

Serial Device Servers and IP Gateways

Serial Device Servers

Serial Device Server Selection Guide

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Cellular IP Gateways

Cellular IP Gateways Introduction

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EKI-1321 (New) 1-port RS-232/422/485 to GPRS IP Gateway

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EKI-1322 (New) 2-port RS-232/422/485 to GPRS IP Gateway

EKI-1331 (New) 1-port RS-232/422/485 to 3G IP Gateway

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EKI-1332 (New) 2-port RS-232/422/485 to 3G IP Gateway

Programmable Cellular IP Gateways

EKI-1321P (New) 1-port RS-232/422/485 to GPRS Programmable IP Gateway

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EKI-1322P (New) 2-port RS-232/422/485 to GPRS Programmable IP Gateway

Serial Device Servers

EKI-1351 1-port RS-232/422/485 to 802.11b/g WLAN Serial Device Server

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EKI-1352 2-port RS-232/422/485 to 802.11b/g WLAN Serial Device Server

EKI-1361 (New) 1-port RS-232/422/485 to 802.11b/g/n WLAN Serial Device Server

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EKI-1362 (New) 2-port RS-232/422/485 to 802.11b/g/n WLAN Serial Device Server

EKI-1521 1-port RS-232/422/485 Serial Device Server

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EKI-1522 2-port RS-232/422/485 Serial Device Server

EKI-1524 4-port RS-232/422/485 Serial Device Server

EKI-1528C (New) 8-port RS-422/485 Serial Device Server w/ Isolation

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

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

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

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

Programmable Device Servers

EKI-1121L 1-port Programmable Device Server

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EKI-1122L 2-port Programmable Device Server

EKI-1124L 4-port Programmable Device Server

EKI-1528PC (New) 8-port RS-422/485 Programmable Serial Device Server w/ Isolation

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Modbus Gateways

EKI-1221D 1-port Modbus Gateway with Integrated Ethernet Cascading

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EKI-1222D 2-port Modbus Gateway with Integrated Ethernet Cascading

EKI-1221 1-port Modbus Gateway

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EKI-1222 2-port Modbus Gateway

EKI-1224 4-port Modbus Gateway

To view all of Advantech's Serial Device Servers, please visit www.advantech.com/products.



Cellular IP Gateway Selection Guide

Cellular IP Gateways (iGateways)

NEW



NEW



NEW



NEW



Model Name	EKI-1321	EKI-1322	EKI-1331	EKI-1332
Product Description	1-port RS-232/422/485 to GPRS IP Gateway	2-port RS-232/422/485 to GPRS IP Gateway	1-port RS-232/422/485 to 3G IP Gateway	2-port RS-232/422/485 to 3G IP Gateway
Cellular Interface	GSM/GPRS	GSM/GPRS	GSM/GPRS/EDGE/UMTS/HSDPA	GSM/GPRS/EDGE/UMTS/HSDPA
Quad-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. of Ethernet Ports	1	1	1	1
Ethernet Interface	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps	10/100/1000 Mbps
Baud Rate	50 bps ~ 921.6 kbps	50 bps ~ 921.6 kbps	50 bps ~ 921.6 kbps	50 bps ~ 921.6 kbps
Operation Mode / Software Feature	Virtual COM, Reverse Virtual COM, TCP Server, TCP Client, UDP, SMS Tunnel Mode	Virtual COM, Reverse Virtual COM, TCP Server, TCP Client, UDP, SMS Tunnel Mode	Virtual COM, Reverse Virtual COM, TCP Server, TCP Client, UDP, SMS Tunnel Mode	Virtual COM, Reverse Virtual COM, TCP Server, TCP Client, UDP, SMS Tunnel Mode
Utility	Windows 2000/XP/Vista/7, Web Console	Windows 2000/XP/Vista/7, Web Console	Windows 2000/XP/Vista/7, Web Console	Windows 2000/XP/Vista/7, Web Console
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Programmable Cellular IP Gateways

NEW



NEW



Model Name	EKI-1321P	EKI-1322P
Product Description	1-port Serial to GPRS Programmable IP Gateway	2-port Serial to GPRS Programmable IP Gateway
Cellular Interface	GSM/GPRS	GSM/GPRS
Quad-band options	850/900/1800/1900 MHz	850/900/1800/1900 MHz
No. of Serial Ports	1	2
No. of Ethernet Ports	1	1
Ethernet Interface	10/100/1000 Mbps	10/100/1000 Mbps
CPU	ARM11	ARM11
CPU Speed	300 MHz	300 MHz
Flash	32 MB	32 MB
SDRAM	128 MB	128 MB
SD Slot	v	v
OS	uClinux 2.6	uClinux 2.6
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Serial Device Server Selection Guide

Serial Device Servers



Model Name	EKI-1351	EKI-1352	EKI-1361	EKI-1362	EKI-1521	EKI-1522	EKI-1524	EKI-1528C
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 to 802.11b/g/n WLAN Serial Device Server	2-port RS-232/422/485 to 802.11b/g/n 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	8-ports RS-422/485 Serial Device Server
No. of Ethernet Port	-	-	1	1	2	2	2	2
No. of Serial Port	1	2	1	2	1	2	4	8
Ethernet Interface	-	-	10/100/1000 Mbps	10/100/1000 Mbps	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100/1000 Mbps
WLAN	802.11b/g	802.11b/g	802.11b/g/n	802.11b/g/n	-	-	-	-
Serial Type	RS-232/422/485							RS-422/485
Connector	Ethernet	-	-	RJ45	RJ45	RJ45	RJ45	RJ45
	Serial	DB9 Male	DB9 Male	DB9 Male	DB9 Male	DB9 Male	DB9 Male	RJ45
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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- 2 Hazardous Location
- 3 Energy Automation
- 4 Building Automation Systems
- 5 Automation Software
- 6 Operator Panels
- 7 Automation Panel PCs
- 8 Industrial Monitors
- 9 Industrial Ethernet
- 10 Device Servers & Gateways
- 11 Serial Communication Cards
- 12 Embedded Auto. Computers
- 13 PACs
- 14 M2M I/O
- 15 Distributed Nano Controllers
- 16 RS-485 I/O
- 17 Ethernet I/O
- 18 DAQ Boards

