

blueiot

BlueIoT RTLS Tag
Tamper-alarm Heart rate
Monitoring Tag
(Anti-dismantle type)

BT4500-b

USER MANUAL

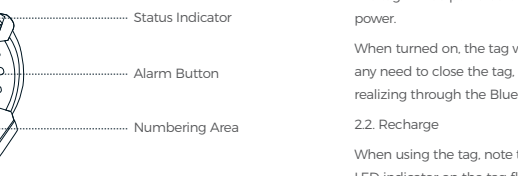
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1. Tag Introduction

1.1. General

BT4500-b tamper-alarm heart rate monitoring tag (THM tag) is a multi-functional wristband type tag mainly used for personnel locating and identification. It can work with BlueIoT anchor to achieve precise positioning of personnel, heart rate detection, status indication and other functions. The anti-disassembly design can alarm when the wristband is cut and removed. The tag has a simple structure, with waterproof and dustproof, suitable for wearing in harsh environments.

1.2. Panel



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2. Tag Usage

2.1. Turn on

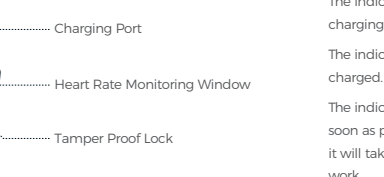
The tag will be powered on automatically by default if the battery has power.

When turned on, the tag will remain active, the user can not turn it off. If any need to close the tag, please contact the system administrator, realizing through the BlueIoT anchor and related software.

2.2. Recharge

When using the tag, note that the tag battery should have power. The LED indicator on the tag flashes every 5 seconds to indicate the current battery level.

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The indicator light flashes in blue and green, indicating that the charging is normal.

The indicator turns to solid green, indicating that the battery is fully charged.

The indicator turns red, indicating that the battery needs recharging as soon as possible. If the battery is completely exhausted before charging, it will take a while to get enough power to make the indicator light work.

Follow the steps below to charge:

- Please use the original power adapter and charging cable, checking if they are in good condition, clean and dry
- Connect the magnetic charging cable with the charging port on the back panel of the tag
- Insert the USB port of the charging cable into the power adapter
- Power on

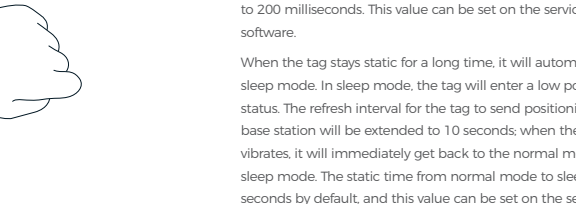
▲ WARNING: Using the wrong size or a poor-quality charger to charge the tag may cause the tag battery to swell, heat up or even catch fire. Use the original charger to charge the tag!

▲ Please avoid leaving the battery of the device uncharged for a long time.

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2.3. Wearing and Removing

The wristband should be put on and taken off with a special tool for the tamper-proof lock. Please wear the wristband to approximately 1 finger width from the wrist bone and tighten up to a comfortable level.



▲ Note: Wearing the wristband too loosely may affect the monitoring of heart rate data by the sensor.

▲ This tag has an anti-disassembly function. When disassembling or cutting, the indicator light will flash in white, and will trigger the backend server alarm state.

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3. Basic function

3.1. Locating

After the tag is turned on, it automatically enters the normal mode of locating. In the normal mode, the tag sends a locating signal to the BlueIoT anchor at a certain refresh interval. The refresh interval defaults to 200 milliseconds. This value can be set on the service configuration software.

When the tag stays static for a long time, it will automatically switch to sleep mode. In sleep mode, the tag will enter a low power consumption status. The refresh interval for the tag to send positioning signals to the base station will be extended to 10 seconds; when the tag moves or vibrates, it will immediately get back to the normal mode from the sleep mode. The static time from normal mode to sleep mode is 15 seconds by default, and this value can be set on the server configuration software.

3.2. SOS Alarm

Press the tag's alarm button and hold it for more than 3 seconds, the tag will upload the emergency alarm information. After the alarm takes effect, the LED indicator of the tag will flash orange, indicating that it is currently in the distress alarm state.

3.3. Tag Configuration

The tag can be configured on the service configuration software, and the instructions of are issued to the tag through the BlueIoT anchor. For specific configuration functions, please refer to the "Service Configuration Software Manual"

The tag has a built-in RFID coil, which can be used for radio frequency identification through a card reader.

