EKI-1221/CI/I EKI-1222/CI/I EKI-1224/CI/I

1-Port Modbus Gateway

2-Port Modbus Gateway

4-Port Modbus Gateway



Features

- 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- Integrates Modbus TCP and Modbus RTU/ASCII networks
- Supports up to 921.6 kbps and any baud rate setting
- Supports up to 16 connections per serial port under Modbus master mode and 32 sessions under Modbus slave mode
- Software-selectable RS-232/422/485-2w/485-4w communication
- Mountable via DIN rail and wall mount
- Built-in 15 kV ESD protection for all serial signals
- Automatic RS-485 data flow control
- Supports surge protection for DC power ports with line-to-line (1 kV) and line-to-earth (2 kV) for signal ports with 2 kV
- "I" models support a wide operating temperature
- "CI" models support isolation and a wide operating temperature

Introduction

The EKI-1200 series Modbus gateways are bi-directional gateways for integrating new and existing Modbus/RTU and Modbus/ASCII serial devices to newer TCP/IP networked-based devices. The EKI-1221/1222/1224 feature two independent Ethernet ports and MAC addresses to provide redundancy and reliability. They provide a simple and cost-effective way to bring remote management and data accessibility to thousands of devices that cannot otherwise connect to a network. The EKI-1221/1222/1224 allow users to select master or slave operation mode for each serial port. In addition to allowing an Ethernet master to control serial slaves, they also allow serial masters to control Ethernet slaves

Specifications

Ethernet Communications

Compatibility IEEE 802.3, IEEE 802.3u 10/100 Mbps No. of Ports

Port Connector 8-pin RJ45 Protection Built-in 2.25 k V_{DC} magnetic isolation

Serial Communications

Port Type RS-232/422/485-2w/485-4w, software selectable (EKI-1224CI-CE supports RS-422/485 only) No. of Ports

FKI-1222: 2 FKI-1224: 4 Port Connector DB9 male

EKI-1221CI-DE; EKI-1222CI-DE also provide Terminal Block Data Bits

Stop Bits Parity Flow Control

None, Odd, Even, Space, Mark XON/XOFF, RTS/CTS 50 bps ~ 921.6 kbps, any baud rate setting

Serial Signals [CE Version] RS-232: TXD, RXD, CTS, RTS, DCD, RI, GND, DTR, DSR

RS-422: TxD+, TxD-, RxD+, RxD-, GND RS-485 2-wire: Data+, Data-, GND

[DE Version]

RS-232 isolation: TxD, RxD, CTS, RTS, GND RS-232: TxD, RxD, CTS, RTS, DCD, RI, GND, DTR, DSR Terminal Block (From top to bottom): RS-422: GND, RxD-, RxD+, TxD+, TxDRS-485 2-wire: GND, NC, NC, TxD+, TxDRS-

485 4-wire: GND, RxD-, RxD+, TxD+, TxD-Protection 15 KV ESD for all signals

Software

Windows XP/7/8 1/10 Windows Server OS Support 2003/2008/2012/2016/2019, and Linux **Utility Software** Advantech EKI Device Configuration Utility Modbus RTH Master/Slave mode Operation Modes Modbus ASCII Master/Slave mode

Windows Utility, Telnet Console, Web Browser ICMP, IP, TCP, UDP, BOOTP, DHCP, Auto IP, SNMP, HTTP, DNS, Configuration Protocols

General

 LED Indicators System: Power, System Status LAN: Speed, Link/Active Serial: Tx Rx Reboot Trigger Built-in WDT (watchdog timer)

Mechanics

Dimensions (W x H x D) EKI-1221/I-CE: EKI-1221CI-DE: EKI-1222/I-CE: EKI-1222CI-DE: 30 x 140 x 95 mm (1.18" x 5.51" x 3.74") EKI-1224/CI/I-CE: 42 x 140 x 95 mm (1.65" x 5.51" x 3.74")

Enclosure Metal with solid mounting hardware DIN-rail, Wall

EKI-1221: 0.472 Kg Weight EKI-1221: 0.472 Kg EKI-1222: 0.48 Kg EKI-1224: 0.555 Kg ■ IP Rating IP30

Power Requirements

12 ~ 48 Vpc, redundant dual inputs Power Input Power Connector Terminal block **Power Consumption** EKI-1221: 3.2 W FKI-1222: 3.2 W FKI-1224: 4 1 W

Environment

Operating Temperature EKI-1221/EKI-1222/EKI-1224: -10 ~ 60 °C (14 ~ 140 °F) 'CI & I' models: -40 ~ 80 °C (-40 ~ 176 °F)

