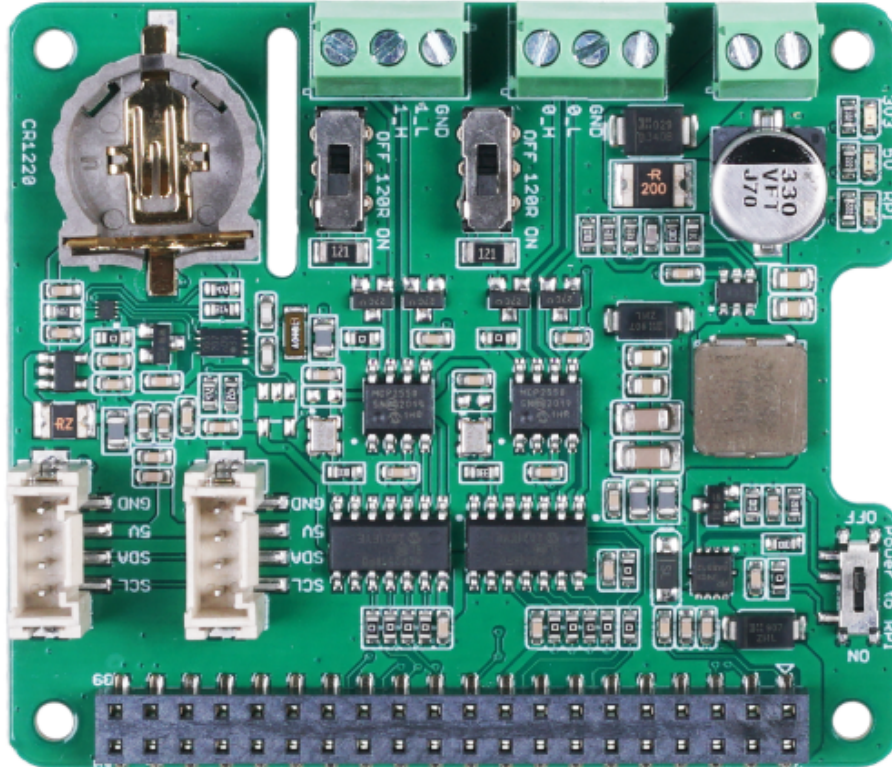


2-Channel CAN-BUS(FD) Shield for Raspberry Pi (MCP2518FD)



SKU

103990563

This shield is a 2-Channel CAN-BUS(FD) Shield for Raspberry Pi (MCP2518FD), supports the CAN FD protocol and supports transmission speed up to 8 Mbps.

PRODUCT DETAILS

Versions Declare

There are **3 versions** of the CAN-BUS shield for Raspberry Pi. All 3 versions work perfectly on Raspberry Pi platform and may skip this section if you're using RPi platform.

The CAN-BUS shield now also **supports the NVIDIA Jetson Nano platform**, and different versions of the CAN-BUS Shield **do affect the functionality**, please check the table below carefully if you're using with Jetson Nano Platform.

Product Name	Chip	RPi State	Jetson Nano State
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Product Name	Chip	RPi State	Jetson Nano State
2-Channel CAN-BUS(FD) Shield for RPi (MCP2517FD)	MCP2517FD	Two channels	Single Channel(can0)
<u>2-Channel CAN-BUS(FD) Shield for RPi (MCP2517FD)</u>	MCP2518FD	Two channels	Single Channel(can0)
<u>2-Channel CAN-BUS(FD) Shield for Raspberry Pi (MCP2518FD)</u>	MCP2518FD	Two channels	Two Channels

As you can see, there are two versions of chips used in the 2-Channel CAN-BUS(FD) Shield for RPi (MCP2517FD) and both channels work on RPi but only single channel (CANo) works on the Jetson Nano Platform!

This shield is a 2-Channel CAN-BUS(FD) Shield for Raspberry Pi (MCP2518FD). It supports the CAN FD protocol and supports transmission speed up to 8 Mbps.

