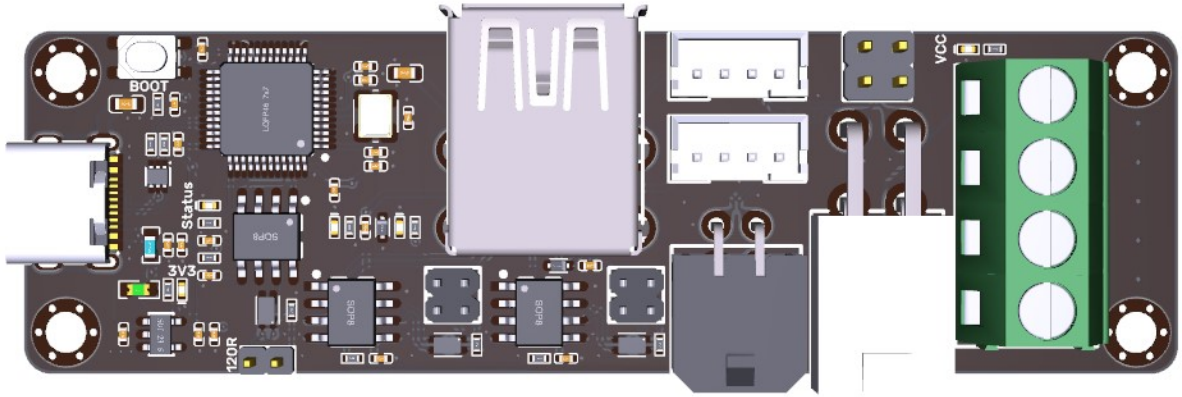
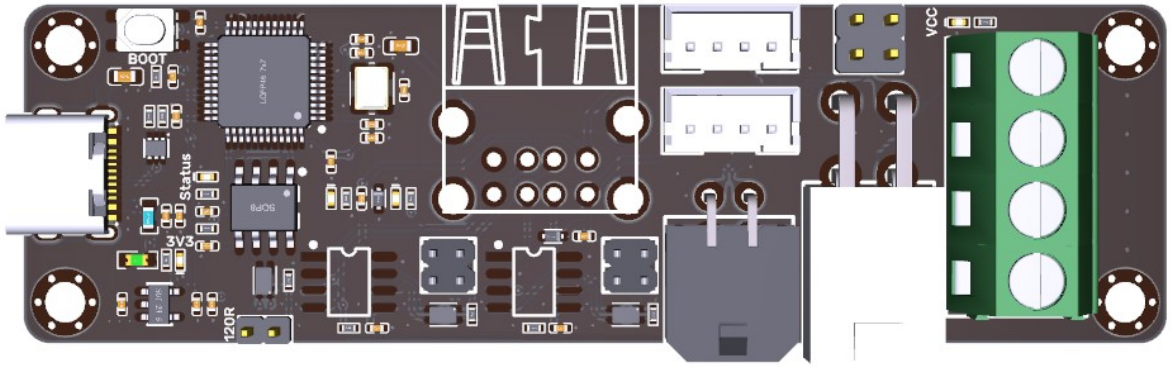
U2C





Product Profile

BIGTREETECH U2C is a USB to CAN bus module, which can convert the USB port of Raspberry Pi to the CAN bus, and connect 3D printing motherboard, BIGTREETECH EBB35/36/42 CAN and other products through CAN bus. There are many different forms of CAN interfaces on the board, which are helpful to connect to different boards.

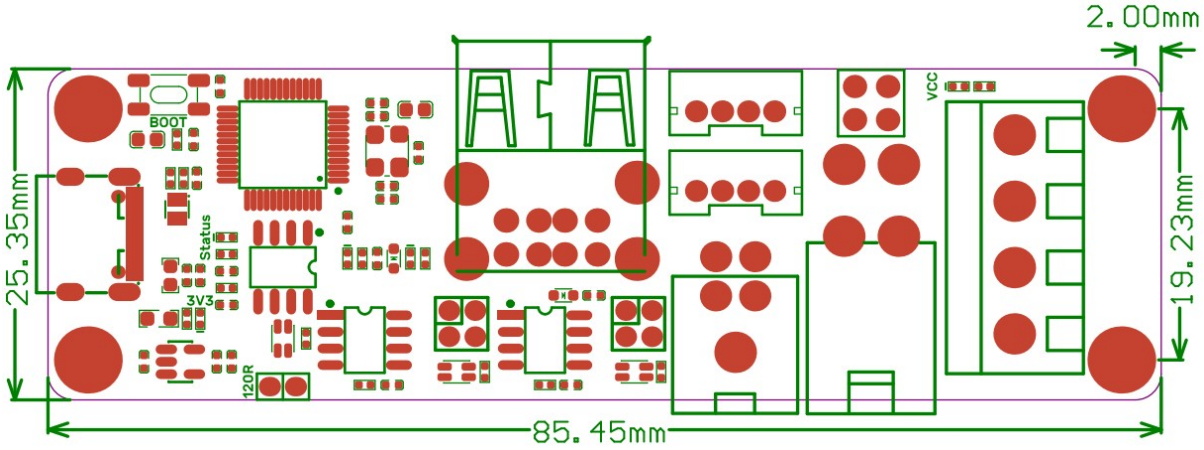
CAN bus has many advantages in the field of industrial control, so our company has launched this USB to CAN module. The CAN bus has a long transmission distance, and a large number of nodes can be mounted on it, so the motherboard, EBB, and other expansion boards can be mounted on the same CAN bus at the same time.

Product Link: https://biqu.equipment/products/bigtreetech-ebb-sb2209-can-v1-0?variant=40214284468322

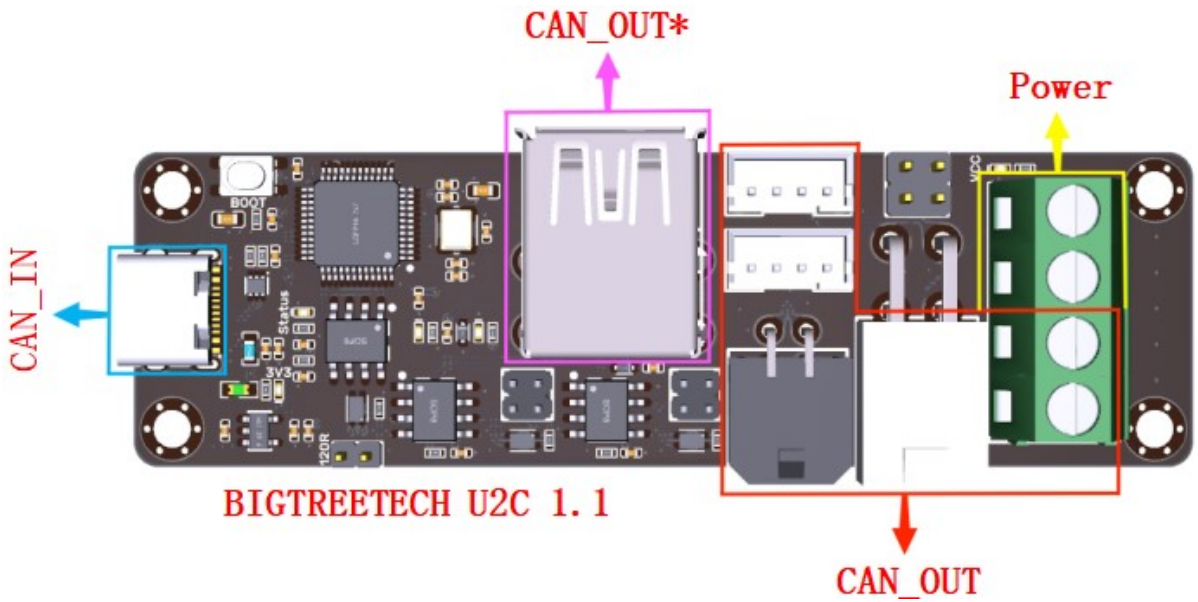
Features Highlights

- Support CAN bus connection, long data transmission, strong anti-noise ability, strong real-time performance and high reliability.
- The surface of the PCB adopts the ENIG process.
- The TYPE-C port is equipped with ESD protection to prevent static electricity from damaging the hardware.
- Support firmware update for the motherboard through SWD or hardware DFU.
- More than on CAN interface.

