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

- Provides 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- Integration of Modbus TCP and Modbus RTU/ASCII networks
- Supports up to 921.6 kbps, and any baud rate setting
- Supports up to 16 connections and 32 requests simultaneously
- Auto searching slave ID over configuration utility
- Software selectable RS-232/422/485 communication
- Mounts on 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 D.C. power ports with line to line 2 KV, and line to earth 4 KV; for signal ports with 4 KV.
- 'I' models support a wide operating temperature
- 'CI' models support isolation and 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 a redundant networking mechanism to guarantee Ethernet networking reliability. They provide a simple and cost-effective way to bring the advantage of remote management and data accessibility to thousand of devices that can not connect to a network. The EKI-1221/1222/1224 provide a feature that can allow users to select master or slave operation mode for each serial port. They not only allow an Ethernet master to control serial slaves, but also allow serial masters to control Ethernet slaves.

Specifications

Ethernet Communications

- **Compatibility** IEEE 802.3, IEEE 802.3u
- **Speed** 10/100 Mbps
- **No. of Ports** 2
- **Port Connector** 8-pin RJ45
- **Protection** Built-in 1.5 KV magnetic isolation

Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1221: 1
  EKI-1222: 2
  EKI-1224: 4
- **Port Connector** DB9 male
- **Data Bits** 7, 8
- **Stop Bits** 1, 2
- **Parity** None, Odd, Even, Space, Mark
- **Flow Control** XON/XOFF, RTS/CTS, DTR/DSR
- **Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- **Serial Signals** RS-232: TxD, RxD, CTS, RTS, DTR, DSR, DCD, RI, GND
  RS-422: TxD+, TxD-, RxD+, RxD-, GND
  RS-485: Data+, Data-, GND
- **Protection** 15 KV ESD for all signals
  'CI' models: 2KV Isolation for RS-422/485 signals

Software

- **OS Support** 32-bit/64-bit Windows XP/Vista/7/8/8.1, Windows Server 2003/2008/2008 R2/2012/2012 R2, Windows CE 5.0, and Linux
- **Utility Software** Advantech EKI Device Configuration Utility
- **Operation Modes** Modbus RTU Master/Slave mode
  Modbus ASCII Master/Slave mode
- **Configuration** Windows Utility, Web Browser
- **Protocols** Modbus RTU, Modbus TCP, Modbus ASCII

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-1221/1222: 37 x 140 x 95 mm (1.46" x 5.51" x 3.74")
  EKI-1224: 55 x 140 x 95 mm (2.17" x 5.51" x 3.74")
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Wall
- **Weight** EKI-1221: 0.592 Kg
  EKI-1222: 0.6 Kg
  EKI-1224: 0.668 Kg

Power Requirements

- **Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1221: 5.2 W
  EKI-1222: 5.2 W
  EKI-1224: 6.3 W

Environment

- **Operating Temperature** EKI-1221/EKI-1222/EKI-1224: -10 ~ 60°C (14 ~ 140°F)
  'CI & I' models: -40 ~ 70°C (-40 ~ 158°F)
- **Storage Temperature** -20 ~ 80°C (-4 ~ 176°F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

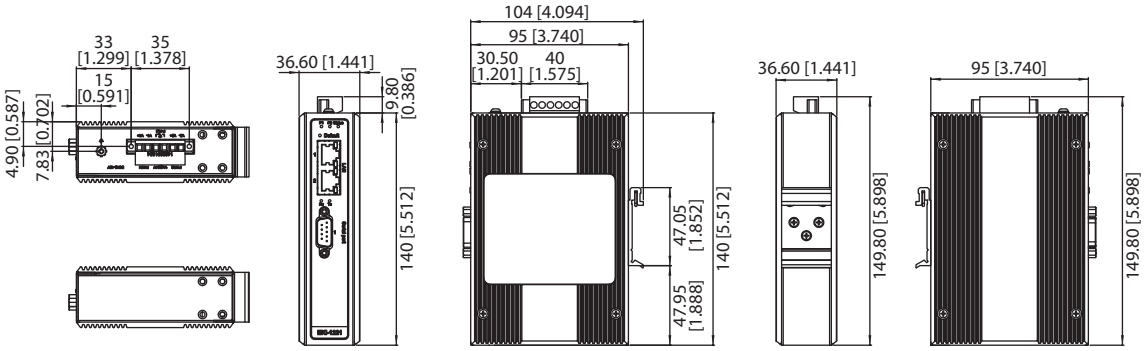
- **EMC** CE, FCC Part 15 Subpart B (Class A)

