSM/GPRS/EDGE: quad-band 850/900/1800/1900 MHz	
WLAN								
Standard	–	–	IEEE 802.11 b/g for Wireless LAN IEEE 802.11i for Wireless Security		–	–	–	–
Ethernet								
Ports	4 switched ports, with 1 optimized port for faster downstream communications with up to 8 daisy-chained ioLogik E1200 units (RJ45)							
Speed	10/100 Mbps							
Protocols	Modbus/TCP (slave), TCP/IP, UDP, DHCP, BOOTP, SNMP, HTTP, CGI, SNTP, SMTP							
Serial								
Ports	2 (RJ45, RS-232/422/485 software selectable)							
Protocols	Modbus/RTU (master/gateway), serial tunnel mode (client/server)							
Environmental Limits								
Standard Operating Temp.	-10 to 60°C (14 to 140°F)							
Wide Operating Temp.	-40 to 75°C (-40 to 167°F)		-30 to 70°C (-22 to 158°F)					
Storage Temp.	-40 to 85°C (-40 to 185°F)							
Ambient Relative Humidity	5 to 95% (non-condensing)							
Standards and Certifications								
Safety	UL 508							
EMC	EN 61000-6-2; EN 61000-6-4							
EMI	CISPR 22, FCC Part 15B Class A							
EMS	EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8							
Radio	R&TTE; NCC; VCCI (For WL1 models)							
Hazardous Location	Class I Division 2, ATEX Zone 2							

Ethernet Remote I/O

	ioLogik E1210	ioLogik E1211	ioLogik E1212	ioLogik E1214	ioLogik E1213**	ioLogik E1240	ioLogik E1241	ioLogik E1242	ioLogik E1260	ioLogik E1262
Inputs/Outputs										
Digital Inputs	16	–	8	6	8	–	–	4	–	–
Digital Outputs	–	16	–	–	4	–	–	–	–	–
Relays	–	–	–	6	–	–	–	–	–	–
Configurable DIOs	–	–	8	–	4	–	–	4	–	–
Analog Inputs	–	–	–	–	–	8	–	4	–	–
Analog Outputs	–	–	–	–	–	–	4	–	–	–
RTDs	–	–	–	–	–	–	–	–	6	–
Thermocouples	–	–	–	–	–	–	–	–	–	8
Ethernet										
Ports (Connector)	2 (RJ45)									
Speed	10/100 Mbps									
Switch (Daisy Chain)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Protocols	Modbus/TCP (Slave), EtherNet/IP*, SNMPv1/v2c, RESTful API, TCP/IP, UDP, DHCP, BOOTP, HTTP									
Environmental Limits										
Standard Operating Temp.	-10 to 60°C (14 to 140°F)									
Wide Operating Temp.	-40 to 75°C (-40 to 167°F)									
Storage Temp.	-40 to 85°C (-40 to 185°F)									
Operating Humidity	5 to 95% RH (non-condensing)									
Standards and Certifications										
Safety	UL 508									
EMC	EN 55032; EN 55024; EN 61000-6-2; EN 61000-6-4									
EMI	CISPR 32, FCC Part 15B Class A									
EMS	EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8									
Hazardous Location	Class I Division 2, ATEX Zone 2									

*Requires online registration at http://license.moxa.com/ (available free of charge)
**The ioLogik E1213 uses source-type DOs

Ethernet Remote I/O – 3 Phase AC Meter (Available in Q4, 2017)

	ioLogik E1230EM
Input/Output	
Current Inputs	4
Voltage Inputs	3
Ethernet	
Ports (Connector)	2 (RJ45)
Speed	10/100 Mbps
Switch (Daisy Chain)	✓
Protocols	Modbus/TCP (Slave), SNMPv1/v2c/v3, TCP/IP, UDP, DHCP, BOOTP, HTTP
Environmental Limits	
Standard Operating Temp.	-10 to 60°C (14 to 140°F)
Wide Operating Temp.	-40 to 75°C (-40 to 167°F)
Storage Temp.	-40 to 85°C (-40 to 185°F)
Operating Humidity	5 to 95% RH (non-condensing)
Standards and Certifications	
Safety	UL 61010
EMC	EN 55032; EN 55024; EN 61000-3-2/3-3; EN 61000-6-2/6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8

