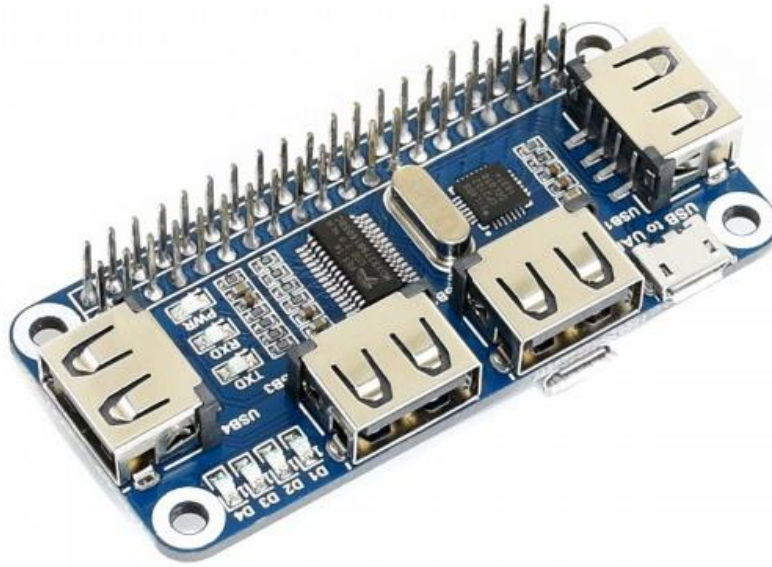




# Waveshare 4 Port USB HUB HAT for Raspberry Pi

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## Description:

4 Port USB HUB HAT for Raspberry Pi Zero / Zero W, USB to UART Onboard.

This is a 4 port USB hub for Raspberry Pi, provides more USB capability to your Pi, what's more, it features USB to UART converter for easy serial communication.

It can work with various versions of the Pi, and the size of the board is designed to perfectly fit the Zero / Zero 2W / Zero W / Zero WH.

## Features:

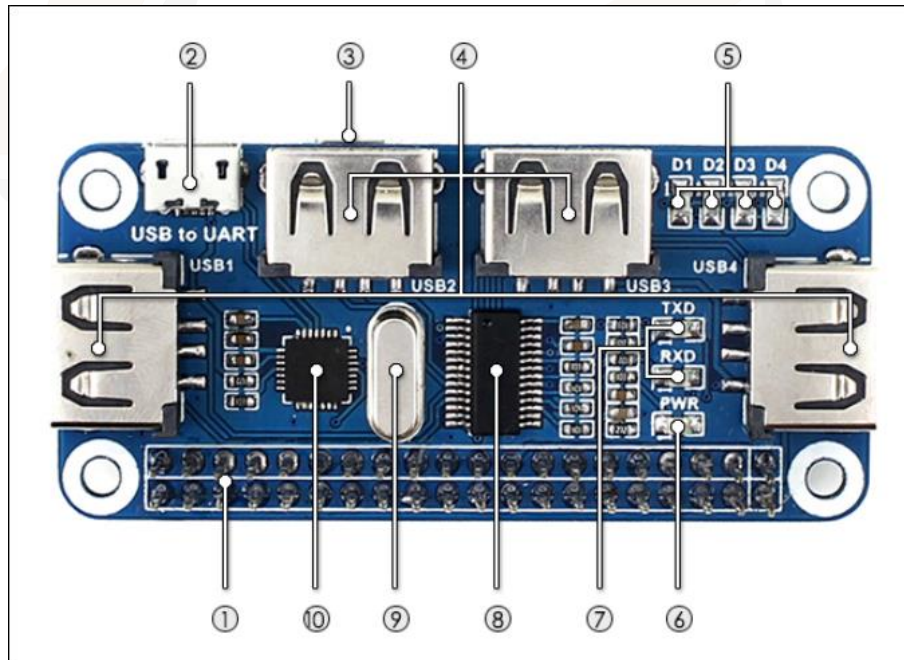
- 4 USB Ports, compatible with USB2.0/1.1
- Onboard USB to UART, with enable / disable switch, convenient for Raspberry Pi serial debugging and avoiding conflict

- Onboard multi indicators, for monitoring the status of power, USB to UART, and each USB port

## Specifications:

- Operating voltage: 5V
- Dimension: 65mm × 30mm
- Mounting hole size: 3.0mm

## What's on the USB HUB HAT:



1. Raspberry Pi GPIO interface: for connecting Raspberry Pi
2. USB to UART: for controlling the Raspberry Pi via serial terminal
3. USB HUB interface (bottom):for connecting the HUB to the Raspberry Pi USB port
  - Raspberry Pi Zero / Zero 2W / Zero W / Zero WH: connected via Micro USB connector
  - Raspberry Pi B+ / 2B / 3B / 3B+ /4B: connected via Micro USB cable
4. USB extended ports: USB1~USB4

5. USB port indicators: dedicated indicator for each USB port, D1~D4 for USB1~USB4 respectively
6. Power indicator
7. USB to UART indicator
8. FE1.1S: USB HUB chip
9. 12MHz crystal
10. CP2102: USB to UART converter

## How to use:

Take Raspberry Pi Zero W as an example:

1. Plug the module into the 40Pin GPIO connector on the Zero Board.
2. Plug the Micro USB connector to both the micro USB ports on the Zero W and the USB HUB HAT.
3. For serial connection: connect the "USB to UART" port to your PC with a USB cable and the LED will be turned on. Then install the CP2102 driver on your PC. Now you can access your Pi using a serial connection (you should enable shell and kernel messages on the serial connection).
4. Attach USB devices to the USB1~USB4 ports and the corresponding LED will be turned on to indicate the working state.

### Note:

- There are two micro USB ports on the USB HUB HAT. Only the "USB HUB" (but not "USB to UART") connector is used for USB expansion.
- You have to attach the USB HUB HAT to a Raspberry Pi B+/2B/3B with a USB cable although the module can be attached to a Pi Zero W with the Micro USB connector.
- If you cannot access your Pi using a serial connection, try to enable the serial option in "sudo raspi-config".

## Interface Introduction:

Identification	Description
USB HUB	USB HUB interface, connect to the USB port of Raspberry Pi
USB1-USB4	USB expansion port, can connect USB devices

USB to UART	Raspberry Pi serial port
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## Raspberry Pi Serial Port:

There is a switch on the back of the module, the switch can select the serial port. Both switches are turned ON, and the serial port of the Raspberry Pi can be drawn out.

## Dimensions:

