



# LW004-PB

Datasheet

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# 1. Description

LW004-PB is LoRaWAN based panic button with positioning function. With a compact and smart outlook, and easy to use. It integrates BLE and GPS that is specially designed for indoor and outdoor positioning of object or person. Either through the Bluetooth scan the surrounding Beacons to obtain the location to track objects or people, or using the GPS to track the location of objects or people.

In an emergency, you can trigger an alarm to send location information. Usually, you can set the reporting interval to report the location information regularly. The panic button adopts an independent button with a granular feeling, which is separated from the switch button to avoid false triggering. While, the product has a built-in vibration and 3-axis sensor, which can sense the alarm status and data sending status through vibration in the case of an alarm, and detect the dynamic state of objects or personnel through the 3-axis sensor data.

LW004-PB built in RFID and 3-axis accelerometer sensor. The product has been equipped with a rechargeable battery, which can last for one month if the reporting interval is every 5 minutes once and the GPS is turned off.

# 2. Features

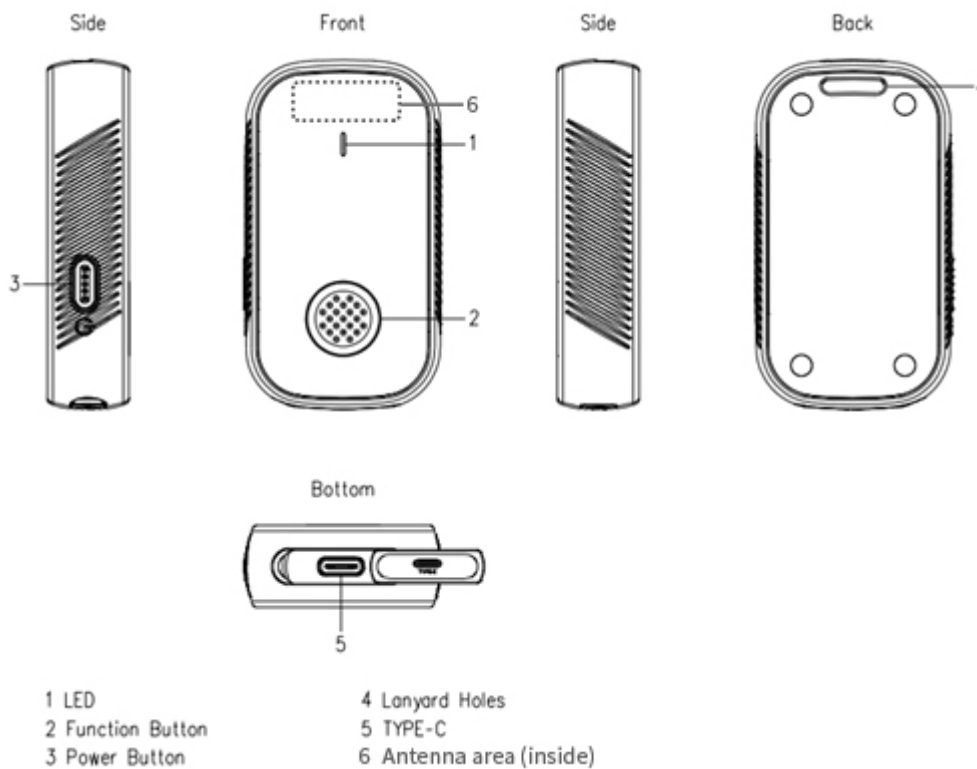
- Based on LoRaWAN protocol V1.0.3
- Support indoor and outdoor positioning with GPS and BLE
- Built-in vibration sensor for alarm reminder
- Built-in 3-axis sensor for motion detect
- Built in RFID 13.56MHz tag
- Supporting RFID NXP MIFARE Classic EV1 2k 7b
- Low battery indicator
- OTA firmware update
- Support APP and server configure device parameter

### 3. Specifications

Categories	Parameter	Value
LoRa Wireless Specification	LoRa Protocol	LoRaWAN V1.0.3
	Lora Frequency	US915/AU915/AS923/EU868/IN865
	Tx Power	Max 20dBm
	Sensitivity	-140dBm@SF12 300bps
	LoRa Communication Distance	Up to 5 km (in urban open space)
BLE Wireless Specification	Bluetooth® (BLE)	V4.2
	BLE Communication Distance	Up to 50m in free space
Hardware Specification	Positioning Mode	GPS, accuracy 2.5m CEP
RFID Specification	RFID sensing distance	Card reader sensing distance 12mm
		Mobile phone sensing distance 4mm
Physical Parameter	Dimension	73mm×40mm×17mm (±2mm)
	Net Weight	48 g (±2g)
	IP Rating	IP65
	Shell Material	ABS/PC+TPU (TPU is used for button and frame)
Power supply Specification	Changer Port	Type C
	Changer Time	2.5 hours@5V/1A
	Battery characteristics	540mA rechargeable battery
Power Consumption	Operating Current	< 120mA
	Sleep Current	<13uA

