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Serial Device Servers

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Serial Device Server Selection Guide

Serial Device Servers





Model Name		EKI-1351	EKI-1352	EKI-1521	EKI-1522	EKI-1524
Product Description		1-port RS-232/422/485 to 802.11b/g WLAN Serial Device Server	2-port RS-232/422/485 to 802.11b/g WLAN Serial Device Server	1-port RS-232/422/485 Serial Device Server	2-port RS-232/422/485 Serial Device Server	4-port RS-232/422/485 Serial Device Server
No. of Ethernet Port		WLAN	WLAN	2	2	2
No. of Serial Port		1	2	1	2	4
Ethernet Interface		802.11 b/g	802.11 b/g	10/100 Mbps	10/100 Mbps	10/100 Mbps
Serial Type		RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232/422/485
Connector	Ethernet	SMA	SMA	RJ45	RJ45	RJ45
	Serial	DB9 Male	DB9 Male	DB9 Male	DB9 Male	DB9 Male
Baud Rate		50 bps ~ 921.6 kbps, any baud rate setting				
Operating Mode		Virtual COM, TCP Server, TCP Client, UDP, Peer to Peer, AT Command, and RFC2217 modes				
Driver		32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0/6.0, and Linux				
Certifications		Class I Division 2 Groups ABCD T4, UL/cUL 60950-1, FCC, CE				
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Model Name		EKI-1528	EKI-1526	ADAM-4571	ADAM-4571L	ADAM-4570	ADAM-4570L
Product Description		8-port RS-232/422/485 Serial Device Server	16-port RS-232/422/485 Serial Device Server	1-port RS-232/422/485 Serial Device Server	1-port RS-232 Serial Device Server	2-port RS-232/422/485 Serial Device Server	2-port RS-232 Serial Device Server
No. of Ethernet Port		2	2	1	1	1	1
No. of Serial Port		8	16	1	1	2	2
Ethernet Interface		10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps
Serial Type		RS-232/422/485	RS-232/422/485	RS-232/422/485	RS-232	RS-232/422/485	RS-232
Connector	Ethernet	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45
	Serial	RJ45	RJ45	DB9 Male	DB9 Male	RJ48	RJ48
Baud Rate		50 bps ~ 921.6 kbps, any baud rate setting					
Operating Mode		Virtual COM, TCP Server, TCP Client, UDP, Peer to Peer, AT Command, and RFC2217 modes		Virtual COM, TCP Server, TCP Client, UDP, Peer to Peer, and AT Command modes			
Driver		32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0/6.0, and Linux					
Certifications		FCC, CE					
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Programmable Device Servers



Model Name	EKI-1121L	EKI-1122L	EKI-1126
Product Description	1-port Programmable Device Server	2-port Programmable Device Server	16-port RISC-based Programmable Serial Device Server with USB and SD
No. of Ethernet Ports	2	2	2
No. of Serial Ports	1	2	16
Ethernet Interface	10/100 Mbps	10/100 Mbps	10/100Mbps
Serial Type	RS-232/422/485	RS-232/422/485	RS-232/422/485
CPU	ARM7	ARM7	IXP430
CPU Speed	80 MHz	80 MHz	400 MHz
Flash	8 MB	8 MB	16 MB
SDRAM	16 MB	16 MB	128 MB
USB	-	-	V
SD Slot	-	-	V
OS	uClinux 2.4	uClinux 2.4	uClinux 2.6
Certifications	Class I Division 2 Groups ABCD T4, FCC, CE		FCC, CE
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iGateway - GPRS/3G Serial Device Servers




Model Name	EKI-1321	EKI-1322	EKI-1331	EKI-1332
Product Description	1-port RS-232/422/485 to GPRS Serial Device Server	2-port RS-232/422/485 to GPRS Serial Device Server	1-port RS-232/422/485 to 3G Serial Device Server	2-port RS-232/422/485 to 3G Serial Device Server
Cellular Interface	GSM/GPRS	GSM/GPRS	GSM/GPRS/EDGE/UMTS/ HSDPA	GSM/GPRS/EDGE/UMTS/ HSDPA
Band Options	850/900/1800/1900 MHz	850/900/1800/1900 MHz	850/1900/2100 MHz 850/900/1800/1900 MHz	850/1900/2100 MHz 850/900/1800/1900 MHz
No. of Serial Ports	1	2	1	2
No. Serial Type	RS-232/422/485, software selectable			
Ethernet	10/100/1000 Mbps			
Baud Rate	50 bps ~ 921.6 kbps, any baud rate setting			
Operation Mode	Virtual COM, Reverse Virtual COM, TCP Server, TCP Client, UDP, Peer to Peer, AT Command, SMS Tunnel, and AT Command modes			
Utility	32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Web-Browser Console, Telnet Console			
Certifications	FCC, CE			
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Serial Device Server Selection Guide

