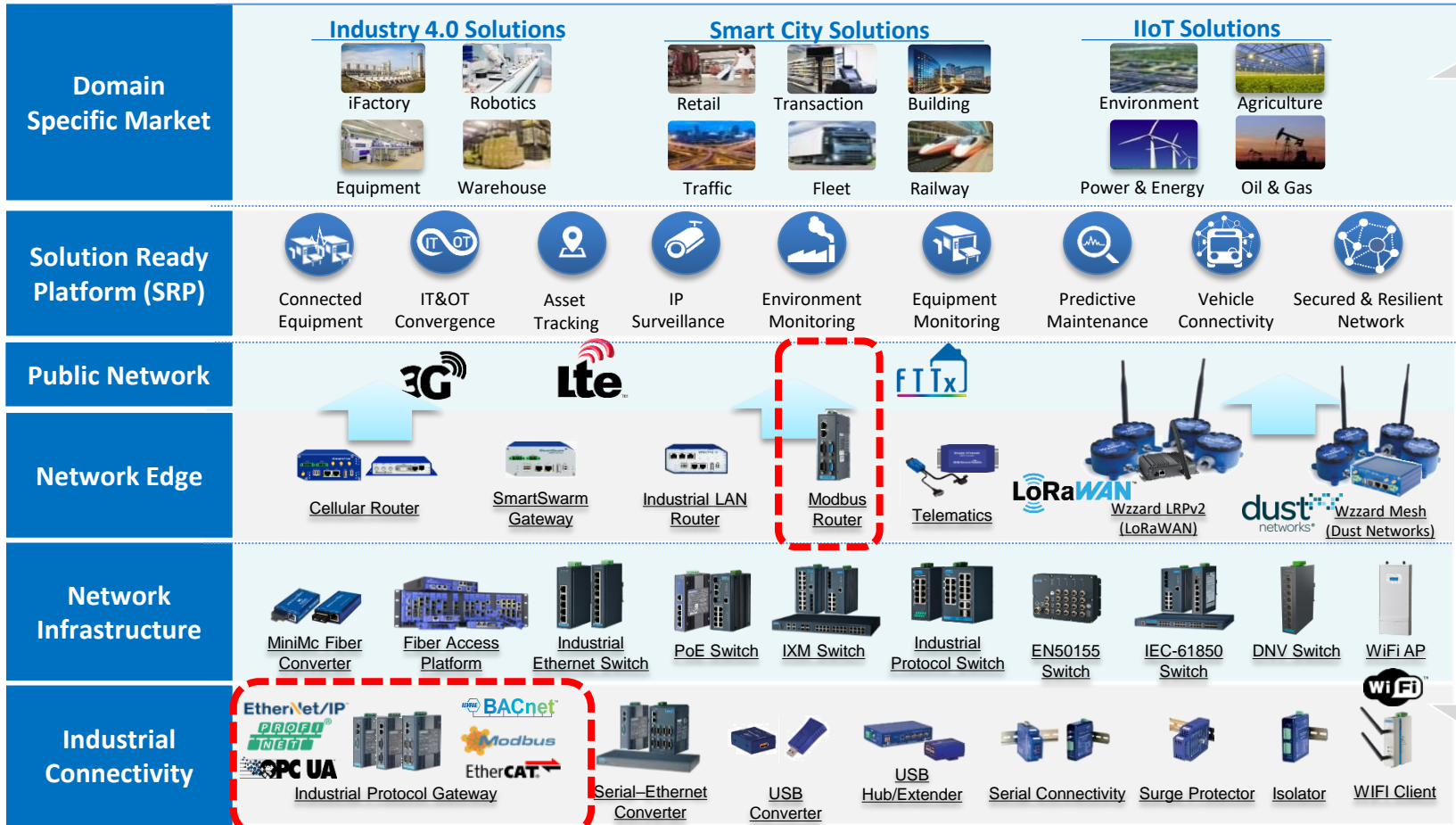


Industrial Device Server & Protocol Gateway Sales Kit



Advantech iConnectivity Solution Architecture



Cloud Services

- 3rd Party SaaS
- Dashboards
- Data Analytics
- Predictive Control
- Machine Learning

REST API / Node-RED

WISE-PaaS

- WebAccess/SCADA
- WebAccess/HMI
- WebAccess/IVS
- WebAccess/IMM
- WebAccess/NMS
- WISE-PaaS/RMM
- WISE-PaaS/Security
- WISE-PaaS/OTA

R-SEENET™

SMART CLUSTER™

WebAccess/DMP

WebAccess/NMS



Connect to Internet Is the Key

Industry 4.0 Solutions



iFactory



Robotics



Equipment



Warehouse

Smart City Solutions



Retail



Transaction



Building



Traffic



Fleet



Railway

IIoT Solutions



Environment



Agriculture



Power & Energy



Oil & Gas



- Legacy Device with Serial interface (RS-232/422/485)
- Sensors

DEVICE SERVER

FIELD BUS GATEWAY



EKI-1526
EKI-1528
*EKI style
(Dual-LAN, Rack)*

*EKI style
(Dual-LAN, DIN-Rail)*

- EKI-1528I-DR
- EKI-1528CI-DR
- EKI-1524
- EKI-1524I
- EKI-1524CI
- EKI-1522
- EKI-1522I
- EKI-1522CI
- EKI-1521
- EKI-1521I
- EKI-1521CI
- EKI-1221
- EKI-1221I
- EKI-1221CI
- EKI-1222
- EKI-1222I
- EKI-1222CI
- EKI-1224
- EKI-1224I
- EKI-1224CI
- EKI-1228-DR
- EKI-1228I-DR
- EKI-1228CI-DR



