



User Manual

TrakBeacon

iOS® Industrial Tracker
TRKB-300



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Safety Information

Please read the following instructions carefully before operating the device and refer to this document as needed to ensure the continued safe operation of your device.

Care and Maintenance

- Keep the device away from corrosive liquids to avoid damaging the device and electrical circuits.
- Dispose the battery and/or any accessories according to local regulations. Do not dispose of electrical devices in normal household waste. Improper disposal may lead to fire, explosion, or other hazards.
- Do not open the TrakBeacon as this will void your warranty.

FCC/IC Compliance Statements

FCC Compliance 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.

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.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The device complies with the requirements set forth in CFR 47 Sections 2.1093 for an uncontrolled environment.

ISED Compliance Statement

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) L'appareil ne doit pas produire de brouillage;
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

ISED Radiation Exposure Statement

This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



Cet équipement est conforme aux limites d'exposition aux radiations IC CNR-102 établies pour un environnement non contrôlé. Cet émetteur ne doit pas être colocalisé ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.

This device has been found to be compliant to the requirements set forth in Industry Canada RSS-102 for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 5 mm between the radiator and your body.

L'appareil a été jugé conforme aux exigences énoncées dans la norme RSS-102 d'Industrie Canada pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 5 mm entre le radiateur et votre corps.

For Hand Held Device:

This device is in compliance with part 15.519 of the FCC Rules. This equipment may only be operated handheld.

Restricted Applications Statement:

UWB devices may not be employed for the operation of toys. Operation onboard an aircraft, a ship or a satellite is prohibited.

Trademarks and Disclaimers

NO WARRANTY. This technical documentation is provided AS-IS. Further, the documentation does not represent a commitment on the part of. IPCMobile, Inc does not warrant that it is accurate, complete or error-free. Any use of the technical documentation is at the risk of the user.

IPCMobile, Inc reserves the right to make changes in specifications and other information contained in this document without prior notice, and the Connected should in all cases consult IPCMobile, Inc to determine whether any such changes have been made. IPCMobile, Inc shall not be liable for technical or editorial errors or omissions contained herein; nor for incidental or consequential damages resulting from the furnishing, performance, or use of this material.

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Overview

Streamline operations with real-time asset tracking and visibility when paired with an iOS device. Powered by Ultra-Wideband (UWB), low-energy wireless, and GPS technologies, TrakBeacon enables enterprise users to locate assets with exceptional precision and accuracy. Whether you're tracking a few items or managing a large fleet, the beacons are scalable and easy to deploy. With built-in NFC, connecting a beacon is as simple as tapping it to the host device.

Features

Tracking – A TrakBeacon with Single-Band GNSS is available for use in environments where GPS signals are unobstructed and other triangulating infrastructures are accessible.

Enhanced Location Accuracy – For greater accuracy in areas with limited infrastructure, a TrakBeacon equipped with Dual-Band GNSS and an active antenna is available. This configuration enhances performance by accessing more satellites and improving signal integrity.

Note: In both configurations, low-energy wireless signal strength can be used within a 10-meter range to pair with a device, retrieve real-time data, and activate the locating LEDs via the application.

Precision Location Tracking – For even more precise tracking, especially at close range (under 1 meter), TrakBeacon uses Ultra-Wideband (UWB) protocols with iPhone 11 series or later. In combination with the application, UWB enables enhanced asset location, particularly when LED indicators are not practical or visibility is limited.

Note: UWB is not supported on all iPhone models (e.g., iPhone 16e). Please refer to your phone's manual or Apple's specifications to confirm UWB support.

Connectivity – TrakBeacon connects to compatible iOS devices using either NFC tap-to-pair or low-energy wireless. For NFC pairing, an iPhone 6 or later running iOS 13 or above is required. If NFC is unavailable, the beacon can connect via low-energy wireless, also requiring an iOS device with iOS 13 or later. Add NFC tap to track

Sensors – The TrakBeacon includes an accelerometer to detect motion, enabling power-saving features when the device is idle. An ambient light sensor (ALS) adjusts LED brightness based on surrounding light conditions. The sensitivity of both sensors can be customized within the application.

