

ED308

LoRaWAN Smart Badge User Manual

V2.0.0

Document Revision Record

Version	Time	Description	Remark
V1.0.0	2020-03-28	Preliminary version	Jack
V2.0.0	2021-01-08	Optimize function	Jack

1. Description

ED308 is an intelligent GPS tracker based on LORAWAN network transmission. It supports GPS and GLONASS dual-mode outdoor positioning and Bluetooth 4.0 indoor positioning. The positioning accuracy is 10 meters outdoor and 3~5 meters indoor. Through the intelligent tracker, beacons, LoRaWAN gateway and platform, it can realize the real-time positioning of staff and visitors. Help enterprises and institutions achieve personnel management and safe production.

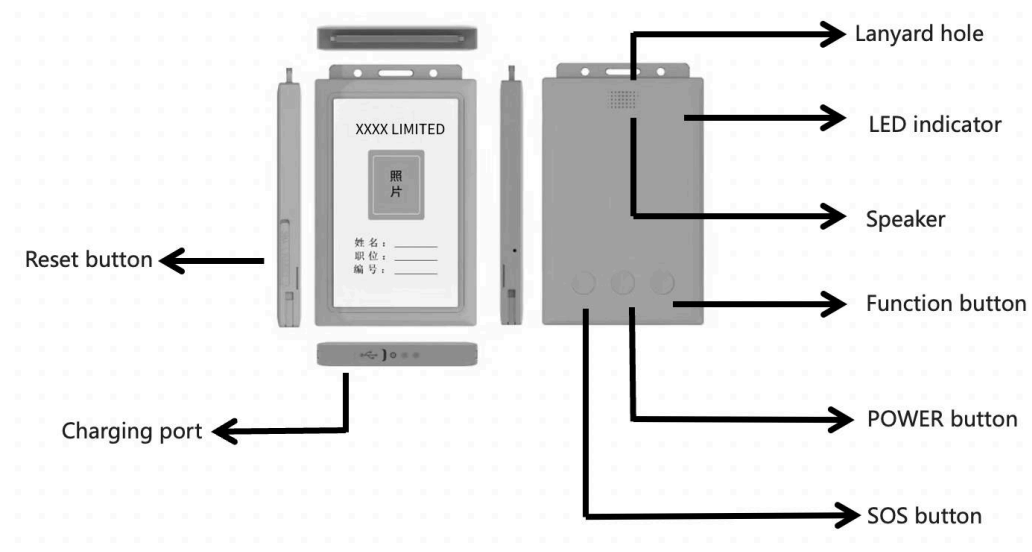
Application

- | | |
|---------------------|------------------------------|
| ✓ Construction Site | ✓ Police system |
| ✓ Factory | ✓ Property |
| ✓ Hotel | ✓ Oil & Gas, Mining industry |

2. Features

- ✓ Real-time employee positioning
- ✓ Smart attendance
- ✓ SOS in emergency
- ✓ Geofence: Automatic alarm when close to the hazardous area.
- ✓ Voice broadcast, issue accidents alerts, Downlink alerts, and broadcasting via the speaker.
- ✓ Intelligent warning of the dangerous zone
- ✓ External personnel management

3. Interface



3.1 LED indicator

No	Status	Description	Remark
1	RGB Red LED indicator	Lights up for 5 seconds after turn on, accompanied by a startup ringtone	
		Lights up for 5 seconds when turned off, accompanied by a shutdown ringtone	
		Slowly flash when charging, 5S once	
		When fully charged, Solid red	
		Low battery (less than 30% power), continuous flash, 3S once	
2	RGB Green LED indicator	When searching for satellites, it will be on for 500ms, off for 3S, and then repeats for a new cycle	
		After the satellite is positioned, it will be extinguished after 5S	
		After the ibeacon position is scanned, flashes twice in a row, each time 5S, and then repeats for a new cycle.	
3	RGB Blue LED indicator	When Submitting a network request, fast flashes, 2S once	
		After successfully connected to the network, it will go out after 5S	
		Data transmission, fast flashing 3 times, 500ms each time	
		If failed to join the network, it flashes 4 times in succession, 500ms each time.	
4	Blue indicator (Close to the buttons)	After pressing the POWER button, the light is on, 1S each time	
		After pressing the SOS button, the light is on, 1S each time	
		Received downlink message from platform, the SOS light flashes every 3S when is not read	
		After pressing M key, the light is on, 1S each time	

Table3.1 LED indicators

3.2 Buttons

No	Button/interface	Description	Remark
1	SOS button	Press and hold 3S, immediately report location and alarm information	
		When the platform downlink a message, motor vibrate, press 500ms to read	
		Short press 3 times in succession (400ms once), broadcast signal strength of device	
2	POWER button	Press and hold 5S to turn on the machine; press and hold 8S to turn off the machine and the motor vibrates once.	
		Short press 3 times (400ms once) to broadcast the battery percentage of device	
3	Function button	Press and hold 3 seconds to uplink Vehicle assistance alarm, reporting current location immediately	
		Short press 3 times in succession (400ms once) to broadcast the current time	
4	Switch broadcast language	Press and hold the "SOS" and "m" buttons for 3 seconds at the same time. When the "power" indicator starts flashing, the language switching is successful	
5	Reset button	Short press 1s to reset the device	
6	SIM card slot	Insert SIM card(2G and NB-IoT version optional)	
7	USB port	Charge the device	
		Use for upgrade	
8	Charging port	charging	

