Top of Form

**HRB8825 Stepper Motor HAT For Raspberry Pi, Drives Two Stepper Motors, Up To 1/32 Microstepping**

**SKU:**22311  
**Part Number:**Stepper Motor HAT (B)  
**Brand:**Waveshare

**$14.99** INCREASEDECREASEADD TO CART

|  |
| --- |
| **$14.19**2+ |
| **$13.79**3+ |
| **$13.63**4+ |

**Related Products:**

[](https://www.waveshare.com/catalog/product/view/id/3622/s/stepper-motor-hat/category/37/)

[](https://www.waveshare.com/stepper-motor-hat-b.htm#none;)

Share:

[**0**](https://www.waveshare.com/stepper-motor-hat-b.htm)

Bottom of Form

**DESCRIPTION**

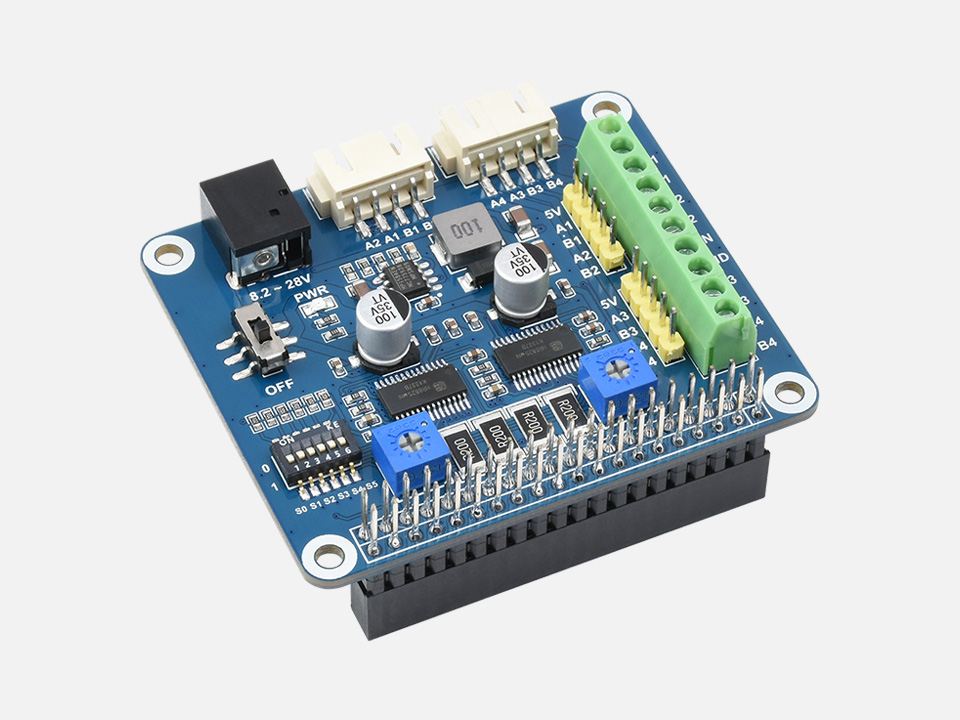
**PACKAGE CONTENT**

**HRB8825 Stepper Motor HAT For Raspberry Pi, Drives Two Stepper Motors, Up To 1/32 Microstepping**

Stepper Motor HAT (B)

Alternative Solution Of Stepper Motor HAT,  
Drives Two Stepper Motors, Up To 1/32 Microstepping

For 3D Printer, Sculpturing machine, Mechanical arm...



