

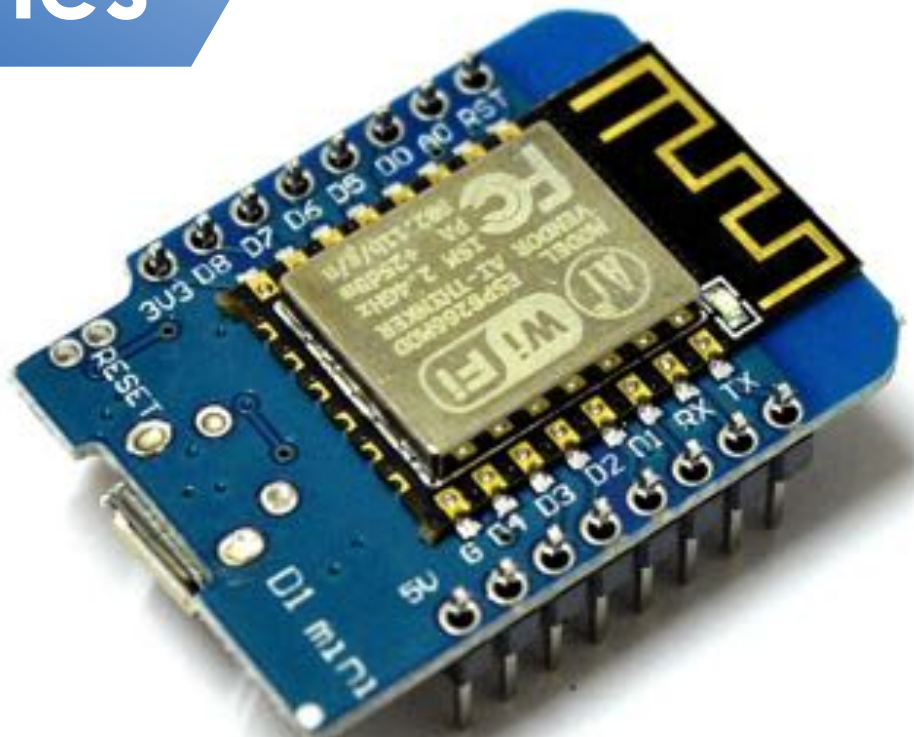
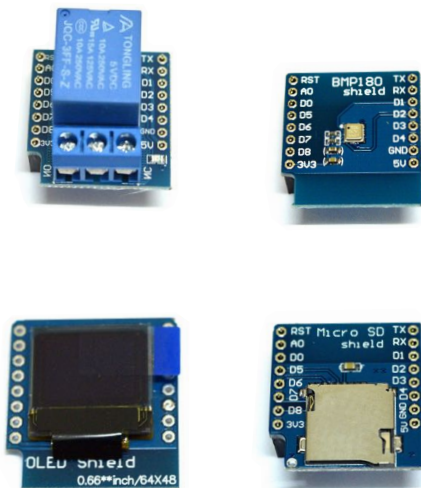


EINTRONIC
TURN ON THE FUTURE

WeMos[®]

D1 Mini Series

July 2017



What is WeMos?

WeMos is a company that develops low cost-effective Internet of Things (IoT) devices for various projects and products.

WeMos D1 Mini series are one of the products developed by the company to enable wireless connectivity, simple data traffic and electronic controlling to electronic projects at the same time.

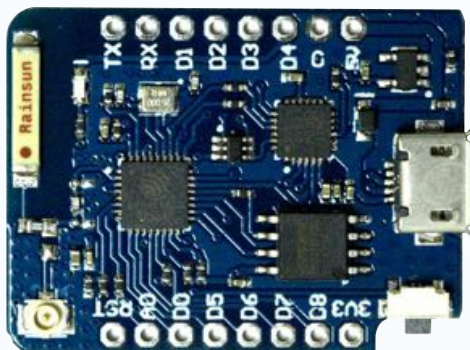
WEMOS



What's special about WeMos D1 Mini ?



**WeMos D1 Mini ESP8266
WiFi Development Board**



**WeMos D1 Mini PRO ESP8266
WiFi Development Board**

Very small-sized and its footprint is breadboard friendly.

Built-in antenna on the ESP8266EX chip.

Uses 802.11b/g/n wireless communication protocol, can be detected and communicated via wireless modem router once powered up.