Serial Device Server Selection Guide

Programmable Device Servers



NEW



Model Name	EKI-1121L	EKI-1122L	EKI-1124L	EKI-1528PC
Product Description	1-port Programmable Device Server	2-port Programmable Device Server	4-port Programmable Device Server	8-port RS-422/485 Programmable Serial Device Server w/ Isolation
No. of Ethernet Port	2	2	2	2
No. of Serial Port	1	2	4	8
Ethernet Interface	10/100 Mbps	10/100 Mbps	10/100 Mbps	10/100/1000 Mbps
Serial Type	RS-232/422/485	RS-232/422/485	-	RS-422/485 (Isolation)
CPU	ARM7	ARM7	ARM7	ARM11
CPU Speed	80 MHz	80 MHz	80 MHz	300 MHz
Flash	8 MB	8 MB	8 MB	32 MB
SDRAM	16 MB	16 MB	16 MB	128 MB
USB	-	-	-	-
SD Slot	-	-	-	v
OS	uClinux 2.4	uClinux 2.4	uClinux 2.4	uClinux 2.6
Certification Class I, Division 2	v	v	v	v
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Accessories



Model Name	OPT1-DB9	OPT1A	OPT1D	OPT1I	OPT1J
Length	-	1 m	30 cm	1 m	30 cm
Communication Interfaces	Connector Type	DB9 Female	RJ48	RJ48	RJ45
	Qty	1	1	1	1
	Connector Type	Terminal	DB9 Male	DB9 Male	DB9 Male
	Qty	1	1	1	1
Where Used	EKI-1000 Series, ADAM-4570 Series		ADAM-4570, ADAM-4570L		EKI-1526, EKI-1528
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Modbus Gateway 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 Cascading Ethernet	2-port Modbus Gateway with Integrated Cascading Ethernet	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	10/100 Mbps					
Serial Type	RS-232/422/485, software selectable					
Ethernet Feature	Daisy-Chain Connectivity		Dual Ethernet Redundancy			-
Configuration	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
	Serial	Screw Terminal	DB9	DB9
Protection	Isolation	3,000 V _{DC} (RS-232/422/485)	2,500 V _{DC}	-
	Surge	-	-	2,500 V _{DC}
Driver	Windows 2000/XP	Windows 2000/XP	Windows 2000/XP/Vista/7	Windows 2000/XP/Vista/7
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- 16 RS-485 I/O
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Cellular IP Gateways Introduction

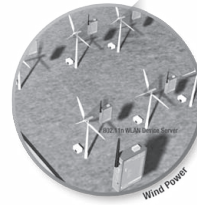
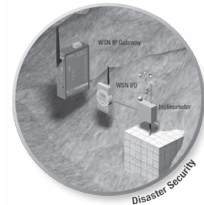
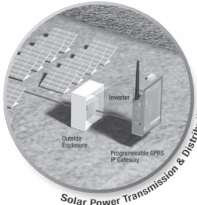
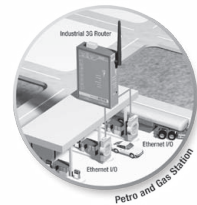
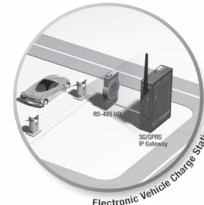
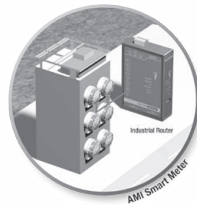


IoT (Internet of Things) architecture is divided into four layers: sensor, network, service and application. As the internet greatly increased people-to-people interactions, the IoT greatly increases people-to-object and object-to-object interactions. The network layer represents access to all object data via wireless networks and the internet coverage in a real-time data stream. The Intelligent Cellular IP Gateways in the network layer of IoT architecture link all the objects, devices and transmit sensor information through reliable wired and wireless communication (3G, GPRS, Wi-Fi, Zigbee) networks. The goal and objective is to build up "ubiquitous networks connected to all objects".