Modbus Gateways

Model Name	EKI-1221D	EKI-1222D	EKI-1221	EKI-1222	EKI-1224	ADAM-4572
Product Description	1-port Modbus Gateway with Integrated Ethernet Cascading	2-port Modbus Gateway with Integrated Ethernet Cascading	1-port Modbus Gateway	2-port Modbus Gateway	4-port Modbus Gateway	1-port Modbus Gateway
No. of Ethernet Ports	2	2	2	2	2	1
No. of Serial Ports	1	2	1	2	4	1
Ethernet Interface	10/100Mbps					
Serial Type	RS-232/422/485, software selectable					
Ethernet Feature	Daisy-Chain Connectivity		Dual Ethernet Redundany			-
Configuation	Windows Configuration Utility, Web-Browser Console					Windows Utility
Operating Mode	Modbus RTU Master, Modbus RTU Slave, Modbus ASCII Master, and Modbus ASCII Slave modes					
Baud Rate	50 bps ~ 921.6 kbps					
Certifications	Class I Division 2 Groups ABCD T4, FCC, CE					FCC, CE
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Serial to USB Converters

Model Name		ADAM-4561	ADAM-4562	USB-4604B	USB-4604BM
Product Description		1-port Isolated USB to RS-232/422/485 Converter	1-port Isolated USB to RS-232 Converter	4-port RS-232 to USB Converter with ESD Surge Protection	4-port RS-232/422/485 to USB Converter with ESD Surge Protection
Interface		USB 1.1	USB 1.1	USB 1.1/2.0	USB 1.1/2.0
Serial Port		1	1	4	4
Baud Rate		50 ~ 115.2 kbps	75 ~ 115.2 kbps	50 ~ 921.6 kbps	50 ~ 921.6 kbps
Serial Type		RS-232/422/485	RS-232	RS-232	RS-232/422/485
Connector	USB	Type B	Type B	Type B	Type B
	Serial	Screw Terminal	DB9	DB9	DB9
Protection	Isolation	3,000 V_{DC} (RS-232/422/485)	2,500 V_{DC}	-	-
	Surge	-	-	2,500 V_{DC}	2,500 V_{DC}
Driver		Windows 2000/XP	Windows 2000/XP	Windows 2000/XP/Vista/7	Windows 2000/XP/Vista/7
Page		online	online	online	online

EKI-1521
EKI-1522
EKI-1524

1-port RS-232/422/485 Serial Device Server

2-port RS-232/422/485 Serial Device Server

4-port RS-232/422/485 Serial Device Server

Features

- Provides 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- Provides COM port redirection (Virtual COM), TCP and UDP operation modes
- Supports up to 921.6 kbps, and any baud rate setting
- Allows a max. of 5 hosts to access one serial port
- Allows a max. of 16 hosts to be accessed as TCP client mode
- Built-in 15 KV ESD protection for all serial signals
- Provides rich configuration methods including Windows utility, Telnet console, and Web Browser
- Supports Windows 2000/XP/Vista/7, Windows CE, and Linux drivers
- Automatic RS-485 data flow control
- Class I, Division 2 certification

Introduction

EKI-1521, EKI-1522 and EKI-1524 feature two independent Ethernet ports and MAC addresses to provide a redundant network mechanism to guarantee Ethernet network reliability. EKI-1521, EKI-1522 and EKI-1524 are serial device servers that connect RS-232/422/485 serial devices, such as PLC, meters, sensors, and barcode reader to an IP-based Ethernet LAN. They allow nearly any device with serial ports to connect and share an Ethernet network. EKI-1521, EKI-1522 and EKI-1524 provide various operations: COM port redirection (Virtual COMport), TCP Server, TCP Client and UDP mode. With COM port redirection mode, standard serial operation calls are transparently redirected to the EKI-1521, EKI-1522 and EKI-1524, guaranteeing compatibility with legacy serial devices and enabling backward compatibility with existing software. With TCP server, TCP client, and UDP modes, EKI-1521, EKI-1522 and EKI-1524 ensure the compatibility of network software that uses a standard network API. Moreover, you can make serial devices communicate with other devices peer-to-peer, without any intermediate host PCs and software programming.

