

Thinger.io ClimaStick v2

Datasheet

This board is a complete Internet of Things development kit, that integrates Wi-Fi connectivity along with a set of powerful sensors to provide environmental and motion sensing. This way, it is possible to create several connected projects easily. It is fully compatible with the Thinger.io cloud infrastructure and the Arduino environment.

GENERAL INFORMATION

SIDE A (top)

SIDE B (Bottom)

Feature	Spec							
Dimensions	42 x 17 x 3 mm							
Weight	4 g							
Microcontroller	Expressif ESP8266 cortex M0							
	Clock speed: 80Mhz							
	Flash: 1MB							
	Ram: 160KB							
Connectivity	802.11b/g/n/e/i WiFi							
	Tx power (b,g,n)	+20,+17,+14	dBm					
	Rx Sensitivity(b,g,n)	-91,-75,-72						
	Network protocols	IPv4,TCP,UDP,FTP						
	Security protocols	WPA/WPA2						
	CP2102 USB Serial Port (115200) baud							
Power supply	Voltage	min	3.7	Vdc				
		max	6					
	Current	min	100	mAh				
		max	300					
		sleep	10					
	Connector	Micro USB-B or 2p 1.25mm JST VIN						
Available battery	3.7Vdc (1 cell) 500mah Li-Poli or Li-ion battery 2P JST 1.25mm connector							
Working conditions	(-40 to 85) ^o Celsius, 0-90% humidity							

Feature	Spec					
Embedded Sensors (I2C)	Sensor	Variable	Range	Resolution	Accuracy	Condition
	BME280	Temperature	(-40 , 85) °C	0.01 °C	(+0.5 , +1) °C	
		Relative humidity	(0 , 100) %Rh	0.01 %Rh	(+1 , +3) %Rh	(0 , 60) °C
		Barometric pressure	(300 , 1100) hPa	0.18 hPa	(+0.1 , +1)hPa	TCOP 25-65 °C, 900 hPa
	TSL2561	Light	(0 , 65535) Lux	0.01 Lux	±3.5 lux	(-30,70)°C (0,95)%Rh
	MPU-9250	Magnetometer	±4800μT	0.6 μT/LSB	±500μT	(-40 , 85) °C
		Accelerometer	±16 g	2048 LSB/g	(2-16)LSB/g	92Hz total RMS noise
		Gyroscope	±2000°/sec	16.4°/sec	0.01°/s /√Hz	LPF range (5-250KHz)
Voltage sensor	ADC	VIN / BAT voltage	(0 , 5) Vdc	0.01 Vdc (10 bit ADC)	0.1 Vdc	(-10 , 60) °C
Buttons	1 Reset button		Pulled-up to 3.3Vdc, ground when is push			
	1 Flash / User button (GPIO-0)		Pulled-up to 3.3Vdc, ground when is push			
Other	User RED LED (GPIO-13)		Up to 1024 analogic stepping			
	Serial Port Tx LED (GPIO-2)		PWM frequency range is between 100Hz and 1Khz, 14 bit resolution			
	P1 Digital aux port (GPIO12)					
	ADC external port (if selected)		Completely float circuit, no buid-in pulls or filter.			

