

KPS3101/3102/3204

1, 2, 4-port standard serial-to-Ethernet Modbus gateways



- Convert between Modbus TCP and Modbus RTU/ASCII
- 1 or 2 Ethernet port and 1, 2, or 4 RS-232/422/485 serial ports
- 2 Ethernet ports with the same IP or dual IP addresses
- Per Ethernet port be accessed by up to 16 TCP master/client devices, or connect to 16 TCP slave/server devices
- Per serial port physically manage up to 128 serial master/slave nodes
- Easy hardware setup and configuration

Overview

The KPS3101, KPS3102, and KPS3204 gateways are redundant Modbus gateways that convert between Modbus TCP and Modbus RTU/ASCII protocols. For per Ethernet port, it can be accessed by up to 16 TCP master/client devices, or connect to 16 TCP slave/server devices. For per serial port, it can physically manage up to 128 serial master/slave nodes. All serial ports of gateways provides 2 kV isolation protection and all gateways are designed to easily integrate Modbus TCP and RTU/ASCII networks. Each RS-232/422/485 serial port can be configured individually for Modbus RTU or Modbus ASCII, allowing both types of networks to be integrated with Modbus TCP through one Modbus gateway.

The KPS3101, KPS3102 and KPS3204 support both Transparent mode and Agent mode. In Transparent mode, the gateway will check out Modbus TCP & Modbus RTU/ASCII protocol and transfer protocol between them. In Agent mode, two Modbus roles must be set. One is the Ethernet side (Modbus TCP), and the other is the serial side (Modbus RTU/ASCII). The gateways support a Modbus TCP function with Master (Client) and Slave (Server) modes. For slave mode, the gateway work as a server and waits for incoming connections from the Modbus TCP client. In master mode, the gateway work as a client and tries to build a TCP connection with the remote Modbus TCP slave device. In this mode, you will need to specify the IP address of the remote device and the relative Modbus command. The default TCP listen port is 502. In this mode, the gateways will wait for incoming Modbus TCP requests and use the internal memory as the slave register to respond.

Product Specifications

Ethernet Interface

Protocols	Modbus TCP
Number of ports	
▼ KPS3101/KPS3102: 1	
▼ KPS3204: 2	
Speed:	10/100 Mbps, Auto MDI/MDIX
Connector	8-pin RJ45
Magnetic Isolation Protection	1.5 kV (built-in)

Serial Interface

Protocols	Modbus RTU/ASCII Slave/Master
Number of ports	
▼ KPS3101: 1	
▼ KPS3102: 2	
▼ KPS3204: 4	
Serial Standards	RS-232/422/485, software selectable
Connector	DB9 male
ESD Protection	15 kV for all signals
Isolation Protection	2 kV
DIP-Switch	
▼ Enable/Disable 120Ω matching resistor for RS485	

Serial Communication Parameters

Data Bits	7, 8
Stop Bits	1, 2
Parity	None, Even, Odd, Space, Mark
Flow Control	XON/XOFF, RTS/CTS, None
Baudrate	300bps to 460.8kbps

Serial Signals

- ▼ RS-232: TxD, RxD, RTS, CTS, GND
- ▼ RS-422: Tx+, Tx-, Rx+, Rx-, GND
- ▼ RS-485: Data+, Data-, GND

Software

- OS Linux 3.6
- Terminal Server (SSH2)
- ▼ Provides secure encrypted communications

LEDs

- System PWR1, PWR2, Run
- Serial port S1-T/R, S2-T/R, S3-T/R, S4-T/R
- LAN ACT/LINK (RJ 45)

Buttons

- Function
- ▼ Supports "reset to factory default settings"

Physical Characteristics

- Housing Aluminum
- Weight KPS3101: 190g
KPS3102: 200g
KPS3204: 400g
- Dimension
 - ▼ KPS3101/KPS3102: 30x115x68 mm (WxHxD)
 - ▼ KPS3204: 54x135x106 mm (WxHxD)
- Protection level IP40
- Installation DIN-rail mounting

Environmental Limits

- Operating temperature -40 to 75°C
- Operating humidity 5 to 95% RH
- Storage temperature -40 to 85°C

Power Requirements

- Input voltage
 - ▼ 12 to 48 VDC, recommended 24 VDC
- Power terminal
 - ▼ 4-pin 5.08mm-spacing plug-in terminal block
- Power Consumption (KPS3101/3102/3204)
 - ▼ <5w
- Overload protection Support
- Reverse protection Support
- Redundancy protection Support

