

# Hbridge Unit

SKU:U160



## Description

**Hbridge Unit** is a DC motor drive module, using "STM32F030+RZ899" 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

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

## Applications

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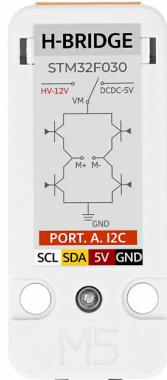
- robot
- Motor driven
- Industrial automation
- Smart home

## Specification

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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

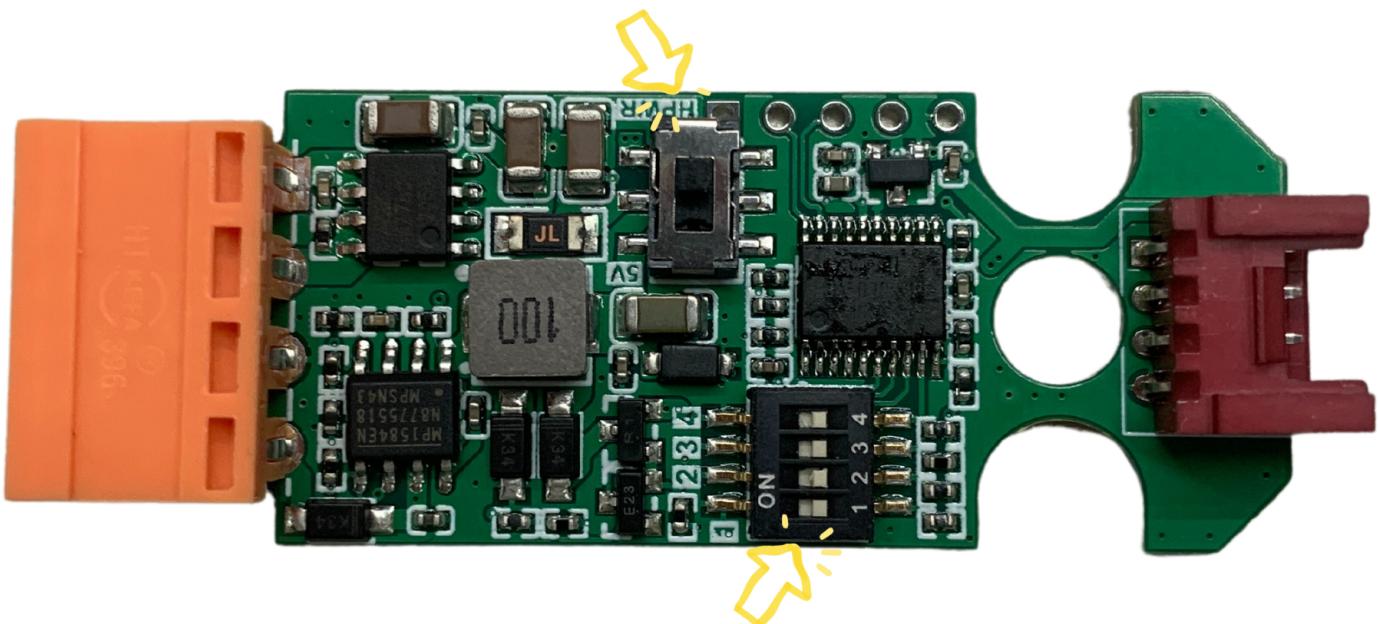
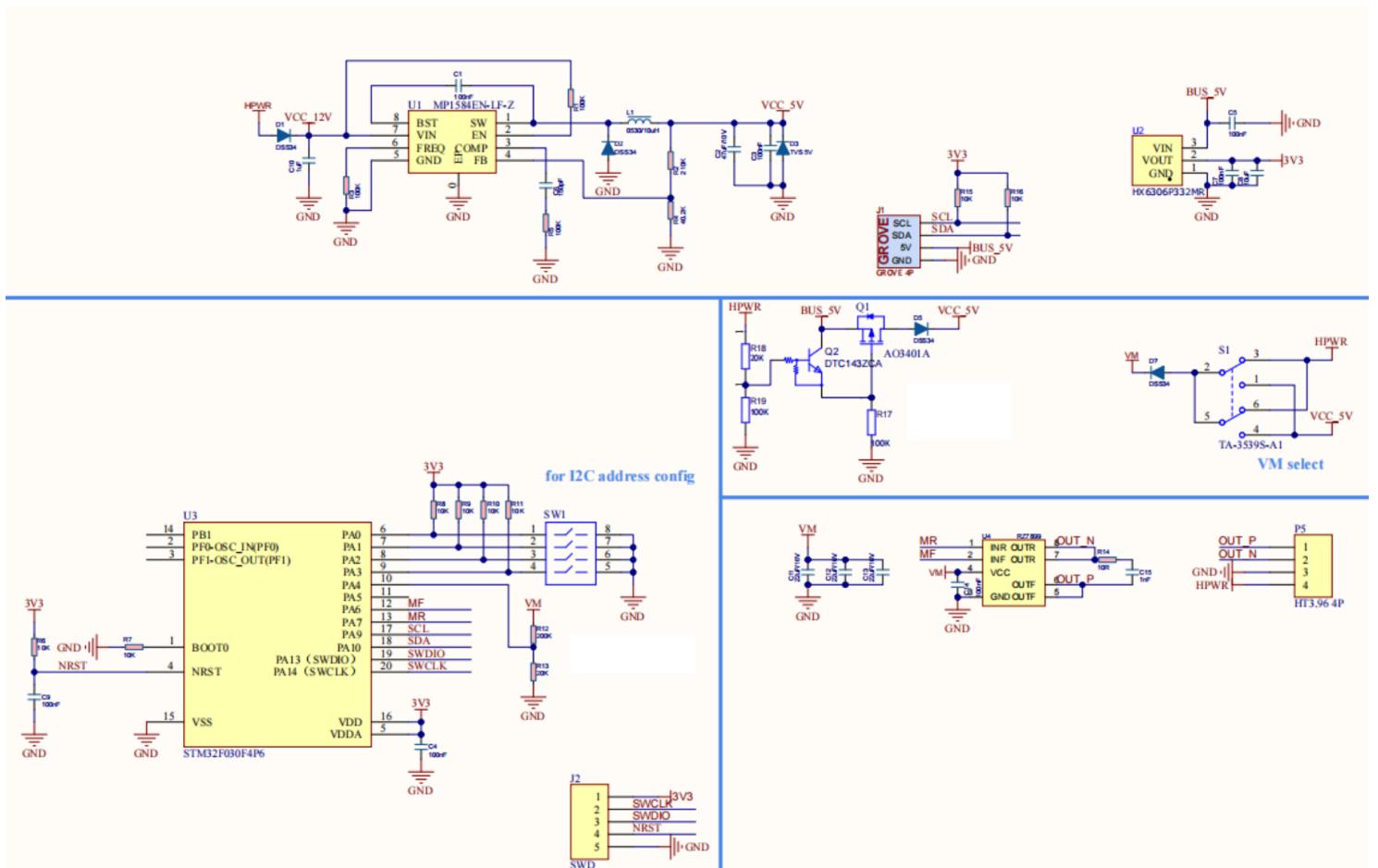




## Related Link

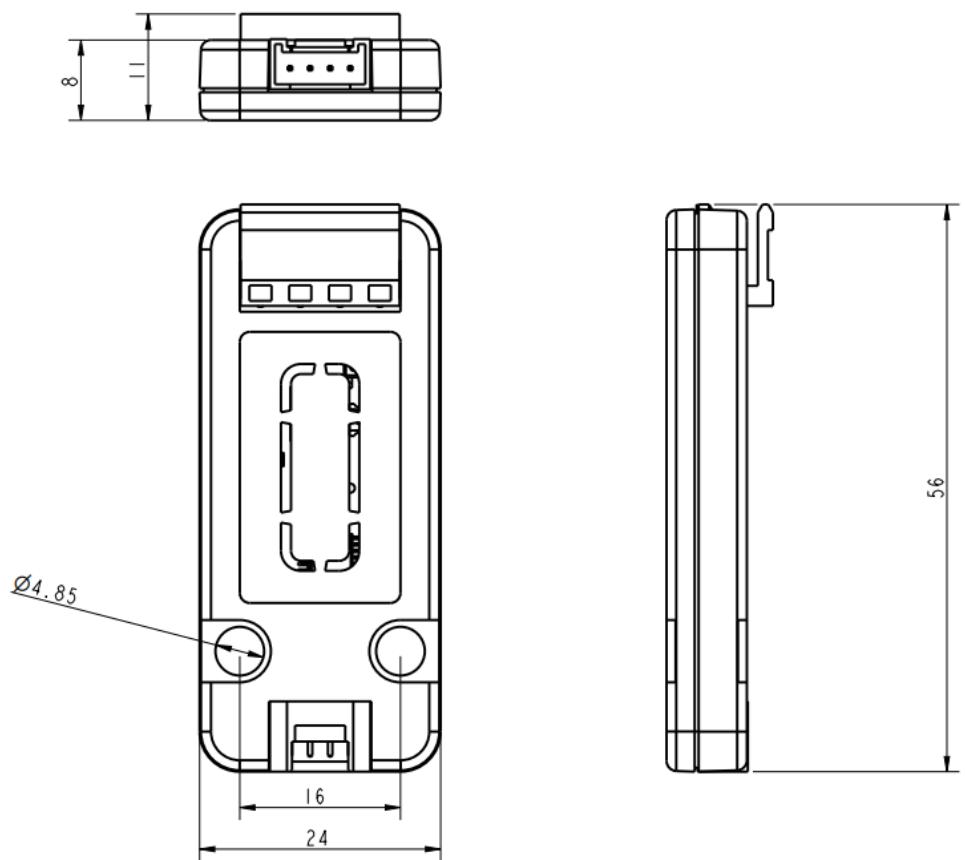
- [STM32F030F4P6](#)
- [RZ7899](#)

## Schematic



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

## Module Size



## | Protocol

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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, Reverse 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																							

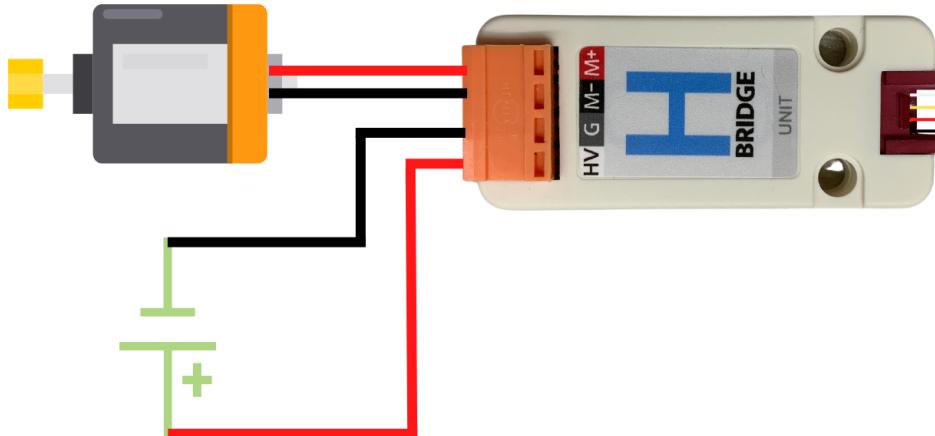
## Examples

### Arduino

- o [Hbridge Unit Firmware](#)
- o [Hbridge Unit Example](#)

## DC MOTOR

## Hbridge Unit



6-12V DC POWER SUPPLY



Basic Core

## UIFlow

### ○ Hbridge Unit UIFlow Example

The screenshot shows the UIFlow software interface. On the left, there is a preview window of the Hbridge Unit configuration screen, which includes fields for FW VER, STOP, I2C ADD, DIRECT, PWM Hz, 8BIT DUTY, ADC8, 16BIT DUTY, ADC16, CTRL, FREQ, and DUTY. Below this are tabs for Units, Stamps, Variables, Math, Loops, Logic, Graphic, Emoji, Timer, and Functions. The main workspace contains several logic blocks for the "Setup" and "Loop" sections. The "Setup" section includes initializations like "hbridge\_0 Init device I2C address 0x20" and setting PWM duty cycle values. The "Loop" section handles button presses (A, B, C) to control the motor direction (STOP, FORWARD, REVERSE) and set PWM frequencies. The bottom right of the screen shows standard UI elements like Terminal, Run, Download, and a trash bin.

# | video

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