Features At A Glance

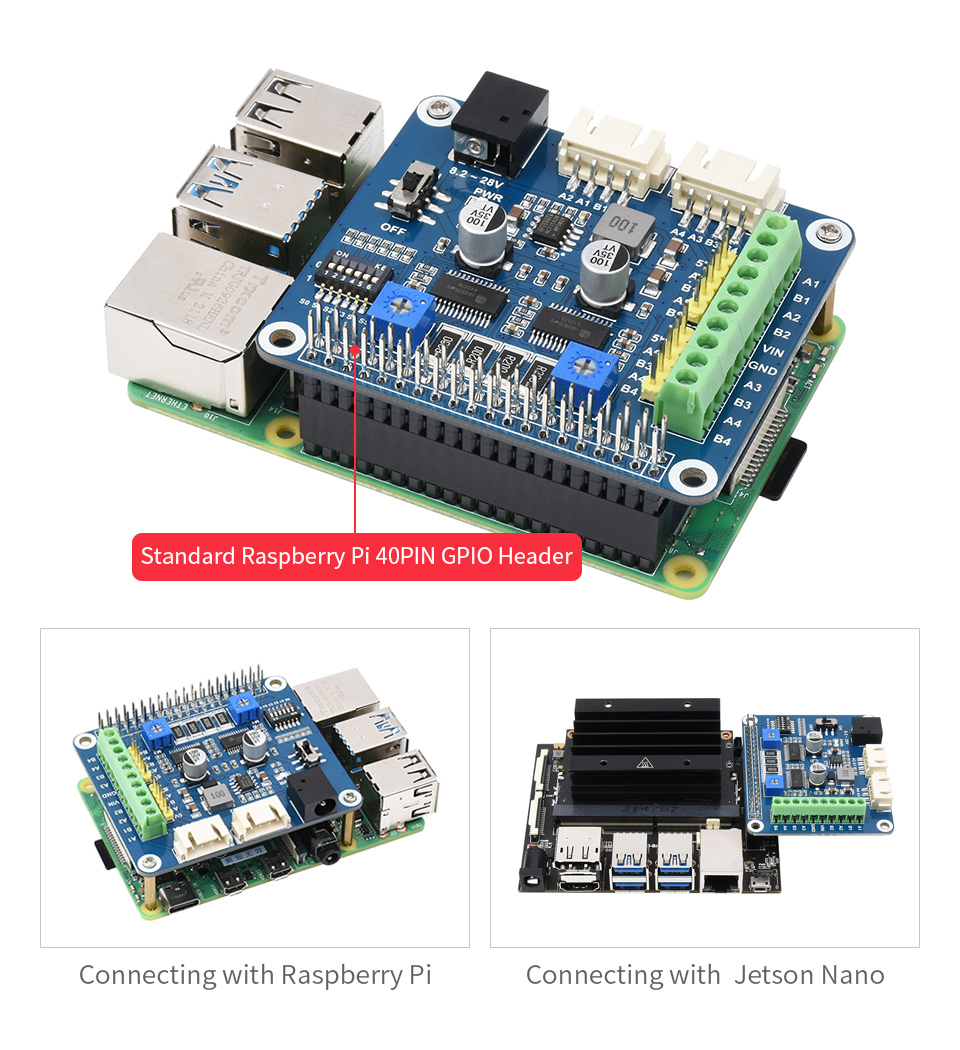
* Standard Raspberry Pi 40PIN GPIO extension header, supports Raspberry Pi series boards, Jetson Nano
* Onboard dual HR8825 motor controller IC with built-in microstepping indexer, drives two stepper motors, easy to use
* 6 available microstepping modes, configured with the DIP switches: full-step, half-step, 1/4-step, 1/8-step, 1/16-step, and 1/32-step
* Adjustable motor drive current via potentiometer, maximum 2.5A current output
* Protection features: Overcurrent Protection (OCP), Thermal Shutdown (TSD), VM Undervoltage Lockout (UVLO)
* Integrates 5V regulator, allows providing power to Raspberry Pi
* Onboard multi connector options for stepper motors in different specifications
* Comes with development resources and manual (examples in BCM2835, wiringPi, and python)

Specifications

|  |  |
| --- | --- |
| **MOTOR CONTROLLER** | HR8825 |
| **MOTOR DRIVE VOLTAGE** | 8.2V~28V |
| **MOTOR DRIVE CURRENT** | 2.5A |
| **LOGIC VOLTAGE** | 3.3V |
| **MOUNTING HOLE SIZE** | 3.0mm |
| **DIMENSION** | 65 × 56mm |