Key Features

- Compact and simple
- Extremely versatile gateway features
- Dual SIM slots for connection redundancy
- Extra SD slot for data buffering and auto recovery
- Provides NAT with VPN
- Universal quad-band GSM/GPRS 850/900/1800/1900 MHz
- Universal five-band UMTS/HSPA 850/800/900/1900/2100 MHz

Application



Product Portfolio



EKI-1321
EKI-1322

1/2-port RS-232/422/485 to
GPRS IP Gateways



EKI-1331
EKI-1332

1/2-port RS-232/422/485 to
3G IP Gateways



EKI-1321P
EKI-1322P

1/2-port RS-232/422/485 to
GPRS Programmable IP Gateways

EKI-1321 EKI-1322

**1-port RS-232/422/485 to GPRS
IP Gateway**

**2-port RS-232/422/485 to GPRS
IP Gateway**

NEW



Features

- Universal quad-band GSM/GPRS 850/900/1800/1900 MHz
- Dual SIM for telecom redundancy
- SD slot with extra SD card for data buffering
- Connect Ethernet and Serial Devices over VPN
- Various operation modes: COM port redirector, RVCOM, TCP, UDP, SMS tunnel, and pair connection
- Any baud rate setting for easy configuration
- Built-in 15 KV ESD protection for all serial signals
- 1.5 KV isolation protection (EKI-1321)
- 2 digital inputs (EKI-1321)
- Multiple configuration methods: Windows utility, Telnet, and Web console
- Supports 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux

Introduction

EKI-1321 and EKI-1322 are cellular gateways that can transparently bring RS-232/422/485 or Ethernet devices to a cellular network. They allow nearly any device with serial or Ethernet ports to connect and share a cellular network with easy and simple configuration. EKI-1321 and EKI-1322 GPRS IP Gateway's are compact, and can be DIN-rail or wall mounted and with both front panel and side panel LED displays for easy identification. They come with dual DC power input from 12 to 48 V_{DC} and have 2 KV EFT/Surge protection to prevent damage from various type of power resources. The serial ports are also protected by 15 KV ESD line protection to keep your system safe from unexpected electrical discharges. Both models support dual SIM slots to support GPRS signal redundancy to switch to an available channel automatically while the existing one is disconnected, and SD card slot for data buffering to prevent loss of serial data while the communication is interrupted.

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 ~ CS4
- **Tx Power** 1 W for GSM 1800/1900, 2 W for EGSM 850/900
- **No. of SIM** 2
- **SIM Control** 3 V

Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1321: 1, 2 KV isolation protection
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 Rates** 75 bps to 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

Relay Output

- **Channel** 1
- **Contact Rating** 0.5 A @ 120 V_{AC}
0.25 A @ 240 V_{AC}
2 A @ 30 V_{DC}
- **Relay off Time(Typ.)** 4 ms
- **Relay on Time(Typ.)** 3 ms

Digital Input (EKI-1321)

- **Channel** 2
- **Input Level** Logic level 0: 1 V Maximum
Logic level 1: 3 ~ 30 V

General

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

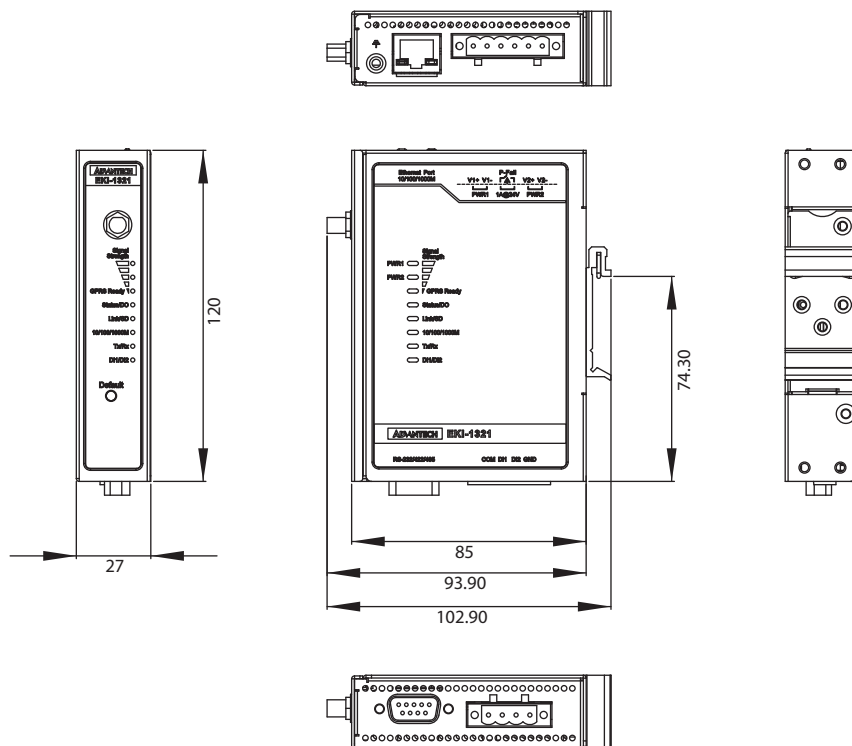
Software

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- **Utility Software** Advantech Serial Device Server Configuration Utility
- **Operating Modes** Virtual COM, Reverse Virtual COM, TCP/UDP server mode, TCP/UDP client mode, Pair connection mode (Serial Tunnel), RFC2217, SMS Tunnel, IP Gateway w/ VPN
- **Network Protocols** ICMP, TCP/IP, UDP, DHCP Client, Telnet, DNS, SNMP, HTTP, HTTPS, SMTP, SNMP, ARP, SSL
- **Router/Firewall** NAT, port forwarding

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Dimensions

Unit: mm



Mechanics

- **Dimensions (W x H x D)** 27 x 120 x 85 mm (1.06" x 4.72" x 3.35")
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Wall
- **Weight** 0.49 Kg

Power Requirements

- **Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1321: 6 W, EKI-1322: 6.5 W
- **Power EFT/Surge Prot.** 2 KV

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, EN301 489-7,
EN301 511

Ordering Information

- **EKI-1321** 1-port GPRS IP Gateway
- **EKI-1322** 2-port GPRS IP Gateway
- **OPT1-DB9** DB9 to Terminal Connector