Power – The TrakBeacon is powered by four pre-installed CR123A batteries. These batteries are user-replaceable – see the Battery Access section on Page 9 for more details.

Box Contents

The TrakBeacon is shipped with the following items:

- (1x) TrakBeacon with Mounting Clip
- (4x) CR123A Batteries Pre-Installed

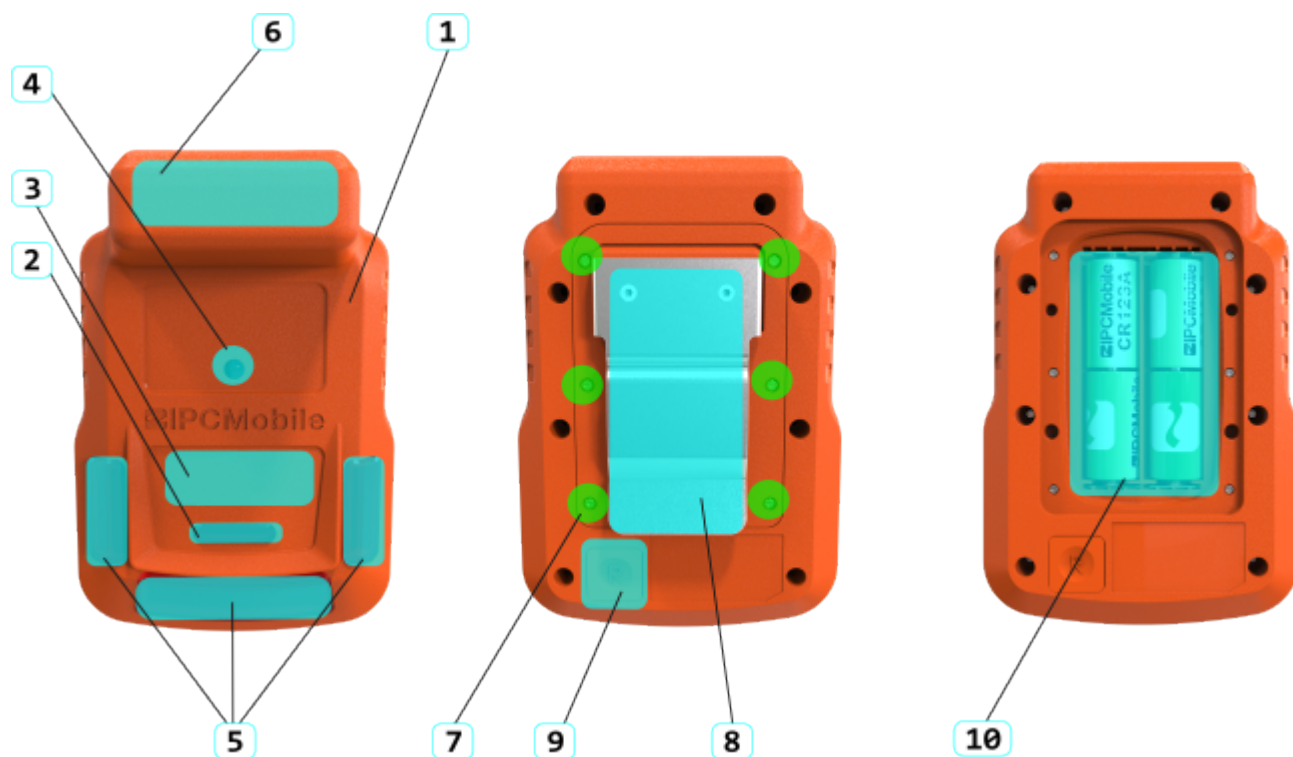
SKU by Configuration

The specific model shipped depends on your order configuration.

