Cport3101-I

1×RS232/485/422 Isolated Port Wall-Mount Serial to Ethernet Converter

- 1 × RS232/485/422 isolated port to 1 × 10/100 Mbps Ethernet port
- Support UDP, TCP, Modbus, HTTPD, WebSocket, MQTT, and virtual serial port
- Support serial forwarding and transparent data transmission between serial ports.
- Support protocol conversion between Modbus RTU/ASCII and Modbus TCP, support Modbus RTU/ASCII over TCP transparent transmission
- Support standard MQTT protocols, including Alibaba Cloud, OneNet, Tencent Cloud, and Huawei Cloud
- External independent hardware watchdog designed to prevent crashes
- Support DC9~36V power input, reverse polarity protection
- High-strength metal shell with IP40-rated housing protection
- Fanless heat dissipation design, -40 ℃ ~ +85 ℃ working temperature range

Product Description

Cport3101-I, produced by Come-Star Communication, is a 1-port isolated RS232/485/422 wall-mount industrial-grade Ethernet Serial server. It is powered by a 32-bit ARM Cortex-M4 core with a main frequency of up to 288 MHz, and features an external independent hardware watchdog design to prevent system crashes. The power supply, Ethernet port, and serial port are all equipped with high-level ESD, Surge, and EFT protection, offering strong anti-interference capability. It is specifically designed for industrial users to enable reliable data transmission between serial interfaces and Ethernet networks.

This product supports 1 × RS232/485/422 serial port and 1 × 100 Mbps Ethernet port. With a built-in TCP/IP protocol stack, it allows serial devices that cannot directly access the network to connect to Ethernet networks easily, flexibly, and efficiently. It helps make industrial communication smoother, more reliable, and faster, meeting users' growing needs for innovative, value-added applications.

This industrial-grade Serial to Ethernet server supports multiple web-based management and configuration functions, including serial/network operation modes, network log management, serial restart, and system management. It supports a variety of communication and conversion modes such as UDP Client/Server/Multicast, TCP Client/Server, Modbus RTU Master/Slave, Modbus ASCII Master/Slave, RealCOM_MCP/CCP/MW, Pair Connection Master/Slave, HTTPD Client, WebSocket Client, and MQTT Client, enabling serial-to-Ethernet or Modbus TCP protocol conversion.

At the hardware level, the product adopts an industrial-grade design with wide temperature and voltage tolerance, lightning protection, strong electromagnetic interference resistance, high reliability, and excellent performance. It is suitable for harsh industrial environments and can be widely used in various industries, including industrial automation, traffic management, meteorology, water treatment, environmental monitoring, mining, petroleum, chemical processing, and new energy. It enables remote data acquisition, remote monitoring, and field control, serving as an essential communication device for the development of the Industrial Internet of Things (IIoT).

Product Features

- Adopt a 32-bit ARM Cortex-M4 processor running at up to 288 MHz
- Support selectable baud rates from 600bps to 460800bps
- Support UDP Client/Server/Multicast modes, enabling point-to-point, point-to-multipoint, or multipoint-to-multipoint communication through the UDP protocol for fast and efficient data transmission
- Support TCP Client/Server modes to establish session connections via the TCP protocol. The TCP Client supports up to 8 simultaneous connections, and the TCP Server supports up to 8 simultaneous connections. It also supports dynamic modification of serial port baud rate and other communication parameters via RFC2217 commands
- Support Pair Connection Master/Slave mode, allowing devices to be used in pairs with simple operation
- Support Modbus RTU/ASCII Master/Slave modes, realizing protocol conversion between Modbus TCP and Modbus RTU/ASCII
- Support Modbus Slave readahead, with automatic learning of up to 32 RTU or 16 ASCII instructions per port for fast response
- Support RealCOM_MCP/CCP/MW mode, mapping the network as a local COM port for seamless connection
- Support HTTPD Client mode to perform GET or POST operations with the HTTPD server
- Support WebSocket Client mode for two-way communication with a WebSocket server
- Support multiple packet segmentation mechanisms to convert serial data into Ethernet packets based on data length or time intervals, meeting different network real-time requirements
- Support frame header and frame tail mode, allowing the serial port to filter data frames according to the start and end bytes of a frame
- Support registration packets and heartbeat packets to achieve connection verification and connection status detection
- Support Modbus Slave address mapping, mapping the real Modbus Slave ID to a virtual ID for data communication to avoid ID duplication
- Support monitoring of serial communication parameters, working modes, and statistics of sent and received frames

