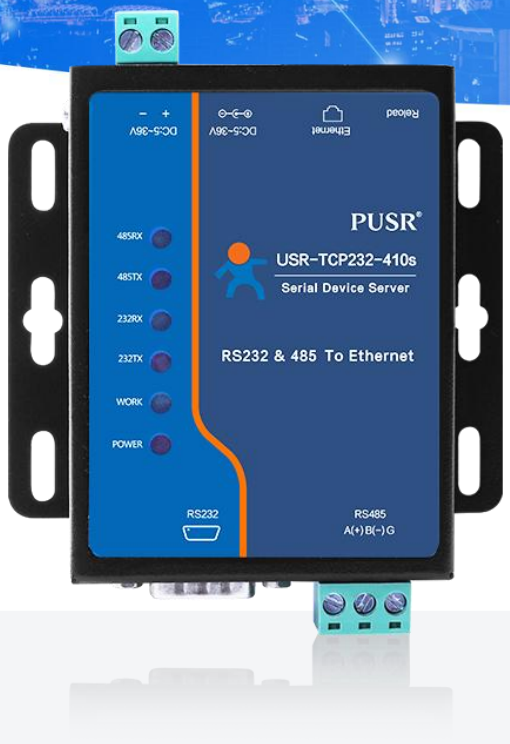
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of Industrial IOT

Industrial Serial Server Specification

USR-TCP232-410s



Introduction

USR-TCP232-410s is a multi-functional serial-to-Ethernet module that enables bidirectional transparent data transmission between Ethernet port and serial ports. USR-TCP232-410s is a dual serial port server, using the Cortex-M7 solution, the main frequency is up to 400MHz, with stronger performance, faster transmission speed and higher reliability. It comes with 1*RS232 and 1*RS485 serial ports, and the two serial ports can work simultaneously.

This serial device server supports various network protocols such as TCP/UDP/HTTP/MQTT etc., and can be easily configured via built-in webpage or Config Software. It also support SSL/TLS to ensure secure data communication and Modbus TCP/RTU protocol conversion. To reduce the remoter server's communication stress, TCP232-410S integrates edge computing function, the edge computing points up to 128.

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Product Features

- New ARM core, Cortex-M7 solution, equipped with deeply optimized TCP/IP protocol stack. It has low latency and strong scalability, stable and reliable.
- Support edge computing, the the edge computing points up to 128.
- Support MQTT+SSL, can connect to AWS, thingsboard platform.
- Built-in network electromagnetic isolation 1.5KV
- Wide power input: 5~36V, with reverse polarity protection.
- Equipped with 1*RS232+1*RS485 serial ports, can work simultaneously.
- Support RTS/CTS (Only RS232) hardware flow control and Xon/Xoff software flow control.
- 10/100Mbps Ethernet port and support Auto MDI/MCIX.
- Supports a wide industrial operating temperature, -40℃~85℃.
- Industrial EMC protection: ESD (Air±8KV, Contact(±6KV), Surge(±1KV), EFT(±1KV).
- Supports Modbus RTU/TCP protocol conversion and multi-host polling.
- Supports hardware watchdog, automatically restarts when the device goes down.
- Versatile operation modes: TCP Server, TCP Client, UDP, HTTP client, WebSocket Server.
- Support virtual COM, COM Port Redirector USR-VCOM (windows).
- Multiple config methods: AT command, built-in webpage, and config software.
- Support firmware upgrade through web page and configuration software, more convenient for users.