EKI-1512X
EKI-1511X



ADAM-4570
ADAM-4570L
ADAM-4571
ADAM-4571L
ADAM-4572

*Entry level
RS232*



EKI-1511L

*ADAM style
(Single LAN)*

MODBUS GATEWAY

MODBUS ROUTER

Serial Port #

Port #

EtherNet/IP™

EtherCAT®

PROFINET®

ASHRAE BACnet™

OPC UA™

Node-RED



EKI-1242EIMS
EKI-1242ECMS
EKI-1242PNMS
EKI-1242BNMS
EKI-1242OUMS
EKI-1242NR



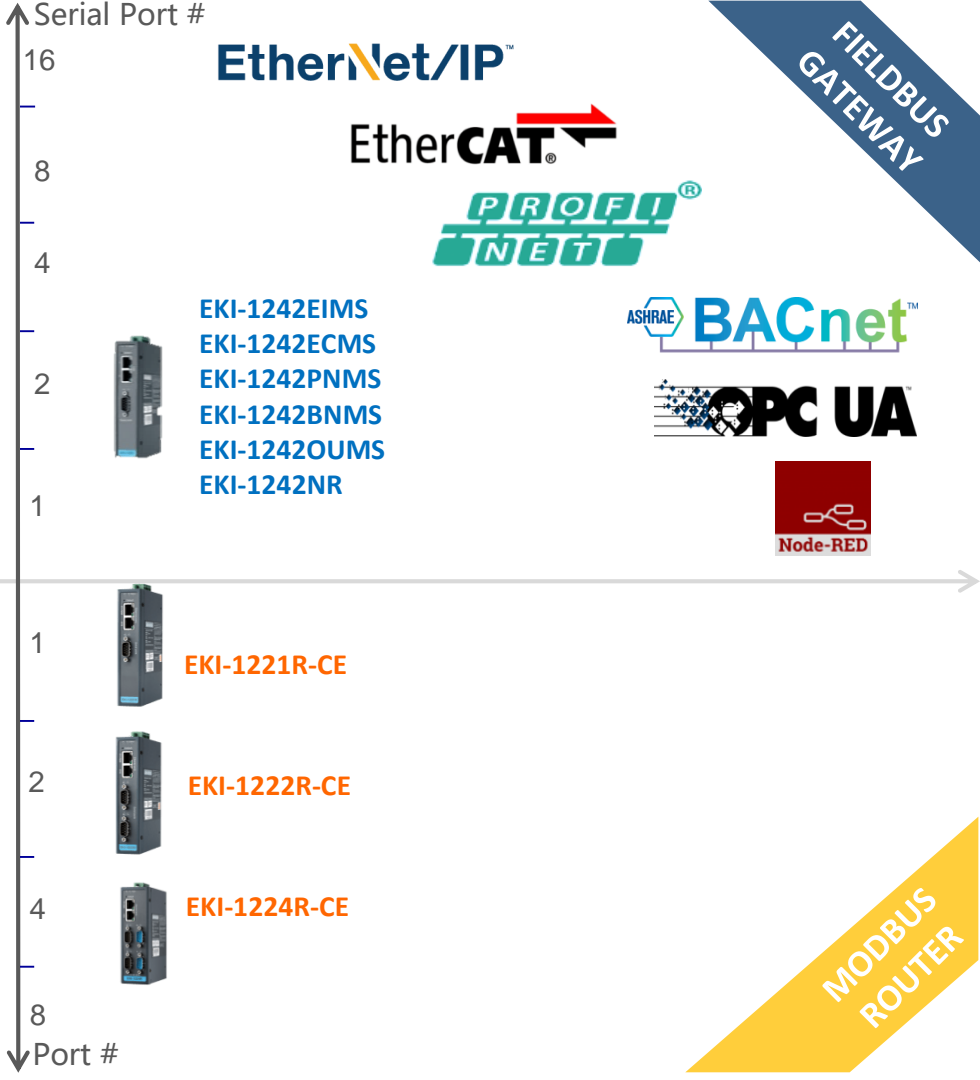
EKI-1221R-CE



EKI-1222R-CE



EKI-1224R-CE



A network diagram background consisting of a complex web of interconnected nodes and lines, with some nodes highlighted in dark blue and others in light grey.

Device Server & Modbus Gateway

EKI-1520 & EKI-1220 series

01

Feature of Device Server

Seamless Communication and Connect to Internet

- ✓ Convert RS-232/422/482 serial to Ethernet
- ✓ Allow legacy device to connect to Internet
- ✓ Integrated and expanded existing systems and sharing more information
- ✓ Real-time data collection
- ✓ Achieve greater operation efficiency
- ✓ Compatible with Wide Rang Transmission Speed from Different Brands device
- ✓ Easy to use



Feature of Modbus Gateway

Most popular industrial protocol world-wide

- ✓ Modbus/RTU ↔ Modbus/TCP
- ✓ Modbus Gateway extends transmission distance of RTU devices via network connection
- ✓ Preserve installed equipment investments
- ✓ Easy to use



A network diagram background consisting of a complex web of interconnected nodes and lines. The nodes are represented by small circles, some in dark blue and some in light grey. The lines are thin and grey, creating a dense, geometric pattern that tapers towards the right side of the page.

Product Spec

EKI-1520 & EKI-1220 Series Introduction

02

Device Server Product Spec - EKI-1521/EKI-1522/ EKI-1524



EKI-1500 Serial to Ethernet Device Server

- 1/2/4/8/16 port RS-232/422/485
- Redundant Ethernet/Power input
- Flexible and easy to use design
- ESD/EFT/isolation protection
- Support isolation function and wide operating temperature
- UL
- C1D2/ATEX for EKI-1521/EKI-1522/EKI-1524
- Din rail/ Rackmount

Modbus Gateway Product Spec - EKI-1221/EKI-1222/ EKI-1224



EKI-1200 Modbus RTU to Modbus TCP Gateway

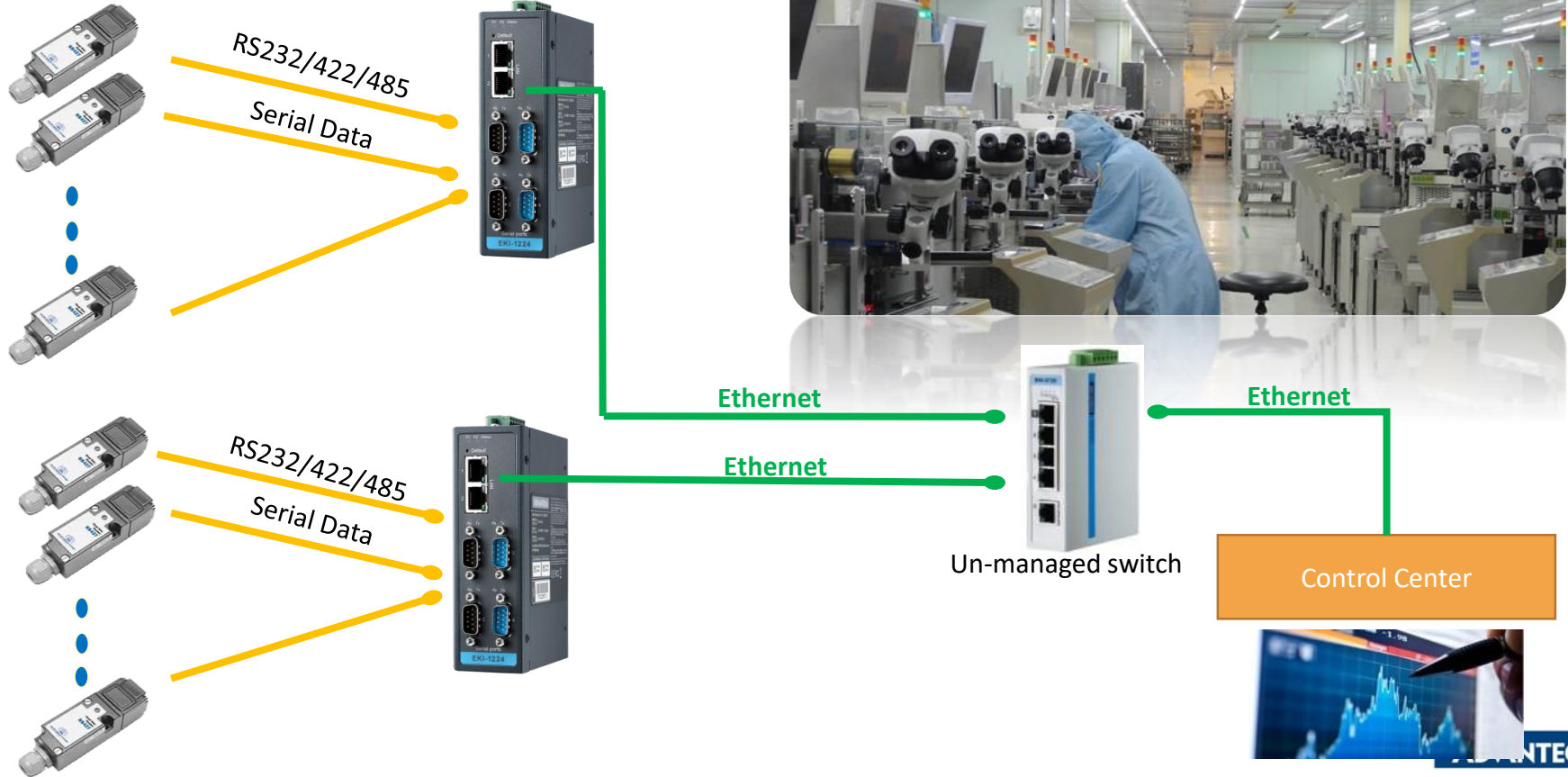
- 1/2/4 port RS-232/422/485
- Modbus RTU to Modbus TCP
- Redundant Ethernet/Power input
- Flexible and easy to use design
- Support isolation function and wide operating temperature
- UL
- C1D2/ATEX for EKI-1221/EKI-1222/EKI-1224