Dimensions



Interface Diagram



CAN_IN: USB to CAN interface for connecting to Raspberry Pi.

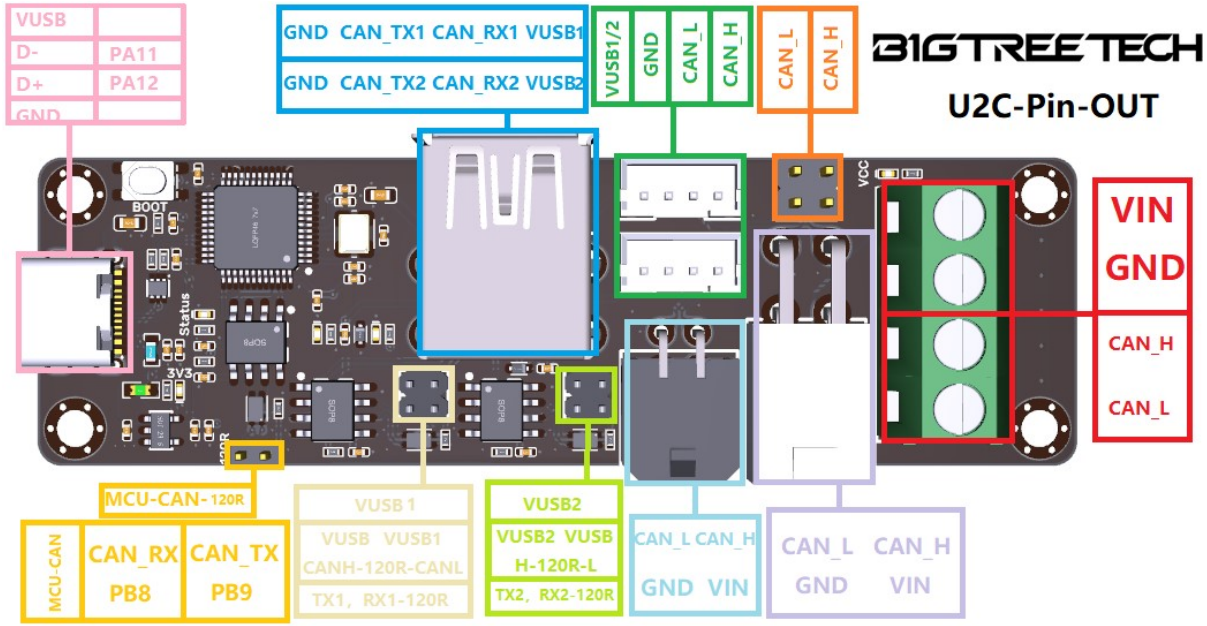
CAN_OUT*: It is used to connect an interface without CAN transceiver but with CAN function, such as connecting to the USB port of the motherboard, where the pin connecting the USB port of the motherboard to the main controller must have CAN function. E. g.:

B12	70	C8	44	32	C1	PA11	I/O	FT	(3)	CAN_RX, USART1_CTS, TIM1_CH4, COMP1_OUT, TSC_G4_IO3, EVENTOUT	USB_DM
A12	71	B8	45	33	C3	PA12	I/O	FT	(3)	CAN_TX, USART1_RTS, TIM1_ETR, COMP2_OUT, TSC_G4_IO4, EVENTOUT	USB_DP