Last updated : 5-May-2015

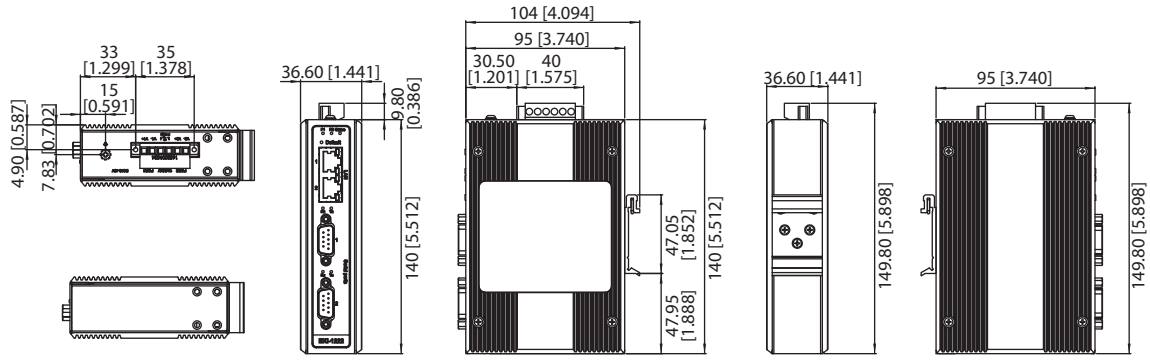
Dimensions

Unit: mm

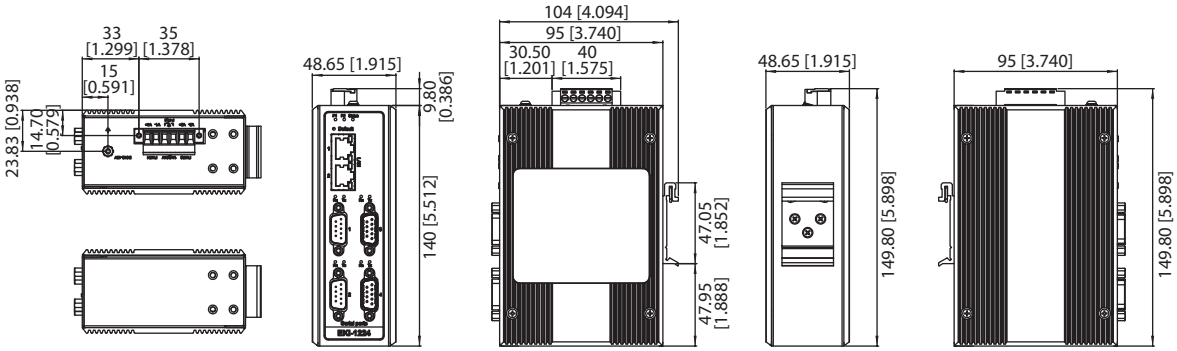
EKI-1221



EKI-1222



EKI-1224



Panel Cut-out Dimensions: 104 x 140 x 36.6 mm (4.094" x 5.512" x 1.441")

Ordering Information

- **EKI-1221** 1-port RS-232/422/485 Modbus Gateway
- **EKI-1222** 2-port RS-232/422/485 Modbus Gateway
- **EKI-1224** 4-port RS-232/422/485 Modbus Gateway
- **EKI-1221I** 1-port RS-232/422/485 Modbus Gateway with Wide Operating Temperature
- **EKI-1222I** 2-port RS-232/422/485 Modbus Gateway with Wide Operating Temperature
- **EKI-1224I** 4-port RS-232/422/485 Modbus Gateway with Wide Operating Temperature
- **EKI-1221CI** 1-port RS-422/485 Modbus Gateway with Wide Operation Temperature and Isolation
- **EKI-1222CI** 2-port RS-422/485 Modbus Gateway with Wide Operation Temperature and Isolation
- **EKI-1224CI** 4-port RS-422/485 Modbus Gateway with Wide Operation Temperature and Isolation
- **OPT1-DB9** D-Sub9 to Terminal Converter