A network diagram background consisting of a complex web of interconnected nodes and lines. The nodes are represented by small circles, and the lines represent connections between them. The diagram is rendered in shades of blue and grey, with some nodes highlighted in a darker blue. The overall structure is dense and interconnected, suggesting a network or data flow.

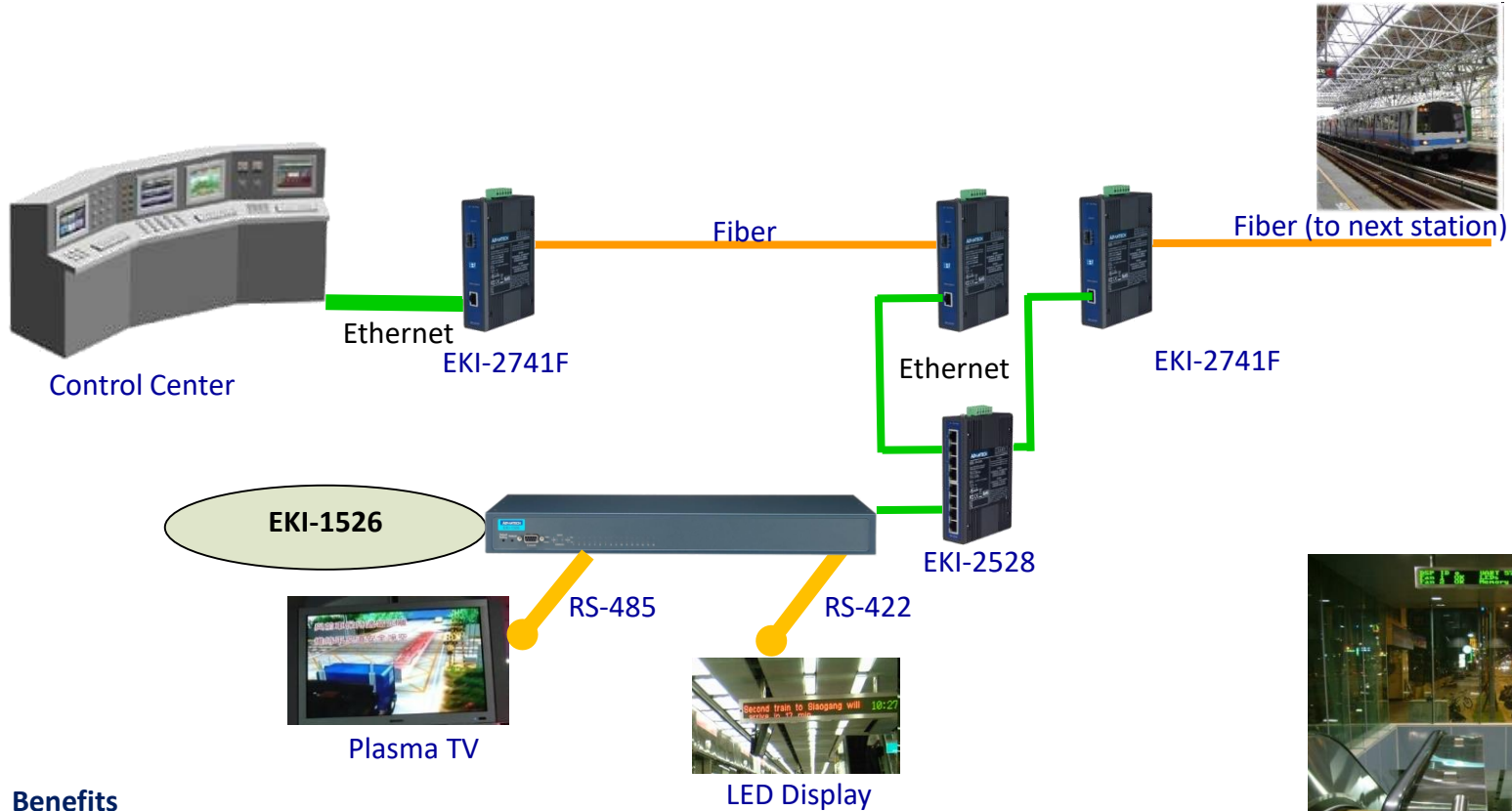
Applications

03

Device Server for iFactory Application



Device Server for Taipei MRT PIDS Application



Benefits

- **Quick response time (Below 10ms)** – Update information in time and without data lost
- **Independent operation mode for each port** – Supports to connect various serial devices on site

A background graphic on the left side of the slide featuring a network diagram. It consists of a series of interconnected nodes (dots) and lines, forming a complex web-like structure. The nodes are in shades of blue and grey, and the lines are thin and light blue. The overall effect is a sense of connectivity and data flow.

Industrial Fieldbus Gateway

EKI-1242 series

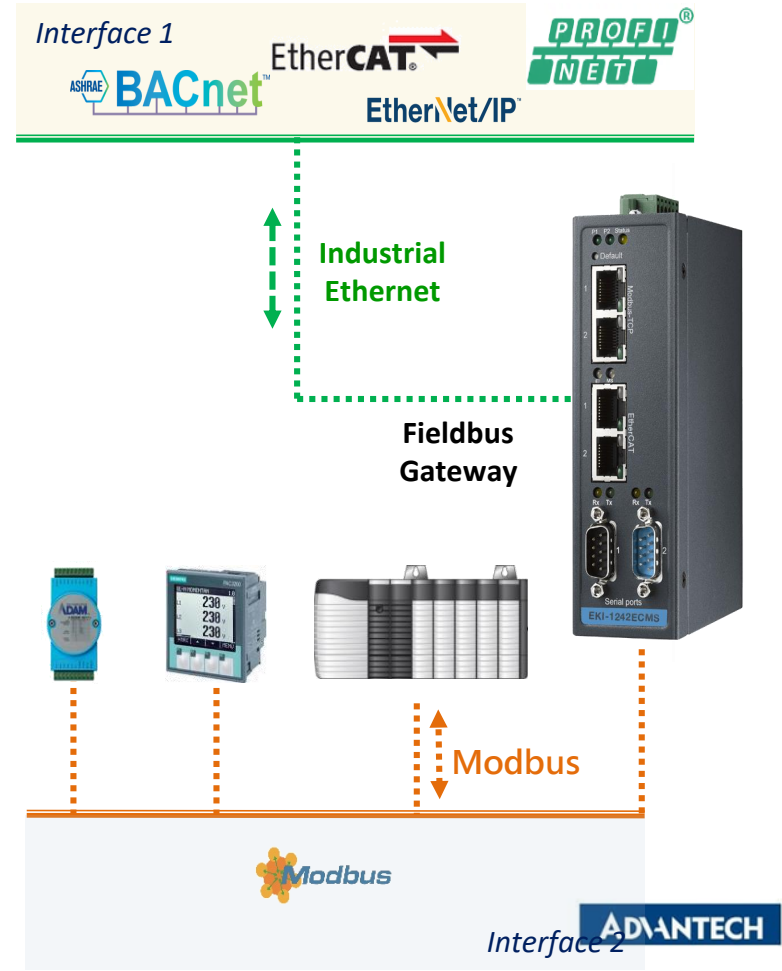
04

Widely Used Industrial Protocols for Various Verticals



What is

- Fast path to reach Internet of Industrial Internet of Things
- Fieldbus Gateway Series for protocol conversion
- Provide a cost-effective solution and enable a seamless connection between different devices with different protocols
- Provide high efficiency for new and existing equipment communication
- Easy to use and Fast to install



Fieldbus Gateway Family

Seamlessly integrate your
Modbus network in a smart way



Factory
Automation

Machine
Automation

IEM



A network diagram background consisting of a complex web of interconnected nodes and lines. The nodes are represented by small circles, some in dark blue and some in light grey. The lines are thin and grey, forming a dense, triangular mesh structure that tapers towards the right side of the page.

Product Spec


EKI-1242 Series Introduction

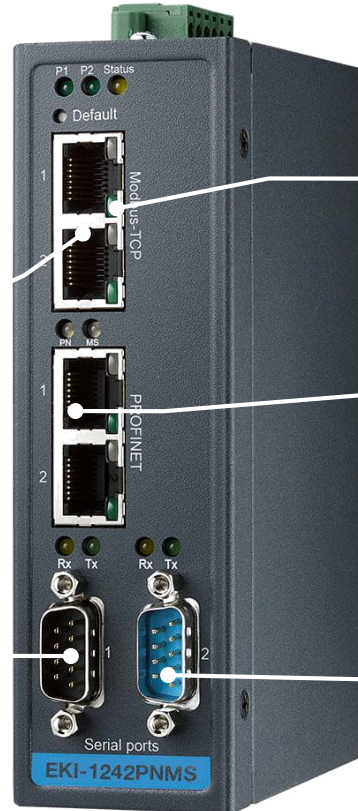
05

Fieldbus Gateway Product Spec -



- Operating temperature range:
 - ✓ EKI-1242PNMS: -10 ~ 60 °C
 - ✓ EKI-1242IPNMS: -40 ~ 75 °C
- 12~48 VDC wide range dual power input

-  Ports of MODBUS RTU
 - ✓ Baud Rate 50bps -921.6k bps
 - ✓ Support Flow Control
 - ✓ Support RS232/RS485/RS422



- MODBUS TCP Master
 - ✓ Max. Number of 64 Modbus connections
 - ✓ MODBUS Functions support 1,2,3,4,5,6,15,16,23


- PROFINET I/O Conformance Class B (RT)
 - ✓ Support 8 ms cyclic time
 - ✓ Support max. 64 slots
 - ✓ Support MRP Slave
 - ✓ GSDML V2.31

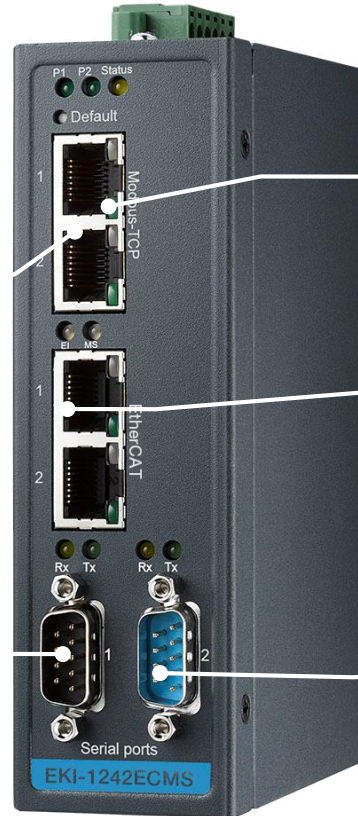
- Easy backup & restore configuration via microSD card

Fieldbus Gateway Product Spec -



- Operating temperature range:
 - ✓ EKI-1242ECMS: -10 ~ 60 °C
 - ✓ EKI-1242IECMS: -40 ~ 75 °C
- 12~48 VDC wide range dual power input

-  Ports of MODBUS RTU
 - ✓ Baud Rate 50bps -921.6k bps
 - ✓ Support Flow Control
 - ✓ Support RS232/RS485/RS422



- MODBUS TCP Master
 - ✓ Max. Number of 64 Modbus connections
 - ✓ MODBUS Functions support 1,2,3,4,5,6,15,16,23


- EtherCAT Slave
 - ✓ Max. I/O Data size (SDO&PDO objects) Input/Output 512 bytes
 - ✓ Support FMMU 4 Channel
 - ✓ ESI file