Application Parameter	Operating Temperature	-10~60℃
	Charging Temperature	0-45℃
	IP Rating	IP65
	Certificate	CE, FCC in progress

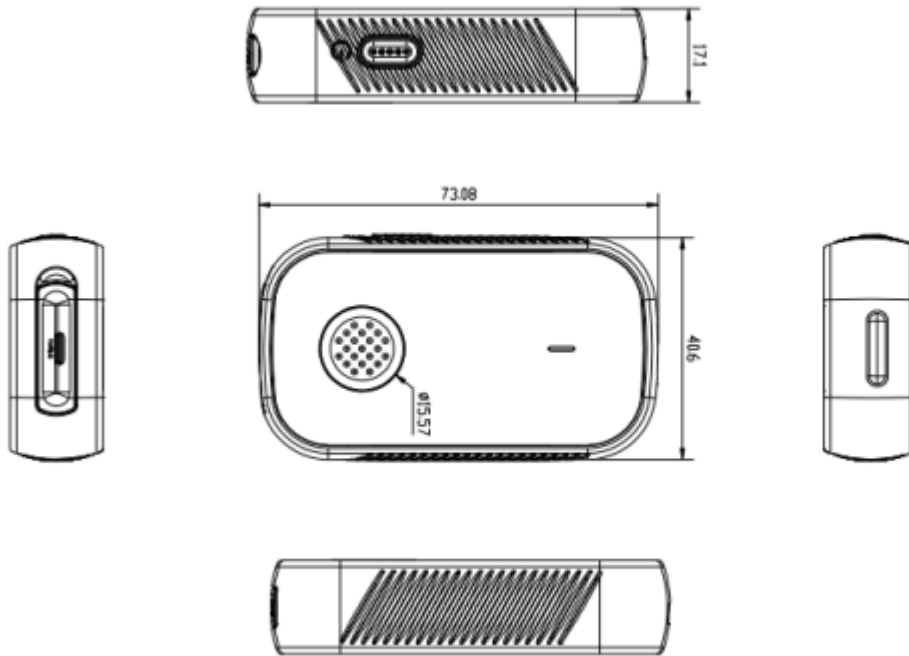
## 4. Hardware Interfaces and Indicator



Items	Indicator	Operation	Remark
Turn ON	Solid blue and keep 3S	Press and hold the power button for 5 seconds till the LED indicate blue and release. The LED will indicate blue for 3 seconds to show the LW004-PB is turned on.	
Turn OFF	Red LED Blink 3S	Press and hold the	

		power button for 5 seconds till the red indicator flashes quickly and release. The indicator will flash red for 3 seconds to show the LW004-PB is turned off.	
Join LoRa Network	Solid green and keep 3S	If the device had never Joined any network, after turning on, the device automatically sends join request	It will send join request automatic after power on the device or send "connect" request in APP
Login in	Green LED Blink 1S	Connect to the device via APP successfully	
Login out	Red LED Blink 1S	APP disconnect to the device	When the device in alarm status the indicator may be not visible
Trigger Alarm	Yellow LED Blink	Double click the alarm button	Either enters the alarm mode or send alarm message to server, there will also have vibration reminder
Exit Alarm	Alarm indicator LED turn off	Press alarm button and hold on 15S or send downlink command to exit alarm	
Firmware Upgrade	Green LED Blink during the upgrade Solid Blue and keep 3S after upgrade successfully Solid Red and keep 3S after upgrade failed	Firmware upgrade via OTA in DFU mode	
Charging	Blue LED blink	Plug in type-c charger	
Full Charged	Solid blue	Plug in type-c charger	
Low Battery Reminder	Red LED blink	Battery level lower than the set value	

## 5. Mechanical Size



*All dimensions are mm*

## 6. Package Information



Item	Qty	Remark
LW004-PB Device	1	The main equipment
Micro USB cable	1	Device charging cable
Black lanyard	1	Used for hanging equipment
Quick Guide page	1	A brief introduction of product



## 7. Order Information


Product Type	Product Description
LW004-PB-US915	915Mhz LoRaWAN contact tracker with BLE -North America
LW004-PB-EU868	868MHz LoRaWAN contact tracker with BLE -Europe

## 8. Revision History

Version	Description	Editor	Date
1.0	Initial version	Iris	2020-08-27
1.1	Format modification, content adjustment	Allen	2020-12-22
1.2	Suitable for firmware version V2.2.3 &HW Version V1.0.4	Allen	2021-01-28



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