PART NUMBER	DESCRIPTION
TRKB-300-OG	TrakBeacon – GPS Dual Band, UWB, NFC, Orange
MM-TRKB-OG	Magnetic Mounting System for TrakBeacon, Orange



Product Descriptions



- | | |
|---------------------------|---|
| 1. TrakBeacon Housing | 6. Dual-Band GPS (Configuration Specific) |
| 2. Indication Status LED | 7. (6x) T6 Screws (Pre-Installed) |
| 3. NFC Region | 8. Mounting Clip |
| 4. Ambient Light Sensor | 9. Power Button |
| 5. Location Awareness LED | 10. (4x) CR123A Batteries (Pre-Installed) |



Technical Specifications

MECHANICAL	
Compatibility	iOS 13 or later
Buttons	Power/Reset Button
Dimensions (L x W x D)	144mm x 100mm x 74mm (5.66in x 4in x 2.91in) without Mounting Accessory
Weight	186g (6.56oz)
Durability	1.2m Drop to Concrete
Protection Rating	IP67
ELECTRICAL	
Light Indication	Status Indication LED Location Awareness LEDs
Battery	(4x) CR123A Batteries
NFC	13.56MHz
Tag Type	ISO 14443-4 Type A
Connectivity	Low-Energy Wireless UWB NFC
ENVIRONMENTAL	
Operating Temperature	-20°C to +60°C (-4°F to 140°F) RH 5% to 90%
Storage Temperature	-15°C to +50°C (-4°F to 158°F) RH 5% to 90%
CERTIFICATIONS	
Regulatory	CE, FCC, RoHS, ICES

Important: Specifications are under review and subject to change without notice.



Getting Started

Before using the TrakBeacon, make sure you have access to a compatible iOS device and have downloaded the SmartBeacon Finder application. To download the app and view demos, scan the QR code or visit <https://www.infineadev.com/smartbeacon>.

Note: The SmartBeacon app allows users to view device information and control various functions of the TrakBeacon, including locating the device, adjusting the LED light settings, and disconnecting from the device.

Next, remove the TrakBeacon and any included accessories from the packaging and verify the box contents – see Page 3 for box contents. The TrakBeacon comes ready-to-use with four (4) CR123A batteries pre-installed.



Powering the TrakBeacon

To Power ON

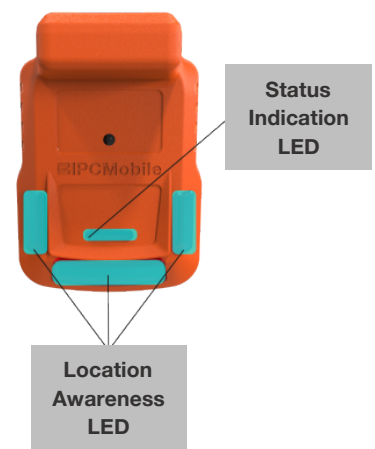
- Press and hold the 'R' button located on the back side of the device for three (3) seconds. The status LED (see Figure 1) will flash blue and green for approximately one (1) minute, indicating the TrakBeacon is powered on and ready to be paired with the iOS Bluetooth Low Energy (BLE).

To Power OFF

- Press and hold the 'R' button on the back of the device for seven (7) seconds. The status LED will flash green seven (7) times followed by one (1) red flash, indicating the TrakBeacon is now powered off.

Note: The TrakBeacon enters a low-power state when idle. If the device is moved, the status LED will briefly flash red. If left upright and stationary for one (1) minute after movement, the status LED will flash blue to indicate it is capturing the last GPS position before entering low-power mode.

FIGURE 1: LED Features



Pairing the TrakBeacon

There are two ways to pair the TrakBeacon with your device. NFC Tap-to-Pair is supported only on iPhone 6 or later models, or on devices equipped with NFC functionality. If NFC Tap-to-Pair is not available, short-range wireless pairing can be executed with an iOS device.

Important: Compatible with devices using iOS 13 or later.