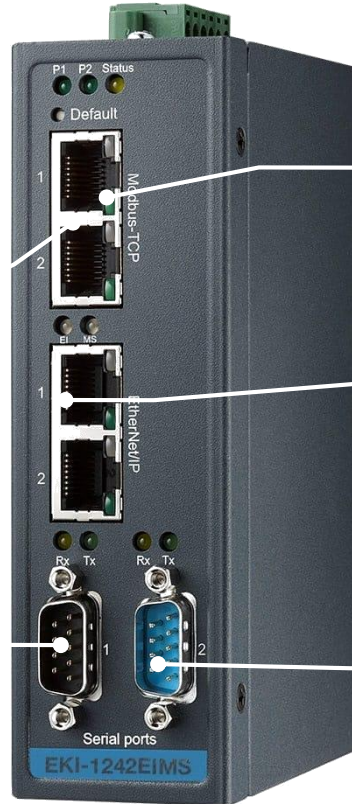
- Easy backup & restore configuration via microSD card

Fieldbus Gateway Product Spec -



- Operating temperature range:
 - ✓ EKI-1242EIMS: -10 ~ 60 °C
 - ✓ EKI-1242IEIMS: -40 ~ 75 °C
- 12~48 VDC wide range dual power input

-  Ports of MODBUS RTU
 - ✓ Baud Rate 50bps -921.6k bps
 - ✓ Support Flow Control
 - ✓ Support RS232/RS485/RS422



- MODBUS TCP Master
 - ✓ Max. Number of 64 Modbus connections
 - ✓ MODBUS Functions support 1,2,3,4,5,6,15,16,23


- EtherNet/IP Adapter
 - ✓ Max. I/O Data size Input/Output 496bytes
 - ✓ Support 1 connection for read/write, 4 connections for read only
 - ✓ EDS file

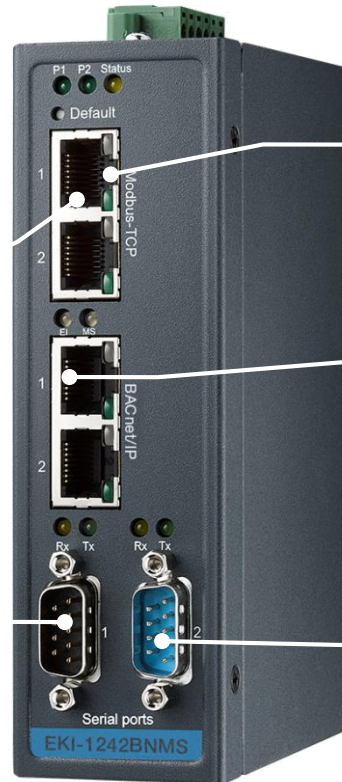
- Easy backup & restore configuration via microSD card

Fieldbus Gateway Product Spec -



- Operating temperature range:
 - ✓ EKI-1242BNMS: -10 ~ 60 °C
 - ✓ EKI-1242IBNMS: -40 ~ 75 °C
- 24 AC wide range dual power input

-  Ports of MODBUS RTU
 - ✓ Baud Rate 50bps -921.6k bps
 - ✓ Support Flow Control
 - ✓ Support RS232/RS485/RS422



- MODBUS TCP Master
 - ✓ Max. Number of 64 Modbus connections
 - ✓ MODBUS Functions support 1,2,3,4,5,6,15,16,23


- BACnet
 - ✓ Support 200 data points for each BACnet BI, BO, AI, AO object type
 - ✓ Support BACnet/IP Broadcast Management Device (BBMD)

- Easy backup & restore configuration via microSD card

Fieldbus Gateway Product Spec -



- Operating temperature range:
 - ✓ EKI-1242OUMS: -10 ~ 60 °C
 - ✓ EKI-1242IOUMS: -40 ~ 75 °C
- 12~48 VDC wide range dual power input

-  Ports of MODBUS RTU
 - ✓ Baud Rate 50bps -921.6k bps
 - ✓ Support Flow Control
 - ✓ Support RS232/RS485/RS422



- MODBUS TCP Master
 - ✓ Max. Number of 64 Modbus connections
 - ✓ MODBUS Functions support 1,2,3,4,5,6,15,16,23


- OPC UA Server
 - ✓ Support max. 128 connections

- Easy backup & restore configuration via microSD card

Fieldbus Gateway Product Spec -



- Operating temperature range:
 - ✓ EKI-1242NRMS: -10 ~ 60 °C
 - ✓ EKI-1242INRMS: -40 ~ 75 °C
- 12~48 VDC wide range dual power input

-  Ports of MODBUS RTU
 - ✓ Baud Rate 50bps -921.6k bps
 - ✓ Support Flow Control
 - ✓ Support RS232/RS485/RS422



- MODBUS TCP Master
 - ✓ Max. Number of 64 Modbus connections
 - ✓ MODBUS Functions support 1,2,3,4,5,6,15,16,23

- Node-RED
 - ✓ Support Node-RED version : v 0.17.5
 - ✓ Easy to manage customized modules
 - ✓ Support exprot function for node modules and flows

- Easy backup & restore configuration via microSD card

A network diagram background consisting of a complex web of interconnected nodes and lines. The nodes are represented by small circles, and the lines are thin, dark blue or grey. The diagram is more dense on the left side and fades out towards the right.

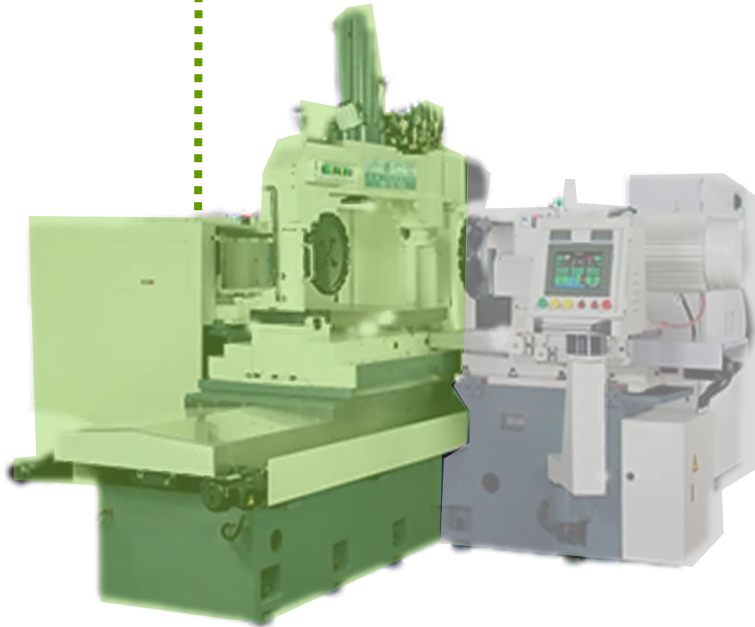
Applications

06

Fieldbus Gateway for CNC Application



EtherCAT



- Cooler sustains the CNC operation but it's often separately designed from CNC
- When a cooler shuts down, CNC shuts down.
- A Modbus to EtherCAT gateway solves all the pains
- Who buy this ? Equipment vendors of CNC and/or Cooler