Tag data will only be uploaded to the server designated by the user. When using tags, please consider and abide by local regulations related to data privacy

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4. Operation Conditions

Exposure to liquid The THM Tag is water resistant. This product is suitable for normal rain and washing, but not suitable for long-term soaking.

Cleaning and care Keep THM Tag clean and dry, but avoid damaging THM Tag. Observe the following:

Don't clean THM Tag while it's charging.

Don't dry THM Tag using any external heat source (for example, a hair

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Operating temperature THM Tag is designed to work best in ambient temperatures between -10°C (14°F) and +60°C (140°F) and be stored in temperatures between -20°C (-4°F) and +70°C (158°F). THM Tag can be damaged and battery life could be shortened if stored or operated outside of these temperature ranges. Avoid exposing THM Tag to dramatic changes in temperature or humidity.

5. Trouble Shooting

- The THM Tag will flash the status light once every 5 seconds. If the status light does not flash for a long time, please double-click the button. If the status light of THM Tag is still off, the battery power of your THM Tag has been used up, or the THM Tag is out of order. Please contact your system administrator in time.
- Bluetooth wireless may penetrate some objects to establish connection, such as wooden box, shelf, hollow wall, etc. However, it may cause an increase in location error.
- If the THM Tag you are wearing is squeezed hard or entered with liquid, resulting in the short circuit of the vibration motor. Please contact the manager in time in this case.

Use button Do not press the button on the THM Tag hard or crack it violently.

Charging cable If the cable is bent repeatedly in the same area, it could become hard and brittle. Please roll up the electric wire into downy curve. Please check the cables and connectors regularly to prevent them from knotting, breaking, bending or other damages. If any damage is found, do not continue to use the cable.

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6. Safety Instructions

Failure to follow these safety instructions could result in electric shock, fire, injury, or damage to THM Tag or other properties. Read carefully all the information about safety below before using the THM Tag. The seller shall not be liable for any damages caused by misuse or violation against the instructions contained herein.

【 Safety 】

- Do not use THM Tags when you are close to gasoline or liquid. Strictly follow all the indicated instructions and tips when you are in the petrol station.

- The THM Tag is an integrated equipment. Neither the battery nor the back cover can be removed. Removing the back cover of the THM Tag may damage the battery and lead to material leakage that may cause allergic reactions.
- This equipment and its accessories may contain some small parts. Please keep the equipment and its accessories including the small parts out of reach of children. Children may inadvertently damage the equipment and its accessories, or swallow small parts that cause suffocation or other dangers.
- Do not store or transport equipment and its accessories in the same box with flammable gases, liquids or explosives.

- When disinfecting the equipment, do not spray or wipe it directly with flammable liquid to avoid fire.
- Never disinfect the equipment during the charging process to avoid equipment damage or casualties.
- Keep the THM Tag in a dust-free place when not using it, and do not leave it in an abandoned status. Please pay attention to the weather an environmental conditions (nature, dust, rain seeping, wet, rain, sea water etc.). The recommended operating temperature range is -10°C (14°F) to + 60°C (140°F) and the storage humidity range is 5%-95%. Damage might be caused when it is used in an environment exceeding + 60°C (140°F).
- The THM Tag and the accessories comply with applicable surface temperature standards and limits. However, even within these limits, sustained contact with warm surfaces for long periods of time may cause discomfort or injury. Continuous alert of the THM Tag may make the equipment feel warm. Remove the THM Tag if it becomes uncomfortably warm.
- Please use the charger in the original package when charging. Usage of non-conforming third-party chargers may cause personal safety damage and/or battery damage.

【 Battery 】

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- Never discard, replace or open the battery at will, nor try to penetrate the equipment with sharp tools, as the electrolyte inside the battery in the equipment may damage skin and clothes.
- The equipment should be stopped from using if it is noticed to be hot, smelly, discolored, deformed or in any other abnormal status.
- If the battery leaks, do not expose the leaked liquid to your skin or eyes. If exposed to skin or eyes, rinse immediately with clear water and take medical treatment at the hospital.
- Do not expose the batteries to high temperature or place it close to any heating equipment, such as sunshine, heater, microwave oven, oven and water heater etc. Overheating batteries may cause explosion.
- Do not drill or incinerate the equipment or battery. Please consult the local waste treatment department in accordance with the applicable local regulations including laws and policies when disposing your equipment/battery. Batteries must be recycled or disposed of separately from household waste.
- 【Charging】
- Please charge the battery in accordance with the requirements of the instructions. Please use the provided (in the same product package) THM Tag charging cable and power adapter. When charging, remember to place the THM Tag, THM Tag charging cable and power

