

# Thinger.io ClimaStick v1.0

## Datasheet

This board is a complete Internet of Things development kit, that integrates WiFi 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

	Feature	Spec		
	Dimensions	37 x 17 x 5 mm		
Weight	4 g			
Core	AI-thinker ESP12-E module.			
	Expressif ESP8266 cortex M0			
	Clock speed: 80Mhz			
	Flash: 4MB			
Connectivity	Ram: 160KB			
	802.11b/g/n WiFi			
Power supply	CP2102 USB Serial Port (115200) baud			
	Voltage	min	3.7	Vdc
		max	6	
	Current	min	100	mAh
		max	300	
sleep		10		
Connector	Micro USB-B or 2p 2mm VIN			
Available battery	3.7Vdc (1 cell) 500mah Li-Poli or Li-ion battery.			
Working conditions (tested)	(-5 to 50) <sup>o</sup> 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
	HMC5883	Magnetometer	( -8 , 8 ) gauss	(0.73 , 4.35) milli-gauss	(230 ,1370) LSB/gauss	
	MPU6050	Accelerometer	+16 g	2048 LSB/g	15 LSB/g	
		gyroscope	+2000 <sup>o</sup> /sec	16.4 <sup>o</sup> /sec	0.005dps/√Hz	
Voltage sensor	ADC	VIN / BAT voltage	( 0 , 5 ) Vdc	0.01 Vdc (10 bit ADC)	0.1 Vdc	
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	Full RGB programmable LED		Up to 1024 analogic stepping per color			
	Serial Port Tx LED					