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Product Overview

The WE-T52 electronic tag regularly broadcasts the tag ID information wirelessly to the outside, with a maximum transmission distance of up to 100 meters. By deploying a positioning base station (system), the tag's exact location can be determined. Through the base station, handheld device, or mobile app, the tag can be called to emit audible and light alerts, making it easier for users to locate it. By fixing the tag on items such as turnover boxes, carts, or workpieces, no matter where the item is moved, it can be easily found.

Together with the company's inventory management software, it can perform intelligent warehouse operations such as inbound, outbound, real-time inventory, item positioning, and quick search, greatly improving warehouse management efficiency and risk prevention.

A single charge of the WE-T52 electronic tag can meet the needs of 5,000 searches within a year. If the battery is low, it will issue a power shortage alert, and it can still be used for a month after the battery is low.

Product features

- It can emit light and sound, with 3 high-brightness LED beads and 1 piezoelectric active buzzer.
- A 750mAh rechargeable lithium battery can transmit 50 million times on a full charge.
- The total duration of audio-visual reminders should be no less than 40 hours (excluding wireless transmission power consumption).
- It features undervoltage alerts and real-time battery display; after undervoltage, the remaining power can transmit 3 million times.
- Wireless transmission power is 3mW, transmission distance can reach up to 100 meters, and standby power consumption is only 2uA.
- The wireless band uses the 2.4GHz globally open microwave band, with no application or payment required.
- Installation methods such as screw fixation and 3M adhesive backing can be used.
- Dimensions: 100mm*35mm*15mm, weight: 45g.
- Operating temperature -20°C~70°C, operating humidity 10%~80%.

Battery life assessment

Assuming the tag is used for an average of 5 minutes of calls per day, with the tag firing every 2 seconds.

Daily wireless transmission power consumption is $1800 \times 24 / 5000000000 = 0.000864$

Daily audio and light reminder power consumption $5 / (40 \times 60) = 0.002083$

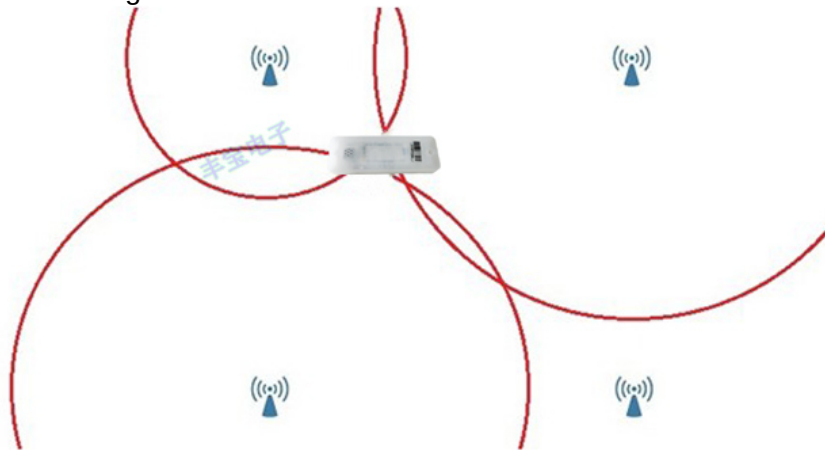
Total daily electricity consumption 0.002947

$1 / 0.002947 = 339$ (days)

Install the base station to measure the approximate position of the tag

By installing positioning base stations (card readers) around the warehouse or workshop, the approximate position of the tag can be measured. Within the effective range, each base station will obtain the distance between the electronic tag and itself. Based on the test values from 2~3 base stations closest to the tag, the approximate position of the tag in space can be determined. Positioning accuracy: 1~3 meters.

As shown in the figure below:



Production management system call label

By embedding tag positioning functions into the production management system, the system not only knows the tag's location but can also directly call the tag when necessary, making it light up and sound. Through sound and light reminders, it is easy to determine item location, making the production process more accurate and efficient.