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-1521: 1
EKI-1522: 2
EKI-1524: 4
- **Port Connector** DB9 male
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 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** Built-in 15 KV ESD for all signals

Software

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operation Modes** COM port redirection mode (Virtual COM)
TCP/UDP server (polling) mode
TCP/UDP client (event handling) mode
Pair connection (peer to peer) mode
- **Configuration** Windows utility, Telnet console, Web Browser
- **Protocol** ICMP, IP, TCP, UDP, BOOTP, DHCP, Auto IP, Telnet, SNMP, HTTP, DNS, SMTP, ARP, NTP
- **Management** SNMP MIB-II

Mechanics

- **Dimensions (W x H x D)** EKI-1521/1522: 37 x 140 x 95 mm
EKI-1524: 55 x 140 x 95 mm
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Panel
- **Weight** EKI-1521: 592g
EKI-1522: 600g
EKI-1524: 668g

General

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

Power Requirements

- **Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1521: 2 W
EKI-1522: 2.5 W
EKI-1524: 4W

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** CE, FCC Part 15 Subpart B (Class A)
- **Safety** UL/cUL 60950-1
- **MTBF** EKI-1521: 1,102,913 hrs
EKI-1522: 1,000,154 hrs
EKI-1524: 862,230 hrs
- **Hazardous Location** Class I, Division 2

Ordering Information

- **EKI-1521** 1-port RS-232/422/485 Serial Device Server
- **EKI-1522** 2-port RS-232/422/485 Serial Device Server
- **EKI-1524** 4-port RS-232/422/485 Serial Device Server

EKI-1528
EKI-1526

8-port RS-232/422/485 Serial Device Server

16-port RS-232/422/485 Serial Device Server

Features

- 8 or 16-port RS-232/422/485 serial communication
- Provides 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- Supports up to 921.6 kbps, and any baud rate setting
- Provides COM port redirection (Virtual COM), TCP and UDP operation modes
- Provides rich configuration methods: Windows utility, Telnet console, Web Browser, and serial console
- Built-in 15 KV ESD protection for all serial signals
- SNMP MIB-II for network management
- Built-in buzzer for easy location
- Standard 1U rackmount size
- Rear wiring
- Automatic RS-485 data flow control

Introduction

EKI-1528 and EKI-1526 are industrial-grade network-based serial device servers for connecting up to 8 or 16 serial RS-232/422/485 devices, such as CNCs, PLCs, scales and scanners, directly to a TCP/IP network. The EKI-1528 and EKI-1526 feature two independent Ethernet ports and MAC addresses to provide a redundant network mechanism to guarantee Ethernet network reliability. The EKI-1528 and EKI-1526 provide a simple and cost-effective way to bring the advantages of remote management and data accessibility to thousand of devices that can't connect to an Ethernet network. The EKI-1528 and EKI-1526 offer rich ways to configure through Windows utility, Web Browser, serial console or Telnet console, these methods make it easy manage many EKI-1528 and EKI-1526 or serial devices on your network.

Specifications

Ethernet Communications

- **Compatibility** IEEE 802.3, IEEE 802.3u
- **Speed** 10/100 Mbps, auto MDI/MDIX
- **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-1528: 8
EKI-1526: 16
- **Port Connector** 8-pin RJ45
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 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, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485: Data+, Data-, GND
- **Protection** 15 KV ESD for all signals

Software

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operation Modes** COM port redirection mode (Virtual COM)
TCP/UDP server (polling) mode
TCP/UDP client (event handling) mode
Pair connection (peer to peer) mode
RFC2217 mode
- **Configuration** Windows utility, Telnet console, Web Browser, serial console
- **Protocols** ICMP, IP, TCP, UDP, BOOTP, DHCP, Auto IP, Telnet, SNMP, HTTP, DNS, SMTP, ARP, HTTPS, SSL, SSH, NTP
- **Management** SNMP MIB-II

Mechanics

- **Dimensions (H x W x D)** 44 x 440 x 220 mm
- **Enclosure** SECC chassis
- **Mounting** Rack
- **Weight** EKI-1528: 2.53 kg
EKI-1526: 2.58 kg

General

- **LED Indicators** System: Power, System Status
LAN: Speed, Link/Active
Serial: Tx, Rx
- **Alert Tools** Built-in buzzer and RTC (real time clock)
- **Reboot Trigger** Built-in WDT and push button for hardware reboot

Power Requirements

- **Power Input** 100 ~ 240 V_{AC}, 47 ~ 63 Hz
- **Power Consumption** EKI-1528: 8 W
EKI-1526: 10 W

Environment

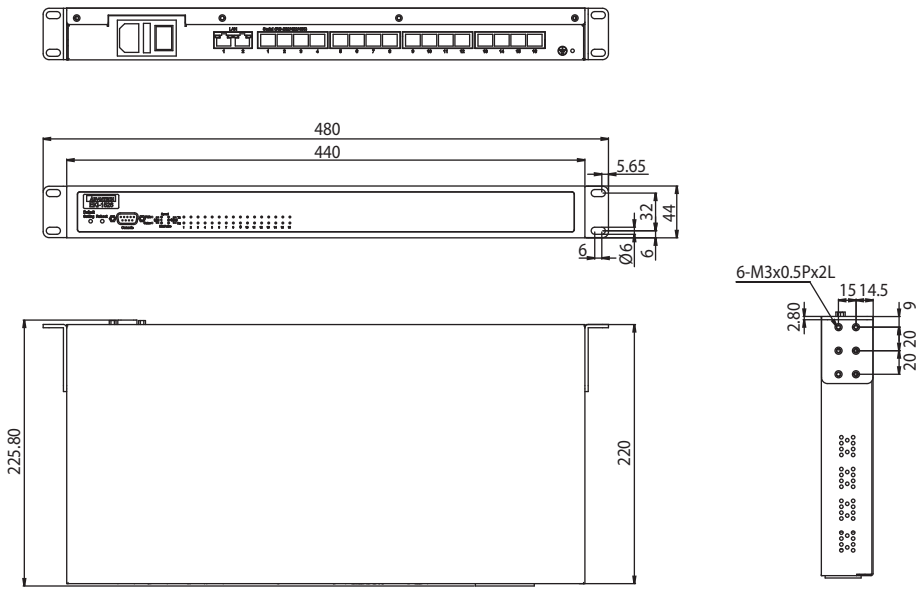
- **Operating Temperature** -10 ~ 60° C (14 ~ 140° F)
- **Storage Temperature** -20 ~ 80° C (-4 ~ 176° F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class A)
- **MTBF** EKI-1528: 198,571 hrs
EKI-1526: 175,708 hrs

Dimensions

Unit: mm



Dimensions (W x D x H): 440 x 220 x 44 mm

Physical Views

EKI-1528: Front View

EKI-1528: Rear View

EKI-1526: Front View

EKI-1526: Rear View

Ordering Information

- **EKI-1528** 8-port RS-232/422/485 Serial Device Server
- **EKI-1526** 16-port RS-232/422/485 Serial Device Server

*All items include 1pc OPT1J

Accessories

- **OPT1I** 1 m RJ45 to DB9 Male Cable
- **OPT1J** 30 cm RJ45 to DB9 Male Cable
- **1702002600** Power Cable US Plug 1.8m
- **1702002605** Power Cable EU Plug 1.8m
- **1702031801** Power Cable UK Plug 1.8m
- **1702031836** Power Cable China/Australia Plug 1.8m

ADAM-4571/L
ADAM-4570/L

1-port RS-232/422/485 Serial Device Server

2-port RS-232/422/485 Serial Device Server

Specifications

Ethernet Communications

- **Compatibility** IEEE 802.3, IEEE 802.3u
- **Speed** 10/100 Mbps
- **No. of Ports** 1
- **Port Connector** 8-pin RJ-45
- **Protection** Built-in 1.5 KV magnetic isolation

