KPS2204 is a programmable serial server developed for the network applications of serial devices. KPS2204 combines Ethernet and serial data communication, and offers protocol transition between Ethernet and serial protocol. KPS2204 is specially designed for harsh and dangerous industrial environments. It has solid and closed enclosure, fanless design with single rib heat dissipation surface, EMC protection properties for power supply over current or over voltage, EMC protection properties for RJ45 and RS232/422/485 data ports. Dual power inputs also ensure the reliability of device.

KPS2204 supports 2 10/100Base-TX RJ45 ports and 4 RS232/422/485 serial ports which can be RS232, RS422 or RS485. It is a managed device which supports TELNET, WEB and SNMP based management software. The serial device server inside the KPS2204 is based on ARM embedded platform.

KPS1000 is the embedded board of serial device server which is the part of KPS2204. This embedded serial device server card can be installed in other devices enriching the serial server functionalities.

Features & Benefits

- Transmission Protocol: supports TCP and UDP protocols
- Network Management and Monitoring: supports Telnet, WEB management methods, SNMPv1/v2, DHCP
- Network Security: supports SSH, SSL
- Device Management: supports FTP/TFTP upgrade

Overview

KPS2204 is a programmable serial server developed for the network applications of serial devices. KPS2204 combines Ethernet and serial data communication, and offers protocol transition between Ethernet and serial protocol. KPS2204 is specially designed for harsh and dangerous industrial environments. It has solid and closed enclosure, fanless design with single rib heat dissipation surface, EMC protection properties for power supply over current or over voltage, EMC protection properties for RJ45 and RS232/422/485 data ports. Dual power inputs also ensure the reliability of device.

KPS2204 supports 2 10/100Base-TX RJ45 ports and 4 DB9 serial ports which can be RS232, RS422 or RS485. It is a managed device which supports TELNET, WEB and SNMP based management software. The serial device server inside the KPS2204 is based on ARM embedded platform.

KPS1000 is the embedded board of serial device server which is the part of KPS2204. This embedded serial device server card can be installed in other devices enriching the serial server functionalities.

Technical Specifications

Standard
IEEE 802.3i, IEEE 802.3z, IEEE802.3x

Protocol
TCP, UDP, FTP, TFTP, Telnet, HTTP, SNMPv1/v2, DHCP, SSL, SSH, ARP, TCP/IP, ICMP

Interface
Fast Ethernet RJ45 Ports: 2 10/100Base-TX RJ45 ports
Serial Ports: 4 RS232/RS422/RS485 ports with DB9 connector
Bit error rate of data transmission: 0
Electrical characteristic: compliant with 3-wire RS232, 4-wire RS422 and 2-wire RS485 standards
Data bits: 5, 6, 7, 8 (Default: 8)
Stop bits: 1, 1.5, 2 (Default: 1)
Parity bit: None, Even, Odd, Space, Mark (Default: None)
Flow control: XON/XOFF (Default: XOFF)
Baud rate: 50bps-1000Kbps (Default: 9600)

LED
LEDs on Front Panel:
Running LED: Run
Power LED: PWR1, PWR2
Interface LED: Link, ACT, copper ports, T1-T4, R1-R4 serial ports

Reset Button
Reboot and load default configuration
**Mechanical Drawing**

**Ordering Information**

- **KPS2204-2T-4D-232/422/485-24DC** = 2 10/100Base-TX RJ45 ports, 4 RS232/433/485 serial ports, 18-36VDC power supply

- **KPS2204-2T-4D-232/422/485-48DC** = 2 10/100Base-TX RJ45 ports, 4 RS232/433/485 serial ports, 36-72VDC power supply

- **KPS1000-EM-C-1T-4D-232/485-3.3DC** = Embedded serial device server, 1 10/100Base-TX RJ45 ports, 4 RS232/485 serial ports, 3.15-3.45VDC power supply, PCB coating

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**Transmission Distance**

Serial Cable: RS232: 15m, RS422/485: 1200m
Twisted Pair: 100m (Standard CAT5, CAT5e network cable)

**Power Requirements**

- **Power Input:**
  - KPS2204: 24DC (18-36VDC), 48DC (36-72VDC)
  - KPS1000: 3.3DC (3.15-3.45VDC)
- **Power Terminal:** 5-pin 0.08mm-spacing plug-in terminal block
- **Power Consumption:** 3W

  - Overload Protection: Support
  - Reverse Connection Protection: Support
  - Redundancy Protection: Support

**Physical Characteristics**

- **Housing:** Aluminum, fanless
- **Protection Class:** IP40
- **Dimensions (W×H×D):** 55.4x139x119.5 mm (2.18×5.47×4.70 in.)
- **Weight:**
  - KPS2204: 0.5kg (1.102 pound)
  - KPS1000: 0.05kg (0.11 pound)
- **Mounting:** DIN-Rail or Panel mounting

**Environmental Limits**

- **Operating Temperature:** -40 to 85°C (-40 to 185°F)
- **Storage Temperature:** -40 to 85°C (-40 to 185°F)
- **Ambient Relative Humidity:** 5 to 95% (non-condensing)

**MTBF**

333,755 hrs

**Warranty**

5 years

**Approvals**

CE, FCC

**Industrial Standard**

- **EMI:**
  - IEC61000-4-2 (ESD): ±8kV (contact), ±15kV (air)
  - IEC61000-4-3 (RS): 10V/m (80MHz-2GHz)
  - IEC61000-4-4 (EFT): Power Port: ±4kV, Data Port: ±2kV
  - IEC61000-4-5 (Surge): Power Port: ±2kV/DM, ±4kV/CM, Data Port: ±2kV
  - IEC61000-4-6 (CS): 3V (10kHz-150kHz), 10V (150kHz-80MHz)
  - IEC61000-4-16 (Common mode conduction): 30V (cont.), 300V (1s)
- **EMS:**
  - IEC60668-2-6 (Vibration)
  - IEC60668-2-27 (Shock)
  - IEC60668-2-32 (Free Fall)
- **Industry:** IEC61000-6-2
- **Power:** IEC61850-3, IEEE1613
- **Railway:** ENS0155, ENS0121-4
- **Traffic Control:** NEMA TS-2

**Transmission Distance**

Serial Cable: RS232: 15m, RS422/485: 1200m
Twisted Pair: 100m (Standard CAT5, CAT5e network cable)

**Power Requirements**

- **Power Input:**
  - KPS2204: 24DC (18-36VDC), 48DC (36-72VDC)
  - KPS1000: 3.3DC (3.15-3.45VDC)
- **Power Terminal:** 5-pin 0.08mm-spacing plug-in terminal block
- **Power Consumption:** 3W

  - Overload Protection: Support
  - Reverse Connection Protection: Support
  - Redundancy Protection: Support

**Physical Characteristics**

- **Housing:** Aluminum, fanless
- **Protection Class:** IP40
- **Dimensions (W×H×D):** 55.4x139x119.5 mm (2.18×5.47×4.70 in.)
- **Weight:**
  - KPS2204: 0.5kg (1.102 pound)
  - KPS1000: 0.05kg (0.11 pound)
- **Mounting:** DIN-Rail or Panel mounting

**Environmental Limits**

- **Operating Temperature:** -40 to 85°C (-40 to 185°F)
- **Storage Temperature:** -40 to 85°C (-40 to 185°F)
- **Ambient Relative Humidity:** 5 to 95% (non-condensing)