Table 3.2 Buttons and interface

4. Specification

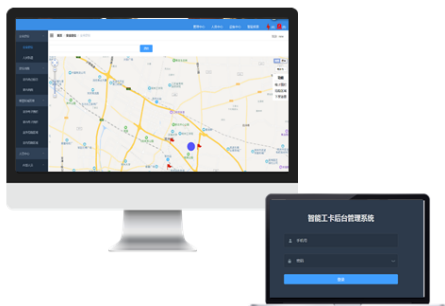
Parameter	Spec
Communication	Build in LoRa module , Frequency : CN470MHz/EU868Mhz
Bluetooth	Building in Bluetooth
Positioning	Outdoor GPS positioning and indoor Bluetooth positioning
Positioning accuracy	10~20 meters (outdoor) 3-5 meters (indoor)
Gyro	Build in Gyro, Supports power saving mode in non-motion state
Battery	Rechargeable 1000mah lithium battery
Charging port	Micro USB
Speaker	1511 waterproof speaker, support voice broadcast and downlink command delivery
Buttons	SOS button, Power button, Function button, Reset button
Battery life	More than 10hours (GNSS positioning interval 30s)
Dimensions	106.8*71*10.8mm
Waterproof	IP66
NFC	Optional (Without NFC by default)
Time sync	Time zone synchronization with GPS
LED indicator	Three color LED indicator
Motor	Flat motor, Used for operation feedback
Voice broadcast	Supports Chinese and English
Location storage	support
Operation temperature	-20°C~60°C
Uplink frequency	customized
Positioning time	Cold start 38S hot start 1S Recapture <1S
Charging voltage	5V

Table 4.1 specification

5. Operation guide (Platform Example)

5.1 User platform

Each company has a dedicated administrator account, and employee accounts are limited to their own use.



5.2 Staff management

The company administrator account can add, delete, and modify staff info according to the requirements. Unbind or bind the mobile number.



5.3 Device management (Eaxmple)

After log in the administrator account, the information of the smart badge can be modified, can remark or adjust the position of the Bluetooth beacon on the floor.



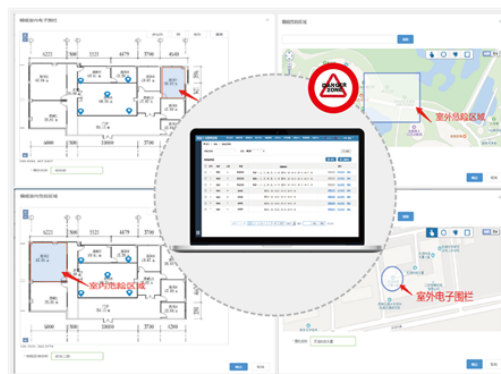
5.4 Automatic attendance setting

You can check the data of the staff's on duty /off duty time, working time, and whether the work content is up to the standards, achieve intelligent attendance and performance evaluation.



5.5 GEO-fence and Hazardous areas management

Add, modify electronic fences and hazardous areas, and set up personnel who are allowed to enter the area.



5.6 Positioning

The system records the historical positioning of the employee, inputs the employee's information to view data such as the walking route and the time length stay in a certain area, which is convenient for supervision management and optimization of operations.



5.7 Positioning Map

The administrator can set the company's geographic location on the map and upload an indoor map.



5.8 Safety inspection

The administrator sets the inspection site and the inspection task. When the employee with the corresponding devices starts the inspection. The administrator can view the employee's path on the platform.



6. Device Operation guide

6.1 Power on

Press and hold the power button 5S to turn on the device; RGB RED LED will be on for 5 seconds, and accompanied by a startup ringtone.

6.2 Broadcast battery percentage

After powering on, press the POWER button for 3 times (400ms once) to broadcast the current battery percentage of the device.

6.3 Power off

Press and hold the POWER button for 8S, the motor vibrates once for 500ms, and the device is turned off with the shutdown ringtone.

6.4 SOS in emergency

Press and hold the SOS button for 3s to send a SOS Alert, the motor vibrates after the SOS alarm is successfully sent.

6.5 Broadcast Platform Instructions

After the platform issued a command, the blue LED indicator of SOS button flashes (After the equipment receives the voice command, the motor vibrates continuously for 3 times), short press the SOS button for 500ms to broadcast the platform command.

6.6 Broadcast signal strength of device

Press the SOS button 3 times in succession (400ms once) to broadcast the signal strength of device.

6.7 Vehicle breakdown alarm

Once the vehicle breakdown and needs assistance, long press the M key for 3S to immediately report the latest location and alarm information (if it is Bluetooth positioning, report Bluetooth

positioning information and GPS positioning information). After successfully sending the alarm information, the motor vibrates.

6.8 Broadcast time

Press the M button 3 times in succession (400ms once) to broadcast the current time.

6.9 Reset

Short press reset button 1s to reset the device.

7. Package

Item	Method	QTY	Dimensions	G.W	Accessories	Remark
Smart Badge	Gift box	1pcs/box			USB charging cable , user manual , gift card	40pcs/cartoon