EKI-1331

EKI-1332

1-port RS-232/422/485 to 3G IP Gateway

2-port RS-232/422/485 to 3G IP Gateway

NEW



Features

- Universal five-band UMTS/HSPA 850/800/900/1900/2100 MHz
- Universal quad-band GSM/GPRS 850/900/1800/1900 MHz
- Dual SIM for telecom redundancy
- SD slot with extra SD card for data buffering
- Connect Ethernet and Serial devices over VPN
- Various operation modes: COM port redirector, RVCOM, TCP, UDP, SMS tunnel, and pair connection
- Any baud rate setting for easy configuration
- Built-in 15 KV ESD protection for all serial signals
- 1.5 KV isolation protection (EKI-1331)
- 2 digital inputs (EKI-1331)
- Multiple configuration methods: Windows utility, Telnet, and Web console
- Supports 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux

Introduction

EKI-1331 and EKI-1332 are cellular gateways that can transparently bring RS-232/422/485 or Ethernet devices to a cellular network. They allow nearly any device with serial or Ethernet ports to connect and share a cellular network with easy and simple configuration. EKI-1331 and EKI-1332 HSPA IP gateways are compact, and can be DIN-rail or wall mounted and have both front panel and side panel LED displays for easy identification. They come with dual DC power input from 12 to 48 V_{DC} and have 2 KV EFT/Surge protection to prevent damage from various type of power resources. The serial ports are also protected by 15 KV ESD line protection to keep your system safe from unexpected electrical discharges. Both models support dual SIM slots to support HSPA signal redundancy to switch to an available channel automatically while the existing one is disconnected and SD card slot for data buffering to prevent loss of serial data if the communication is interrupted.

Specifications

LAN Interface

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

Cellular Interface

- **Standard** GSM/GPRS/HSPA
- **HSPA Band** Five-band, 800/850/900/1900/2100 MHz
- **GSM/GPRS Band** Quad-band 850/900 and 1800/1900 MHz
- **HSPA UE CAT.** 1-12 supported w/ Compressed mode
- **GPRS Multi-Slot** Class 10
- **GPRS Terminal Device** Class B
- **GPRS Coding Schemes** CS1 ~ CS4
- **Tx Power** 0.25 W for HSPA, 1 W for GSM 1800/1900, 2 W for EGSM 850/900
- **No. of SIM** 2
- **SIM Control** 1.8 V and 3 V

Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1331: 1, 2 KV isolation protection
EKI-1332: 2
- **Port Connector** DB9 male
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **Baud Rates** 75 bps to 921.6 kbps, any baud rate setting
- **Serial Signals** RS-232: Tx+, Tx-, CTS, RTS, DTR, DSR, DCD, RI, GND
RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485: Data+, Data-, GND
15 KV ESD for all signals
- **Protection**

Relay Output

- **Channel** 1
- **Contact Rating** 0.5 A @ 120 V_{AC}, 0.25 A @ 240 V_{AC}, 2 A @ 30 V_{DC}
- **Relay off Time(Typ.)** 4 ms
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- **Input Level** Logic level 0: 1 V Max
Logic level 1: 3 ~ 30 V

General

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

Software

- **Driver Support** 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
Advantech Serial Device Server Configuration Utility
Virtual COM, Reverse Virtual COM, TCP/UDP server mode, TCP/UDP client mode, Pair connection mode (Serial Tunnel), RFC2217, SMS Tunnel, IP Gateway w/ VPN
- **Utility Software** ICMP, TCP/IP, UDP, DHCP Client, Telnet, DNS, SNMP, HTTP, HTTPS, SMTP, SNT, ARP, SSL
- **Operating Modes** NAT, port forwarding
- **Network Protocols**
- **Router/Firewall**

Mechanics

- **Dimensions (W x H x D)** 27 x 120 x 85 mm (1.06" x 4.72" x 3.35")
- **Enclosure** Metal with solid mounting hardware
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- **Weight** 0.49 Kg

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- **Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1331: 6 W, EKI-1332: 6.5 W
- **Power EFT/Surge Prot.** 2 KV

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, EN301 489-7, EN301 511

Ordering Information

- **EKI-1331** 1-port 3G IP Gateway
- **EKI-1332** 2-port 3G IP Gateway
- **OPT1-DB9** DB9 to Terminal Connector

1

Motion Control

2

Hazardous Location

3

Energy Automation

4

Building Automation Systems

5

Automation Software

6

Operator Panels

7

Automation Panel PCs

8

Industrial Monitors

9

Industrial Ethernet

10

Device Servers & Gateways

11

Serial Communication Cards

12

Embedded Auto. Computers

13

PACs

14

M2M I/O

15

Distributed Nano Controllers

16

RS-485 I/O

17

Ethernet I/O

18

DAQ Boards

EKI-1321P EKI-1322P

1-port RS-232/422/485 to
GPRS Programmable IP Gateway

2-port RS-232/422/485 to
GPRS Programmable IP Gateway

NEW



Features

- Universal quad-band GSM/GPRS 850/900/1800/1900 MHz
- Dual SIM for telecom redundancy
- SD slot with extra SD card for data buffering
- Connect Ethernet and programmable serial devices
- Any baud rate setting for easy configuration
- Built-in 15 KV ESD protection for all serial signals
- 1.5 KV isolation protection (EKI-1321P)
- 2 digital inputs (EKI-1321P)
- Design, develop and debug the codes with friendly toolset
- Built-in real-time clock (RTC)
- Pre-installed Linux Kernel 2.6 platform

Introduction

EKI-1321P and EKI-1322P are programmable cellular gateways and users can program and debug owned codes in real-time to transparently bring RS-232/422/485 or Ethernet devices to a cellular network. EKI-1321P and EKI-1322P GPRS IP Gateway's are compact, and can be DIN-rail or wall mounted and with both front panel and side panel LED displays for easy identification. They come with dual DC power input from 12 to 48 V_{DC} and have 2 KV EFT/Surge protection to prevent damage from various type of power resources. The serial ports are also protected by 15 KV ESD line protection to keep your system safe from unexpected electrical discharges. Both models support dual SIM slots to support GPRS signal redundancy to switch to an available channel automatically while the existing one is disconnected, and SD card slot for data buffering to prevent loss of serial data while the communication is interrupted.