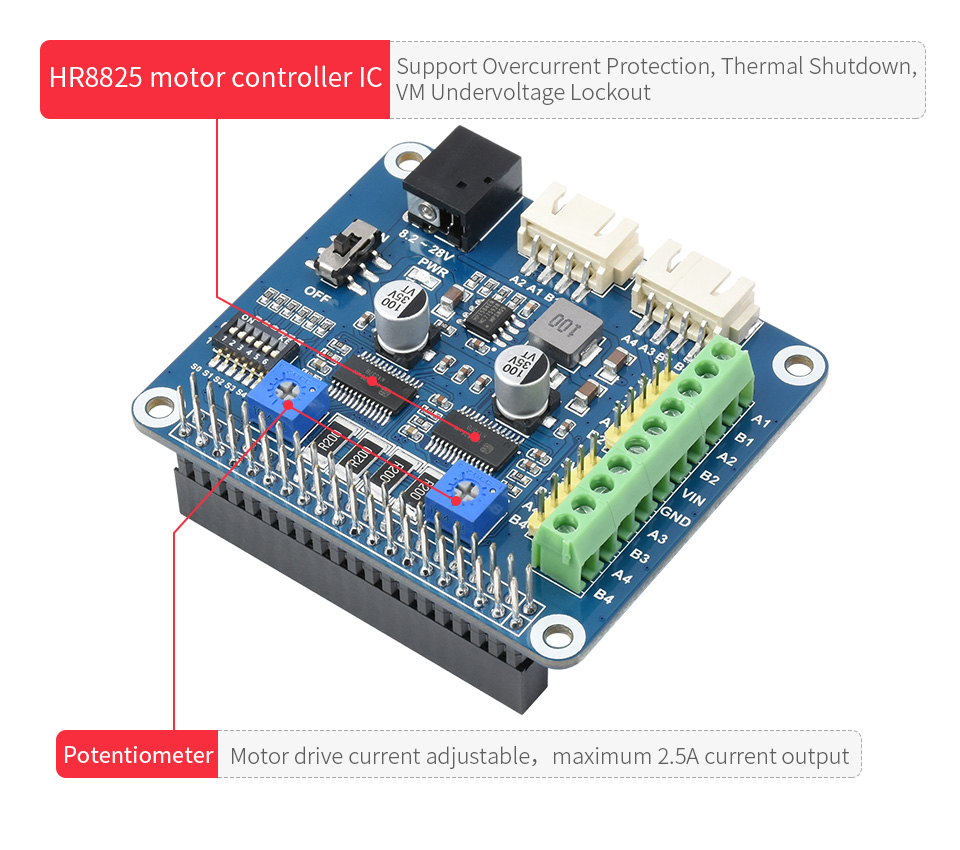
Raspberry Pi 40PIN GPIO Compatibility

Designed For Raspberry Pi Boards / Jetson Nano



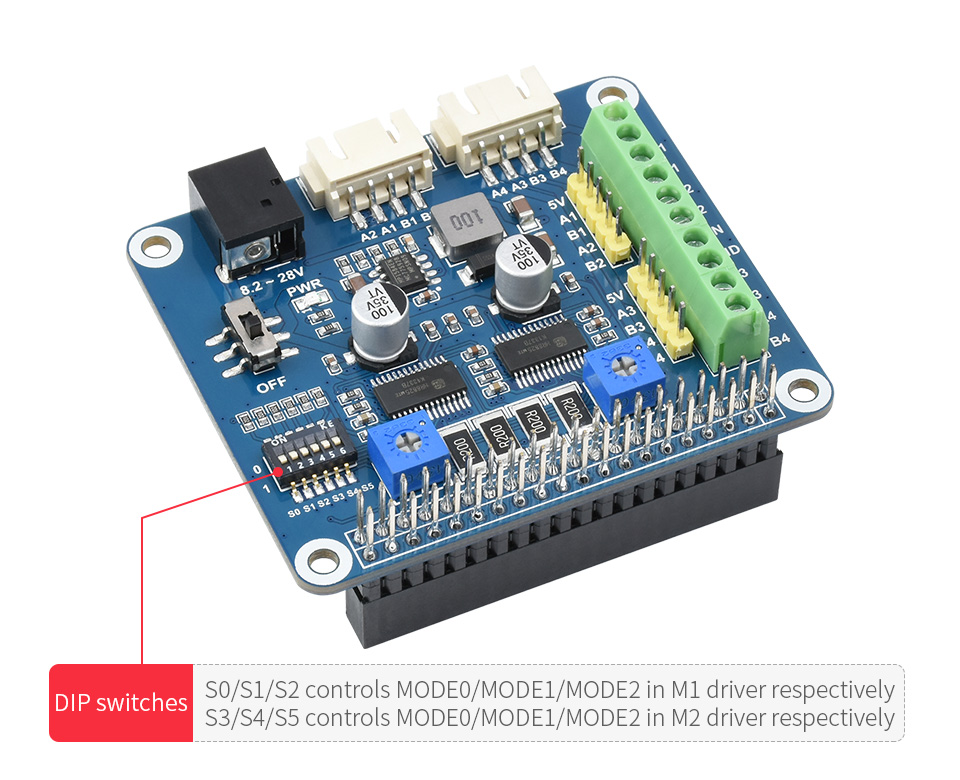
Onboard 2-Ch HR8825 Motor Driver Chip

