CAN/Serial to Ethernet Converter

USR-CAN528

Dual CAN(FD) channels

CAN to fiber-optic/Ethernet/RS485

Automotive Electronics

Industrial Automation

EV Charging

Product Overview

The USR-CAN528 is an upgraded industrial-grade dual-channel rail-mounted CAN FD gateway independently developed by PUSR. This product features rich interfaces and powerful functionalities, offering high speed, low latency, stable performance, ease of use, and high cost-effectiveness. It can easily connect terminal devices to a CAN-BUS network.

The CAN528 has a variety of interfaces: 2 CAN ports, 1 Ethernet port, 1 SFP slot, and 1 RS485 interface. It supports the CAN FD protocol and is compatible with standard CAN 2.0A/2.0B protocols.

The CAN528 supports flexible communication. It is capable of CAN repeater, CAN to fiber optic, CAN to Ethernet, CAN to RS485, and RS485 to Ethernet conversion. It supports TCP/UDP/MQTT protocols. It features CAN to Modbus RTU/TCP conversion, capable of acting as either a master or slave station.

Key Feature

- Supports 2 * CAN port, 1 * Gigabit Ethernet, 1 * SFP slot, 1* RS485
- Supports CAN to Ethernet, CAN to fiber optic, CAN to RS485, Ethernet to RS485, and CAN repeater
- Supports CAN FD protocol, compatible with CAN2.0A and CAN2.0B standard protocols
- Supports TCP server, TCP client, UDP server, UDP client, MQTT
- Supports SSL/TLS encryption for secure transmission
- Supports CAN(FD) to Modbus RTU (Master/Slave); CAN(FD) to Modbus TCP (Master/Slave)

  Modbus
- Modbus gateway function supports 64 transmit messages and 64 receive messages, enabling polling for data collection, reporting, reading, and writing
- Supports whitelist and blacklist filtering; configurable for filtering extended frames, standard frames, and custom frame IDs
- Supports transparent conversion, transparent conversion with ID, protocol conversion, and custom protocol conversion
- Wide baud rate range: arbitration phase baud rate from 5K to 1Mbps; data phase baud rate from 100K to 5Mbps; supports custom baud rates
- Supports parameter configuration via web interface and AT commands
- Supports firmware upgrade via web interface for easier updates
- Wide operating temperature -40℃~85℃
- Built-in 120-ohm termination resistors, configurable via web interface for connection
- Supports 9-70V wide voltage input with reverse polarity protection
- Features isolation for CAN port, serial port, and network port communications, ensuring stable operation
- Reliable hardware protection: ESD, surge, and EFT protection (Level 3)
- Hardware watchdog function for automatic reset upon system freeze, enhancing stability and reliability

Ordering Guide

Model	Description
USR-CAN316	CAN(FD) to RS485/RS232, CAN(FD) to Modbus RTU, without isolation
USR-CAN315	CAN(FD) to Ethernet, CAN(FD) to Modbus TCP, without isolation
USR-CAN518	CAN(FD) to RS485/RS232/Ethernet, CAN(FD) to Modbus RTU/TCP, with isolation
USR-CAN528	CAN(FD) to RS485/Fiber-optic/Ethernet, dual CAN ports, CAN(FD) to Modbus RTU/TCP, MQTT, with isolation

Specification

Power supply	
Input voltage	DC: 9 ~ 70 V, reverse polarity protection
Physical characteristics	
Housing	Aluminum
Dimension	137.3*109.3*30 mm(Including terminal blocks)
Mounting	DIN rail mounting
Reload	Long press to restore to factory settings
Ethernet	
Ethernet port	RJ45, 100/1000Mbps, Auto MDI/MDIX
SFP	
SFP slot	100/1000Mbps
Serial port	
Pin	A, B, G
Baud rate	600-230.4K(bps)
Data bit	7, 8
Parity bit	None, Odd, Even
Stop bit	1、2
CAN port	
Pin	CAN 1: H1, L1, GND CAN 2: H2, L2, GND
Arbitration Phase	5k~1000K bps, supports user-defined baud rate
Data Phase	100K~5Mbps, supports user-defined baud rate, only valid when CAN FD accelerate function is enabled
Terminal register	Built-in 2x 120Ω CAN bus termination resistors
EMC protection	
ESD	Air discharge: 8 kV Contact discharge: 6 kV
Surge	Power: differential mode@0.5KV, common mode@1KV CAN: common mode@1KV RS485/Ethernet: common mode@1KV