Pair via NFC Tap-to-Pair

- Open the SmartBeacon application on your iOS device and select the NFC Pair function.
- Align the NFC device with the boxed NFC region on the TrakBeacon (see Figure 2). If the device is powered off, tapping with NFC will automatically power it on. The status LED on the TrakBeacon will blink blue three (3) times to confirm that pairing was successful. The application will also confirm pairing by displaying information about the device, such as the short-range wireless ID (BT ID).

FIGURE 2: NFC Region



Pair via Short-Range Wireless

- Ensure that the beacon is turned on.
- Locate the short-range wireless ID (BT ID) on the device label (see Figure 3). The BT ID is designated as "IPCXXXXXXXXXX".
- Open the SmartBeacon application on your iOS device and initiate Bluetooth discovery. The application will scan for nearby Bluetooth devices and generate a list of available devices. The TrakBeacon BT ID should appear in the list.

FIGURE 3: Device Label



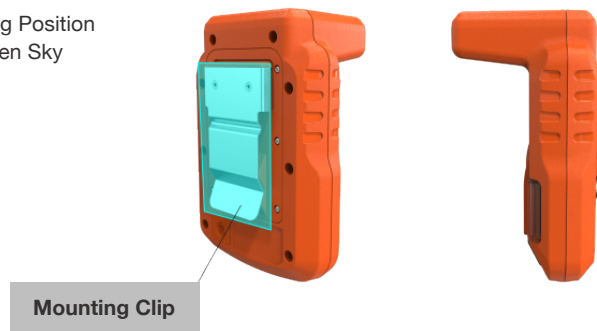


4. Select the appropriate BT ID from the list. The status LED on the TrakBeacon will blink blue three (3) times to indicate successful pairing. The application will also confirm pairing by displaying information about the device.

Mounting the TrakBeacon

The TrakBeacon is equipped with a metal Mounting Clip (see Figure 4) designed for mounting onto placards. Proper mounting is critical to ensure the GPS functions correctly and maintains orientation toward open sky.

FIGURE 4: Vertical Mounting Position
with Antenna Facing Open Sky



An optional Magnet Mounting System (see Figure 5) is sold separately and designed for mounting onto ferrous surfaces.

1. Remove the (2x) M2.5 screws from the Mounting Clip.
2. Replace the Mounting Clip with the Magnet Mounting System (see Figure 6).
3. Reinstall the (2x) M2.5 screws and install the extra (1x) M2.5 screw included in the box.
4. Torque the screws to 0.5Nm.

FIGURE 5: Magnet Mounting System

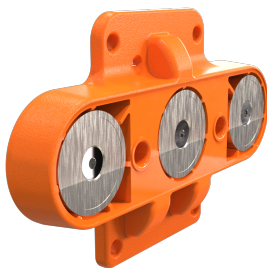


FIGURE 6: Locations for the M2.5 Screws





Operating the GPS

Depending on the SKU, the TrakBeacon can have a single-band or a dual-band GNSS module and antenna. As part of the system, this configuration enables vehicle and asset tracking with positioning accuracy while maintaining low power consumption. GPS data is reported based on the last idle position of the TrakBeacon.

1. Before using the GPS function, pair the TrakBeacon (see Page 7) with your iOS device.

Note: Low-power mode is automatically enabled when the device is placed in a horizontal position or when the accelerometer does not sense motion. The TrakBeacon may tilt forward and backward up to 30 degrees before it is considered in a horizontal position.

2. Ensure the TrakBeacon is in a vertical position (see Figure 4).
3. Tap Enable Alarm inside the app. This will cause the status LED to turn red.

Note: Depending on the accelerometer sensitivity, you may need to shake the device for the LED to turn red.

4. After mounting the device, avoid moving it. Within one (1) minute, the status LED will flash blue once, initiating the GNSS session.

Note: If you don't see the blue LED flash, reboot the TrakBeacon and start from Step 1.

