

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

SKU 103030296

This shield is a two-channel CAN BUS HAT for Raspberry Pi. 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 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 Seeed 2-Channel CAN-BUS(FD) Shield for Raspberry Pi is based on MCP2517 CAN FD Controller and MCP2557 CAN FD Transceiver which communicates with Raspberry Pi via the high-speed SPI interface.

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 and its 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.

Features

- Support CAN FD
- 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 and Raspberry Pi Zero

Hardware Overview

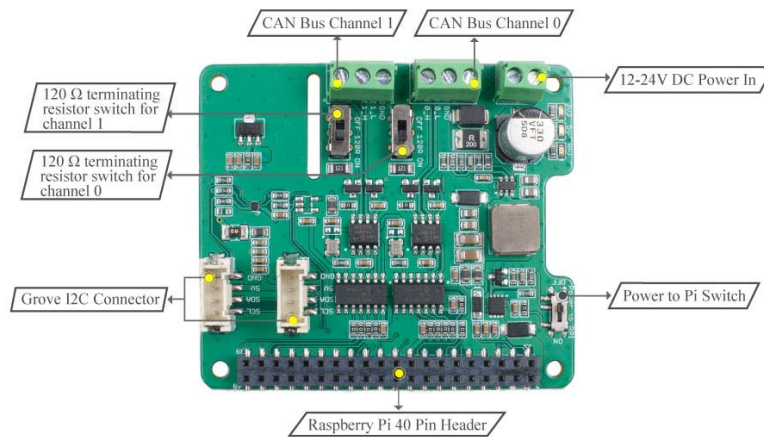


Figure 1. hardware overview

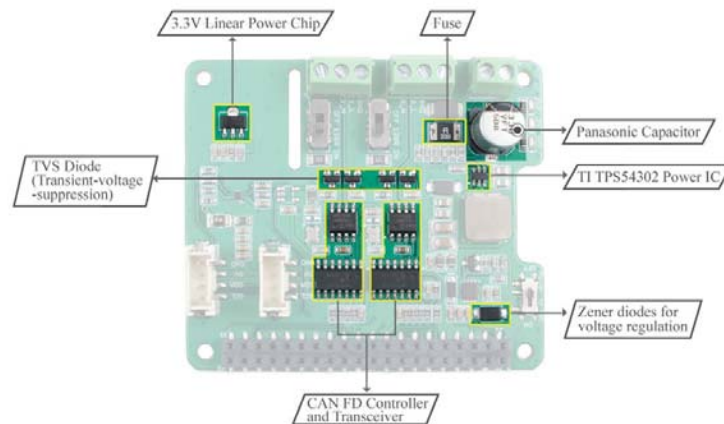


Figure 2. hardware overview

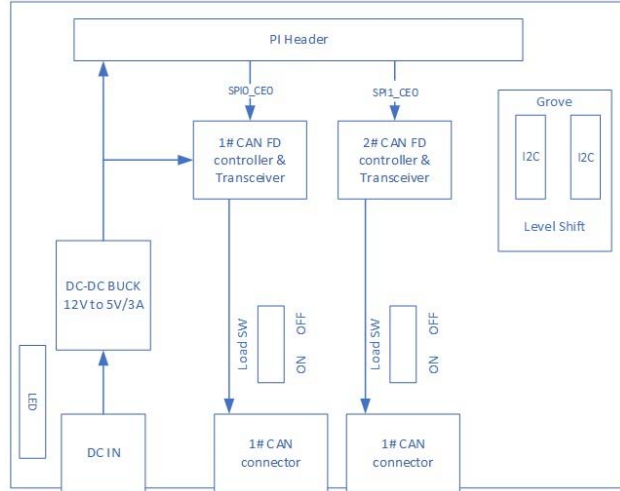
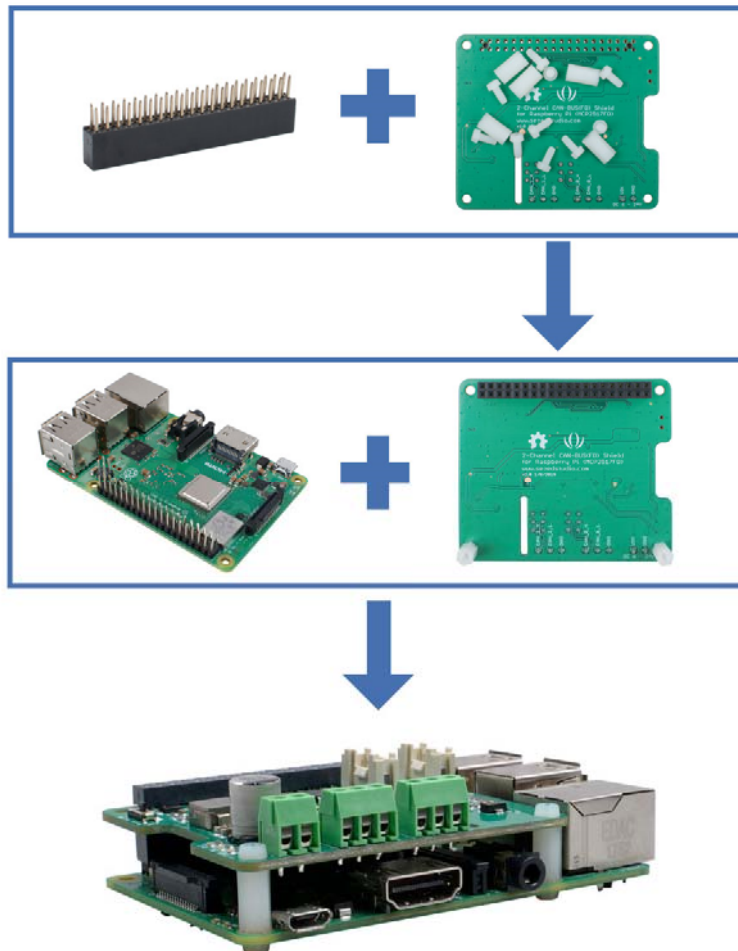


Figure 3. Block diagram

Mounting Guide



Attention

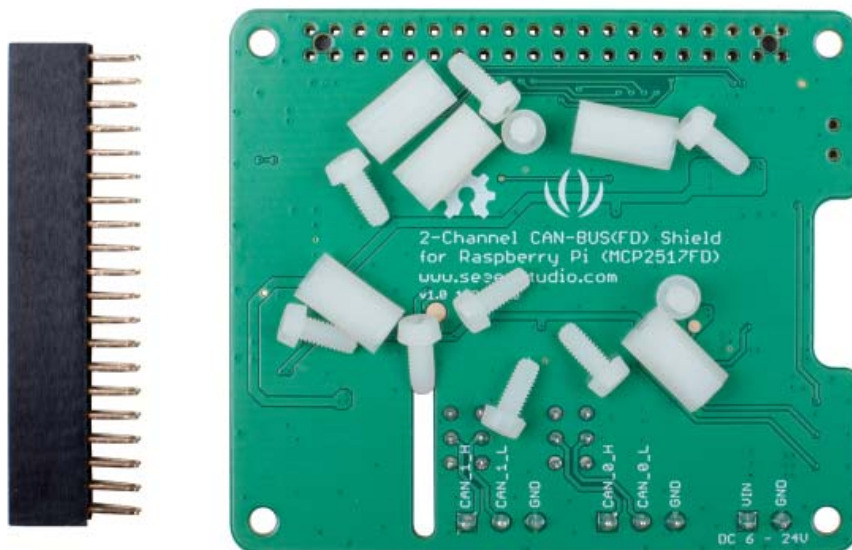
You can see that we used nylon columns during assembly to avoid short-circuiting between the metal terminals under the CAN BUS port and the HDMI interface on the Raspberry Pi. So please be sure to assemble the nylon column as shown.

