

Hbridge Unit

SKU:U160



Description

Hbridge Unit is a DC motor drive module, using "STM32F030+RZ7899" scheme to realize the motor drive function, and using I2C communication with the M5 host to realize PWM control speed, forward, backward and braking functions. The module has reliable over-current, over-voltage, over-temperature protection function, which can ensure the safe operation of the motor, and also has 6-12V and 5V switching circuits in the circuit to adapt to the input power requirements of different motors, which are widely used in 'robots, motor drives, industrial automation, smart homes' and other fields.

Features

- Overcurrent, overvoltage, overtemperature protection
- Power switching
- I2C address: Default 0x20
- Programming platform: Arduino, UIFlow

Includes

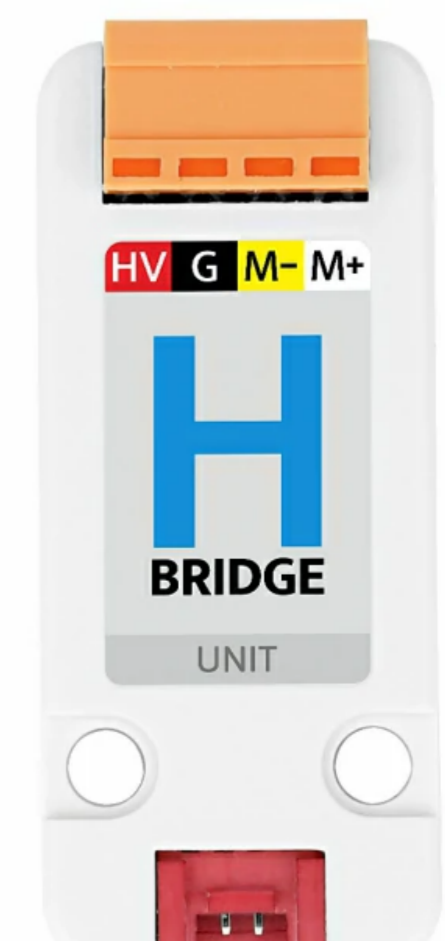
- 1 × Hbridge Unit
- 1 × VH3.96-4P
- 1x HY2.0-4P Cable(20cm)
- 1x M2 Hex Wrench

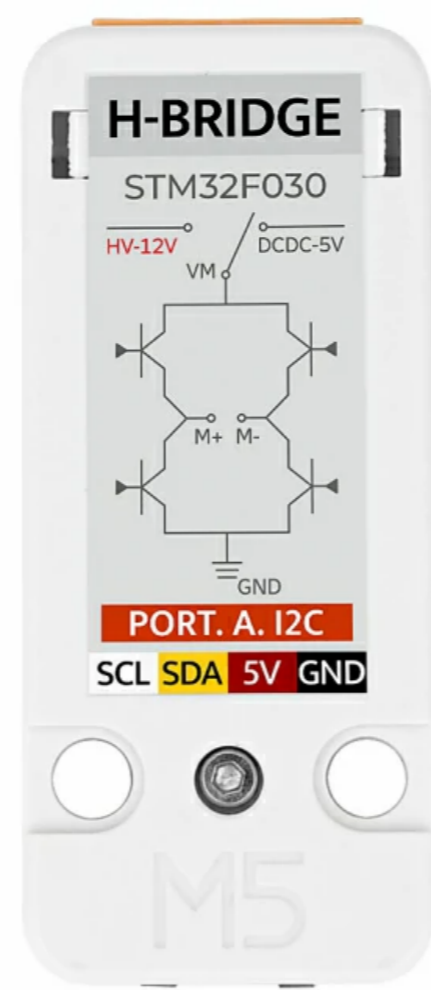
Applications

- robot
- Motor driven
- Industrial automation
- Smart home

Specification

Resources	Parameters
MCU	STM32F030F4P6
DC bidirectional motor driver chip	RZ7899
External access DC voltage	MAX 12V
I2C mailing address	Default 0x20 (can be modified by toggle of the encoding switch)
Maximum allowable current	3A
Use temperature	0-40°C
Product Size	48mm × 24mm × 8mm
Package Size	136mm × 92mm × 13mm
Product Weight	8.9g
Package Weight	13.6g