Built-In Converter For Easy Control, Can Drive Two Stepper Motors



6 Available Microstepping Modes

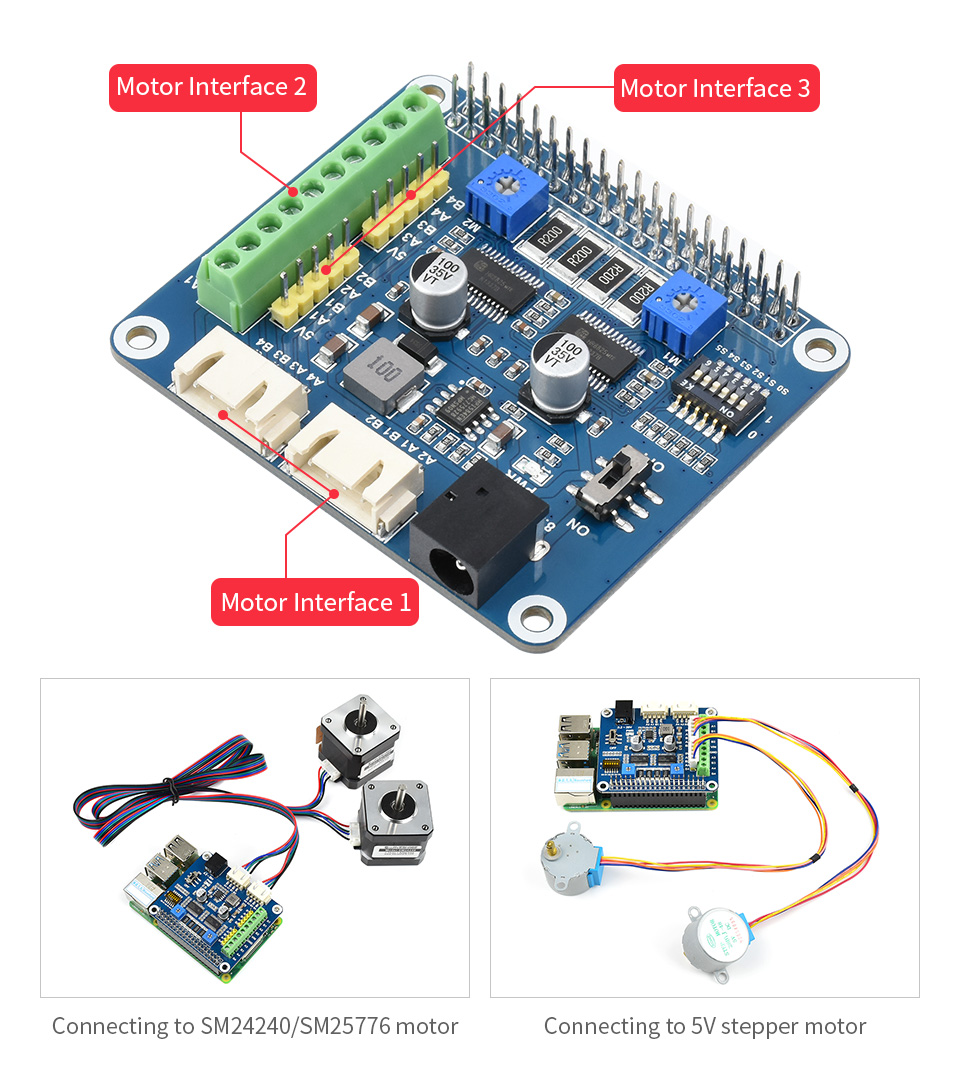
Configured Via The DIP Switches:  
Full-Step, Half-Step, 1/4-Step, 1/8-Step, 1/16-Step, And 1/32-Step