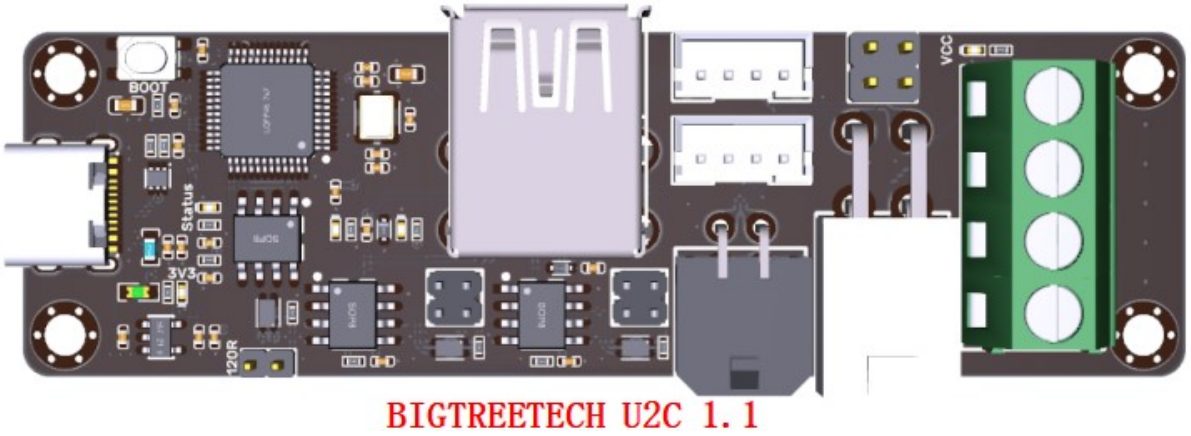
CAN_OUT: Used to connect BIGTREETECH EBB CAN or other boards with CAN transceivers.

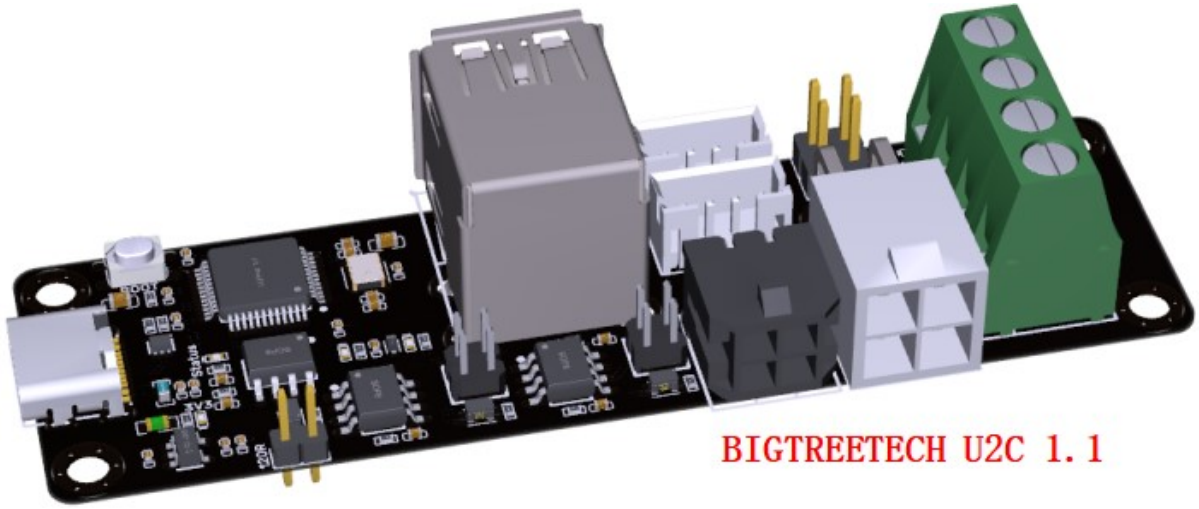
Power: Power Supply.