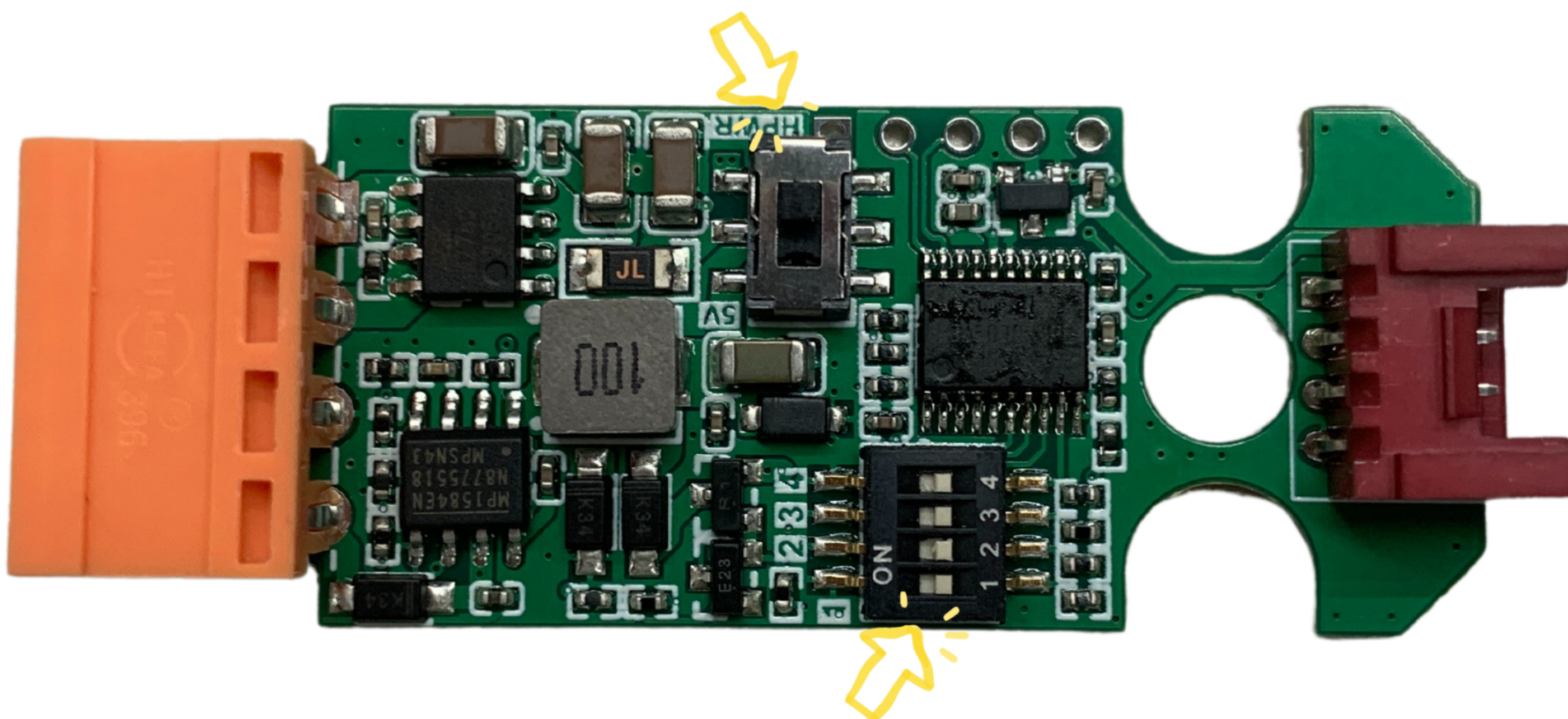