Technical Specifications

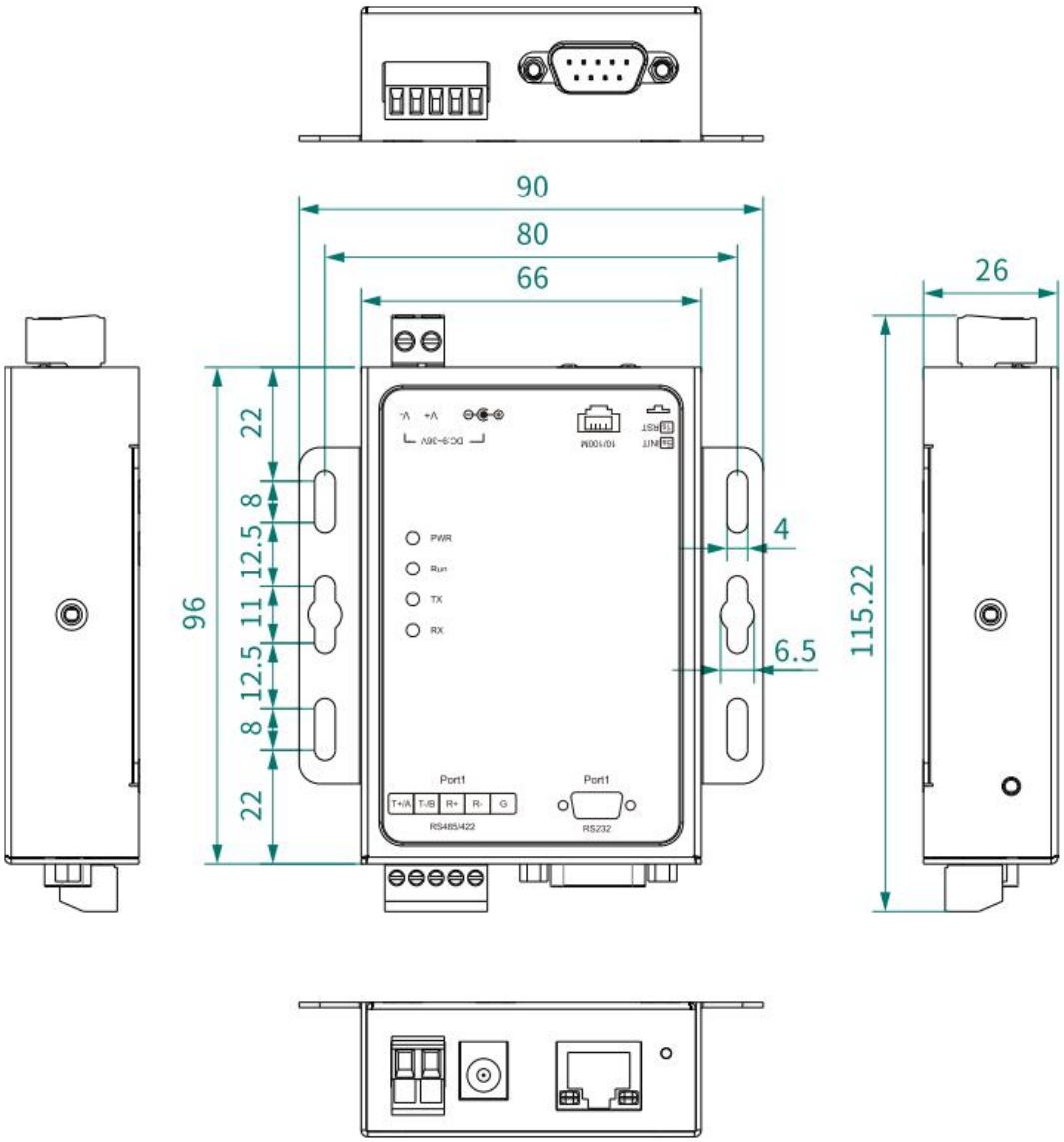
Software	
Network Protocol	IP, TCP, UDP, ARP, ICMP, DHCP Client, DNS, HTTP, RFC2217
IP Obtaining Method	Static IP/DHCP
DNS	Support
User Configuration	Web page configuration
Simple Transparent Transmission	UDP Client, UDP Server, UDP Multicast, TCP Client, TCP Server, RealCOM, Pair Connection
Modbus	Modbus RTU/ASCII to Modbus TCP
Serial Port Packaging Mechanism	Time and length adjustable; default value varies with baud rate; max. packet length 1460 bytes.
TCP Server Connection	Each serial port can connect up to 8 TCP clients
Network Buffer	Send:16Kbyte; Receive: 16Kbyte
Serial Buffer	Send:1.5Kbyte; Receive:1.5Kbyte
Heartbeat Package	Support TCP Keep-alive mechanism, customize heartbeat packet content
Registration Package	Support customizable registration packet content.
RFC2217	Support
HTTPD Client	Support
WebSocket Client	Support
RealCOM	Support Moxa, and Kanghai working mode
MQTT	Support standard MQTT cloud platforms, including Alibaba Cloud,