Many multilevel-stacking shields designed to fit onto the WeMos D1 Mini board application.

Uses micro USB Port so you can use any data carrying cable to power up and program the WeMos D1 Mini.

Arduino IDE compatible, you can use the same Arduino IDE to program this board (add-on extension required and available via Board Manager).

Built-in USB serial communication module (CH340G) so you can use this board similar as using any other Arduino boards with PC.

11 Digital IO pins, all IO pins except D0 are capable of PWM, Interrupt, I2C and 1-wire interfaces. This board also accepts SPI interface.

1 Analog input pin that can accept up to 3.3V signal.

4 MB Flash for WeMos D1 Mini, 16 MB Flash for PRO version.

MAIN BOARD



WEMOS D1 MINI ESP8266 WIFI DEVELOPMENT BOARD

WeMos D1 mini is a mini WiFi board based on ESP8266EX. This board is Arduino IDE compatible, therefore it can be programmed using Arduino or its own Lua compiler. It also supports both serial and OTA programming.

This small development board has 4MB Flash memory, based on the specifications of ESP8266EX, has 11 digital IO pins, all IO pins capable of Interrupt / PWM / I2C / 1-wire except D0 pins. It has 1 Analog input (3.3V max) and a Micro USB port to connect with PC for communication and programming.

WEMOS D1 MINI PRO ESP8266 WIFI DEVELOPMENT BOARD

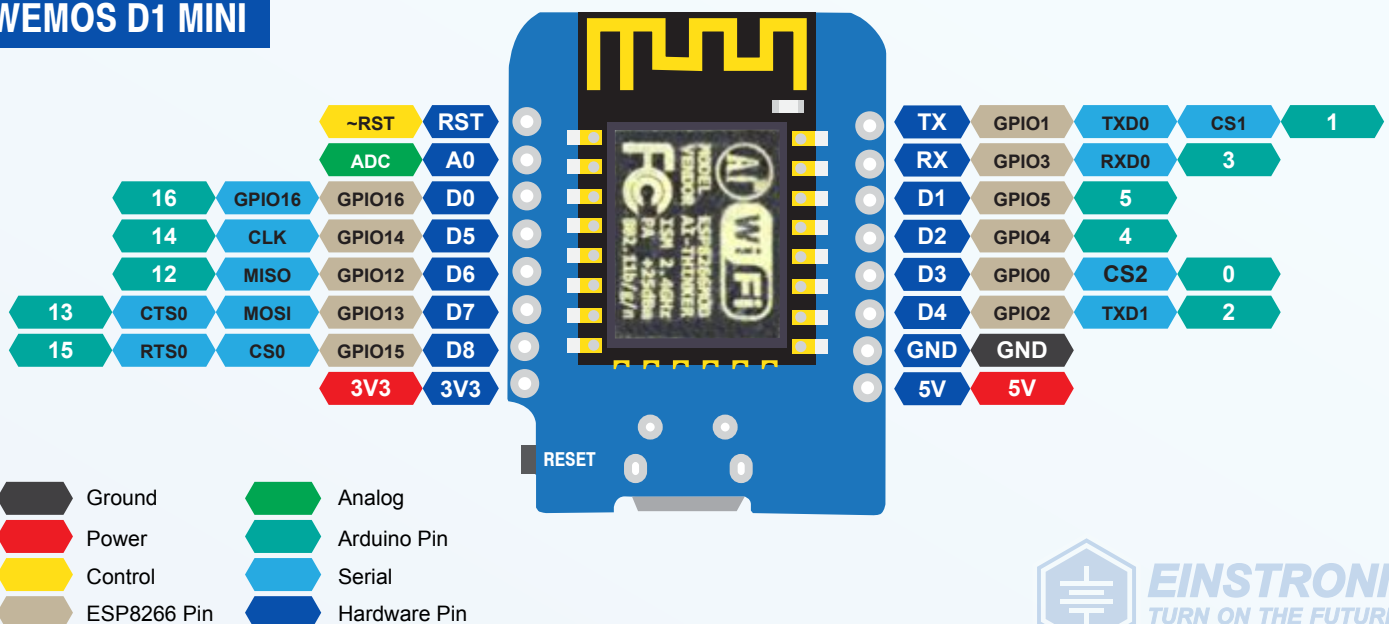
WeMos D1 Mini PRO differs from the previous version WeMos D1 Mini by using the new CP2104 USB-to-UART interface circuit. This board is lighter than the WeMos D1 Mini but shares the same footprint.