5. Tap Retrieve GPS inside the app for possible GPS outcomes:

- As soon as the GPS is turned on, you will start receiving coordinates. If the device remains vertical and idle for the duration of seven (7) minutes, multiple reliable GPS data points are captured and reported to the application.
- If the device remains vertical but detects motion, the status LED turns red, and the system returns to step 4.

6. Once GPS data is captured, the status LED will turn green, and the TrakBeacon will return to low-power mode.

Note: After Step 5, the asset may be moved to its desired location. Upon reaching the new location and becoming idle, the device will capture and report a new GPS data point within eight (8) minutes.

The GPS location obtained at the end of the seven-minute scanning interval is included in the low-energy wireless broadcast packet of the TrakBeacon. This location will continue to broadcast until a new accelerometer event is detected, triggering a new GNSS session and the acquisition of updated coordinates.

Accessing the Battery

The TrakBeacon uses four (4) CR123A batteries, which can be accessed by the battery panel.

1. Using a Torx (T6) screwdriver, remove the six (6) screws securing the battery panel (see Figure 7).
2. Install the four (4) CR123A batteries in the correct orientation (see Figure 8).
3. Close and secure the battery panel by reinstalling the six (6) screws.
4. Torque the screws to 0.5 Nm to ensure proper sealing and maintain device integrity.

FIGURE 7: The 6 Screws Securing the Battery Cover are Circled in Yellow

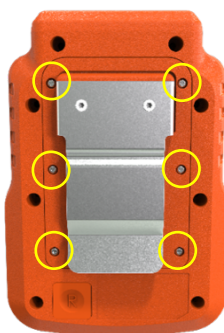


FIGURE 8: The 4 CR123A Batteries are Aligned in 2S-2P Configuration





Troubleshooting Guide

PROBLEM	CAUSE	SOLUTION
Status LED fails to turn Red during TrakBeacon movement	- Accelerometer is not functioning - Battery is too low	- Reset the TrakBeacon - Replace the battery
No GPS data	Interference with antenna	- Orientate the device in vertical position - Antenna must have access to open sky - Re-position away from metal overhangs
Status LED is Red and no state change	Accelerometer is triggered	- Orientate the device in vertical position - Position into final idle location - Restart application
Tap-to-Pair not pairing	Device is not an iPhone 6 or later model and not with iOS 13 or later	- Use short-range wireless pairing by locating the BT ID on the back of the TrakBeacon - Restart application

Additional Information

For further assistance, scan the QR code or visit <https://ipcmobile.com/support>. In the IPCSupport Portal, users can get access to our comprehensive knowledge base, download resources, open a support ticket, manage returns and exchanges, subscribe to alerts, and more.



Warranty

IPCMobile does not warrant, and is not responsible for, any damage to the TrakBeacon (“Product”) as a result of liquid or solid particle intrusion into the Product or damage caused by dropping the Product. If a material or workmanship defect arises with regard to any IPCMobile product, and a valid claim is received within the Warranty Period, IPCMobile (at IPCMobile’s sole discretion) will (1) repair the Product using new or refurbished parts, or (2) replace the Product with a new or refurbished Product. For purposes of this limited warranty, “refurbished” means a product or part that has been substantially returned to its original specifications. In the event of a defect, these are your exclusive remedies.

For more information about how to extend product warranty and to register your device, visit <https://ipcmobile.com/warranty-services>.

Product Returns

Users must create an account or log in to an existing account to gain access to our service center.

Follow the steps below to request an RMA:

1. Create a user account in the RMA Support Portal at <http://ipcmobile.com/support/rma/>
2. Log in to your user account, and then click Create RMA Request.
3. Read the instructions provided and complete the online request form.
4. Note the assigned RMA number and write it clearly on your shipping carton.
5. Ship your equipment to us using the address provided on the Support Ticket.

Contact IPCMobile

Reach out to your IPCMobile account representative or visit our website at <https://ipcmobile.com> to learn more about our full list of available products, accessories, and services.

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