Standards and Certifications

- Approvals
 - ▼ UL61010, Class I Div 2, CE, FCC, RoHS
- EMI
 - ▼ EN 55022 Class A
 - ▼ FCC Part 15 Subpart B Class A
 - ▼ EN 55024
- EMS
 - ▼ IEC61000-4-2(ESD): ±6kV(contact),±8kV(air)
 - ▼ IEC 61000-4-3(RS): 10V/m (80MHz-2GHz)
 - ▼ IEC61000-4-4(EFT): Power Port:±2kV;Data Port:±1kV
 - ▼ IEC61000-4-5(Surge): PowerPort: ±1kV/DM, ±2kV/CM; Data Port:±1kV
 - ▼ IEC 61000-4-6 (CS): 10V(150KHz-80MHz)
- Mechanical standards
 - ▼ IEC60068-2-6(Vibration)
 - ▼ IEC60068-2-27(Shock)
 - ▼ IEC60068-2-32(Free Fall)

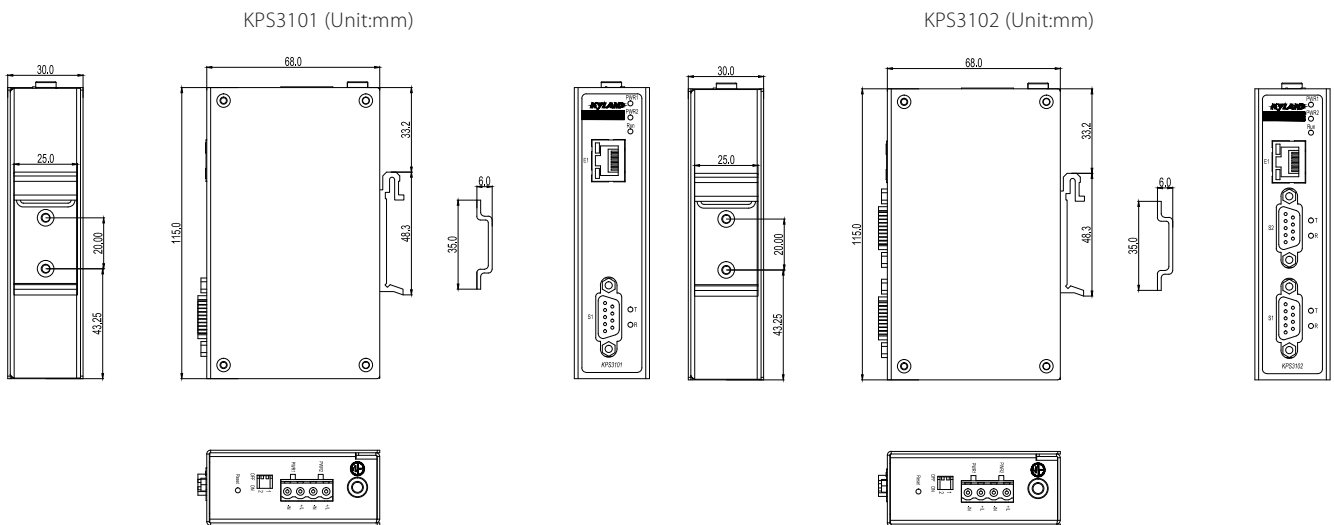
MTBF

More than 100000 hours

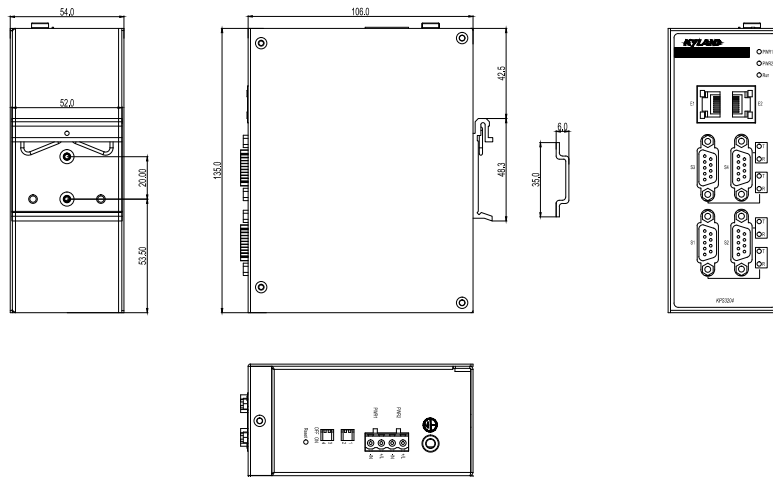
Warranty

Warranty Period: 5 years

Mechanical Drawing



KPS3204 (Unit:mm)



Ordering Information

Available Models

KPS3101-1T1D-M-L3-L3
 KPS3102-1T2D-M-L3-L3
 KPS3204-2T4D-M-L3-L3

1-port standard Modbus gateway
 2-port standard Modbus gateway
 4-port standard Modbus gateway

Packed checklist

- ▼ 1 KPS3101 or 1 KPS3102 or 1 KPS3204 Modbus gateway
- ▼ Documentation
- ▼ Warranty card