PoE Remote I/O with Power Daisy Chain (Available in Q4, 2017)

	ioLogik P1210	ioLogik P1212	ioLogik P1214	ioLogik P1242
Input/Output				
Digital Inputs	16	8	6	4
Digital Outputs	–	8	–	–
Configurable DIOs	–	–	–	4
Relays	–	–	6	–
Analog Inputs	–	–	–	4
Power Output Channel	1	1	1	1
Ethernet				
Ports (Connector)	2 (RJ45)			
Speed	10/100 Mbps			
Power Daisy Chain*	✓	✓	✓	✓
Protocols	Modbus/TCP (Slave), TCP/IP, UDP, DHCP, Bootp, SNMP(v1/v2c/v3), SNMP Trap (v1/v2c), HTTP, HTTPS, CGI, RESTful API, SNTP			
Power-over-Ethernet (PoE)	Ethernet port L1: 802.3 AF/AT; mode A/B as Powered Device (PD)			
Environmental Limits				
Standard Models	-10 to 60°C (14 to 140°F)			
Wide Temp. Models	-40 to 75°C (-40 to 167°F)			
Storage Temp.	-40 to 85°C (-40 to 185°F)			
Operating Humidity	5 to 95% RH (non-condensing)			
Standards and Certifications				
Safety	UL 61010			
EMC	EN 55032; EN 55024; EN 61000-6-2/6-4			
EMI	CISPR 32, FCC Part 15B Class A			
EMS	EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8			
Power Output Channel				
Output Voltage	12/24 VDC			
Current Rating	100 mA @ 12 VDC / 50 mA @ 24 VDC			

*The ioLogik P1200 series Power Daisy Chain DOES NOT provide power as a PSE. The cascaded PD must connect to Ethernet port L2 and support DC direct input over Mode A/B.

RS-485 Remote I/O

	ioLogik R1210	ioLogik R1212	ioLogik R1214	ioLogik R1240	ioLogik R1241
Input/Output					
Digital Inputs	16	8	6	–	–
Relay Outputs	–	–	6	–	–
Configurable DIOs	–	8	–	–	–
Analog Inputs	–	–	–	8	–
Analog Outputs	–	–	–	–	4
Serial					
Ports (Connector)	2 (5-wire Euroblock terminal)				
Interface	Dual RS-485				
Protocols	Modbus/RTU (slave)				
Environmental Limits					
Standard Operating Temp.	-10 to 75°C (14 to 167°F)				
Wide Operating Temp.	-40 to 85°C (-40 to 185°F)				
Storage Temp.	-40 to 85°C (-40 to 185°F)				
Operating Humidity	5 to 95% RH (non-condensing)				
Standards and Certifications					
Safety	UL 508				
EMC	EN 55032; EN 55024				
EMI	CISPR 32, FCC Part 15B Class A				
EMS	EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8				

Ethernet Remote I/O





	ioLogik E1261W-T	ioLogik E1263H-T	ioLogik E1261H-T	ioLogik E1510-M12-T	ioLogik E1512-M12-T
Input/Output					
Digital Inputs	–	–	–	12	4
Configurable DIOs	12	24	12	–	4
Analog Inputs	5	10	5	–	–
RTDs	3	3	3	–	–
Ethernet					
Ports (Connector)	1 (RJ45)	2 (RJ45)		1 (M12)	
Speed	10/100 Mbps				
Switch (Daisy Chain)	–	✓	✓	–	–
Protocols	Modbus/TCP (slave), TCP/IP, UDP, DHCP, BOOTP, HTTP				
Environmental Limits					
Operating Temp.	-40 to 75°C (-40 to 167°F)			-40 to 85°C (-40 to 185°F)	
Storage Temp.	-40 to 85°C (-40 to 185°F)				
Operating Humidity	5 to 95% RH (non-condensing)				
Standards and Certifications					
Safety	UL 508				
EMC	EN 55032; EN 55024			EN 61000-6-2/6-4	
EMI	CISPR 32, FCC Part 15B Class A				
EMS	EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-8				
Rail Traffic	–	–	–	EN 50155*, EN 50121-4	
Marine Communications	–	IEC 60945		–	–

*This product is suitable for rolling stock railway applications, as defined by the EN 50155 standard. For more information, please download the product datasheet from Moxa's website.