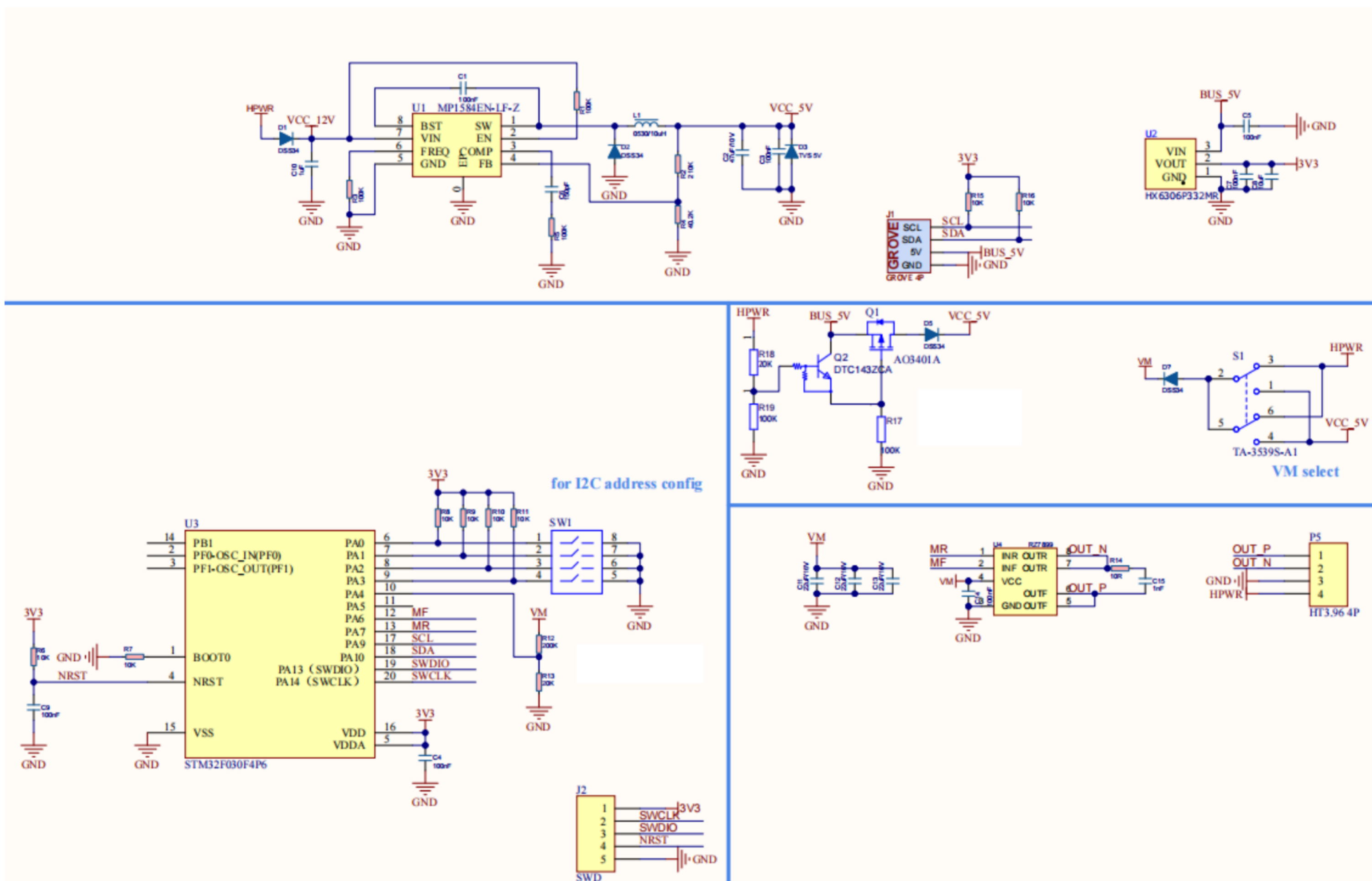




