EKI-1222

2-port Modbus Data Gateway

Packing List

Before installation, please make sure that you have:

- EKI-1222 Modbus Data Gateway x 1
- Panel mounting bracket x 2
- DIN-rail mounting kit x 1
- Utility and Driver CD
- Startup Manual

If anything is missing or damaged, contact your distributor or sales representative immediately.

User Manual

For more detailed information on this product, refer to the EKI-1222 User Manual on the CD-ROM.

Modbus Data Gateway\EKI\EKI-1222

Declaration of Conformity

FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user is required to correct interference at his own expense.

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from Advantech. Please contact your local supplier for ordering information.

Overview

The EKI-1222 is a 2-port Modbus data gateway that integrate new and existing Modbus RTU/ASCII and newer Modbus TCP networked-base devices. It can be used to not only allow Ethernet masters to control serial slaves, but also to allow serial masters to control Ethernet slaves. It supports up to 16 connections and 32 requests simultaneously..

Notes

For more information on this and other Advantech products, please visit our websites at:

http://www.advantech.com/eAutomation

For technical support and service:

http://www.advantech.com/support/

This startup manual is for EKI-1222.

Part No. 2003122200 1st Edition

July 2008

Specifications

Ethernet Interface

- Speed: 10/100 Mbps, auto-sensing
- No. of Ports: 2
- Port Connectors: RJ45 x 2 (with LED)
- Protection: Built-in 1.5 KV magnetic isolation

Serial Interface

- Port Type: RS-232/422/485, software selectable
- No. of Ports: 2
- Port Connector: DB9 (Male)
- Baud Rate: 50 bps to 921.6 Kbps
- Parity: None, Odd, Even, Space, Mark
- Data bits: 7, 8
- Stop bits: 1, 2
- Flow control: RTS/CTS, XON/XOFF, DTR/DSR
- 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, enhanced protection for RS-422/485 lines

Software

- Utility: Advantech Serial Device Server Configuration Utility
- OS Support: Windows 2000/XP/Vista (x86)
- Operation Mode: Modbus RTU Master/Slave, Modbus ASCII Master/Slave

STARTUP MANUAL

ADVANTECH

Dimensions: (Units: mm)

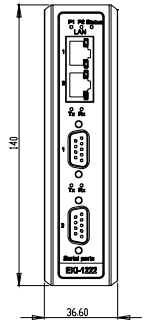


Figure 1: Front View

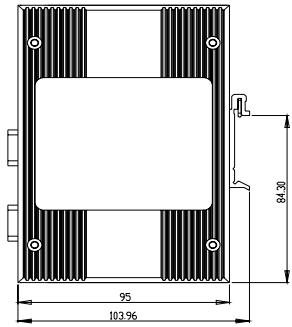


Figure 2: Side View

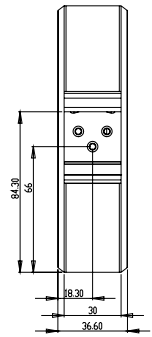


Figure 3: Back View

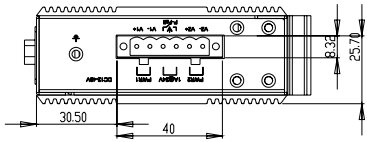


Figure 4: Top View

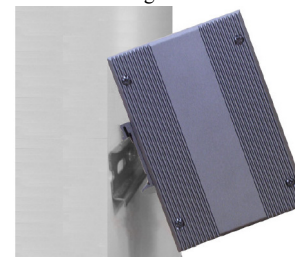
Installation Procedure

Panel/Wall Mounting

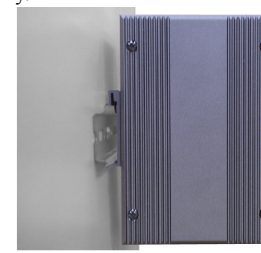
The EKI-1222 can be attached to a wall using the included metal brackets. Each bracket comes with four screws. You can install the EKI-1222 firmly via the components, please see the figures below.

The EKI-1222 can be mounted on a standard DIN-rail. The DIN-rail kit is screwed on the Modbus data gateway when out of factory. If the DIN-rail kit is not screwed on the EKI-1222, please screw the DIN-rail kit on the Modbus data gateway first.

First, hang the EKI-1222 to the DIN-rail with angle of inclination. See the figure below:



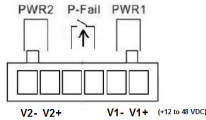
Then, let the EKI-1222 down straight to slide over the rail smoothly.



Hardware Installation (Continued)

Connecting Power

EKI-1222 supports dual +12 to 48 VDC power inputs and a power-fail relay output. The figure below shows the power terminal block pin assignments.



You can connect an alarm or other signaling equipment through the power-fail relay output. The relay opens if power input V1 or V2 fails. ("Open" means if you connect relay output with an LED, the light will shut off).

Software Installation

Insert the Driver Utility CD-ROM into the PC to install the Serial Device Server Configuration Utility. Use Windows explorer or the Windows Run command to execute the setup program, on the CD-ROM:

Utility&Driver\SerialDeviceServerConfigurationUtility

The setup program name will be:

Serial_Device_Server_Configuration_Utility_[Version]_Release_[Date].exe

Then, follow the on-screen instructions.

For more detailed information about the Serial Device Server Configuration Utility, refer to the EKI manual.

Note: Be sure that you have at least version 2.0 of the Microsoft .NET Framework installed on your PC.

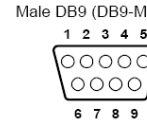
LED Definitions

The LEDs display two sets of power status, system status, dual network status, and serial communication status on the front panel. Each of them has its own specific meaning as below

Name	Color	LED Description
P1	Green	Power 1 is on.
	Off	Power 1 is off, or power error condition exists.
P2	Green	Power 2 is on.
	Off	Power 2 is off, or power error condition exists.
Status	Orange	Blinking: System is ready. Steady on: The device server has been located by utility's locating the device function.
	Off	System is not working.
Ethernet	Orange	Blinking: Ethernet port is transmitting or receiving data. Steady on: Ethernet has the good link for 10Mbps or 100Mbps operations.
	Green	On: 100Mbps Ethernet connection. Off: 10Mbps Ethernet connection.
Serial	Orange	Serial port is transmitting data.
	Green	Serial port is receiving data.
	Off	No data is transmitted or received through the serial port.

Pin Assignments

The EKI-1222 provides two standard serial port DB9 (male) connectors. The RS-232/422/485 pin assignments are as below.



Pin	1	2	3	4	5	6	7	8	9
RS-232	DCD	RX	TX	DTR	GND	DSR	RTS	CTS	RI
RS-422	TX-	-	-	TX+	GND	-	RX+	-	RX-
RS-485	Data-	-	-	Data+	GND	-	-	-	-

Environmental Specifications

- Power Input: 12 to 48 VDC x 2
- Power Connector: Terminal block
- Power Consumption: 2.5W
- Power Line Protection: 1 KV burst (EN61000-4-4), 0.5 KV surge (EN51000-4-5)

- Dimensions (W x H x D): 37 x 140 x 95 mm
- Enclosure: Metal with solid mounting hardware
- Mounting: DIN-rail, panel or wall mount

- Operating Temperature: 0 to 60 °C (32 to 140 °F)
- Storage Temperature: -20 to 85 °C (-4 to 185 °F)
- Operating Humidity: 5 to 95% RH

- Regulatory Approvals: CE Class A, FCC Part 15 Subpart B Class A, UL