# Cport3101R

## 1 RS232/485 Din-Rail Ethernet Serial Server

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- 1xRS232/485 serial port,1x100Mbps Ethernet copper port
- Support serial terminal device networking,which can convert UDP, TCP, Modbus, HTTPD, WebSocket protocols, and support virtual serial ports
- Support conversion between Modbus RTU/ASCII and Modbus TCP protocols, and support Modbus RTU/ASCII Over TCP transparent transmission
- External independent hardware watchdog design to prevent crashes
- Industrial grade DC9-36V power supply and anti reverse connection protection
- Support a wide working temperature range of -40 ℃ to +85 ℃

## Product Description

Cport3101R is a din-rail 1* RS232/485 Ethernet serial server, using a 32-bit Arm Cortex-M7 core, with the main frequency up to 400MHz, and an external hardware watchdog design. The power supply, network port, and serial port all have high-level ESD, surge and EFT protection, strong anti-interference ability, and are designed to provide data transmission between serial port and Ethernet for industrial users. This product supports 1xRS232/485/422 serial port and 1x100Mbps copper port. It integrates the TCP/IP protocol stack internally, making it convenient, flexible, and fast to connect to Ethernet for RS232/485/422 devices.

This industrial grade Ethernet serial server supports WEB configuration for various network management functions, such as serial/ethernet working mode, DNS, network logs, serial port restart, system management, etc. It supports conversion modes of UDP/UDP Multicast, TCP Client/Server, Modbus RTU Master/Slave, Modbus ASCII Master/Slave, RealCOM_MCP/CCP/MW, Pair Connection Master/Slave, HTTPD Client and WebSocket Client, to convert serial ports to Ethernet or Modbus TCP protocol. In terms of core components, this product adopts an industrial grade quality design scheme, which has many advantages such as wide temperature and pressure, lightning resistance, electromagnetic interference resistance, high reliability, high performance, and suitability for operation in harsh environments. It can be used in industrial monitoring, traffic management, meteorology, water treatment, environmental monitoring, coal mining, petroleum,

chemical, new energy and other industries, for remote on-site data collection, remote monitoring, on-site control, etc. It is an essential industrial communication product for the development of industrial Internet of Things.

## Product Features

- Adopt 32-bit ARM Cortex-M7 core, running at a frequency up to 400MHz
- Serial port supports baud rates ranging from 600bps to 460800bps
- Support UDP/UDP Multicast mode, enabling fast and efficient point-to-point, point-to-multipoint, or multipoint-to-multipoint communication through UDP protocol
- Support TCP Client/Server mode, establishing session connections through TCP protocol. TCP Client supports up to 4 session connections, TCP Server supports up to 8 session connections, and supports RFC2217 instructions to dynamically modify communication parameters such as serial port baud rate
- Support Pair Connection Master/Slave mode, allowing devices to be used in pairs with simple operation
- Support Modbus RTU/ASCII Master/Slave mode, enabling conversion between Modbus TCP and Modbus RTU/ASCII protocols
- Support Modbus slave pre-reading, single port automatic learning up to 32 RTU or 16 ASCII instructions, achieving fast response
- Support RealCOM_ MCP/CCP/MW mode, mapping network to local COM, seamless connection
- Support HTTPD Client mode and can perform GET or POST operations with HTTPD servers
- Support WebSocket Client mode and can communicate bi-directional with WebSocket servers
- Support various subcontracting mechanisms to convert serial port data into Ethernet packets based on data length or time, meeting real-time requirements of different networks
- Support registration and heartbeat packets, enabling connection verification and connection status detection
- Support Modbus virtual IDs, mapping Modbus slave real IDs to virtual IDs for data communication, avoiding duplicate slave IDs
- Support serial communication parameters, working mode, sending and receiving frame statistics