We have released many CAN BUS modules, shields, and hats , but the 2-Channel CAN-BUS(FD) Shield for Raspberry Pi (MCP2518FD) is unique: it supports CAN FD! CAN FD (CAN with Flexible Data-Rate) protocol is an upgraded version of the traditional CAN BUS that increases the CAN's transmission rate from 1Mbps to 8Mbps. At the same time, CAN FD improves real-time performance and extends user data frames, providing higher efficiency.

The 2-Channel CAN-BUS(FD) Shield for Raspberry Pi (MCP2518FD) is based on MCP2518 CAN FD Controller and MCP2557 CAN FD Transceiver which communicates with Raspberry Pi via the high-speed SPI interface.



Note

MCP2518FD chip has the characteristics of MCP2517FD, both are compatible.

You can power this shield via your Raspberry Pi's 40 pin header, or you can use the 12 - 24V DC screw terminal to supply the power for the whole system. To ensure the stability of communication, we've used high-quality Panasonic capacitors and TI power chips, along with quality circuit design, to build a stable power management system, which provides stable 3.3V and 5V power supply for all parts of the system.

As you may know, the devices at both ends of the CAN BUS need a 120Ω terminating resistor to avoid reflection. With the help of an onboard 120Ω resistor to enable switch, you can easily toggle the onboard resistor on and off. Additionally, we provide two Grove I2C connectors in case you need to work with more Grove modules.



Attention

To work with this hat, please use the [new Raspbian image](#) (Release date:2019-09-26 or later), otherwise it may not work.

Features

- Support CAN FD
- Support Jetson Nano
- High-speed transfer rate: 8Mbps@10m 20AWG shielded cable / 1Mbps@40m 20AWG shielded cable
- Stable power supply, selectable Raspberry Pi power supply or DC power supply
- One-button configuration of 120Ω terminating resistor
- Compatible with Raspberry Pi 2, Raspberry Pi 3, Raspberry Pi Zero, Raspberry Pi 4 (with the [latest image](#))