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 1 W for GSM 1800/1900, 2 W for EGSM 850/900
- No. of SIM 2
- SIM Control 3 V

Serial Communications

- Port Type RS-232/422/485, software selectable
- No. of Ports EKI-1321P: 1, isolation
EKI-1322P: 2
- Port Connector DB9 male
- Data Bits 5, 6, 7, 8
- Stop Bits 1, 1.5, 2
- Parity None, Odd, Even, Space, Mark
- Baud Rates 75 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
15 KV ESD for all signals
- Protection

Relay Output

- Channel 1
- Contact Rating 0.5A @ 120 V_{AC}, 0.25 A @ 240 V_{AC}, 2 A @ 30 V_{DC}
- Relay off Time(Typ.) 4 ms
- Relay on Time(Typ.) 3 ms

Digital Input (EKI-1321P)

- Channel 2
- Input Level Logic level 0: 1 V Max
Logic level 1: 3 ~ 30 V

General

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

Software (uClinux)

- Kernel Version 2.6.31
- Protocol Stack TCP, UDP, IPv4, IPv6, ICMP, ARP, SNMP V1/V2c, HTTP, DHCP, NTP, NFS, SMTP, Telnet, FTP, PPP, PPPoE
- File System JFFS2
- System Utility busybox, telnet, ftp, sash, ftp
- Daemon pppd, snmpd, telnetd, inetd, ftpd, boa
- Linux Tool Chain ARM GCC C/C++ PC Cross Compiler
POSIX Standard Library

Mechanics

- Dimensions (W x H x D) 27 x 120 x 85 mm (1.06" x 4.72" x 3.35")
- Enclosure Metal with solid mounting hardware
- Mounting DIN-rail, Wall
- Weight 0.49 Kg

Power Requirements

- Power Input 12 ~ 48 V_{DC}, redundant dual inputs
- Power Connector Terminal block
- Power Consumption EKI-1321P: 6 W, EKI-1322P: 6.5 W
- Power EFT/Surge Prot. 2 KV

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
FCC Part22H/Part24E, EN301 489-1, EN301 489-7, EN301 511
- RF

Ordering Information

- EKI-1321P 1-port Serial to Programmable GPRS IP Gateway
- EKI-1322P 2-port Serial to Programmable GPRS IP Gateway
- OPT1-DB9 DB9 to Terminal Connector

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**



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 100 m
- **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: Tx+, Rx+, CTS, RTS, DSR, DCD, RI, GND
RS-422: Tx+, Tx-, Rx+, Rx-, 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

Features

- Link any serial device to an IEEE 802.11b/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 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- 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

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-1351: 0.595 Kg
EKI-1352: 0.603 Kg

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

- 1 Motion Control
- 2 Hazardous Location
- 3 Energy Automation
- 4 Building Automation Systems
- 5 Automation Software
- 6 Operator Panels
- 7 Automation Panel PCs
- 8 Industrial Monitors
- 9 Industrial Ethernet
- 10 Device Servers & Gateways
- 11 Serial Communication Cards
- 12 Embedded Auto. Computers
- 13 PACs
- 14 M2M I/O
- 15 Distributed Nano Controllers
- 16 RS-485 I/O
- 17 Ethernet I/O
- 18 DAQ Boards

EKI-1361

EKI-1362

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

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



Features

- Link any serial device to an IEEE 802.11b/g/n 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 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- Allows a max. of 4 hosts to be accessed as TCP client mode
- Built-in 15 KV ESD protection for all serial signals
- Built-in 1.5 KV isolation protection (EKI-1361)
- 2 digital inputs (EKI-1361)
- Supports DHCP protocol
- Supports secure access with WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise

Introduction

EKI-1361 and EKI-1362 are wireless serial device servers that bring RS-232/422/485 to wireless LAN. They allow nearly any device with serial ports to connect and share an WLAN network. EKI-1361 and EKI-1362 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-1361 and EKI-1362, 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 LAN side. This data can be sent bilaterally. Thus, the EKI-1361 and EKI-1362 are especially suitable for remote monitoring environments such as security systems, factory automaton, SCADA, transportation and more.