Serial Communications

- **Port Type** ADAM-4571/4570: RS-232/422/485, software selectable
  ADAM-4571L/4570L: RS-232
- **No. of Ports** ADAM-4571/4571L: 1
  ADAM-4570/4570L: 2
- **Port Connector** ADAM-4571/4571L: DB9 male
  ADAM-4570/4570L: 10-pin RJ48
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **Flow Control** XON/XOFF, RST/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 protection for all signals

Software

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operation Modes** COM port redirection (Virtual COM)
  TCP/UDP server (polling) mode
  TCP/UDP client (event handling) mode
  Pair Connection (peer to peer) mode
- **Configuration** Windows utility, Telnet console, Web Browser
- **Protocol** ICMP, IP, TCP, UDP, BOOTP, DHCP, Auto IP, Telnet, SNMP, HTTP, DNS, SMTP, ARP

Mechanics

- **Dimension (H x W x D)** 70 x 130 x 30 mm
- **Enclosure** ABS+PC with solid mounting hardware
- **Mountion** DIN-rail, stack, wall
- **Weight** ADAM-4571/4571L: 135g
  ADAM-4570/4570L: 160g

General

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

Power Requirements

- **Power Input** 10 ~ 30 V_{DC}
- **Power Connector** Terminal block
- **Power Consumption** ADAM-4571/4571L: 1.5 W
  ADAM-4570/4570L: 2 W

Environment

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

Regulatory Approvals

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

Ordering Information

- **ADAM-4571** 1-port RS-232/422/485 Serial Device Server
- **ADAM-4571L** 1-port RS-232 Serial Device Server
- **ADAM-4570** 2-port RS-232/422/485 Serial Device Server
- **ADAM-4570L** 2-port RS-232 Serial Device Server

*ADAM-4570/4570L includes 2pcs OPT1A

Accessories

- **OPT1A** 1 m RJ48 to DB9 Male Cable
- **OPT1D** 30 cm RJ48 to DB9 Male Cable

EKI-1351
EKI-1352

1-port RS-232/422/485 to 802.11b/g WLAN Serial Device Server

2-port RS-232/422/485 to 802.11b/g WLAN Serial Device Server

Features

- Link any serial device to an IEEE 802.11 b/g network
- Supports wireless LAN Ad-Hoc and Infrastructure modes
- Provides COM port redirection, TCP, UDP, and pair connection modes
- Supports up to 921.6 kbps, and any baud rate setting
- Provides Web-based configuration and Windows utility
- Allows a max. of 5 hosts to access one serial port
- Supports Windows 2000/XP/Vista/7, Windows CE, and Linux drivers
- Allows a max. of 4 hosts to be accessed as TCP client mode
- Built-in 15 KV ESD protection for all serial signals
- Supports DHCP protocol
- Supports secure access with WEP, WPA, WPA2

Introduction

EKI-1351 and EKI-1352 are wireless serial device servers that bring RS-232/422/485 to wireless Ethernet. They allow nearly any device with serial ports to connect and share an Wireless Ethernet network. EKI-1351 and EKI-1352 provide a quick, simple and cost-effective way to bring the advantages of remote management and data accessibility to thousands of devices that cannot connect to a network.

With EKI-1351 and EKI-1352, your existing serial devices can be used with the most popular operating systems on the market. There is no need to write special drivers for specific operating systems. Moreover, you can make serial devices communicate with other devices peer-to-peer, without any intermediate host PCs and software programming. That saves a lot of cost and effort. In addition, you can actively request data or issue commands from the RS-232/422/485 side or Wireless Ethernet side. This data can be sent bilaterally. Thus, the EKI-1351 and EKI-1352 are especially suitable for remote monitoring environments such as security systems, factory automaton, SCADA, transportation and more.

Specifications

Ethernet Communications

- **Compatibility** IEEE 802.11b, IEEE 802.11g
- **Speed** 11/54 Mbps
- **Network Mode** Infrastructure, Ad-Hoc
- **Antenna Connector** Reverse SMA
- **Free Space Range** Open space 100m
- **Wireless Security** WEP, WPA, WPA2

Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1351: 1
EKI-1352: 2
- **Port Connector** DB9 male
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **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

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operation Modes** COM port redirection mode (Virtual COM)
TCP/UDP server (polling) mode
TCP/UDP client (event handling) mode
Pair connection without AP (peer to peer) mode