This board has 16MB Flash memory, external antenna connector and built-in ceramic antenna, has 11 digital IO pins, all pins capable of Interrupt / PWM / I2C / 1-wire except D0 pins. It has 1 Analog input (3.3V max) and a Micro USB port to connect with PC for programming.



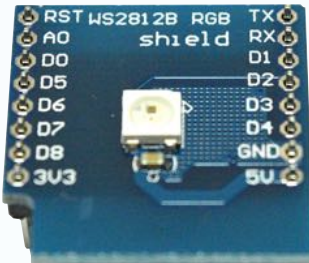
PINOUT DIAGRAM

WEMOS D1 MINI



INTERACTION

WS2812 RGB LED SHIELD



WS2812 RGB LED Shield is equipped with an 5050 sized digital LED on it so you can create a visible signal light to its observer. The LED can emit variation of 16 million colors (combination of 256 intensity levels of red, green and blue light) and you only need D2 pin to control the LED at ease!

This shield is not I2C compatible.

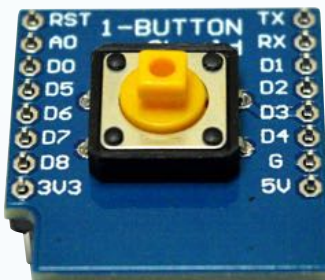
0.66" I2C OLED SCREEN DISPLAY SHIELD

WeMos Mini D1 OLED shield is mounted with 0.66" 64 x 48 pixel OLED display module. It can display bright and clear dotted characters with a high contrast ratio at a much lower power consumption. This display module is driven using SSD1306 display controller so it also can be used by other 3.3V control system as well.

This display module is I2C compatible which allows you to use it with other I2C compatible devices, D1 (SCL) and D2 (SDA) are used for I2C compatible shields.



1-BUTTON SWITCH SHIELD



This shield is mounted with a 12x12 momentary tactile push button, connected to D3 pin that allow you to trigger a programmed event.

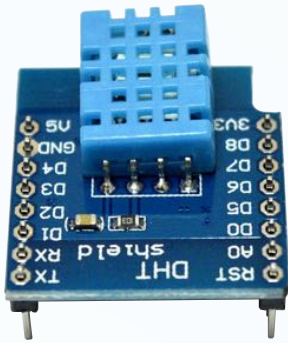
This shield is not I2C compatible but it does not affect the usage of other connected I2C compatible devices with WeMos D1 Mini development board.

MICRO SD CARD READER SHIELD

This shield is designed for use with the WeMos D1 mini and mini Pro development boards to directly communicate with most types of micro SD card. The shield is also compatible with the standard Arduino SD card library. 3 sets of headers are given to allow for multiple compatible shields to be stacked on top of each other.



ENVIRONMENT



DHT11 HUMIDITY TEMPERATURE SENSOR SHIELD

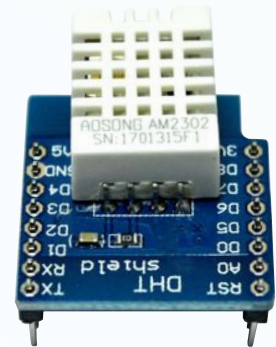
This shield is mounted with DHT11 humidity temperature sensor that can measure temperature range between 0 and 60°C ($\pm 2^\circ\text{C}$ accuracy) and the humidity range is 20 - 90%RH ($\pm 5\%$ RH).

The temperature and humidity data read from the sensor is the result of the last measurement, the sensor will generate new reading after data is read from the sensor. This sensor can be interfaced via D4 pin of WeMos D1 Mini and WeMos D1 Mini PRO.

DHT22 HUMIDITY TEMPERATURE PRO SENSOR SHIELD

This is the higher-precision version of the popular DHT11 humidity and temperature sensor. This sensor can measure temperature between -40 and 80°C, and humidity between 0 and 100% RH.

This sensor can be interfaced via D4 pin of WeMos D1 Mini and WeMos D1 Mini PRO.