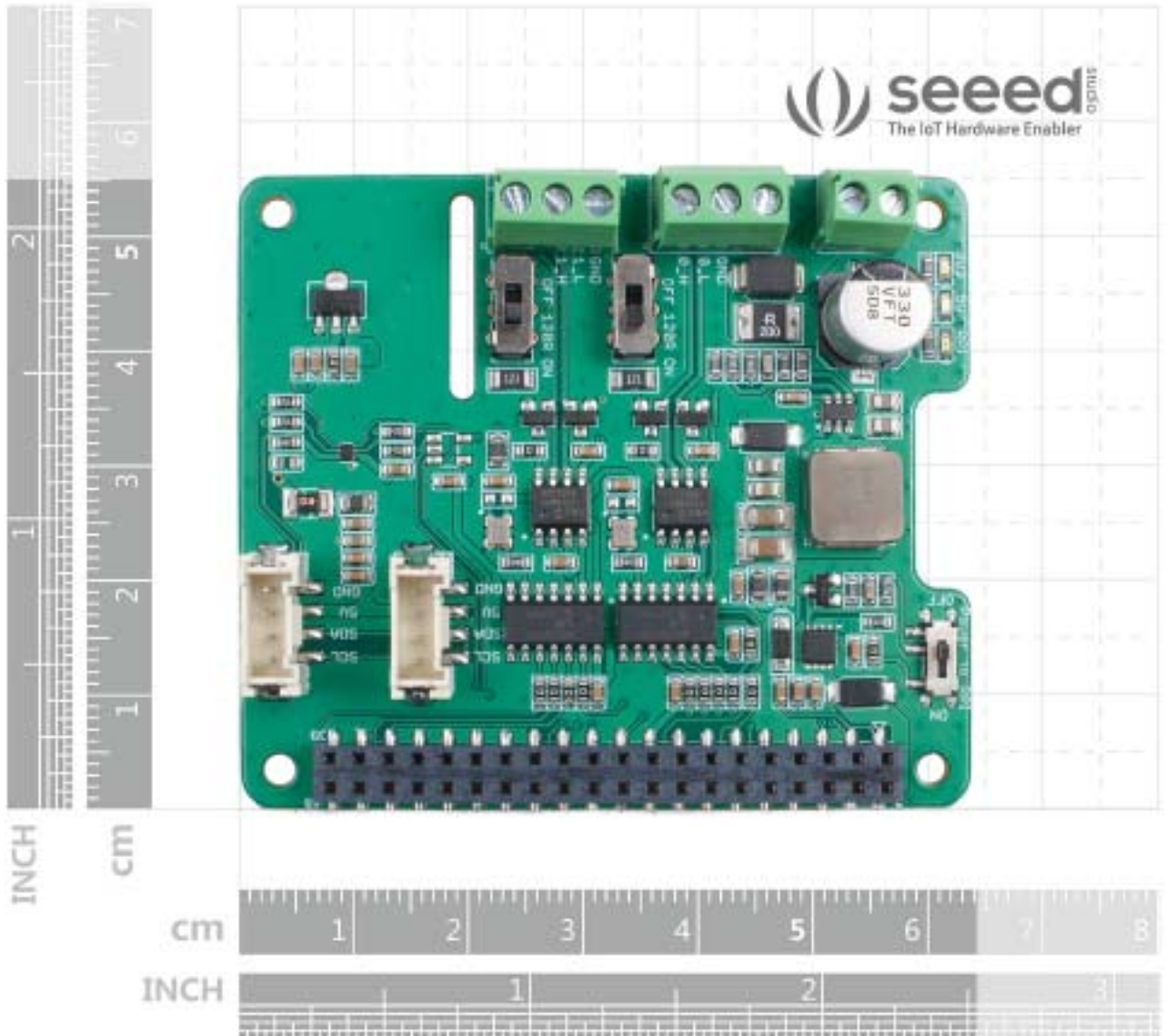
Note

Please note that this shield does not contain a Raspberry Pi, if you need one, please check [here](#).

ECCN/HTS

ECCN	EAR99
HSCODE	8517709000
UPC	





<https://www.seeedstudio.com/2-Channel-CAN-BUS-FD-Shield-for-Raspberry-Pi-p-4072.html/9-17-19>