Pinout

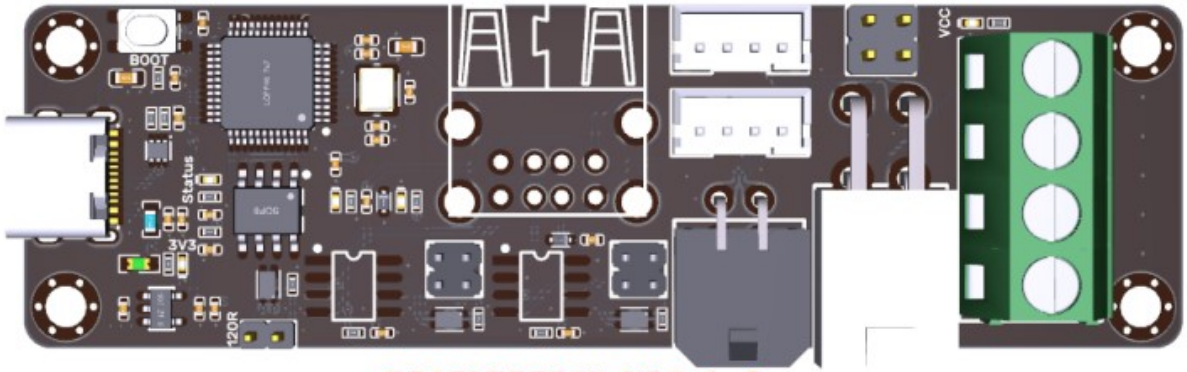


Product Display

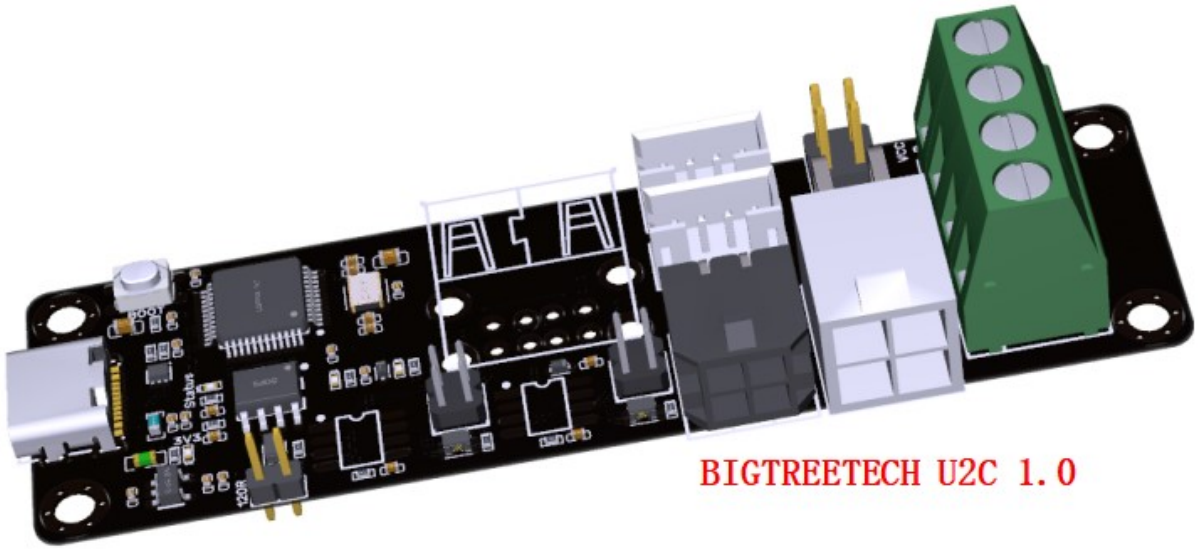


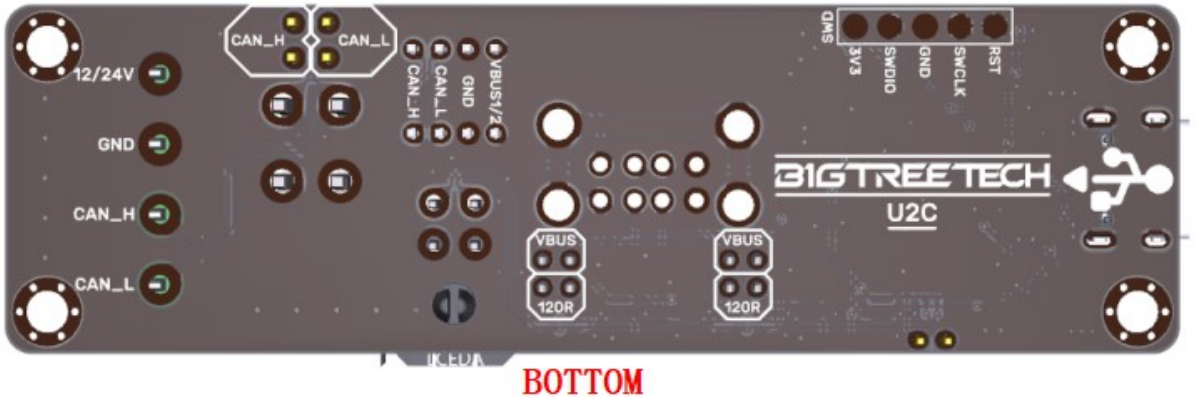


BIGTREETECH U2C 1.1



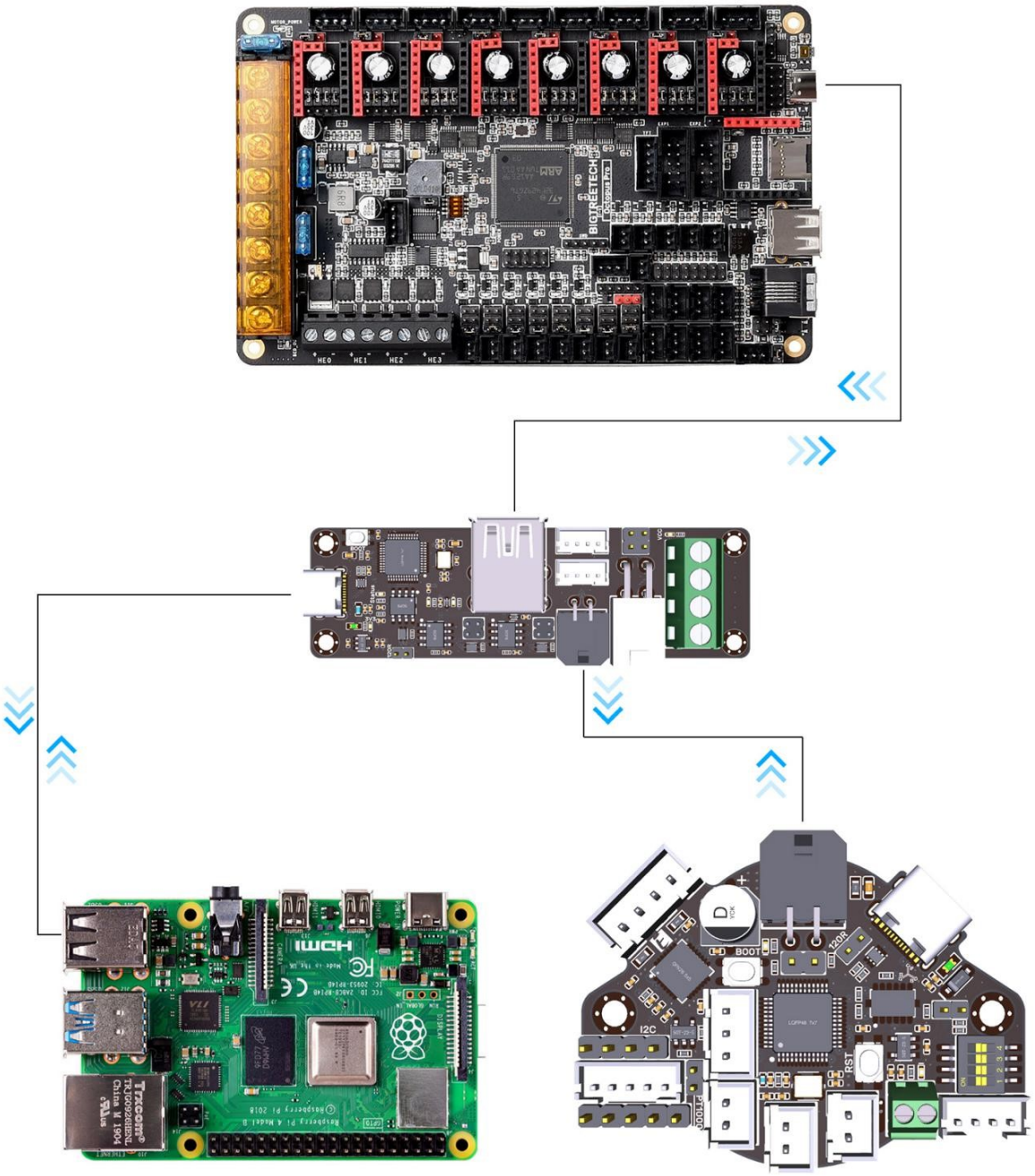
BIGTREETECH U2C 1.0





Hardware Configuration

Optional Wiring Diagram


BIGTREETECH
HE0
HE1
HE2
HE3
BOOT
RST
I2C

Software Configuration

Firmware Source Code

V1.0/1.1 use the open source CandleLight firmware:

https://github.com/candle-usb/candleLight_fw

MCU Model: STM32F072C8

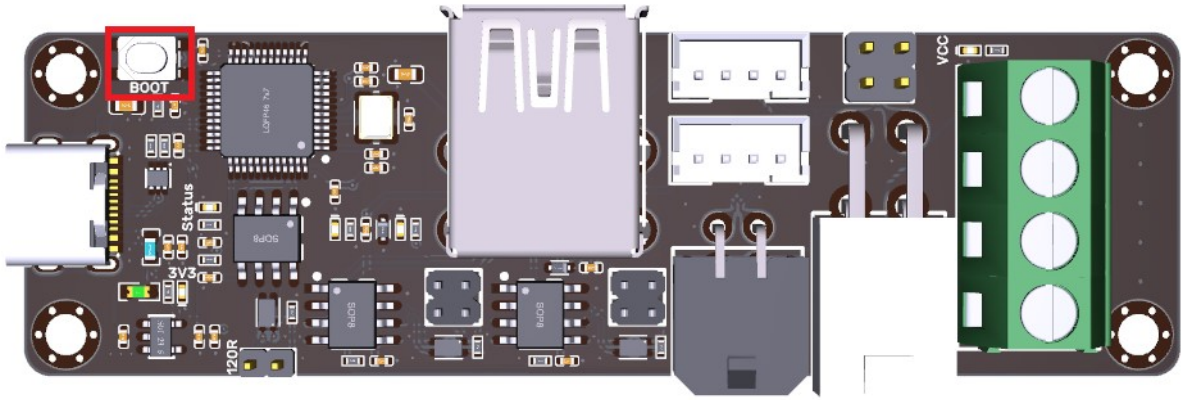
V2.0/2.1 STM32G0 support is added on the basis of open source CandleLight:

https://github.com/bigtreetech/candleLight_fw/tree/stm32g0_support

MCU Model: STM32G0B1C8

Firmware Update

After the module is completely powered off, press and hold the Boot button, plug the Type-C data cable to power the module, enter the DFU mode, and use the STM32CubeProgrammer software to update the firmware.



Klipper Configuration

Firmware Configuration Reference: https://www.klipper3d.org/CANBUS.html

1.Enter command in ssh terminal

```
sudo nano /etc/network/interfaces.d/can0
```

and execute

```
auto can0
iface can0 can static
bitrate 500000
up ifconfig $IFACE txqueuelen 1024
```

Set the CANBus speed to 500K (must be the same as the speed set in the firmware (500000) CAN bus speed), save after modification (Ctrl + S) and exit (Ctrl + X), enter sudo reboot to restart the Raspberry Pi.

2.Every device on CANBus generates a canbus_uuid based on the MCU's UID, to find each microcontroller device ID, make sure the hardware is powered on and wired correctly, then run:

```
~/klippy-env/bin/python ~/klipper/scripts/canbus_query.py can0
```

3.If an uninitialized CAN device is detected, the above command will report the device's canbus_uuid:

```
Found canbus_uuid=0e0d81e4210c
```

4.If Klipper is already running and connected to this device, the canbus_uuid will not be reported, which is normal.

Precautions

- 12/24V and GND should be connected correctly.
- When using CAN communication, you need to see which CAN node is used as a terminal. If using a terminal, you must plug the jumper cap at the 120R position.

Product Purchase Link

Purchase Link:

https://biqu.equipment/products/bigtreetech-ebb-36-42-can-bus-for-connecting-klipper-expansion-device?variant=39762747949154

If you have any issues with the product, please submit a support ticket.

https://biqu3d.com/pages/submit-a-ticket

Navigation:

BIQU Official Website： http://biqu3d.com

BIGTREETECH Official Website： http://bigtree-tech.com

Online Store： https://biqu.equipment

BIGTREETECH Official Group: https://www.facebook.com/groups/bigtreetech

Discord: https://discord.gg/hhZsV7zk

Reddit: https://www.reddit.com/r/BIGTREETECH/