SHT30 HUMIDITY TEMPERATURE SENSOR SHIELD



This shield is mounted with SHT30 humidity temperature sensor module that can measure temperature ranged between -40 to +125°C ($\pm 0.3^\circ\text{C}$ accuracy) and humidity level of 0 to 100% RH (3% RH accuracy).

This sensor shield is I2C compatible, so you can use this sensor shield stacked with other I2C compatible devices. The I2C communication protocol address of this shield can be hardware set by soldering the ADDR point on the shield.

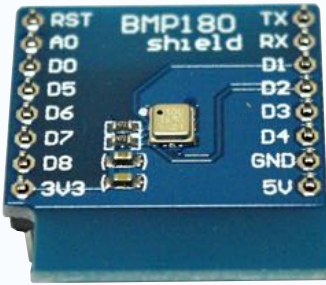
DS18B20 TEMPERATURE SENSOR SHIELD

This shield is mounted with DS18B20 digital thermometer that provides 9-bit to 12-bit Celsius temperature measurements and has an alarm function with non-volatile user-programmable upper and lower trigger points.

This sensor can be interfaced using 1-Wire bus that by definition requires only one data line and ground for communication. The pin used for this sensor is D2 pin of WeMos D1 Mini and Mini PRO, which rendered this shield to be not I2C compatible.



BMP180 BAROMETRIC PRESSURE SENSOR SHIELD

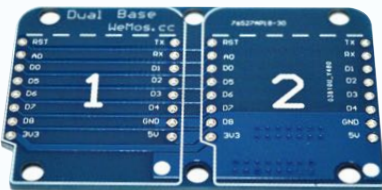


This shield is mounted with BMP180 Barometric Pressure Sensor Module developed by Bosch Sensortec.

BMP180 is a digital, high precision, small volume, low energy consumption of the pressure sensor typically used for sensing the atmospheric pressure to determine the elevation from ground. Its excellent performance are the absolute lowest precision can reach 0.03hPa. This device can be interfaced via I2C communication so you can use this sensor with other I2C compatible devices as well.

EXPANSION

DUAL BASE EXPANSION BOARD



This board is an extension board that able to mount 2 Wemos D1 board and shields in horizontal orientation, giving flexibility in using Wemos controller and sensing shields with the environment.

This extension base board comes with female header connectors which can be soldered onto it to insert WeMos D1 boards and shield.

PROTOTYPING BOARD SHIELD

This shield is a double-sided donut board designed to mount directly on WeMos D1 Mini or Mini Pro, you can solder any electronic components to test out the project you are building.

You can also assign the WeMos D1 Mini or WeMos Mini PRO board pins according to your need.



CONTROL



TNG6612FNG I2C DUAL MOTOR DRIVER SHIELD

This shield is designed based on the popular TB6612FNG motor controller chip to provide an easy way to control motors with your WeMos D1 mini. You can set your mini robotic projects into the motion by using this with its library file with Arduino IDE.

This shield supports I2C communication with the WeMos D1 Mini and WeMos D1 Mini PRO board, and 2 small DC motors. By using I2C communication, you can also extend your WeMos board with other I2C compatible devices.

1-CHANNEL 10A RELAY SHIELD

This shield is equipped with a SPDT relay that act as electronic switch and capable of allowing up to 10A current passing through the relay contactors. Using this shield allow you to control an electrical component, switch on and off of the component at your application timing.

The relay can be triggered using the D1 pin of WeMos D1 Mini and WeMos D1 Mini PRO, however this shield is not I2C compatible.



POWER



1A LITHIUM BATTERY CHARGER SHIELD

This shield is used to connect a lithium battery to this shield and supply power for the entire D1 mini connected system. When the battery run out, it can be recharged using the USB port and this shield will automatically boost convert the USB power to recharge the lithium battery.

This shield does not consume any IO pin of WeMos D1 Mini board, which is ideal for enabling the system to work with battery source at populated or remote locations.

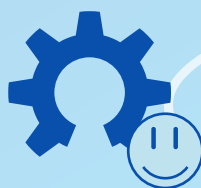


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July 2017



Wireless Connectivity



Easy to Use



Miniatured & Powerful

We offers the Wemos D1 Mini Series by the order of sets.

These items are shipped from oversea, arrival may take longer time.

For more details, we can be reached at the addresses below.

Terms & Condition apply.

Official website for Wemos

www.wemos.cc

CONTACT INFORMATION



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