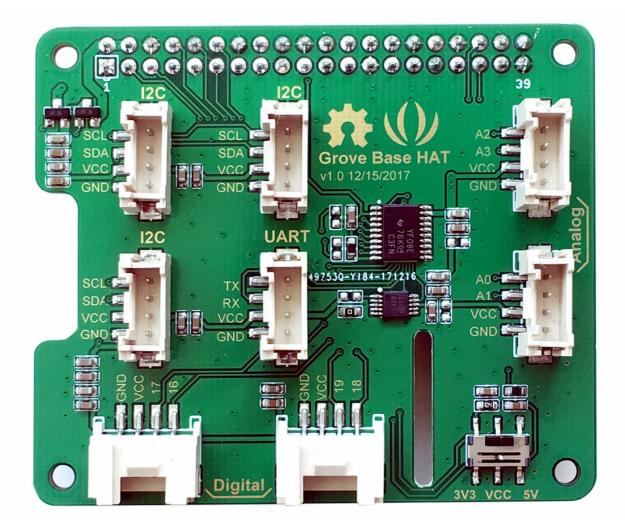
Grove Base HAT



Grove Base HAT is an add-on board that brings Grove Sensors to the Raspberry Pi. It supports Raspberry Pi 2 Model B, Raspberry Pi 3 Model B and Raspberry Pi B+. There are four mounting holes, matching well with normal size Raspberry Pi. It also keeps the space for Camera cables.



Version

Product Version	Changes	Released Date
Grove Base HAT	Initial	Dec 15, 2017

Features

- 2 digital Ports
- 2 analoge Ports
- 3 I2C ports
- 1 UART port
- 1 pow er sw itch

Hardware Overview

The images below show an overview of Grove Base HAT hardware features. The pin-out and alternate functions of various pins of Grove Base HAT are shown in the pin-out diagram. This could be used as a quick reference.



• 1 Digital Port:

2 digital Grove ports are used to connect Grove digital sensors.

Analog Port:

2 analog Grove ports are used to connect Grove analog sensors. Raspberry Pi does not support annalog signal. So we use the ADS1015 chip to transfer the ADC signal to I2C signal.

• 3 I2C Port:

3 I2C Grove ports are used to connect Grove I2C sensors.

• 4 UART:

1 UART Grove port is used to connect Grove UART sensors. The UART of Raspberry Pi 3 is used by bluetooth. Please follow THE RASPBERRY PI UARTS to enable the UART.

System Power Switch:

Slide switch is used to change the logic level and operating voltage of the board to either 5V or 3.3V.

• 6 ADS1015

ADS1015 is precision analog-to-digital converters (ADCs) with 12 bits of resolution, Data are transferred via an I2C-compatible serial interface.

• 7 TXS0108

This 8-bit non-inverting translator uses two separate configurable power-supply rails. The A port tracks the VCCA pin supply voltage. The VCCA pin accepts any supply voltage between 1.2 V and 3.6 V. The A ports are conencted to Raspberry. The B port tracks the VCCB pin supply voltage. The VCCB pin accepts any supply voltage between 1.65 V and 5.5 V. The B ports are conencted to Grove sensors.

• 8 FREE

The FREE pins are not used by Grove Base HAT.

Resources

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- [Datasheet] ADS1015
- [TXS0108] Grove Base HAT BRD