- adapter in a well-ventilated environment. Using a damaged THM Tag charging cable or charging when humidity is high may cause fire, electric shock, injury or damage to the THM Tag and other properties.
- Always keep the ports of THM Tag and power adapter clean.
 - Without adult's monitoring, do not let children charge the THM Tag.
 - As long as the applicable surface temperature standards and limits are met, THM Tags, THM Tag charging cables, and power adapters will function normally. However, please still try to avoid continuous contact with hot surfaces even within the indicated limits as this may lead to discomfort or injury. After the power supply is plugged in, the THM Tag, the THM Tag charging cable and the power adapter will gradually heat up, but will not break the indicated limits.
 - Avoid wearing a THM Tag when charging, or allowing your skin to contact the THM Tag, THM Tag charging cable or power adapter during long time while charging. For example, when the THM Tag is charging, or when the THM Tag charging cable, or the power adapter is powered on, do not lie on it or place it under a blanket or pillow etc. Please be especially careful if your body has conditions that affect your ability to sense heat. If the temperature of the THM Tag makes you uncomfortable, please remove it.
 - 【Maintenance】

- Do not open the THM Tag and try to repair it yourself. Disassembling the THM Tag may cause damage injury. If the THM Tag is damaged or out of normal status, please contact your seller in time.
- 【Warning】
- Radio frequency interference** Observe signs and notices that prohibit or restrict the use of electronic equipment. Although THM Tag is designed, tested, and manufactured to comply with regulations governing radio frequency emissions. Emissions from THM Tag could potentially negatively affect the operation of other electronic equipment within certain distance.
- Medical equipment interference** THM Tag contains components and radios that emit electromagnetic fields. THM Tag has certain coverage of radio frequency bands. These electromagnetic fields may interfere with medical equipments, such as pacemakers and defibrillators etc. Consult your physician and medical equipment distributor for specific information related to your medical equipment and confirm whether you need to maintain a safe distance between the medical equipment and the THM Tag and the THM Tag charging cable. Should you have any suspects or doubts, you are recommended not to use this product (including all parts and all accessories).
- Explosive and other atmospheric conditions** Charging or using THM Tag in any environment with explosive risk is strictly prohibited. THM Tag

- functionalities might be damaged or impaired when exposed to environment with high concentrations of industrial chemicals. Obey all relevant signs, instructions and restrictions.
- Choking hazard** Some THM Tag accessories may present a choking hazard to babies or children. Keep them out of reach of babies and small children.
- Skin sensitivities** Some people may experience allergies or reactions when their skin is touched by certain materials used in jewelry, watches or any other wearable items. This can be caused from allergies, environmental factors, extended exposure to irritants or other causes. If you have past experiences from skin sensitivities, please take special care when wearing THM Tag. You might be more likely to experience irritations. Keeping THM Tag clean and dry could reduce the possibility of skin irritations.
- Equipment safety** The THM Tag contains high-sensitivity electronic components. Falling, burning, puncturing or rolling could cause equipment damage.
- Bluetooth equipment** Bluetooth equipment may be prohibited on the aircraft. The use of Bluetooth equipment has to be compliant with the relevant regulations from the national radio management authorities and relevant aviation management department.
- Not a medical equipment** The THM Tag is NOT designed as a medical

- equipment and should not be used as a replacement for professional medical assessment or judgement. It is not intended for use in the diagnosis of disease or other medical conditions, or in the cure, mitigation, treatment, or prevention of any medical / health conditions or disease. Please consult your healthcare provider all questions related to your health before considering use the THM Tag.
- 7. Disposal and Recycling Information**
- THM Tag disposal and recycling**
- Your THM Tag should not be disposed of with household waste. Dispose of your THM Tag in accordance with local environmental laws and guidelines.
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- European Union—Disposal Information**
- The symbol above means that according to local laws and regulations your product and/or its battery shall be disposed of separately from household waste. When this product reaches its end of life, take it to a

- collection point designated by local authorities. The separate collection and recycling of your product and/or its battery at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.
- 8. Limited Warranty**
- 【Warranty information】
- Warranty does not apply to:
- Surface damage, such as scratches, dents and depressions.
 - Consumables such as batteries, except if the product is damaged due to defects materials or manufacturing processes.
 - Damage caused by accident, abuse, misuse, inflow, flooding, fire or external factors.
 - Damage caused from repairing by non-Bluetooth authorized warranty personnel.
 - Damage caused by modification or alteration of the Product without the seller's written consent.
 - In addition, the seller reserves the right to refuse the warranty application for products or services obtained and/or used in violation of the laws of any country. This warranty provides you with specific