Related Link

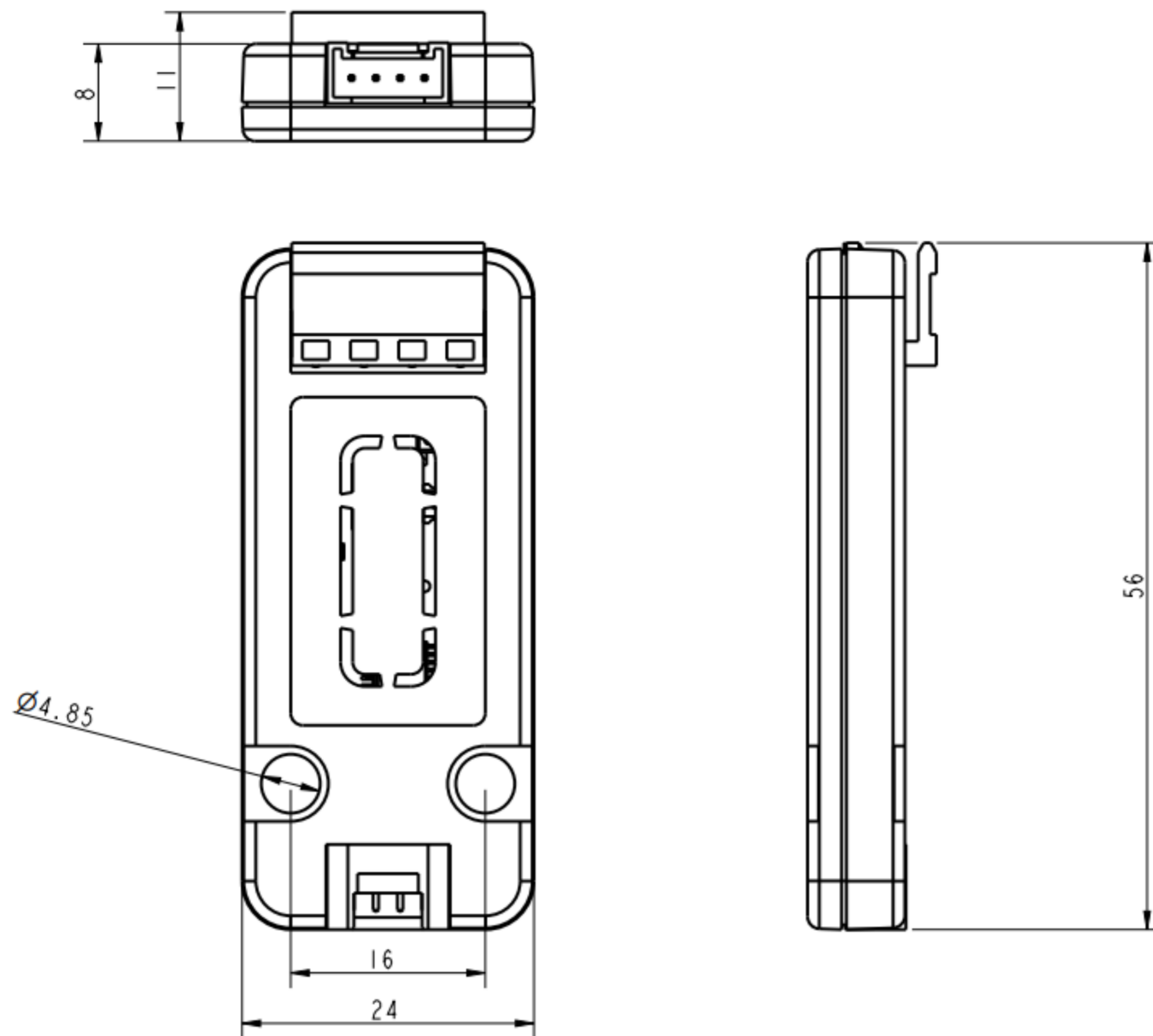
- [STM32F030F4P6](#)
- [RZ7899](#)