|  |  |  |  |
| --- | --- | --- | --- |
| **MODE2** | **MODE1** | **MODE0** | **MOTOR MICROSTEPPING SETTING** |
| 0 | 0 | 0 | full-step |
| 0 | 0 | 1 | half-step |
| 0 | 1 | 0 | 1/4-step |
| 0 | 1 | 1 | 1/8-step |
| 1 | 0 | 0 | 1/16-step |
| 1 | 0 | 1 | 1/32-step |
| 1 | 1 | 0 | 1/32-step |
| 1 | 1 | 1 | 1/32-step |

Onboard Different Stepper Motor Interfaces

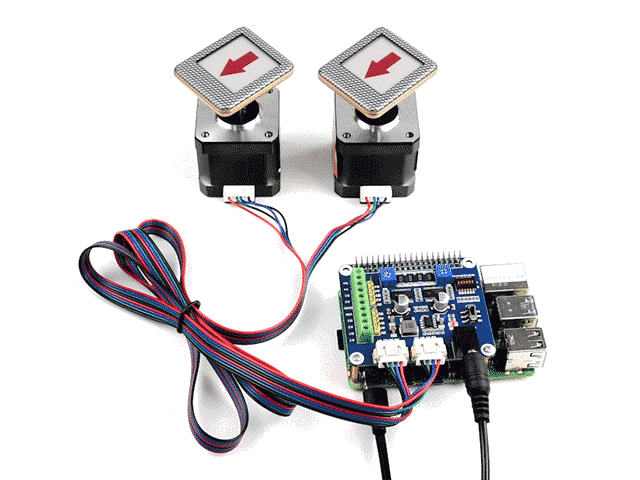
Easy Access To Stepper Motors In Different Specifications



|  |  |
| --- | --- |
| **PIN** | **MOTOR INTERFACE DESCRIPTION** |
| VIN | 8.2~28V Power Input |
| 5V | 5V Power |
| GND | Ground |
| A1 | Output 1 terminal of bipolar stepper motor M1 winding A |
| A2 | Output 2 terminal of bipolar stepper motor M1 winding A |
| B1 | Output 1 erminal of bipolar stepper motor M1 winding B |
| B2 | Output 2 terminal of bipolar stepper motor M1 winding B |
| A3 | Output 1 terminal of bipolar stepper motor M2 winding A |
| A4 | Output 2 terminal of bipolar stepper motor M2 winding A |
| B3 | Output 1 terminal of bipolar stepper motor M2 winding B |
| B4 | Output 2 terminal of bipolar stepper motor M2 winding B |