- legal rights, but this right may vary from region to region. The seller will not be responsible for any accidental, special, indirect or derivative damage (which may result from use, misuse, don't know how to use or product defects). The seller reserves the right to overhaul or replace (new products or newly overhauled replacement products) equipment or software. This is the sole and exclusive remedy for any breach of the warranty terms. Please consult your local seller 's authorized seller when applying for warranty service.
- 9. Statement on Intellectual Property Rights**
- Copyright Statement**
- Copyright ©2020 BlueIoT (Beijing) Technology Co., Ltd. All rights reserved.
- Any part of this manual, including text, pictures, graphics, etc., belongs to BlueIoT (Beijing) Technology Co., Ltd. Without written permission, any unit or individual may not extract, copy, translate, or modify this manual in whole or in part by any means. Unless otherwise agreed, the Company makes no representations or warranties of any kind, express or implied, with respect to this manual.
- Trademark statement**
- "BlueIoT" trademarks, logos, and trademark combinations are registered trademarks of BlueIoT (Beijing) Technology Co., Ltd.
- Liability statement**
- To the maximum extent allowed by law, the products (including hardware, software, etc.) described in this manual are provided "as is",

- there may be defects, errors or malfunctions, the company does not provide any form of express or implied warranty. The "BlueIoT" series of products (hereinafter referred to as "equipment") provided by our company are management aids, which cannot replace the safety management system, measures and rescue programs of dangerous operations, nor can they replace the supervision system in operation management and measures.
- During the use of this product, please remind the operator not to reduce safety awareness due to the use of auxiliary tools, timely charge the device when the device is low, and regularly check the device. If you have any questions, please contact our company for repair or replacement.
- 10. Responsibility Statement**
- Disclaimer**
- The product is an auxiliary tool, which cannot replace any safety management system, measure and rescue solution for hazardous operation or supervision system and measure for operation management. Please do not reduce safety awareness while using the product, and timely charge the product and check its operation state when the power is low.

- Measurement data and results of this product are for reference only. Products described in the Manual (including hardware and software) are all provided in the "current situation" within the maximum range allowed by laws, and there may exist defects, errors or faults. The Company does not provide express or implied guarantee in any form, or compensate for any special, incidental, accidental or indirect damages caused by using the Manual or products of the Company.
- The Company does not undertake any responsibility for any damage to personal or property interests of one's own or third party caused by failing to use the product according to the Manual and warning statement.
- The Company does not undertake any responsibility for any product operation abnormality, information disclosure or other problems caused by network attack, hacker virus infection or other unknown risks due to Internet access during product use.
- The product promoting pictures and advertisements are used only for instruction and promotion. Physical products prevail in all cases.
- The data in the Manual are all theoretical values obtained by the internal lab of BlueIoT in specific testing environments. However, there may exist differences due to individual product differences, software version, using conditions and different environmental factors, and actual using conditions shall prevail in all cases.

- The Company will not send special notice in the case of being necessary to modify and adjust the above.
 - For more information, please contact info@blue-iot.com.
 - 11. Product Parameters
- | BT4500-b Tamper-alarm heart rate monitoringI Bluetooth Location Tag (Anti-dismantle type) | |
|---|---|
| Frequency Range | 2.4GHz - 2.485GHz |
| Positioning Precision | Average LOS precision up to 10cm |
| Refresh Rate | 5Hz by default |
| Status Indication | LED / vibration |
| Size | 45mm×40mm×20mm |
| Length | 280mm |
| Weight | 70g excluding accessories |
| Detection and alarm mode | Wristband integrity detection/SOS button detection/heart rate detection |
| Power Endurance | 3 months on average (@5Hz) |
| Battery Capacity | 1000mAh/Rechargeable lithium battery |
| Charging Interface | Magnetic Type |
| Charging Voltage | 5±0.1V, 1000mA |
| Charging Time | 4 ~ 6 Hours |
| IP class | IP67 (CN standard) |
| Operating Temperature | -10 ~ 60℃ |
| Storage Temperature | -20 ~ 70℃ |
| Operating Humidity | 10% ~ 90% Non-condensing |
| Storage Humidity | 5% ~ 95% Non-condensing |

- FCC Statement
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help
- 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.