# Documentazione

## Wemos nomi pin

Usare il nome GPIO. I nomi Dx non tornano.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Print(Dx) | Valore print | GPIO | Si muove | Nome wemos |
| D1 | 01 | 01 |  | - |
| D2 | 16 | 16 |  | D0 |
| D3 | 05 | 05 |  | D1 |
| D4 | 04 | 04 |  | D2 |
| D5 | 14 | 14 |  | D5 |
|  |  | 15 |  | D8 |
|  |  | 13 |  | D7 |
|  |  | 12 |  | D6 |
|  |  | 02 |  | D4 |
|  |  | 00 |  | D3 |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Pin number** | **Pin name** | **function** | **Ir Tx On ground** | **Ir Rx  On robot** |
| 1 | RST | Reset module |  |  |
| 2 | ADC | A/d conversion result. Input voltage range 0~1V, value range: 0~1024 | Fotocellula - in |  |
| 3 | EN | Chip enable pin. Active high |  |  |
| 4 | GPIO16 | GPIO16; can be used to wake up the chipset from deep sleep mode | Stato barriera - D0 - out |  |
| 5 | GPIO14 | GPIO14; HSPI\_CLK |  |  |
| 6 | GPIO12 | GPIO12; HSPI\_MISO |  |  |
| 7 | GPIO13 | GPIO13; HSPI\_MOSI; UART0\_CTS |  |  |
| 8 | VCC | 3.3V power supply (VDD) |  | IR\_chip pwr supply |
| 9 | GND | GND |  | IR chip ground |
| 10 | GPIO15 | GPIO15; MTDO; HSPICS; UART0\_RTS |  |  |
| **11** | **GPIO2** | **GPIO2; UART1\_TXD** | **Seriale tx Debug – D4 - out** | **Seriale tx Debug – D4 - out** |
| 12 | GPIO0 | GPIO0 | Sx led sel - D3 - out |  |
| 13 | GPIO4 | GPIO4 | Ir tx - D2 - out | Ir rx (D5) In |
| 14 | GPIO5 | GPIO5 | Dx led sel - D1 - out |  |
| 15 | RXD0 | UART0\_RXD; GPIO3 |  | Rx |
| 16 | TXD0 | UART0\_TXD; GPIO1 |  | Tx |

|  |  |  |
| --- | --- | --- |
| **Interface** | **Pin Name** | **Description** |
| HSPI | IO12(MISO),  IO13(MOSI)  IO14(CLK),  IO15(CS) | SPI Flash , display screen, and MCU can be connected using HSPI interface |
| PWM | IO12(R),  IO15(G),  IO13(B) | Currently the PWM interface has four channels, but users can extend the channels according to their own needs. PWM interface can be used to control LED lights, buzzers, relays, electronic machines, and so on. |
| IR Remote Control | IO14(IR\_T),  IO5(IR\_R) | The functionality of Infrared remote control interface can be implemented via software programming. NEC coding, modulation, and demodulation are used by this interface. The frequency of modulated carrier signal is 38KHz. |
| ADC | TOUT | ESP8266EX integrates a 10-bit analog ADC. It can be used to test the power supply voltage of VDD3P3 (Pin3 and Pin4) and the input power voltage of TOUT (Pin 6). However, these two functions cannot be used simultaneously. This interface is typically used in sensor |
| I2C | IO14(SCL),  IO2(SDA) | I2C interface can be used to connect external sensor products and display screens, etc. |
| UART | UART0:  TXD(U0TXD),  RXD(U0RXD),  IO15(RTS),  IO13(CTS)  UART1:  IO2(TXD) | Devices with UART interfaces can be connected with the module. Downloading: U0TXD+U0RXD or GPIO2+U0RXD Communicating: UART0: U0TXD, U0RXD, MTDO (U0RTS), MTCK (U0CTS) Debugging: UART1\_TXD (GPIO2) can be used to print debugging information. |
| By default, UART0 will output some printed information when the device is powered on and is booting up. If this issue exerts influence on some specific applications, users can exchange the inner pins of UART when initializing, that is to say, exchange U0TXD, U0RXD with U0RTS, U0CTS. | | |
| I2S | I2S Input：  IO12 (I2SI\_DATA) ;  IO13 (I2SI\_BCK );  IO14 (I2SI\_WS); | I2S interface is mainly used for collecting, processing, and transmission of audio data. |
| I2S Output:：  IO15 (I2SO\_BCK );  IO3 (I2SO\_DATA);  IO2 (I2SO\_WS ). | | |

Wemos Tx ir

## Arduino ATmega 2560 pin assignement table

|  |  |  |  |
| --- | --- | --- | --- |
| **Used for** | **Schematic Name** | **Pin Name** | **Mapped Pin Name** |
|  |  |  |  |
|  |  |  |  |
|  |  | PG5 ( OC0B ) | Digital pin 4 (PWM) |
| Lidar rx | PWMH.1 | PE0 ( RXD0/PCINT8 ) | Digital pin 0 (RX0) |
| - |  | PE1 ( TXD0 ) | Digital pin 1 (TX0) |
|  |  | PE2 ( XCK0/AIN0 ) |  |
| Motor A2 | PWML.6 | PE3 ( OC3A/AIN1 ) | Digital pin 5 (PWM) |
| Motor B2 | PWMH.2 | PE4 ( OC3B/INT4 ) | Digital pin 2 (PWM) |
| Motor B1 | PWMH.3 | PE5 ( OC3C/INT5 ) | Digital pin 3 (PWM) |
|  |  | PE6 ( T3/INT6 ) |  |
|  |  | PE7 ( CLKO/ICP3/INT7 ) |  |
|  |  | VCC | VCC |
|  |  | GND | GND |
|  |  | PH0 ( RXD2 ) | Digital pin 17 (RX2) |
|  |  | PH1 ( TXD2 ) | Digital pin 16 (TX2) |
|  |  | PH2 ( XCK2 ) |  |
| Motor A1 | PWML.7 | PH3 ( OC4A ) | Digital pin 6 (PWM) |
|  |  | PH4 ( OC4B ) | Digital pin 7 (PWM) |
|  |  | PH5 ( OC4C ) | Digital pin 8 (PWM) |
|  |  | PH6 ( OC2B ) | Digital pin 9 (PWM) |
|  |  | PB0 ( SS/PCINT0 ) | Digital pin 53 (SS) |
|  |  | PB1 ( SCK/PCINT1 ) | Digital pin 52 (SCK) |
|  |  | PB2 ( MOSI/PCINT2 ) | Digital pin 51 (MOSI) |
|  |  | PB3 ( MISO/PCINT3 ) | Digital pin 50 (MISO) |
|  |  | PB4 ( OC2A/PCINT4 ) | Digital pin 10 (PWM) |
|  |  | PB5 ( OC1A/PCINT5 ) | Digital pin 11 (PWM) |
|  |  | PB6 ( OC1B/PCINT6 ) | Digital pin 12 (PWM) |
|  |  | PB7 ( OC0A/OC1C/PCINT7 ) | Digital pin 13 (PWM) |
|  |  | PH7 ( T4 ) |  |
|  |  | PG3 ( TOSC2 ) |  |
|  |  | PG4 ( TOSC1 ) |  |
|  |  | RESET | RESET |
|  |  | VCC | VCC |
|  |  | GND | GND |
|  |  | XTAL2 | XTAL2 |
|  |  | XTAL1 | XTAL1 |
|  |  | PL0 ( ICP4 ) | Digital pin 49 |
|  |  | PL1 ( ICP5 ) | Digital pin 48 |
|  |  | PL2 ( T5 ) | Digital pin 47 |
|  |  | PL3 ( OC5A ) | Digital pin 46 (PWM) |
|  |  | PL4 ( OC5B ) | Digital pin 45 (PWM) |
|  |  | PL5 ( OC5C ) | Digital pin 44 (PWM) |
|  |  | PL6 | Digital pin 43 |
|  |  | PL7 | Digital pin 42 |
|  |  | PD0 ( SCL/INT0 ) | Digital pin 21 (SCL) |
|  |  | PD1 ( SDA/INT1 ) | Digital pin 20 (SDA) |
|  |  | PD2 ( RXDI/INT2 ) | Digital pin 19 (RX1) |