OPC UA User Scenario

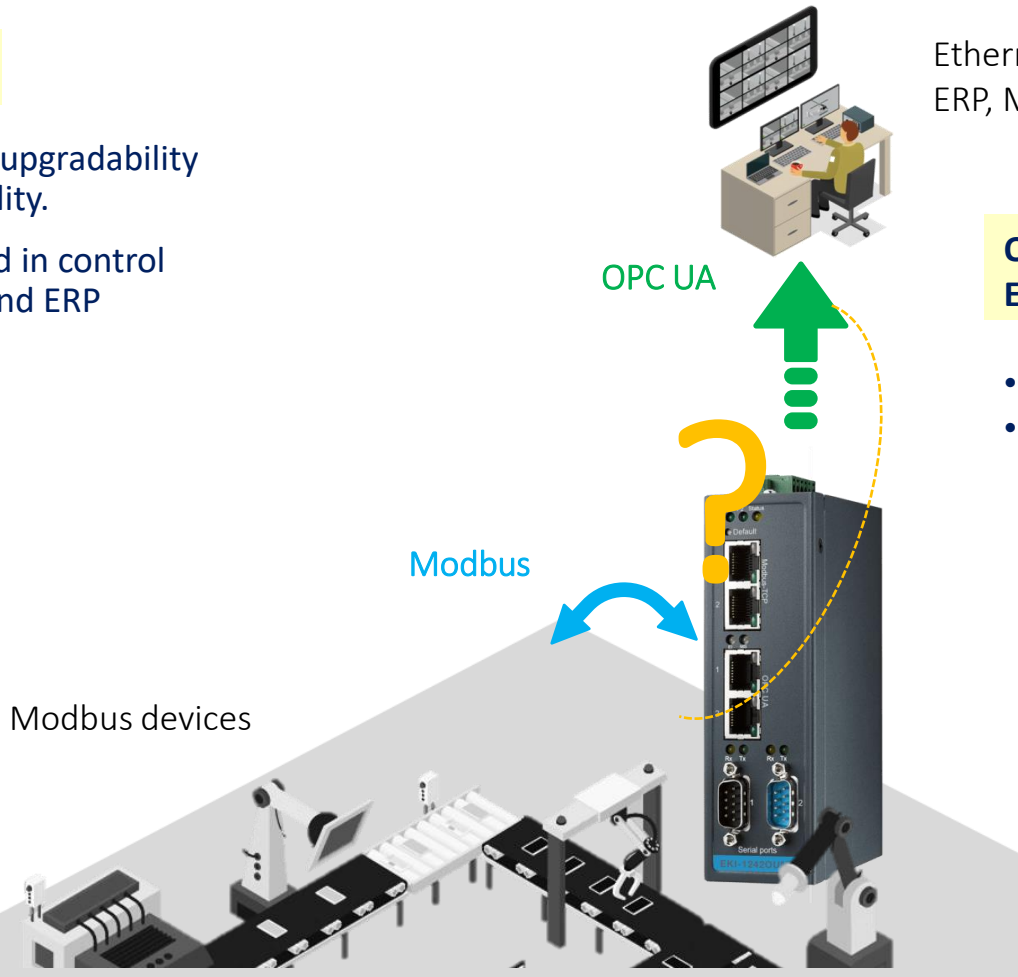
OPC UA

- Features in its upgradability and compatibility.
- It's widely used in control system, MES and ERP

Ethernet-based environment
ERP, MES

OPC UA Fieldbus gateway EKI-1242OUMS

- It serves as a protocol converter
- It allows control centers (in OPC-UA environment) to connect to legacy devices (applying for Modbus/Fieldbus protocols) for data acquisition



Node-RED User Scenario

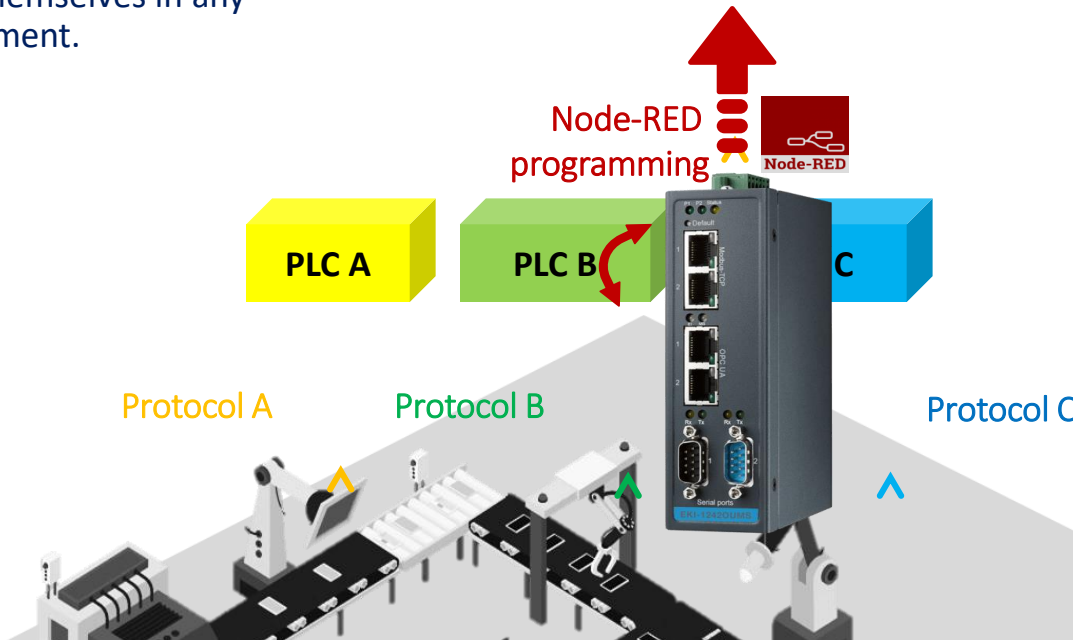
Node-RED

- It features in its drag-and-drop programming functionality.
- Using the browser-based programming tool, users can adopt themselves in any environment.



Node-RED Fieldbus gateway EKI-1242NR

- It serves as a multi-choice protocol converter.
- The protocols under conversion all based on the Node-RED programming.
- It allows control centers (in any environment) to connect to legacy (applying for Modbus/Fieldbus protocols) devices for data acquisition



A network diagram background consisting of a complex web of interconnected nodes and lines. The nodes are represented by small circles, and the lines are thin, dark blue or grey. The diagram is more dense on the left side and fades out towards the right.