Specifications

Ethernet Communications

- **Compatibility** IEEE 802.11b/g/n
- **Speed** 11/54/150 Mbps
- **Network Mode** Infrastructure, Ad-Hoc
- **Antenna Connector** Reverse SMA
- **Free Space Range** Open space 100 m
- **Wireless Security** WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise

Serial Communications

- **Port Type** RS-232/422/485, software selectable
- **No. of Ports** EKI-1361: 1, isolation
EKI-1362: 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
2 KV isolation protection (EKI-1361)

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)** 27 x 120 x 85 mm (1.06" x 4.72" x 3.35")
- **Enclosure** Metal with solid mounting hardware
- **Mounting** DIN-rail, Wall
- **Weight** EKI-1361: 0.495 Kg
EKI-1362: 0.503 Kg

General

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

Power Requirements

- **Power Input** 12 ~ 48 V_{DC}, redundant dual inputs
- **Power Connector** Terminal block
- **Power Consumption** EKI-1361: 3.5 W
EKI-1362: 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)

Ordering Information

- **EKI-1361** 1-port 802.11b/g/n WLAN Serial Device Server
- **EKI-1362** 2-port 802.11b/g/n WLAN Serial Device Server
- **OPT1-DB9** D-Sub9 to Terminal Converter

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



EKI-1521

EKI-1522

EKI-1524



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 32-bit/64-bit Windows 2000/XP/Vista/7, Windows Server 2003/2008, Windows CE 5.0, and Linux
- 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: Tx+, Rx-, CTS, RTS, DTR, DSR, DCD, RI, GND
RS-422: Tx+, Tx-, Rx+, Rx-, 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
Windows utility, Telnet console, Web Browser
- Configuration** ICMP, IP, TCP, UDP, BOOTP, DHCP, Auto IP, Telnet,
- Protocol** 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 (1.46" x 5.51" x 3.74")
EKI-1524: 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-1521: 0.592 Kg
EKI-1522: 0.6 Kg
EKI-1524: 0.668 Kg

General

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

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: 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
- MTBF** EKI-1521: 1,102,913 hours
EKI-1522: 1,000,154 hours
EKI-1524: 862,230 hours
- 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
- OPT1-DB9** D-Sub9 to Terminal Converter

- 1 Motion Control
- 2 Hazardous Location
- 3 Energy Automation
- 4 Building Automation Systems
- 5 Automation Software
- 6 Operator Panels
- 7 Automation Panel PCs
- 8 Industrial Monitors
- 9 Industrial Ethernet
- 10 Device Servers & Gateways
- 11 Serial Communication Cards
- 12 Embedded Auto. Computers
- 13 PACs
- 14 M2M I/O
- 15 Distributed Nano Controllers
- 16 RS-485 I/O
- 17 Ethernet I/O
- 18 DAQ Boards

EKI-1528C

8-port RS-422/485 Serial Device Server w/ Isolation

NEW



Features

- 8-port RS-422/485 serial communication w/isolation
- Provides 2 x 10/100/1000 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
- Build-in SD slot for SD card and data buffering
- Provides rich configuration methods: Windows utility, Telnet console, and Web Browser
- Built-in 15 KV ESD protection and 2 KV isolation protection for all serial signals
- SNMP MIB-II for network management
- Built-in buzzer for easy location
- Automatic RS-485 data flow control
- Compact and Rugged form factor w/ DIN-rail and Wall mount

Introduction

EKI-1528C are industrial-grade network-based serial device servers for connecting up to 8 serial RS-422/485 devices, such as CNCs, PLCs, and scales, directly to a TCP/IP network. The EKI-1528C features two independent Gigabit Ethernet ports and MAC addresses to provide a redundant network mechanism to guarantee Ethernet network reliability. The EKI-1528C provides a simple and cost-effective way to bring the advantages of remote management and data accessibility to thousand of devices that cannot connect to Ethernet network. The EKI-1528C build-in isolation protection for serial signal and SD slot to support data buffering feature while Ethernet network disconnected.

Specifications

Ethernet Communications

- **Compatibility** IEEE 802.3, IEEE 802.3u
- **Speed** 10/100/1000 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-422/485 w/ isolation, software selectable
- **No. of Ports** 8
- **Port Connector** Terminal block
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **Flow Control** XON/XOFF
- **Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- **Serial Signals** RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485: Data+, Data-, GND
- **Protection** 15 KV ESD for all signals
2 KV isolation 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
- **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 (W x H x D)** 55 x 152 x 106 mm (2.17" x 5.98" x 4.17")
- **Enclosure** SECC chassis
- **Mounting** DIN-rail, Wall
- **Weight** 1.05 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** 12 ~ 48 V_{DC}
- **Power Consumption** 8 W

Environment

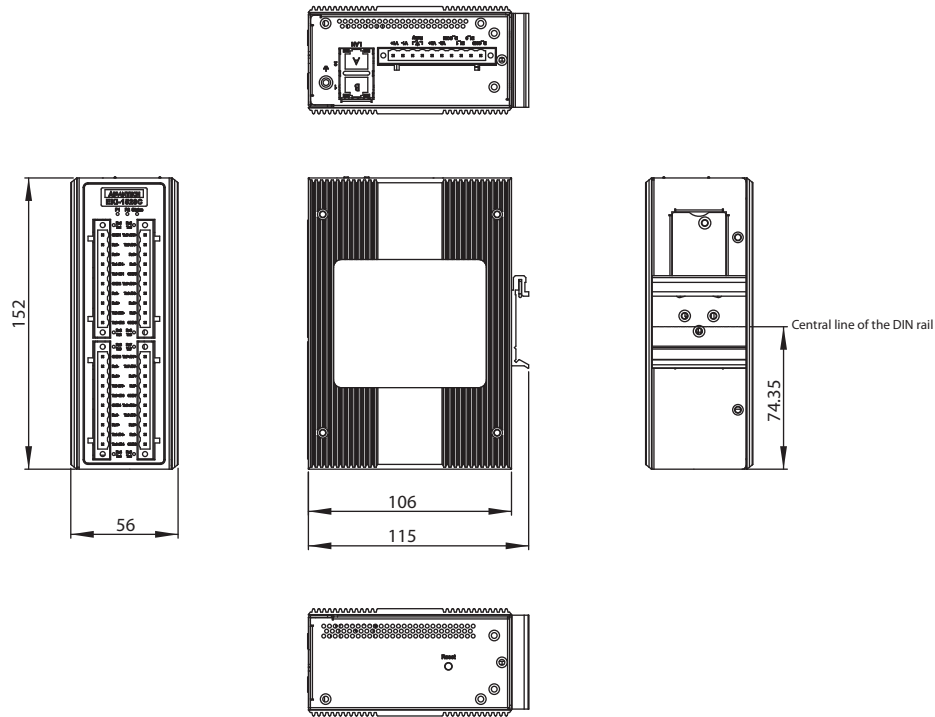
- **Operating Temperature** -10 ~ 60°C (14 ~ 140°F)
- **Storage Temperature** -40 ~ 85°C (-40 ~ 185°F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class A)
- **MTBF** 252,946 hours