Schematic



**The default positions of the voltage selection input toggle switch and address coding switch are shown in the figure

Module Size



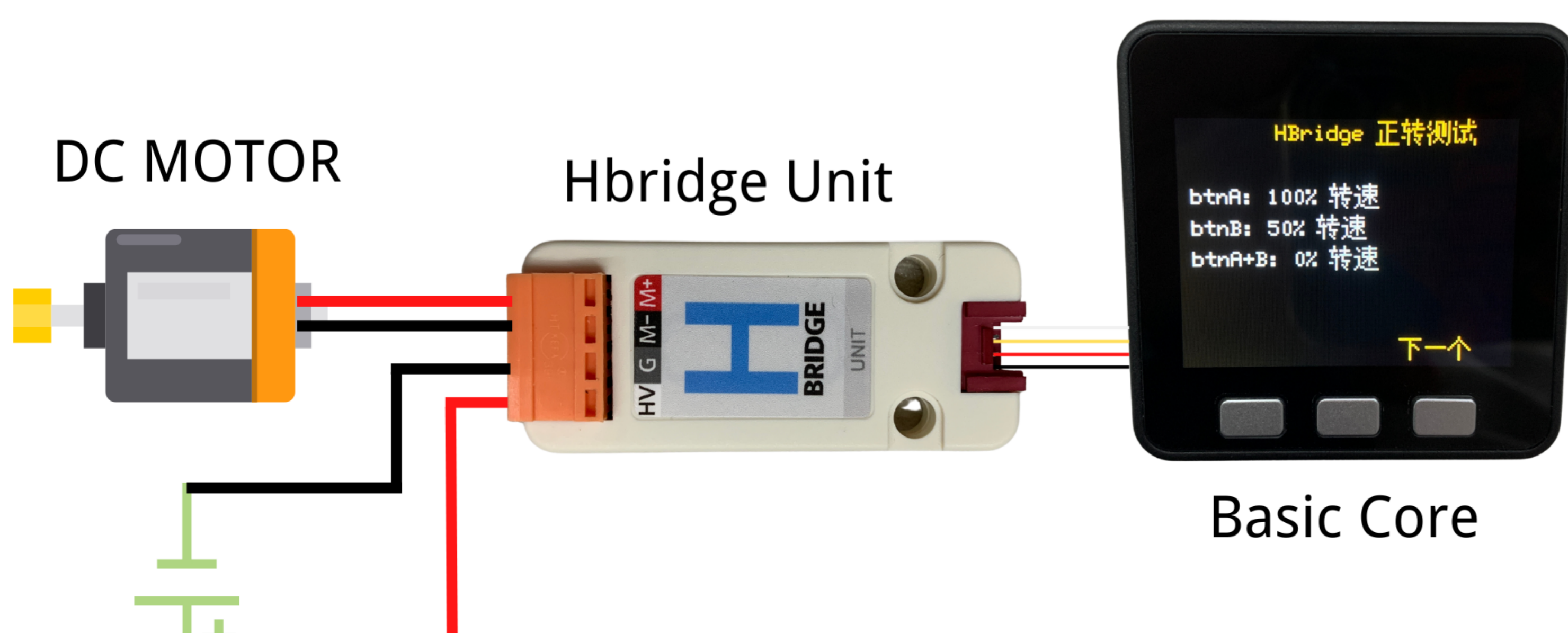
Examples

Arduino

- Hbridge Unit Firmware

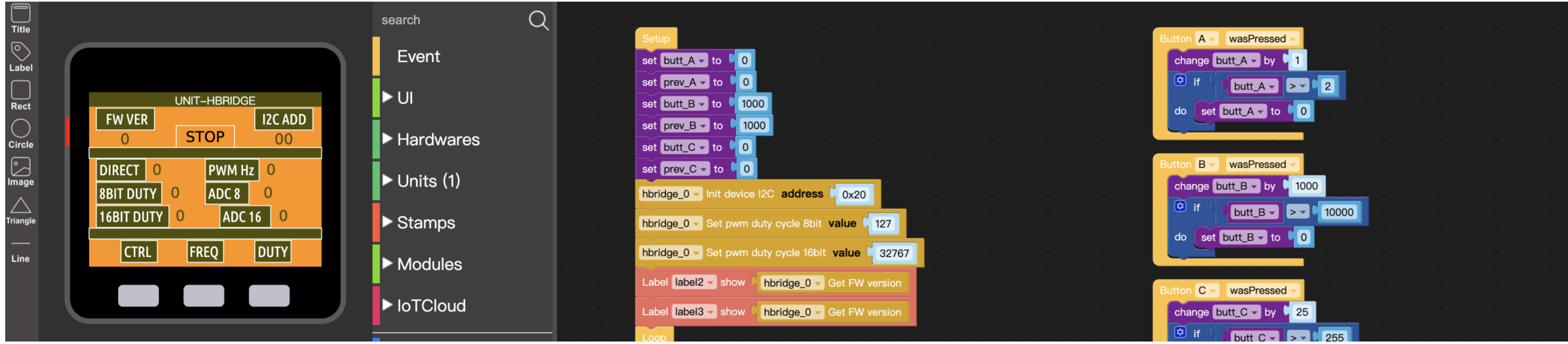
REG	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	note
Driver config	0x00 W/R	Direction	8Bits PWM duty	16Bits PWM duty-L	16Bits PWM duty-H	PWM Freq-L	PWM Freq-H										Direction: 0, Stop(default); 1, Forward; 2, Rverse 8Bits PWM duty: 0~255 16Bits PWM duty: 0~65535 PWM Freq: 100~10000Hz(default 1000Hz)
VIN ADC 8bits	0x10 R	ADC Value															Value: 0~255
VIN ADC 12bits	0x20 R	ADC Value-L	ADC Value-H														Value: 0~4095
Firmware Version	0xF0 R														FW Version		Value: firmware version
I2C Addr	0xF0 R															I2C Addr	Value: I2C Address
I2C ADDR SW	0	1	2	3													
0x20	OFF	OFF	OFF	OFF													
0x21	ON	OFF	OFF	OFF													
0x22	OFF	ON	OFF	OFF													
