

# iTriangle HW overview

## Hardware Overview

[P8tZQFLDvtdHMt-Hardware-overview.jpg](#)

Part	Function
MCU	ESP8266
Digital Port 0	GPIO 14
Digital Port 1	GPIO 12
Digital Port 2	GPIO 13
Analog Port	A3
UART Port	Pin 1 & Pin 3
I2C Port	Pin 4 & Pin 5
Status Light	Blue LED is the WiFi status indicator, Red LED indicates the working status
Configure Button	To configure and manage your iTriangle
Battery Holder	JST2.0
Micro USB	To power the board or communicate with a PC
Reset Button	To reset the MCU

General	Value	Power Management	Value
Size	55mm * 48mm	DC Current Per I/O Pin	12 mA
Crystal	26 MHz	Input Voltage (Micro USB)	5 V
Flash Memory	4 MBytes (W25Q32B)	Input Voltage (Battery holder)	3.4~4.2 V
Wi-Fi Network Protocol	802.11 b/g/n	Output DC Current	1000 mA MAX
Wi-Fi Encryption Technology	WEP/TKIP/AES	Operating Voltage	3.3 V

General	Value	Power Management	Value
Grove Connectors	6	Charge Current	500 mA MAX
Flash	4 MB (W25Q32B)	LifeTime of FLASH	10.000 write cycles

Pay attention to FLASH write cycle limits. Programs are stored in FLASH and each new firmware build or offline code update increases the internal write count. After the FLASH write limit is exceeded, the board will probably work well for the next few thousands cycles, but there is no legal warranty for exceeding the limit.

## Status LEDs

Two status LEDs, blue and red, can be seen near the FUNCTION button. The blue LED indicates network status and has the following blink patterns:

[Zfe0uQ1zgi7igF4Q-help01\\_breathing.gif](#)  
 blinking slowly - configuration mode

[K57GP2e2mwGbAiBu-help02\\_blink\\_2.gif](#)  
 blinking twice quickly, then off for 1s - requesting IP address from router

[cmxnOKWs6mIDnUUs-help03\\_blink\\_1\\_quick.gif](#)  
 blinking once quickly, then off for 1s - connecting to the server

[TkLwZtFEDtHSHzmerH-help06\\_blink\\_1s.gif](#)  
 blink for 1s, then off for 1s - the node is online

[sHpEUKKkFIHCufus-help04\\_no\\_blink.gif](#)  
 continuously on - the node is not available/has no IP/not connected to server.

[cfOggaDl4pHTPdt-help05\\_blink\\_01s.gif](#)  
 blinking quickly (on for 100ms, then off for 100ms) - OTA

The blue LED is connected to GPIO2, which is also the TX pin of UART1. When downloading firmware, the UART1 dumps the data transmitting on UART0 automatically. The Bblue LED will therefore blink while downloading firmware. After startup, the GPIO2 will be configured as a GPIO, not TX of UART1.

The red LED is another status LED and indicates the power status of Grove modules. The six VCC headers converge and can be controlled with GPIO 15. When the node is in deep sleep mode, all of the modules lose their power too. The red LED will light up when the modules are powered and switch off when modules are not powered.

## Bonus!

iTriangle has an inbuilt LiPo battery charger. You can charge a 3.7 V LiPo battery with the JST 2.0 Port when connected by USB.

Z2fSHP8q4tlz6s2E-500px-Wio\_Link\_Battery.jpg

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Revision #17

vytvořené 2 roky nazpět uživatelem [Admin](#)

aktualizováno 2 roky nazpět uživatelem [Jiri Krulis](#)