Dimensions

Unit: mm



Ordering Information

- **EKI-1528C** 8-port RS-422/485 Serial Device Server w/ Isolation

1	Motion Control
2	Hazardous Location
3	Energy Automation
4	Building Automation Systems
5	Automation Software
6	Operator Panels
7	Automation Panel PCs
8	Industrial Monitors
9	Industrial Ethernet
10	Device Servers & Gateways
11	Serial Communication Cards
12	Embedded Auto. Computers
13	PACs
14	M2M I/O
15	Distributed Nano Controllers
16	RS-485 I/O
17	Ethernet I/O
18	DAQ Boards

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 (W x H x D)** 440 x 44 x 220 mm (17.32" x 1.73" x 8.66")
- **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

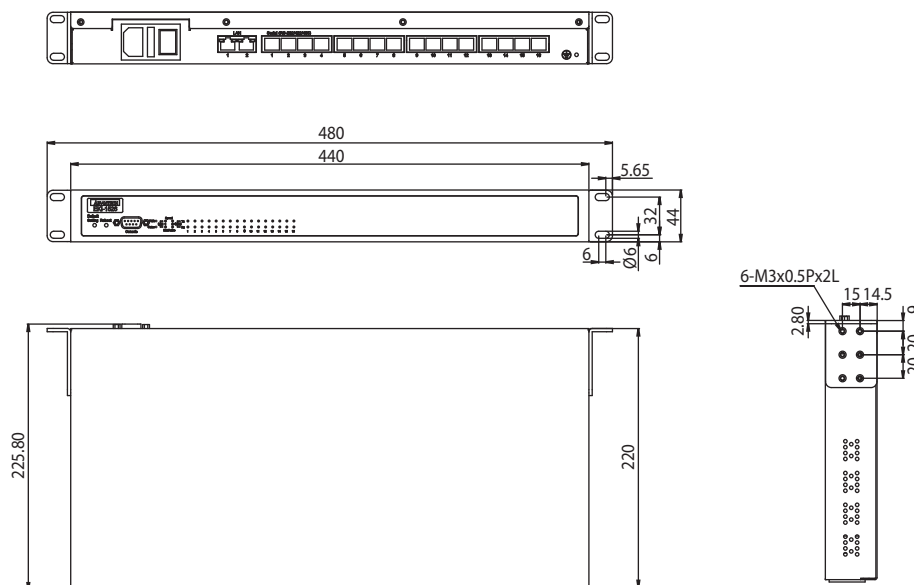
- **Operating Temperature** -10 ~ 60°C (14 ~ 140°F)
- **Storage Temperature** -20 ~ 80°C (-4 ~ 176°F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

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

Dimensions

Unit: mm



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

- **OPT1-DB9** D-Sub9 to Terminal Converter
- **OPT1I** 1 m RJ45 to DB9 Male Cable
- **OPT1J** 30 cm RJ45 to DB9 Male Cable
- **1702002600** Power Cable US Plug 1.8 m
- **1702002605** Power Cable EU Plug 1.8 m
- **1702031801** Power Cable UK Plug 1.8 m
- **1702031836** Power Cable China/Australia Plug 1.8 m

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 RJ45
- **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 (W x H x D)** 70 x 130 x 30 mm (2.76" x 5.12" x 1.18")
- **Enclosure** ABS+PC with solid mounting hardware
- **Mounting** Stack, Wall
- **Weight** ADAM-4571/4571L: 135 g
ADAM-4570/4570L: 160 g

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 Temperatures** -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-1121L EKI-1122L EKI-1124L

1-port Programmable Device Server

2-port Programmable Device Server

4-port Programmable Device Server



EKI-1121L

EKI-1122L

EKI-1124L



Features

- ARM7 32-bit 80 MHz processor
- 8 MB Flash ROM on board
- 16 MB SDRAM
- 2 x 10/100 Mbps Ethernet ports for LAN redundancy
- 1, 2 or 4 software selectable RS-232/422/485 serial ports
- 50 bps ~ 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, EKI-1122L and EKI-1124L 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, EKI-1122L and EKI-1124L 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** RJ45
- 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 ~ 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 (W x H x D)** EKI-1121L/1122L: 37 x 140 x 95 mm (1.46" x 5.51" x 3.74")
EKI-1124L: 55 x 140 x 95 mm (2.17" x 5.51" x 3.74")
- Housing** Metal
- Weight** EKI-1121L: 0.592 Kg
EKI-1122L: 0.6 Kg
EKI-1124L: 0.668 Kg
- Mounting** DIN-rail, Wall