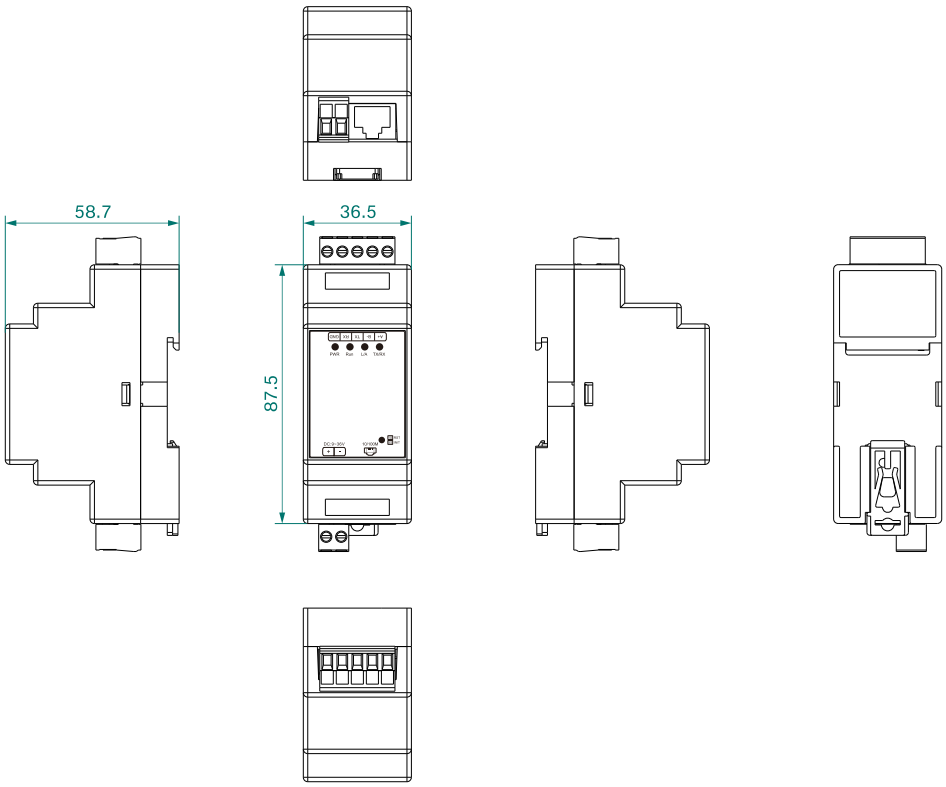
## Technical Specifications

| Software | |
|---|---|
| Network Protocol | IP, TCP/UDP, ARP, ICMP, DHCP, DNS, HTTP, RFC2217 |
| IP Obtaining Method | Static IP/DHCP |
| Domain Name Resolution | Supported |
| User Configuration | Web configuration |
| Simple Transparent Transmission | UDP/ UDP Multicast/ TCP Client/ TCP Server/ RealCOM/ Pair Connection |
| Modbus | Modbus RTU/ASCII to Modbus TCP |
| Serial Packaging Mechanism | The time and length can be set. The default value varies based on the baud rate. Maximum packaging length 1460 bytes |
| TCP Server Connection | Single serial port supports up to 8 TCP client connections |
| Network Cache | Send: 16Kbyte; Received: 16Kbyte |
| Serial Cache | Send: 1.5Kbyte; Received: 1.5Kbyte |
| Heartbeat Package | Support TCP Keepalive mechanism and customize heartbeat packet content |
| Registration Package | Custom registration package content |
| RFC2217 | Supported |
| HTTPD Client | Supported |
| Websocket Client | Supported |
| RealCOM | Support working modes such as Maiwe, Moxa and Kanghai |
| Average Transmission Delay | <10ms |
| Supporting Software | Network management configuration tool, virtual serial port software, MixView, MaxView |
| **Interface** | |
| 100M Copper Port | 1x10/100Base-T(X) auto-sensing RJ45ports, support full/half duplex, auto MDI/MDI-X |
| Serial Port | Serial port type: 1 RS232/485<br>Connection method: 5.08mm pitch 5-pin terminal block<br>Baud rate: 600bps~460800bps<br>Data bits: 7bit, 8bit |

| | |
|---|---|
| | Stop bit: 1 bit, 2 bit<br>Check bits: None, Odd, Even |
| Button | One-click restart or factory reset |
| Status LED | Power indicator<br>Operation indicator<br>Ethernet interface speed and connection/activity status indicator<br>Serial port sending and receiving data indicator |
| **Power Supply** | |
| Input Voltage | DC9~36V |
| Power Consumption | ＜0.8W@DC12V |
| Connection | 5.08mm pitch 2-pin terminal block |
| **Physical Characteristics** | |
| Dimensions | 87.5×36.5×58.7mm (Din-rail mounting clip excluded) |
| Installations | 35mm standard Din-rail mounting |
| IP Code | IP40 |
| **Working Environment** | |
| Operating Temp | -40℃~+85℃ |
| Storage Temp | -40℃~+85℃ |
| Relative Humidity | 5%~95% (non-condensing) |
| **Industry Standard** | |
| EMC | IEC 61000-4-2 (ESD): Contact discharge ±4kV, air discharge ±4kV<br>IEC 61000-4-5 (Surge): Power supply: Differential mode ±2kV<br>RS485: Differential mode ±2kV<br>Ethernet port: differential mode ±2kV<br>IEC 61000-4-4 (EFT): Power supply: ±0.5kV<br>Data port: ±0.5kV |
| Certification | CE, FCC, RoHS |

## Dimensions

Unit: mm



## Ordering Information

| Standard Model | 100M Copper Port | RS232/485 | Input Voltage |
|---|---|---|---|
| Cport3101R | 1 | 1 | DC9~36V |

## Contact Us

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