Dimensions

Unit: mm

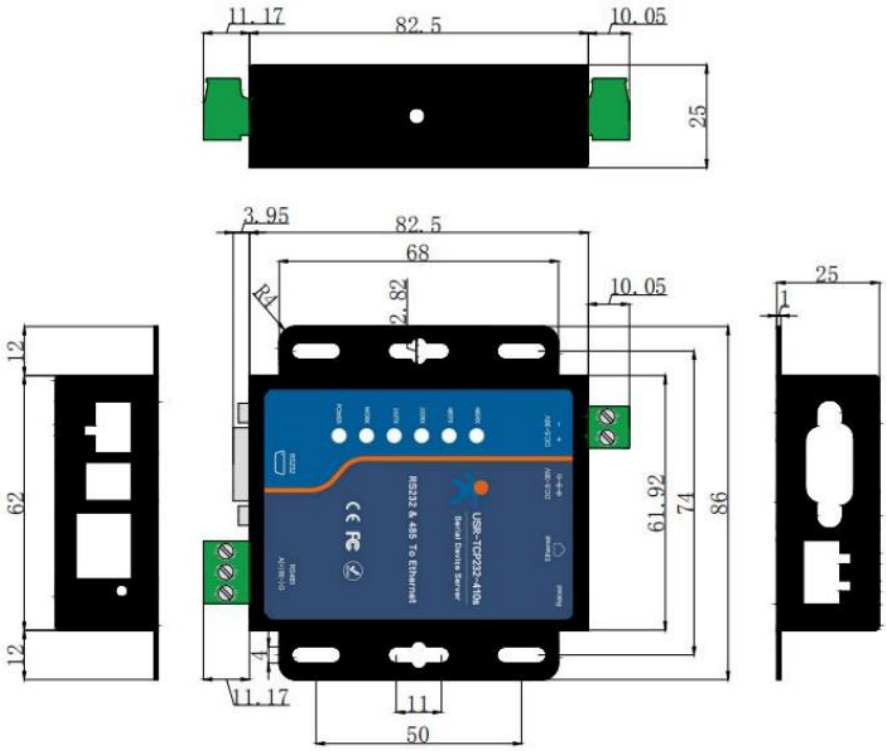


Fig1. Dimension of TCP232-410s

Specifications

Model	USR-TCP232-410s
Processor	ST Solution, Cortex-M7
Frequency	400MHz
Power	
Power Supply	DC 5.0 ~ 36.0 V, 67mA @12V
Ethernet	
Port Number	1 x RJ45, 10 /100 Mbps, auto MDI/MDX, 1.5KV electromagnetic isolation
Serial Port	
Port Number	1 x RS232, DB9-male, 1 x RS485, 3-pin terminal block, can work simultaneously.
Baud rate	600 bps~230.4Kbps
Data Bits	7, 8
Stop Bit(s)	1, 2
Parity Bit	None, Even, Odd, Mark, Space
Flow Control	Hardware: RTS/CTS (Only RS232) Software：XON/XOFF
Physical Character	
Dimensions(mm)	82.5*86*25mm(L*W*H)
Operating Temperature	-40 ~ 85℃
Storage Temperature	-40~105℃
Operating Humility	5% ~ 95%（Non-condensing）
Storage Humility	5% ~ 95%（Non-condensing）
Basic Features	
Network protocol	IP, TCP, UDP, HTTP, MQTT, SSL/TLS, ARP, ICMP, DHCP, DNS
IP Assignment	Static/DHCP
DNS Service	√
Built-in Webpage	√
Config Method	Built-in Webpage, Config Software, AT Command
Work Mode	TCP Server/TCP client/UDP Server/UDP Client/HTTPD client
Edge Computing	√, up to 128 points
MQTT Gateway	Standard MQTT protocol
Encryption	MQTT+SSL, TCPC+SSL
Modbus Gateway	Modbus RTU/TCP protocol conversion, Multi-host polling: up to 16 hosts
WebSocket	√
RF2217 Similar	√
Registration Packet	√
Heartbeat Packet	√
Serial Packets Cache	Dynamic packet cache. For example: When the packet length is 10 bytes, the serial port can cache 371 packets(3.71KB). When the packet length is 1460 bytes, the serial port can cache 10 packets(14.6KB).
Ethernet Packets	48KBytes

Cache	
Others	
Certificate	CE, FCC, *RoHS, *WEEE
Warranty	2 years

Ordering Guide

Items	H7 Version	RT Version	M4 Version
Main frequency	400MHz	400MHz	120MHz
Consumption	67mA@12V	59.7mA@12V	86.5mA@12V
Data bit	7,8	7,8	5,6,7,8
Prity bit	None, Even, Odd, Mark, Space	None, Even, Odd	None, Even, Odd, Mark, Space
Edge computing	√	×	×
MQTT	√	×	×
Json reporting	√	×	×
SSL/TLS	√	×	×
485 Anti-Collision	√	×	×
NTP	√	×	×
UDP multicast	√	√	×
User-defined webpage	√	×	√
Client no. of TCPS	16	16	8
Websocket	Option: RS485/232/OFF	Option: RS485/232/LOG/OFF	Option: RS232
Modbus error code	√	√	×
Firmware version	72xx	80xx	30xx
Config tool	EthernetTool	EthernetTool	USR-TCP-M4

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