	OneNet, Tencent Cloud, and Huawei Cloud
Transmission Delay	<10ms
Supported Software	NMS configuration tool, Virtual COM software, MixView, MaxView
Interface	
100M Copper Port	1 x 10/100 Base-T(X) auto-sensing RJ45 port, full/half duplex, auto MDI/ MDI-X
Serial Port	Port type: 1×RS232/485/422 Connection: RS485/422: 5-position 5.08mm pitch terminal block RS232: DB9 Baud rate:600bps~460800bps Data bit:7bit, 8bit Stop bit:1bit, 2bit Parity bit: None, Odd, Even Terminal Resistance: Built-in RS485/422 terminal resistor Isolation voltage: 2kVDC
USB	1 × Type-A USB 2.0 interface for log storage.
Button	One-click restart, factory reset
Status LED	Power supply indicator, running indicator, Ethernet port indicator, serial port indicator
Power Supply	
Input Voltage	DC 9~36V
Power Consumption	＜1.5W@DC12V
Connection	2-pin 5.08 mm pitch terminal block or Φ2.5 mm DC barrel jack

Physical Characteristic	
Dimensions	96×90×26 mm (excluding connectors)
Installations	Wall-mount
IP Code	IP40
Weight	About 0.25kg
Working Environment	
Operating Temp	-40℃~+85℃
Storage Temp	-40℃~+85℃
Relative Humidity	5%~95% (non-condensing)
Industrial Standard	
EMC	IEC 61000-4-2 (ESD): Level 4 (Contact discharge ±8 kV, Air discharge ±15 kV) IEC 61000-4-5 (Surge): Level 4 (Power: Common mode ±4 kV, Differential mode ±4 kV; RS485/422: Common mode ±4 kV, Differential mode ±4 kV; Ethernet port: Common mode ±6 kV, Differential mode ±4 kV) IEC 61000-4-4 (EFT): Level 4 (Power: ±4 kV; Communication port: ±2 kV)
Certification	CE, FCC, RoHS

Dimensions

Unit: mm



Ordering Information

Standard Model	100M Copper Port	RS232/485/422	Input Voltage
Cport3101-I	1	1	DC 9~36V

Contact Us

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