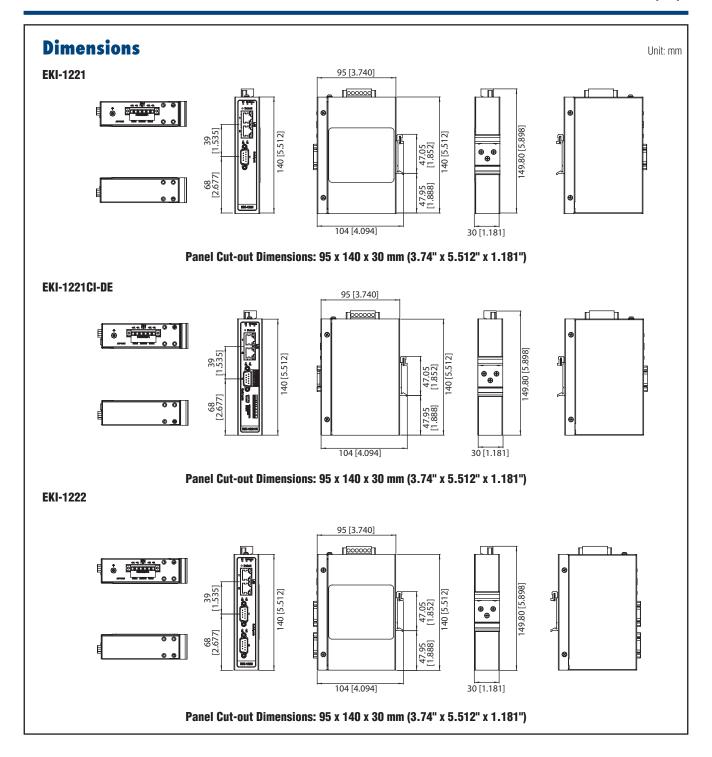
Storage Temperature -40 ~ 85 °C (-40 ~ 185 °F) Operating Humidity

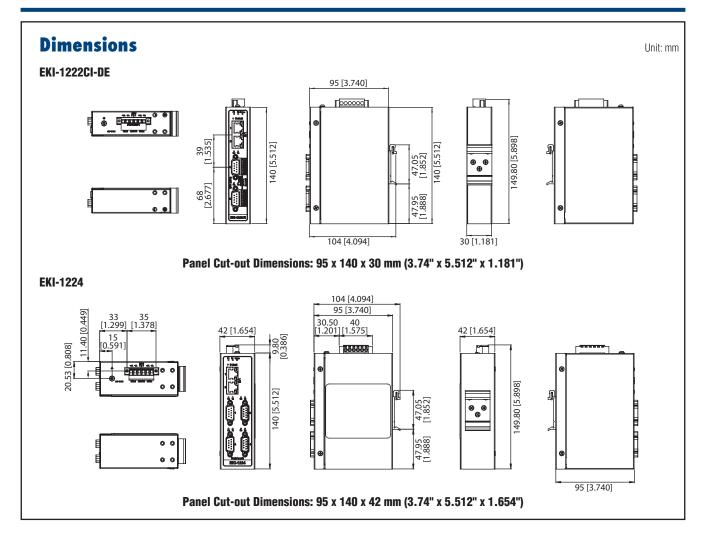
Regulatory Approvals

CE, FCC Part 15 Subpart B (Class A) UL/cUL (Class I, Division 2, Groups A, B, C and D), **Hazardous location** ATEX (Zone 2 Ex nA nC IIC T4 Gc)

Port to Port Isolation ('CI' models)

 Serial to Ethernet 2.25 k V_{DC} Serial to Power 2 k Vnc **Ethernet to Power** 2.25 k V_{DC}





Ordering Information

EKI-1221-CE
EKI-1222-CE
1-port RS-232/422/485 Modbus Gateway
EKI-1222-CE
2-port RS-232/422/485 Modbus Gateway

■ **EKI-1224-CE** 4-port RS-232/422/485 Modbus Gateway

• EKI-1221I-CE 1-port RS-232/422/485 Modbus Gateway with Wide Operating Temperature

EKI-1222I-CE
2-port RS-232/422/485 Modbus Gateway with Wide
Operating Temperature

EKI-1224I-CE
4-port RS-232/422/485 Modbus Gateway with Wide Operating Temperature

■ EKI-1221CI-DE

EKI-1222CI-DE

■ EKI-1224CI-CE

■ OPT1-DB9

1-port RS-232/422/485-2w/485-4w Modbus Gateway with Wide operation temperature and isolation

2-port RS-232/422/485-2w/485-4w Modbus Gateway with Wide operation temperature and isolation

4-port RS-422/485 Modbus Gateway with Wide Operation Temperature and Isolation

D-Sub9 to Terminal Converter