EKI-1221D

1-port Modbus Gateway with Integrated Ethernet Cascading

EKI-1222D

2-port Modbus Gateway with Integrated Ethernet Cascading

EKI-1221D   EKI-1222D

Features

- Provides 2 x 10/100 Mbps Ethernet ports for Daisy-Chain connectivity
- Integration of Modbus TCP and Modbus RTU/ASCII networks
- Supports Ethernet auto-bypass function
- Master mode supports 32 TCP slaves at the same time
- Slave mode supports up to 16 TCP masters
- Supports mapping Modbus slave ID option
- Auto searching Modbus slave ID over configuration utility
- Mounts on DIN-rail and Wall mount
- Class I, Division 2 certification

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-1221D/1222D feature two Ethernet ports with one IP address for easier network wiring. One port can be used to connect to the network, and the other port can be used to connect to another Ethernet device or another EKI-1221D/1222D. 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-1221D/1222D 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-1221D: 1
                          EKI-1222D: 2
- **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

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)** 37 x 140 x 95 mm (1.46" x 5.51" x 3.74")
- **Enclosure**   Metal with solid mounting hardware
- **Mounting**   DIN-rail, Wall
- **Weight**   EKI-1221D: 0.58 Kg
                          EKI-1222D: 0.588 Kg

Power Requirements

- **Power Input**   12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector**   Terminal block
- **Power Consumption**   EKI-1221D: 2 W
                          EKI-1222D: 2.5 W

Environment

- **Operating Temperature** -10 ~ 60°C (14 ~ 140°F)
- **Storage Temperature**   -20 ~ 80°C (-4 ~ 176°F)
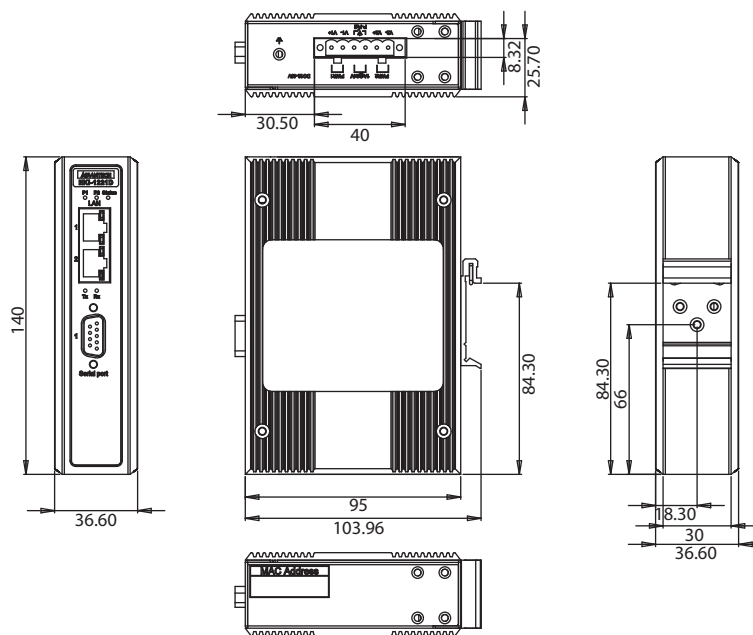- **Operating Humidity**   5 ~ 95% RH

Regulatory Approvals

- **EMC**   EN 55022, EN 55011, EN 61000-6-4, IEC 61000-4-2/3/4/5/6/8, FCC 47 CFR Part 15 Subpart B (Class A)
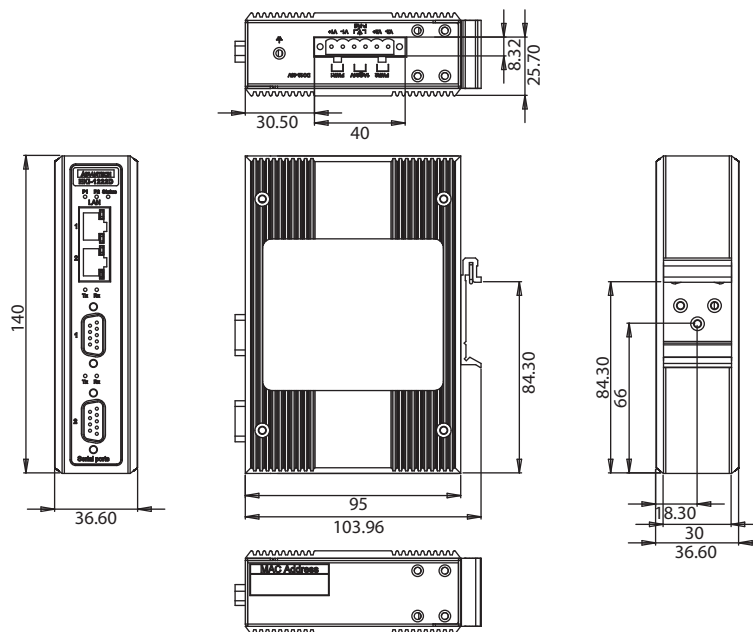- **Hazardous Location** Class I, Division 2

Dimensions

Unit: mm [inch]

EKI-1221D

Panel Cut-out Dimensions: 103.96 x 140 x 36.60 mm

EKI-1222D

Panel Cut-out Dimensions: 103.96 x 140 x 36.60 mm

Ordering Information

- **EKI-1221D**   1-port Modbus Gateway with Ethernet Cascading
- **EKI-1222D**   2-port Modbus Gateway with Ethernet Cascading

* All items include 1 pc OPT1-DB9 D-Sub9 to Terminal Converter

- **OPT1-DB9**   D-Sub9 to Terminal Converter