RFT500 433Mhz Wristband Tag

User Manual

Revision 01

User Manual

Revision	Date	Description
00	2009.1.15	Preliminary draft
01	2009.3.19	

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FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

FCC Statement
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications
Any changes or modification not expressly approved by the party responsible could void the user's authority to operate the device.

Introduction

RFT500 is wristband tag is designed to be worn around the wrist. The tag can be used for people in the office or the hospital. The panic button on the top can transmit an alarm to the backend service center and deal with the accident or emergency right away.

Besides, RFT500 provides temperature monitoring and take-off detection function helpful to realize the situation of the wearer.

Regarding to the data collision, RFT500 uses two-layer anti-collision technique, significantly reduce the loss rate than general product in the market. Furthermore, friendly and easy setup function is flexible for different application.

Features

- User configurable transmission power
- User configurable transmission period
- Panic button
- Wrist temperature detection
- Take-off detection
- Low-battery detection
- Ultra-low power consumption
- Leading two-layer anti-collision technique
- Water-proof

Specification

Capabilities	
Characteristic	Panic button, Temperature detection, take-off detection
Anti-Collision	Two-layer anti-collision technique
Operation frequency	433.92 Mhz
Signal Strength	Default -5dbm
Transmission Range	Max. 60m
Modulation	GFSK

Tag ID	999999 unique IDs
Temp. Detection Range	0℃ to 40℃
Physical Characteristics	
Length	1.89"
Width	1.24"
Height	0.55"
Weight	18g
Case	ABS + PC
Environmental	
Operation Temperature	-20℃ to 70℃
Storage Temperature	-40℃ to 80℃
Electrical	
Power	CR2032 Coin Cell (replaceable)
Battery Life	Typical 2 years (at 25℃)

Mechanicals

TOP View
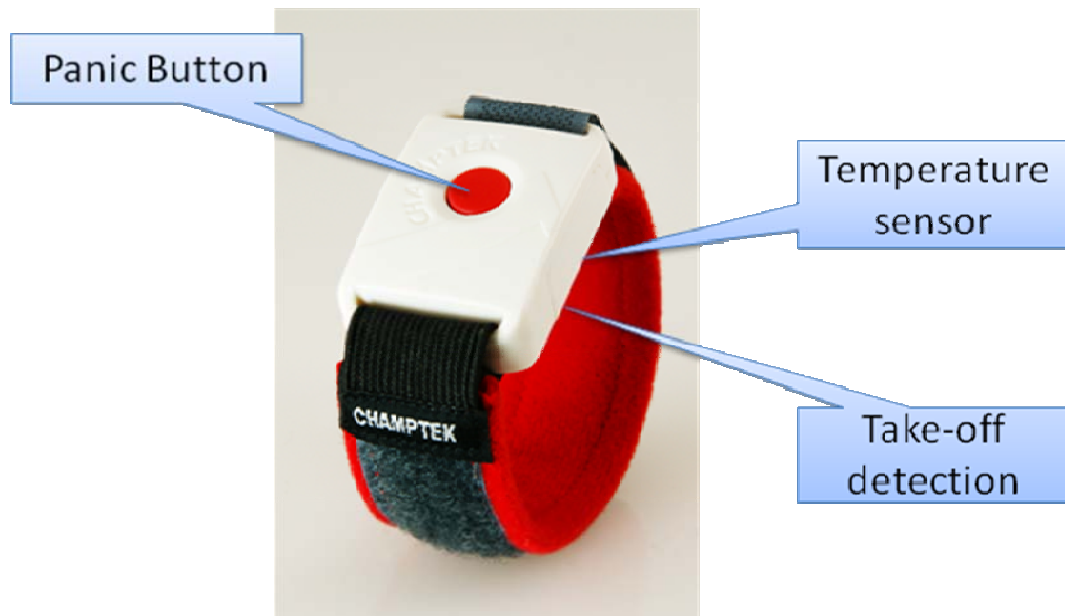
Panic Button – Press down will send emergency alarm back to reader.
Temperature sensor – Detect the wrist temperature
Take-off detection – Detect if the wearer takes off the wristband

Packet Format

Packet Format 1 (without temperature)

Head	Reader ID	Group	Tag ID	Status	RSSI	End Code
$	000000~999999	00	000000~999999	(*)0~7	00~99	0x0d 0x0a

Packet Format 2 (with temperature)

Head	Reader ID	Group	Tag ID	Status	Temp.	RSSI	End Code
$	Same	00	Same	0~7	000~400(**)	00~99	0x0d 0x0a

(*)Status: 0 to 7 means hexadecimal 0x00 to 0x07 (Ex. 0x01 represents the wristband is wearing, battery ok, and key pressed.)

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
0	0	0	0	0	0—Wearing 1—Taking off	0—Battery ok 1—Battery low	0—Normal 1—Key pressed

(**) Ex. 322 means 32.2℃

Implementation Notice

- RFT500 only sends packet with temperature and check battery status once per minute.
- Battery life will decline faster under low temperature environment due to the battery physical characteristic.