|  |  | PD3 ( TXD1/INT3 ) | Digital pin 18 (TX1) |
|  |  | PD4 ( ICP1 ) |  |
|  |  | PD5 ( XCK1 ) |  |
|  |  | PD6 ( T1 ) |  |
|  |  | PD7 ( T0 ) | Digital pin 38 |
|  |  | PG0 ( WR ) | Digital pin 41 |
|  |  | PG1 ( RD ) | Digital pin 40 |
|  |  | PC0 ( A8 ) | Digital pin 37 |
|  |  | PC1 ( A9 ) | Digital pin 36 |
|  |  | PC2 ( A10 ) | Digital pin 35 |
| Led 3 | XIOH.4 | PC3 ( A11 ) | Digital pin 34 |
| Led 2 | XIOH.5 | PC4 ( A12 ) | Digital pin 33 |
| Led 1 | XIOH.6 | PC5 ( A13 ) | Digital pin 32 |
|  |  | PC6 ( A14 ) | Digital pin 31 |
|  |  | PC7 ( A15 ) | Digital pin 30 |
|  |  | VCC | VCC |
|  |  | GND | GND |
|  |  | PJ0 ( RXD3/PCINT9 ) | Digital pin 15 (RX3) |
|  |  | PJ1 ( TXD3/PCINT10 ) | Digital pin 14 (TX3) |
|  |  | PJ2 ( XCK3/PCINT11 ) |  |
|  |  | PJ3 ( PCINT12 ) |  |
|  |  | PJ4 ( PCINT13 ) |  |
|  |  | PJ5 ( PCINT14 ) |  |
|  |  | PJ6 ( PCINT 15 ) |  |
|  |  | PG2 ( ALE ) | Digital pin 39 |
|  |  | PA7 ( AD7 ) | Digital pin 29 |
|  |  | PA6 ( AD6 ) | Digital pin 28 |
|  |  | PA5 ( AD5 ) | Digital pin 27 |
|  |  | PA4 ( AD4 ) | Digital pin 26 |
|  |  | PA3 ( AD3 ) | Digital pin 25 |
|  |  | PA2 ( AD2 ) | Digital pin 24 |
|  |  | PA1 ( AD1 ) | Digital pin 23 |
|  |  | PA0 ( AD0 ) | Digital pin 22 |
|  |  | PJ7 |  |
|  |  | VCC | VCC |
|  |  | GND | GND |
|  |  | PK7 ( ADC15/PCINT23 ) | Analog pin 15 |
|  |  | PK6 ( ADC14/PCINT22 ) | Analog pin 14 |
|  |  | PK5 ( ADC13/PCINT21 ) | Analog pin 13 |
|  |  | PK4 ( ADC12/PCINT20 ) | Analog pin 12 |
|  |  | PK3 ( ADC11/PCINT19 ) | Analog pin 11 |
|  |  | PK2 ( ADC10/PCINT18 ) | Analog pin 10 |
|  |  | PK1 ( ADC9/PCINT17 ) | Analog pin 9 |
|  |  | PK0 ( ADC8/PCINT16 ) | Analog pin 8 |
|  |  | PF7 ( ADC7 ) | Analog pin 7 |
|  |  | PF6 ( ADC6 ) | Analog pin 6 |
|  |  | PF5 ( ADC5/TMS ) | Analog pin 5 |
|  |  | PF4 ( ADC4/TMK ) | Analog pin 4 |
|  |  | PF3 ( ADC3 ) | Analog pin 3 |
|  |  | PF2 ( ADC2 ) | Analog pin 2 |
|  |  | PF1 ( ADC1 ) | Analog pin 1 |
|  |  | PF0 ( ADC0 ) | Analog pin 0 |
|  |  | AREF | Analog Reference |
|  |  | GND | GND |
|  |  | AVCC | VCC |