Power Requirements

- Input Voltage** 12 ~ 48 V_{DC}, redundant dual inputs
- Power Consumption** EKI-1121L: 2 W
EKI-1122L: 2.5 W
EKI-1124L: 4 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, inetd, 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-1124L** 4-port Programmable Device Server
- OPT1-DB9** D-Sub9 to Terminal Converter

- 1 Motion Control
- 2 Hazardous Location
- 3 Energy Automation
- 4 Building Automation Systems
- 5 Automation Software
- 6 Operator Panels
- 7 Automation Panel PCs
- 8 Industrial Monitors
- 9 Industrial Ethernet
- 10 Device Servers & Gateways
- 11 Serial Communication Cards
- 12 Embedded Auto. Computers
- 13 PACs
- 14 M2M I/O
- 15 Distributed Nano Controllers
- 16 RS-485 I/O
- 17 Ethernet I/O
- 18 DAQ Boards

EKI-1528PC

8-port RS-422/485 Programmable Serial Device Server w/ Isolation

NEW



Features

- 8 x RS-422/485 programmable serial communication w/ isolation
- Provides 2 x 10/100/1000 Mbps Ethernet ports for LAN redundancy
- Supports up to 921.6 kbps, and any baud rate setting
- Integrated SD slot for SD card and data buffering
- Built-in 15 KV ESD protection and 2 KV isolation protection for all serial signals
- SNMP MIB-II for network management
- Design, Develop and Debug the codes with friendly toolset
- Built-in buzzer for easy location
- Automatic RS-485 data flow control
- Compact and Rugged form factor w/ DIN-rail and Wall mount

Introduction

EKI-1528PC is an industrial-grade network-based programmable serial device server for connecting up to 8 serial RS-422/485 devices, such as CNCs, PLCs, and scales, directly to a TCP/IP network. The EKI-1528PC features two independent Gigabit Ethernet ports and MAC addresses to provide a redundant network mechanism to guarantee Ethernet network reliability. The EKI-1528PC provides a simple and cost-effective way to bring the advantages of remote management and data accessibility to thousands of devices that cannot connect to Ethernet network. The EKI-1528PC has built-in isolation protection for serial signal and built-in SD slot to support data buffering features when the Ethernet network is disconnected.

Specifications

Ethernet Communications

- **Compatibility** IEEE 802.3, IEEE 802.3u
- **Speed** 10/100/1000 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-422/485 w/ isolation, software selectable
- **No. of Ports** 8
- **Port Connector** Terminal block
- **Data Bits** 5, 6, 7, 8
- **Stop Bits** 1, 1.5, 2
- **Parity** None, Odd, Even, Space, Mark
- **Flow Control** XON/XOFF
- **Baud Rate** 50 bps ~ 921.6 kbps, any baud rate setting
- **Serial Signals** RS-422: TxD+, TxD-, RxD+, RxD-, GND
RS-485: Data+, Data-, GND
- **Protection** 15 KV ESD for all signals
2 KV isolation for all signals

Software

- **Kernel Version** 2.6.31
- **Protocol Stack** TCP, UDP, IPv4, IPv6, ICMP, ARP, SNMP V1/V2c, HTTP, DHCP, NTP, NFS, SMTP, Telnet, FTP, PPP, PPPoE
- **File System** JFFS2
- **System Utility** busybox, telnet, ftp, sash, tftp
- **Daemon** pppd, snmpd, telnetd, intd, ftpd, boa
- **Linux Tool Chain** ARM GCC C/C++ PC Cross Compiler
- **glibc** POSIX Standard Library

Mechanics

- **Dimensions (W x H x D)** 55 x 152 x 106 mm (2.17" x 5.98" x 4.17")
- **Enclosure** SECC chassis
- **Mounting** DIN-rail, Wall
- **Weight** 1.05 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** 12 ~ 48 V_{DC}
- **Power Consumption** 8 W

Environment

- **Operating Temperature** -10 ~ 70°C (14 ~ 158°F)
- **Storage Temperature** -40 ~ 85°C (-40 ~ 185°F)
- **Operating Humidity** 5 ~ 95% RH

Regulatory Approvals

- **EMC** CE, FCC Part 15 Subpart B (Class A)
- **MTBF** 252,946 hours

Ordering Information

- **EKI-1528PC** 8-port RS-422/485 Programmable Device Server w/ isolation

EKI-1221D

EKI-1222D

**1-port Modbus Gateway with
Integrated Ethernet Cascading**

**2-port Modbus Gateway with
Integrated Ethernet Cascading**



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 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 network-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 (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

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

1

Motion Control

2

Hazardous Location

3

Energy Automation

4

Building Automation Systems

5

Automation Software

6

Operator Panels

7

Automation Panel PCs

8

Industrial Monitors

9

Industrial Ethernet

10

Device Servers & Gateways

11

Serial Communication Cards

12

Embedded Auto. Computers

13

PACs

14

M2M I/O

15

Distributed Nano Controllers

16

RS-485 I/O

17

Ethernet I/O

18

DAQ Boards

EKI-1221 EKI-1222 EKI-1224

1-port Modbus Gateway

2-port Modbus Gateway

4-port Modbus Gateway



EKI-1221

EKI-1222

EKI-1224



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
- 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 and Wall mount
- 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 (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: 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
- **OPT1-DB9** D-Sub9 to Terminal Converter