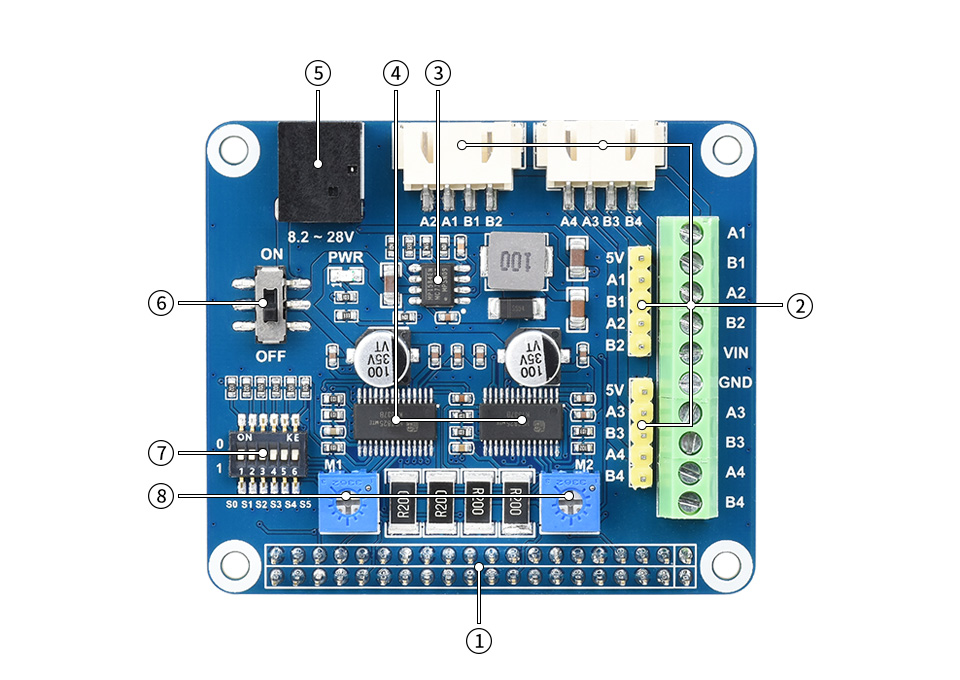
Application Examples

Easy Access To Stepper Motors In Different Specifications



for reference only, Raspberry Pi and stepper motors in the picture are NOT included.

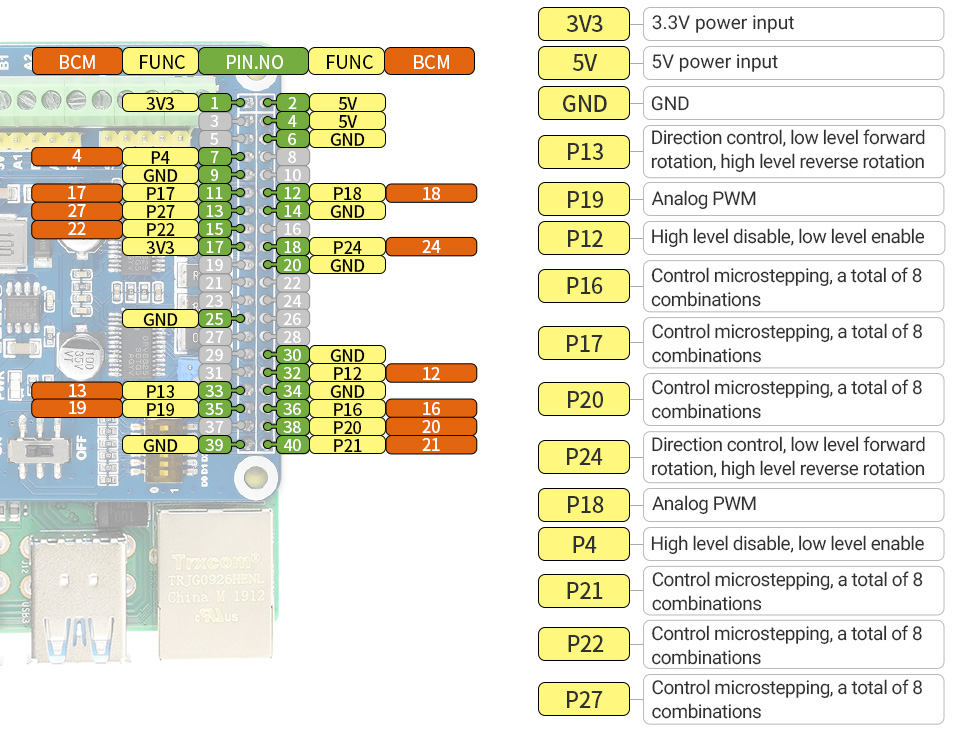
What's On Board



1. **Raspberry Pi GPIO interface**  
   Can be connected to various Raspberry Pi HATs
2. **Motor interface**  
   Three different specifications of the motor interface, easy to use
3. **MP1482 power chip**  
   External power supply can be converted into 5V voltage to power the Raspberry Pi
4. **HR8825 motor driver chip**  
   Can drive two stepper motors

1. **External power supply interface**  
   8.2V ~ 28V DC power input
2. **Motor power switch**  
   You can choose whether the module supplies power to the Raspberry Pi
3. **DIP switch**  
   For setting 6 different step resolutions
4. **Potentiometer**  
   Adjustable motor drive current

Pin Definition



Outline Dimensions