Mechanics

- **Dimensions (W x H x D)** 37 x 140 x 95 mm
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Panel
- **Weight** EKI-1351: 595g
EKI-1352: 603g

General

- **LED Indicators** System: Power, System Status
WLAN: Quality, Fail, Link/Active
Serial: Tx, Rx
- **Reboot Trigger** Built-in WDT (watchdog timer)

Power Requirements

- **Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1351: 3.5 W
EKI-1352: 4 W

Environment

- **Operating Temperature** 0 ~ 50° C (32 ~ 122° F)
- **Storage Temperature** -20 ~ 80° C (-4 ~ 176° F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class B)
- **Safety** UL/cUL 60950-1
- **Hazardous Location** Class I, Division 2

Ordering Information

- **EKI-1351** 1-port 802.11b/g WLAN Serial Device Server
- **EKI-1352** 2-port 802.11b/g WLAN Serial Device Server

EKI-1321
EKI-1322

1-port RS-232/422/485 to GPRS Serial Device Server

2-port RS-232/422/485 to GPRS Serial Device Server

Features

- Supports Universal quad-band GSM/GPRS 850/900/1800/1900 MHz
- Supports dual SIM for telecom redundancy
- Supports COM port redirection, TCP, UDP, SMS tunnel, and pair connection modes
- Supports any baud rate setting
- Provides Windows utility, Telnet, and Web console
- Supports 32-bit/64-bit Windows 2000/XP/Vista/7, Windows CE, and Linux drivers

Introduction

EKI-1321 and EKI-1322 are cellular Serial Device Servers that can transparently bring RS-232/422/485 devices to a cellular network. They allow nearly any device with serial ports to connect and share a cellular network with easy configuration. EKI-1321 and EKI-1322 GPRS Serial Device Servers are compact, and can be used on DIN-rail or wall mount and with both front panel and side panel LED display. They come with a DC power input 10 to 50 VDC and have EFT/Surge protection to prevent damaged from various type of power resources. EKI-1321 and EKI-1322 are suitable for remote monitoring environments such as solar power fund, factory automation, transportation and more.

Specifications

LAN Interface

- **Ethernet** 10/100/1000 Mbps, auto MDI/MDIX
- **Connector** RJ45
- **Protection** 1.5 kV built-in magnetic isolation protection

Cellular Interface

- **Standards** GSM/GPRS
- **Band Option** Quad-band 850/900 and 1800/1900 MHz
- **GPRS Multi-Slot** Class 10
- **GPRS Terminal Device** Class B
- **GPRS Coding Schemes** CS1 to CS4
- **Tx Power** 1W for GSM 1800/1900, 2W for EGSM 850/900
- **Number of SIM** 2
- **SIM Control** 3V

Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1321: 1
  EKI-1322: 2
- **Port Connector** DB9 male
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **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

General

- **LED Indicators** System: Power, System Status
  GPRS: Quality, GPRS ready
  Serial: Tx, Rx
- **Reboot Trigger** Built-in WDT (watchdog timer)

Software

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Linux
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operation Modes** COM port redirection mode (Virtual COM)
  TCP/UDP server (polling) mode
  TCP/UDP client (event handling) mode
  Pair connection without AP (peer to peer) mode

Mechanics

- **Dimensions (W x H x D)** 27 x 120 x 85 mm
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Panel
- **Weight** EKI-1321: 490g
  EKI-1322: 500g

Power Requirements

- **Power Input** 10 ~ 50 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1321: 6 W
  EKI-1322: 6.5 W

Environment

- **Operating Temperature** -30 ~ 65° C (-22 ~ 149° F)
- **Storage Temperature** -40 ~ 75° C (-40 ~ 167° F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- **EMC** CE: EN55022/EN55024, Class A
  FCC: FCC part 15 subpart B, Class A
- **RF** FCC Part22H/Part24E, EN301 489-1/-7, EN301 511

Ordering Information

- **EKI-1321** 1-port GPRS Serial Device Server
- **EKI-1322** 2-port GPRS Serial Device Server

EKI-1221
EKI-1222
EKI-1224

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
- Supports 31 slaves per serial port
- Easy-managing Advantech Serial Device Server Configuration Utility for Windows 2000/XP/Vista/7
- Auto searching slave ID over configuration utility
- Software selectable RS-232/422/485 communication
- Mounts on DIN-rail, wall or panel
- Built-in 15 KV ESD protection for all serial signals
- Automatic RS-485 data flow control