The production management system sends call commands to the tag positioning system, which, based on the tag's current position, sends call commands from the nearest base station (card reader) to the tag, which then issues audible and visual alerts to the called tag.



MES系统指示定位基站（读卡器）激活标签

Directly use handheld devices to find tags

Without installing a positioning system, you can still use the handheld device to find tags. You can directly enter the tag ID on the handheld device, or use inventory software to send the tag ID to the handheld device. When the handheld device starts searching, it can confirm whether the tag is nearby. After confirming the initial position of the tag, the handheld sends a command to call the tag, and with audio-visual reminders, the tag can be easily found. The method is as follows:

Open the handheld device, enter the "Find" page, enter the tag code, and click the "Start" button to check if the tag is nearby. If the tag search is nearby, the handheld device will display the actual distance between the tag and the handheld device. You can judge the tag's proximity based on the distance value, quickly determine the tag's location, and improve item search efficiency.



The sought electronic tag lights up (constantly flashing), reminding users of the tag's location. If still cannot be found, you can click the speaker button at the bottom right. The searched electronic tag will emit a "beep beep beep" sound, making it easier for you to locate the tag.

The buzzer on the tag consumes a lot of power, so unless absolutely necessary, try to turn it on as little as possible.

Tag reporting data

The data wirelessly transmitted by tags mainly includes tag ID, tag type, undervoltage reminder, extended data, and other content. For different types of tags, except for "extended data," all other data formats are the same. For detailed information, please refer to the reader's user manual.

The extended data for this tag is only one byte, as follows:

数据位	7	6	5	4	3	2	1	0
数据内容		剩余电量			保留		声光	保留

BIT 1: Audio-visual reminder sign.

1: Sound and light alert in progress. 0: Not in sound and light alert.

Users can determine whether the tag has successfully received the audio-visual alert command based on the bit bit.

BIT 4~7: Remaining battery

Numerical values	Battery level
0	0%
1	10%
2	20%
3	30%
4	40%
5	50%
6	60%
7	70%
8	80%
9	90%
10 (hexadecimal "A").	100%

Call tag data

When calling a tag, different labels have different call mode definitions. This label is defined as follows:

Call mode	Cycle	Explanation
0	Twice per second	Only the green light flashes
1		Green light flashing + buzzer
2		Only the red light flashed
3		Red light flashing + buzzer
4		Only alternating red and
5		Red and green alternate
8	Once per second	Only the green light flashes
9		Green light flashing + buzzer
10		Only the red light flashed
11		Red light flashing + buzzer
12		Only alternating red and
13		Red and green alternate
16	Once every 2 seconds	Only the green light flashes
17		Green light flashing + buzzer
18		Only the red light flashed
19		Red light flashing + buzzer
20		Only alternating red and
21		Red and green alternate
24	Once every 3 seconds	Only the green light flashes
25		Green light flashing + buzzer
25		Only the red light flashed
27		Red light flashing + buzzer
28		Only alternating red and
29		Red and green alternate
32	Chang Liang	Only the green light was on
33		Green light on + buzzer
34		Only the red light was on
35		Red light on + buzzer sounds
36		All the traffic lights are on
37		All traffic lights are on +
255		Stop the reminder

Low voltage reminder

When the battery is low (less than 20%), calling the tag again will not provide any audible or visual reminders. At this time, the red light will occasionally flash to remind you to replace the battery promptly. When the battery is undercharged, the tag will continue to transmit wirelessly, and every 10 attempts, the red light will flash.

Installation method

Screw fixing, 3M adhesive backing.

Precautions for use

- 1) Keep the label surface dry.
- 2) Do not place it in places with a lot of metal.
- 3) Do not place it in enclosed spaces.
- 4) Do not place near corrosive substances.
- 5) Please use under normal operating temperature and humidity.
- 6) During maintenance, the parameters, specifications, or models of product components must not be arbitrarily changed.