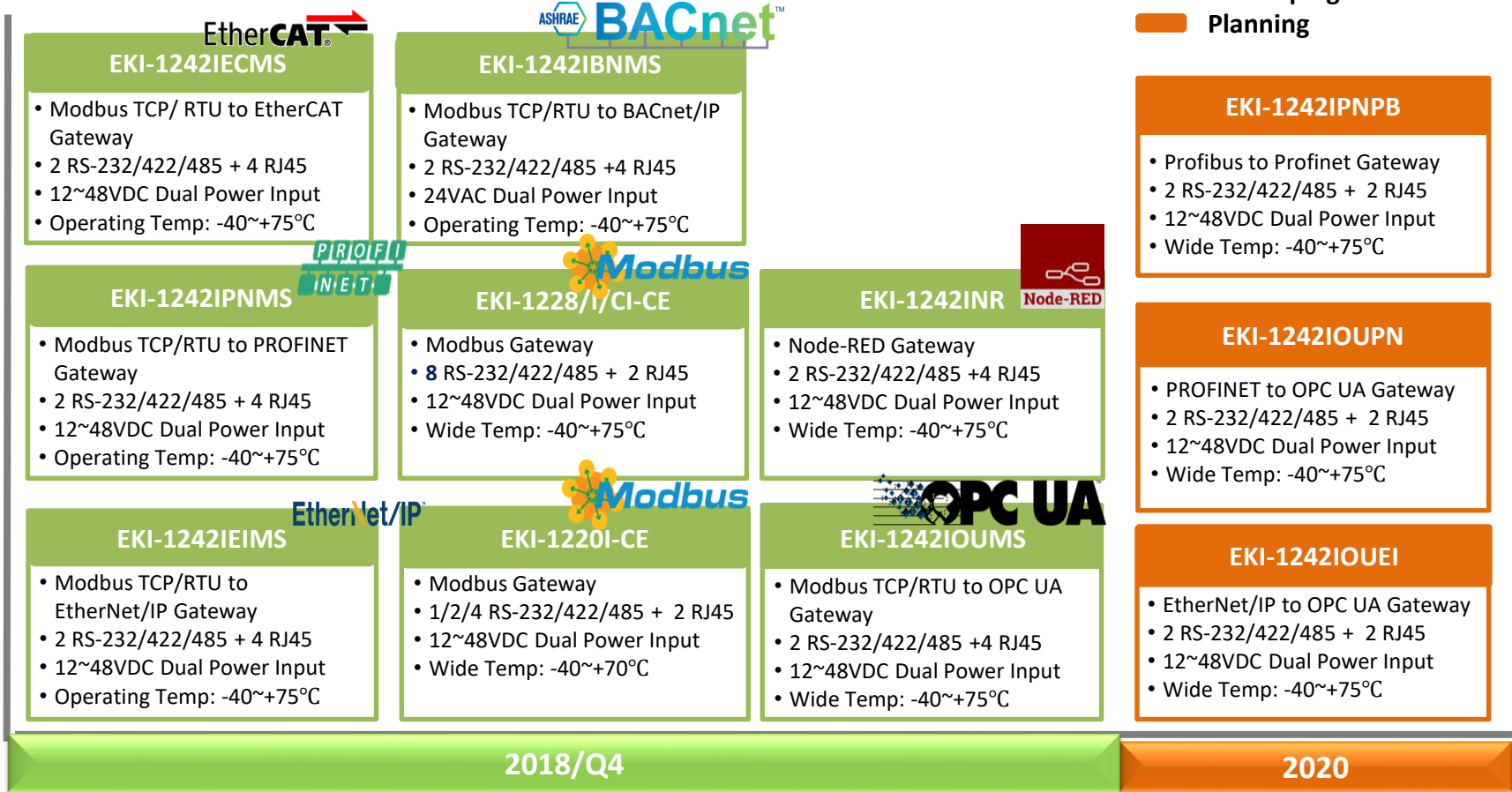
Product Roadmap

07

2020 Fieldbus Gateway Roadmap

Fieldbus Gateway series

- Available
- Developing
- Planning



EKI-1242IECMS

- Modbus TCP/ RTU to EtherCAT Gateway
- 2 RS-232/422/485 + 4 RJ45
- 12~48VDC Dual Power Input
- Operating Temp: -40~+75°C

EKI-1242IBNMS

- Modbus TCP/RTU to BACnet/IP Gateway
- 2 RS-232/422/485 +4 RJ45
- 24VAC Dual Power Input
- Operating Temp: -40~+75°C

EKI-1242IPNMS

- Modbus TCP/RTU to PROFINET Gateway
- 2 RS-232/422/485 + 4 RJ45
- 12~48VDC Dual Power Input
- Operating Temp: -40~+75°C

EKI-1228I/CI-CE

- Modbus Gateway
- 8 RS-232/422/485 + 2 RJ45
- 12~48VDC Dual Power Input
- Wide Temp: -40~+75°C

EKI-1242INR

- Node-RED Gateway
- 2 RS-232/422/485 +4 RJ45
- 12~48VDC Dual Power Input
- Wide Temp: -40~+75°C

EKI-1242IEIMS

- Modbus TCP/RTU to EtherNet/IP Gateway
- 2 RS-232/422/485 + 4 RJ45
- 12~48VDC Dual Power Input
- Operating Temp: -40~+75°C

EKI-1220I-CE

- Modbus Gateway
- 1/2/4 RS-232/422/485 + 2 RJ45
- 12~48VDC Dual Power Input
- Wide Temp: -40~+70°C

EKI-1242IOUMS

- Modbus TCP/RTU to OPC UA Gateway
- 2 RS-232/422/485 +4 RJ45
- 12~48VDC Dual Power Input
- Wide Temp: -40~+75°C

EKI-1242IPNPB

- Profibus to Profinet Gateway
- 2 RS-232/422/485 + 2 RJ45
- 12~48VDC Dual Power Input
- Wide Temp: -40~+75°C

EKI-1242IOUPN

- PROFINET to OPC UA Gateway
- 2 RS-232/422/485 + 2 RJ45
- 12~48VDC Dual Power Input
- Wide Temp: -40~+75°C

EKI-1242IOUEI

- EtherNet/IP to OPC UA Gateway
- 2 RS-232/422/485 + 2 RJ45
- 12~48VDC Dual Power Input
- Wide Temp: -40~+75°C

A network diagram background consisting of a complex web of interconnected nodes and lines, with some nodes highlighted in dark blue and others in light grey.

Modbus Router

EKI-1220R Series

08

What is Modbus Router?

Remote control and monitor local Modbus devices

- Supports DMZ and port forwarding to allow remote computer to access local Modbus devices
- Forward Modbus data with high priority by QoS function

Preserve installed equipment investments

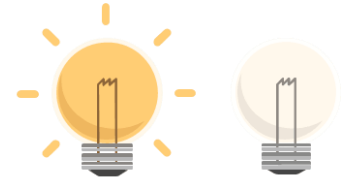
- Reduce the complexity of serial and Ethernet-based devices

It provides high security

- Built-in security firewall to avoid cyber-attack
- Secure remote access with VPN to protect critical data

Integrate devices more easy, more fast, more convince

- Integration routing and serial setting is simple for user
- Easy access to remote device for reducing time and cost



Modbus Router Product Features Overview



Feature 1. Protocol conversion

Support Modbus RTU/ASCII
Support Modbus TCP



Feature 2. Routing

Static routing
DMZ/Port forwarding
IP/Protocol-based QoS



Feature 3. Security

OpenVPN client/server
Firewall
MAC/IP/Protocol-based filtering



Modbus Router Product Features Overview



- **Feature 1. Protocol conversion**
 - Support Modbus RTU/ASCII
 - Support Modbus TCP
- **Advantage:**
 - Flexible connection of serial and Ethernet-based Modbus devices
- **Benefit:**
 - Provide protocol conversion, allowing for seamless communication of devices using different protocols. Extend life cycle of extant legacy devices and avoid mass purchase when updating from a tradition to an IIoT facility.