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

Software

- **OS Support** 32-bit/64-bit Windows 2000/XP/Vista/7 and Windows Server 2003/2008
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operation Modes** Modbus RTU Master/Slave mode
Modbus ASCII Master/Slave mode

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
EKI-1224: 55 x 140 x 95 mm
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Panel
- **Weight** EKI-1221: 592g
EKI-1222: 600g
EKI-1224: 668g

Power Requirements

- **Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1221: 2 W
EKI-1222: 2.5 W
EKI-1224: 4 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** CE, FCC Part 15 Subpart B (Class A)
- **Safety** UL/cUL 60950-1
- **Hazardous Location** Class I, Division 2

Ordering Information

- **EKI-1221** 1-port Modbus Gateway
- **EKI-1222** 2-port Modbus Gateway
- **EKI-1224** 4-port Modbus Gateway

EKI-1221D
EKI-1222D

1-port Modbus Gateway with Integrated Ethernet Cascading

2-port Modbus Gateway with Integrated Ethernet Cascading

NEW

Features

- Provides 2 x 10/100 Mbps Ethernet ports for Daisy Chian 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, wall or panel
- 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 2000/XP/Vista/7 and Windows Server 2003/2008 (x86 and x64)
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operation Modes** Modbus RTU Master/Slave mode
Modbus ASCII Master/Slave mode

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
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Panel
- **Weight** EKI-1221D: 580g
EKI-1222D: 588g

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

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

EKI-1121L
EKI-1122L

1-port Programmable Device Server

2-port Programmable Device Server

Features

- ARM7 32-bit 80MHz processor
- 8MB Flash ROM on board
- 16MB SDRAM
- 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- 1 or 2 software selectable RS-232/422/485 serial ports
- 50 bps to 921.6 kbps baud rate
- Built-in real-time clock (RTC)
- Class I, Division 2 certification
- Pre-installed Linux Kernel 2.4 platform

Introduction

EKI-1121L and EKI-1122L are RISC-based embedded communication controllers which provide dual auto-sensing 10/100 Mbps Ethernet ports for network redundancy and one or two software-selectable RS-232/422/485 serial ports. The EKI-1121L and EKI-1122L use the ARM7 RISC CPU which is a powerful computing engine to fulfill data compression or protocol conversion requirements. The built-in 8 MB flash ROM and 16 MB SDRAM provide user enough storage to run their specific applications.

Specifications

System

- **CPU** ARM7 32-bit RISC CPU, 80 MHz
- **Flash** 8 MB
- **SDRAM** 16 MB
- **OS (pre-installed)** uClinux
- **Console Port** RS-232, 3-wire (Tx, Rx, GND) pin-header
- **Other** RTC, watchdog timer

Ethernet Interface

- **LAN** 2 x auto-sensing 10/100 Mbps ports
- **Connector** RJ-45
- **Protection** 1.5 kV magnetic isolation protection

Serial Interface

- **Serial Standards** Software selectable RS-232/422/485 ports
- **Connectors** D-sub 9 male
- **Protection** 15 kV ESD protection for all signals

Serial Parameters

- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Even, Odd, Space, Mark
- **Flow Control** RTS/CTS, XON/XOFF, automatic RS-485 data flow control
- **Baud Rate** 50 bps to 921.6 kbps

Serial Signals

- **RS-232** TxD, RxD, DTR, DSR, RTS, CTS, DCD, RI, GND
- **RS-422** TxD+, TxD-, RxD+, RxD-, GND
- **RS-485** Data+, Data-, GND

LEDs

- **System** OS ready, power 1 and power 2 ready
- **LAN** Speed (10/100 Mbps), link/active (on connector)
- **Serial** TxD, RxD

Mechanics

- **Dimensions** 37 x 140 x 95 mm (W x H x D)
- **Housing** Metal
- **Weight** 600g
- **Mounting** DIN-rail, Panel

Power Requirements

- **Input Voltage** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Consumption** 2.5 W

Software (uClinux)