0x23	ON	ON	OFF	OFF													
0x24	OFF	OFF	ON	OFF													
0x25	ON	OFF	ON	OFF													
0x26	OFF	ON	ON	OFF													
0x27	ON	ON	ON	OFF													
0x28	OFF	OFF	OFF	ON													
0x29	ON	OFF	OFF	ON													
0x2A	OFF	ON	OFF	ON													
0x2B	ON	ON	OFF	ON													
0x2C	OFF	OFF	ON	ON													
0x2D	ON	OFF	ON	ON													
0x2E	OFF	ON	ON	ON													
0x2F	ON	ON	ON	ON													

- Hbridge Unit Example



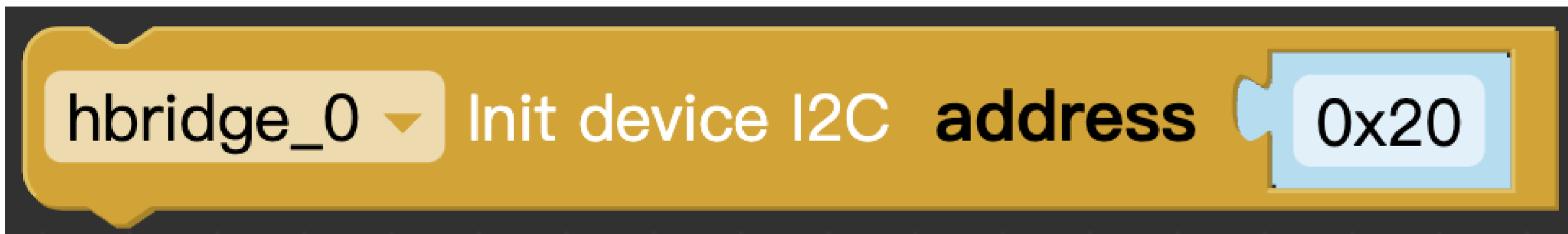
UIFlow

- [Hbridge Unit UIFlow Example](#)



UIFlow Blocks

- Init device I2C address



- Get configure value



- Get voltage / adc raw value



- Get FW version



- Set direction

hbridge_0 ▾ Set direction STOP ▾

- Set pwm duty cycle 8bit value

hbridge_0 ▾ Set pwm duty cycle 8bit value 127

- Set pwm duty cycle 16bit value

hbridge_0 ▾ Set pwm duty cycle 16bit value 32767

- Set pwm frequency

hbridge_0 ▾ Set pwm frequency 1000

| 基于此作者创作

Designed by @akita