Hardware Overview

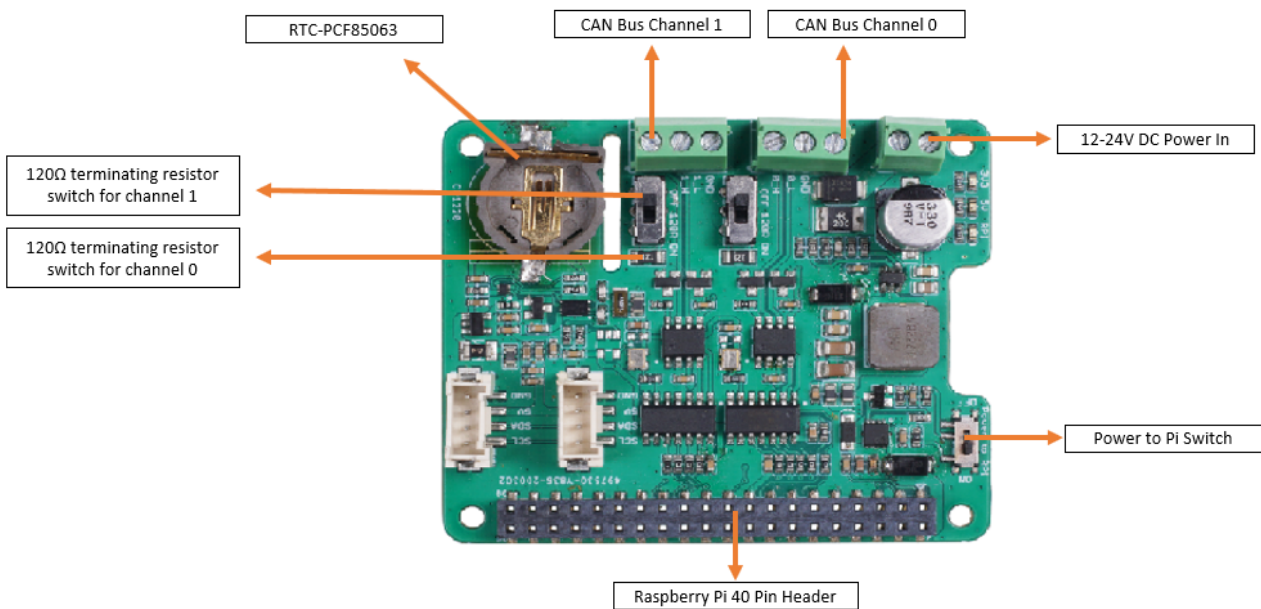
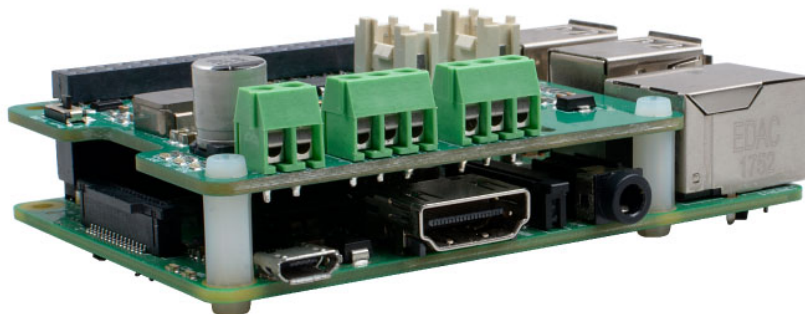
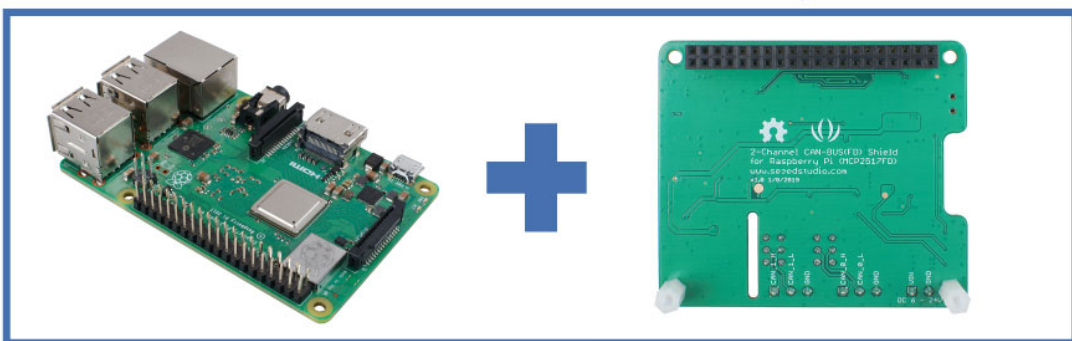
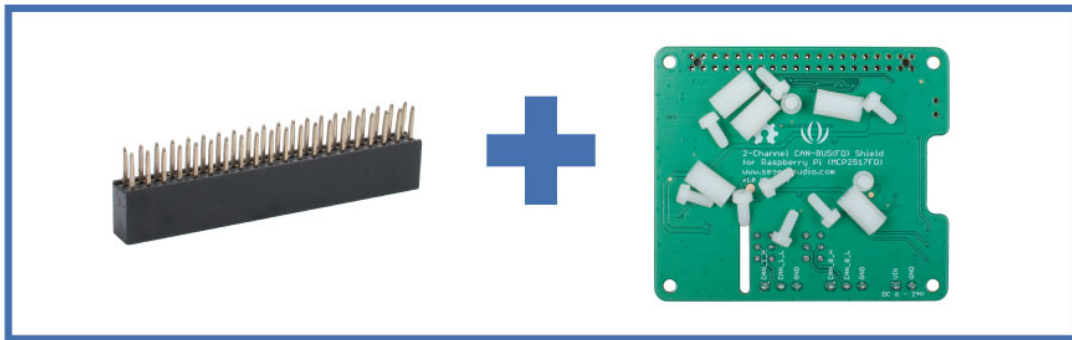


Figure 1. *hardware overview*

Mounting Guide



Attention

You can see that we used nylon columns during assembly to avoid short-circuiting between the metal terminals under the CAN BUS port and the HDMI interface on the Raspberry Pi. So please be sure to assemble the nylon column as shown.



Note

Please note that this shield does not contain a Raspberry Pi.

ECCN/HTS

HSCODE 8543709990

UPC