Modbus Router Product Features Overview



- **Feature 2. Routing**
 - Static routing
 - DMZ/Port forwarding
 - IP/Protocol-based QoS
- **Advantage:**
 - Allows local devices in the private network to communicate with remote devices on the Internet.
- **Benefit:**
 - The central remote system can obtain field Modbus devices' data and manage the field devices without having an extra routing device.



Modbus Router Product Features Overview



Feature 3. Security

- OpenVPN client/server
- Firewall

Advantage:

- Provide secure access tunnel with VPN
- Firewall can block attacks from Internet to protect domestic data.

Benefit:

- It can encrypt and authenticate the packets to ensure the critical data and sender authentication.
- Data is protected from attacks to avoid information leaking.



A network diagram background consisting of a complex web of interconnected nodes and lines. The nodes are represented by small circles, some in dark blue and some in light grey. The lines are thin and grey, forming a dense, irregular mesh that tapers towards the right side of the page.

Product Spec

EKI-1220R Series Introduction

09

Modbus Router Product Spec - EKI-1221R/EKI-1222R/ EKI-1224R



- Dual/Redundant 10/100Base-Tx Ethernet ports
- Built-in 1.5KV magnetic isolation protection
- Serial ports RS-232/422/485 software selectable
- D-Sub9 convert to terminal connector accessory is available: OPT1-DB9-AE
- Dual 12 ~ 48 Vdc inputs
- Reverse power polarity protection
- Fault relay for external PLC/controller
- Din-rail or wall mount
- Wide operating temperature -10 ~ 60C/ -40 ~ 75C
- Serial ESD protection: 15KV for all signals

A network diagram background consisting of a complex web of interconnected nodes and lines. The nodes are represented by small circles, and the lines represent connections between them. The diagram is rendered in shades of blue and grey, with a denser network of dark blue nodes and lines on the left side, fading into a lighter, sparser network of grey nodes and lines towards the right.

Applications

10

Target Market

- Power and energy
- Transportation
- Machine/Control automation
- Factory automation

- Food and beverage
- Machine automation equipment
- Environment factor management system



Target Market

Power and Energy



Machine/
Control Automation



Food and Beverage



Environment Factor
Management System



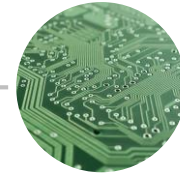
Transportation



Factory Automation



Machine Automation
Equipment



Modbus Router for Highway Surveillance System



A network diagram background consisting of a complex web of interconnected nodes and lines. The nodes are represented by small circles, some in dark blue and some in light grey. The lines are thin and grey, creating a dense, interconnected pattern that tapers off towards the right side of the page.

Product Roadmap

11

Security Gateway Product Roadmap

Security Gateway series

- Available
- Developing
- Planning

EKI-1221R



- 1 * RS-232/422/485
- 2 * Ethernet Port
- Support Modbus TCP/RTU/ASCII
- Router/Firewall/VPN
- 12~48VDC Dual Power Input
- Operating Temp: -10~+60°C

EKI-1224R



- 4 * RS-232/422/485
- 2 * Ethernet Port
- Support Modbus TCP/RTU/ASCII
- Router/Firewall/VPN
- 12~48VDC Dual Power Input
- Operating Temp: -10~+60°C

EKI-1222R



- 2 * RS-232/422/485
- 2 * Ethernet Port
- Support Modbus TCP/RTU/ASCII
- Router/Firewall/VPN
- 12~48VDC Dual Power Input
- Operating Temp: -10~+60°C

Security Gateway

- 4+2 * Ethernet Port
- 2 * USB Port
- 1 * Console
- Router/Firewall/VPN
- DPI
- 12~48VDC Dual Power Input
- Operating Temp : -40~+75°C

2018/Q4

2020

Device Server/Modbus Gateway Product Roadmap

Device Server/ Gateway series



EKI-152X/122X



- 1/2/4 * RS-232/422/2w-485/4w-485
- 2 * Ethernet Port
- Support USDG/VCOM
- 12~48VDC Dual Power Input
- Operating Temp: -40~+75°C
- I mode Wide Temp: -40~+80°C
- Phase in : 2019/Nov

EKI-1521CI/1221CI EKI-1522CI/1222CI



- 1/2 * RS-232/422/2w-485/4w-485
- Serial signal isolation
- 2 * Ethernet Port
- Support Modbus TCP/RTU/ASCII
- 12~48VDC Dual Power Input
- Operating Temp: -40~+80°C
- Phase in : 2019/Nov

EKI-1511L



- 1* RS-232
- 1 * Ethernet Port
- Support USDG /VCOM
- Operating Temp: -10~+60°C,
- Phase in : 2020/Feb

2020 Q2/Q3

Device server/Modbus gateway with Fiber interface

Device Server/ Gateway series

Developing
Planning

EKI-1521I-SC

- 1 * RS-232/422/485
- Single-mode and SC type
- 1 * Ethernet Port
- Support Modbus TCP/RTU/ASCII
- 12~48VDC Dual Power Input
- Operating Temp: 40~+75°C
- Phase in : 2020/Mar



EKI-1221I-MT

- 1 * RS-232/422/485
- Multi-mode and ST type
- 1 * Ethernet Port
- Support Modbus TCP/RTU/ASCII
- 12~48VDC Dual Power Input
- Operating Temp: -40~+75°C
- Phase in : 2020/Mar



EKI-1222I-SC

- 2 * RS-232/422/485
- Single-mode and SC type
- 1 * Ethernet Port
- Support Modbus TCP/RTU/ASCII
- 12~48VDC Dual Power Input
- Operating Temp: -40~+75°C
- Phase in : 2020/Mar



20 Q2/Q3

Power Station Product Roadmap

Developing
Planning



EKI-1526TI-VHDC-CE

- 16* RS-232/422/485
- 2 * Ethernet Port
- support 125VDC power input
- Support USDG /VCOM
- Operating Temp: -40~+75°C,
- Phase in : 2020/Jun



EKI-1524 with OPT-125H(TBC)

- 4* RS-232/422/485
- 2 * Ethernet Port
- support 125VDC power input
- Support USDG /VCOM
- Operating Temp: -10~+60°C,
- Phase in : Planning

2020 Q1

*Go Together,
We Go Far and Grow Big*