- **Kernel Version** 2.4.31
- **Protocol Stack** TCP, UDP, IPv4, ICMP, ARP, SNMP V1, HTTP, DHCP, NTP, NFS, SMTP, Telnet, FTP, PPP, PPPoE
- **File System** ROMFS/JFFS2
- **System Utility** busybox, telnet, ftp, sash, tftp
- **Daemon** pppd, snmpd, telnetd, inted, ftpd, boa
- **Linux Tool Chain** Arm-elf-gcc: C/C++ PC Cross Compiler
- **uClibc** POSIX Standard Library

Environmental Limits

- **Operating Temperature** -10 ~ 60° C (14 ~ 140° 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)
- **Hazardous Location** Class I, Division 2

Ordering Information

- **EKI-1121L** 1-port Programmable Device Server
- **EKI-1122L** 2-port Programmable Device Server

EKI-1126

16-port RISC-based Programmable Serial Device Server with USB and SD

Features

- Intel® XScale IXP430 400 MHz processor
- 128 MB DDR2 RAM and 16 MB Flash ROM onboard
- USB and SD slot for storage expansion
- 2 x 10/100 Mbps Ethernet ports
- 16 x software selectable RS-232/422/485
- Linux ready solution
- 1U standard 19-inch rackmount installation

RoHS COMPLIANT 2002/95/EC CE FCC

Introduction

EKI-1126 is a RISC-based embedded communication controller which provides dual auto-sensing 10/100 Mbps Ethernet ports for network redundancy, 16 software selectable RS-232/422/485 serial ports. The EKI-1126 uses the XScale RISC CPU which is a powerful computing engine to fulfill data compression or protocol conversion requirements. The built-in 16 MB NOR flash ROM and 128 MB DDRII DRAM provide users enough storage to run their specific applications.

Specifications

System

- **CPU** Intel XScale IXP430, 400 MHz
- **Flash** 16 MB
- **SDRAM** 128 MB
- **OS (pre-installed)** ARM Linux 2.6
- **Console Port** RS-232 (Tx, Rx, GND), RJ45 (115200, n, 8, 1)
- **Other** RTC, buzzer, watchdog timer
- **Button** Hardware reset, software programmable button
- **USB** USB 2.0 full speed (OHCI)
- **Storage Expansion** SD socket

Ethernet Interface

- **LAN** 2 x auto-sensing 10/100 Mbps ports
- **Connector** RJ-45
- **Protection** 1.5 kV magnetic isolation protection

Serial Interface

- **Serial Standards** 16 x RS-232/422/485
- **Connectors** RJ-45
- **Protection** 15 kV ESD protection for all signals

Serial Parameters

- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Even, Odd, Space, Mark
- **Flow Control** RTS/CTS, XON/XOFF, automatic RS-485 data flow control
- **Baud Rate** 50 bps to 921.6 kbps

Serial Signals

- **RS-232** TxD, RxD, DTR, DSR, RTS, CTS, DCD, GND
- **RS-422** TxD+, TxD-, RxD+, RxD-, GND
- **RS-485** Data+, Data-, GND

LEDs

- **System** OS ready, power 1 and power 2 ready
- **LAN** Speed (10/100 Mbps), link/active (on connector)
- **Serial** TxD, RxD

Mechanics

- **Dimensions** 44 x 440 x 220 mm (H x W x D)
- **Housing** SECC chassis
- **Mounting** Rack

Power Requirements

- **Input Voltage** 100 ~240 V_{AC}/V_{DC}
- **Power Consumption** 15 W

Environment

- **Operating Temperature** -10 ~ 60° C (14 ~ 140° F)
- **Storage Temperature** -20 ~ 75° C (-4 ~ 167° F)
- **Operating Humidity** 5 ~ 95 % RH

Regulatory Approvals

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

Software

- **Kernel Version** 2.6.16 with pre-emptive patch
- **Protocol Stack** TCP, UDP, IPv4, ICMP, ARP, SNMP v1/v2c, HTTP, DHCP, NTP, NFS, SMTP, Telnet, FTP, PPP, PPPoE
- **File System** ROMFS/JFFS2
- **System Utility** busybox, telnet, ftp, sash, tftp
- **Daemon** pppd, snmpd, telnetd, inetd, ftpd, boa
- **Linux Tool Chain** Arm-elf-gcc: C/C++ PC Cross Compiler
- **uClibc** POSIX Standard Library

Ordering Information

- **EKI-1126** 16-port Programmable Serial Device Server