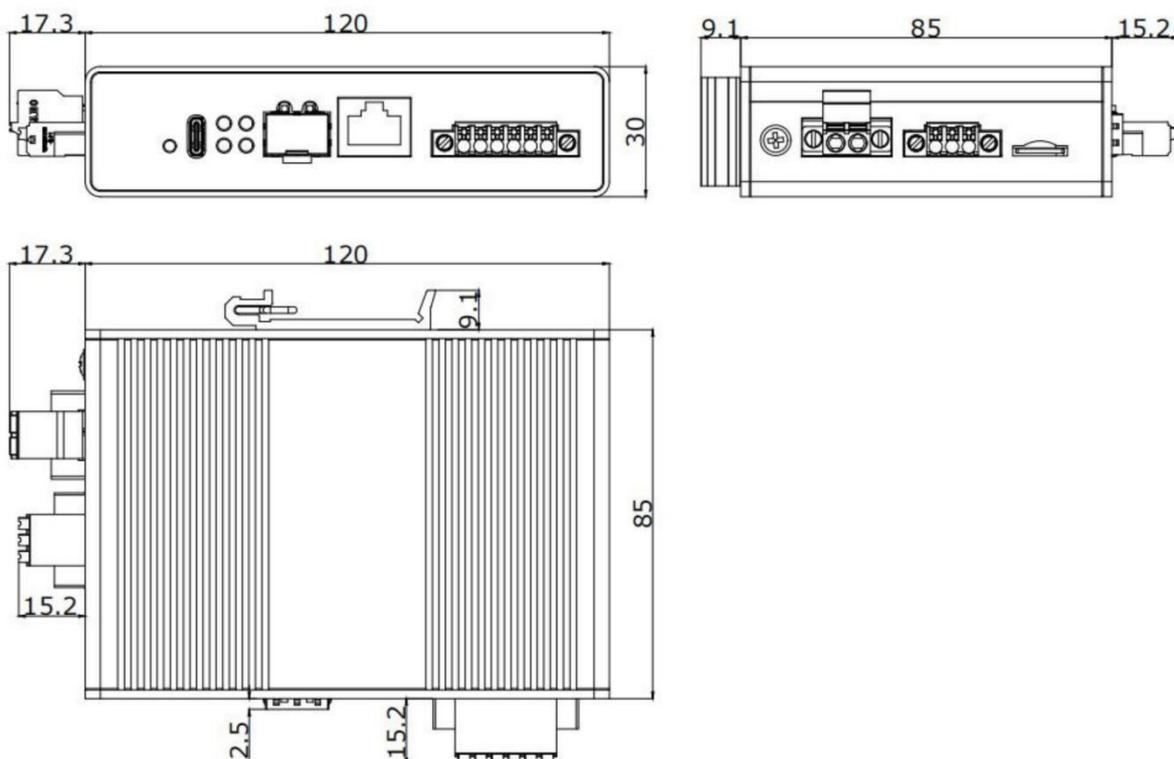| EFT	Power: 2KV RS485/CAN/Ethernet: 1KV
Isolation	Isolation for power supply, CAN ports, serial port, and Ethernet port; CAN port isolation up to 3000VDC
Indicator	
RUN	Dual-color LED Red solid on: Power on Green blinking (1Hz): Device operating normally
RS485	Dual-color LED Green blinking: indicates data reception on serial port, blinks every 200ms Red blinking: indicates data transmission on serial port, blinks every 200ms
CAN1	Dual-color LED Green blinking: indicates data reception on CAN port, blinks every 200ms Red blinking: indicates data transmission on CAN port, blinks every 200ms
CAN2	Dual-color LED Green blinking: indicates data reception on CAN port, blinks every 200ms Red blinking: indicates data transmission on CAN port, blinks every 200ms
Operating environment	
Operating Temperature	-40~85℃
Storage Temperature	-40~105℃
Operating Humidity	5% ~ 95% RH(non-condensing)
Storage Humidity	5% ~ 95% RH(non-condensing)

Specification Comparison

Model	CAN316	CAN315	CAN518	CAN528
Protocol conversion	CAN to RS232/485	CAN to Ethernet	CAN to RS232/485 CAN to Ethernet RS232/485 to Ethernet	CAN to fiber-optic CAN to Ethernet CAN to RS485 Ethernet to RS485 CAN repeater
Modbus Gateway	CAN(FD) to Modbus RTU (Master/slave)	CAN(FD) to Modbus TCP (Master/slave)	CAN(FD) to Modbus RTU (Master/slave) CAN(FD) to Modbus TCP (Master/slave)	CAN(FD) to Modbus RTU (Master/slave) CAN(FD) to Modbus TCP (Master/slave)
Send messages	64 groups, each can contain up to 32 variable data items			
Receive message	64 groups, each can contain up to 32 variable data items			
Network protocol	/	TCP server 、TCP client、 UDP server 、UDP client	TCP server、TCP client、UDP server 、UDP client	TCP server 、TCP client 、UDP server 、UDP client、 MQTT
SSL/TLS	×	×	×	√
Dual socket	/	√	√	√
CANFD protocol	√	√	√	√

CANFD accelerate	√	√	√	√
Conversion mode	Transparent conversion, transparent conversion with ID, protocol conversion, Modbus conversion and custom protocol conversion			Transparent conversion, Transparent conversion with ID, Protocol conversion Custom protocol conversion
ID Filtering	White list filtering only, Supports standard frames, remote frames, custom input frame IDs(up to 32)			White & black list filtering, standard frames, remote frames, custom input frame IDs(up to 32)
Work mode	/	Normal, loopback, listen-only	Normal, loopback, listen-only	Normal, loopback, listen-only
Packaging	Supports custom packet count	custom packet time/frames		
Others	/	Heartbeat packet, registration packet, system settings		Heartbeat packet, registration packet, system settings
Firmware upgrade	PC software			WEB UI
Configuration	Serial AT command, PC software	Network AT command, PC software	Serial/network AT command, PC software	Serial/network AT command, user-friendly web UI
Terminal Register	2x 120Ω via hardware DIP switch			2x 120Ω via software

Dimensions

单位：MM

Purchase & Support

Official Website: **www.pusr.com**

Official Shop: **shop.usriot.com**

Technical Support: **h.usriot.com**

Inquiry Email: inquiry@usriot.com

Skype & WhatsApp: +86 13405313834

Click to view more: **Product Catalog** & **Facebook** & **Youtube**