

IOX-BT

For the most up-to-date version, please visit: goo.gl/Gnbsy5

The IOX-BT monitors **Bluetooth®** proximity beacons with public MAC addresses and supports select sensor-enabled beacons. Beacons — attached to tools and equipment — increase asset utilization, reduce the impact of misplaced equipment, boost productivity, reduce operational costs, and improve on-time delivery.

Top Features

- Simple-to-install
- Monitors proximity beacons with public MAC addresses
- Also supports sensor data from select beacons
- Supports up to 200 in-range beacons
- Compatible with the Geotab® [BLE Add-On Protocol](#). This requires XXX.14.XX firmware or newer



IOX Hardware Technical Specifications

Weight	110 g
Size	Overall length: 2440 mm L Widest point: 58 mm W × 23 mm H
Housing	Black, moisture-resistant thermoplastic overmold
Interfaces	CAN: 500 kbps (for daisy chaining)
Power Output	Daisy Chaining: 2500 mA @ 12 V/24 V
Current Rating	Operating Mode: 52 mA Sleep Mode: 0.2 mA
Temperature Rating	-40 °C to +85 °C
Bluetooth® Module	Version 4.0 Single Mode
Range	In range: <100 m Out of range: >200 m
Connectors	Keyed 5-pin mini-USB type-B plug: Daisy chain power and CAN in Keyed 5-pin mini-USB type-B socket: Daisy chain power and CAN out
Installation	Keyed mini-USB plug connects to the GO Device or another IOX
Compliance	FCC, IC, Bluetooth®
Compatible Devices	GO6®, GO7®, GO7 Rugged, GO8®, GO8 Rugged, GO9®

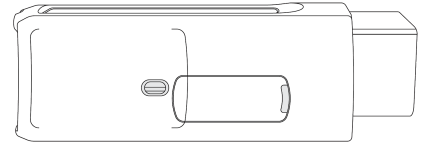
IOX Installation Instructions

WARNING! Prior to IOX-BT installation, read and follow GO device installation instructions (goo.gl/rkLRiA) to verify that any existing GO device installation is correct in preparation for IOX-BT installation. Incorrect installation of either the GO device and/or IOX-BT can result in loss of vehicle control and serious injury.

WARNING! Prior to IOX-BT installation, read and follow [Important Safety Information and Limitations of Use](#), located at the end of the document. Always read and follow all safety information to prevent serious injury and loss of vehicle control.

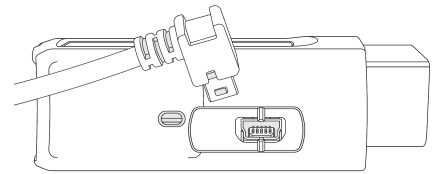
How to Install IOX-BT

- 1 Unplug the Geotab GO device from the vehicle and remove the IOX expansion port cover on the GO device.



- 2 Plug the 90° USB connector from the IOX into the GO device. Secure the USB connector using a zip tie. Please note that over tightening the zip tie may damage the USB connector.

Note: Insert the USB connector in the orientation displayed in the image.



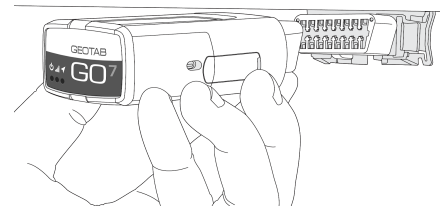
- 3 Choose an appropriate location to install the IOX-BT. Please ensure the IOX installation does not interfere with safe vehicle operation. The best location to attach the IOX-BT is on the vehicle windshield using the provided double-sided tape.

When using tape, ensure the mounting surface is thoroughly clean and dry, and at least 65 °F (18 °C). Hold the tape firmly in place for 60 seconds to ensure the tape has bonded to the surface.

Proper placement of the IOX-BT is crucial. The location affects the strength of the signals received from Bluetooth® beacons. It is suggested the IOX-BT is installed in an open area.

- 4 Install the Bluetooth® beacons on the assets/equipment you want to monitor. Securely attach the beacons in a location where they will not be damaged.

- 5 Once you connect the IOX-BT to the GO device, plug in the GO device and immediately start the vehicle. The GO device enters debug mode.



6 Navigate to installmygps.com to verify that the device is communicating. In the space provided, enter your name, the company name, and the GO device serial number – located at the bottom of the device. Click **Log Install**.

7 After you click **Log Install**, the web page displayed the current communication status of the device – in **GREEN** or **RED** text. If the device is communicating, the status is displayed in **GREEN** text. If the device is not communicating, the status is displayed in **RED** text.

Note: If the device is not communicating, please ensure the device is installed correctly and try again.

Installer Name:

Installer Company:

Device Serial No:

Odometer:

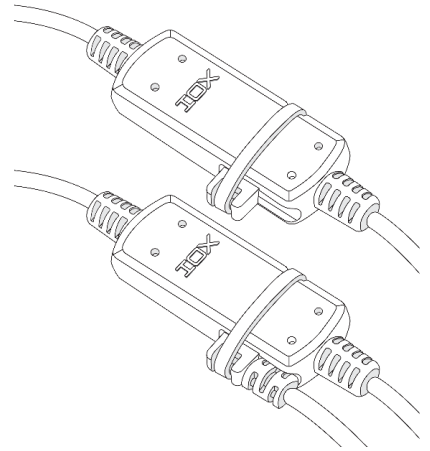
Asset Number:

Termination Shunt

The IOX comes with a termination shunt installed in the expansion port. If you plan to install more than one IOX in a daisy chain, you must remove the shunt from each device in the line, with the exception of the last IOX connected. The shunt must remain in the last IOX and secured with a zip tie.

The shunt in the last IOX ensures the GO device detects and configures the IOX, as effectively as possible.

Note: Failure to install the shunt in the last IOX may affect IOX communication. To ensure the IOX communicates, please secure the shunt with a zip tie.



Beacon Data in MyGeotab

The GO device automatically detects any in-range beacon with a public MAC address. A GO device generates a log whenever a beacon comes within range and, subsequently, when it goes out of range. No special configuration is required in MyGeotab to associate a beacon with a database or a specific GO device. Beacons within range of multiple GO devices trigger logs on all in-range devices.

When using beacons that support sensor data, the GO device also logs illuminance, ambient temperature, and impact.

Beacon Data in MyGeotab for All Bluetooth® Beacons

Diagnostic	Values	Conversion	Units	Tolerance
IOX Bluetooth®	Connected: 1 Disconnected: 0	None	None	None
Bluetooth® beacon in range	In Range: 1 Out of Range: 0	None	None	None

Beacon Data in MyGeotab for Bluetooth® Beacons with Sensor Data

Diagnostic	Values	Conversion	Units	Recording Rate
IOX Bluetooth®	Connected: 1 Disconnected: 0	None	None	Every change
Bluetooth® beacon in range	In Range: 1 Out of Range: 0	None	None	Every change
Bluetooth® beacon battery level	0-100	None	%	Every 2 unit changes
Bluetooth® beacon illuminance	0-255	255 = 16000 lux 1 unit ~ 63 lux	lux	Every 2 unit changes
Bluetooth® beacon temperature	-40 to +80	None	°C	Every change
Bluetooth® beacon impact count	0-255	None, resets to 0 after 1 cycle	None	Every change

Custom Reports

Access the sensor data described above from the Engine Measurements Report (**Engine & Maintenance > Engine and Device... > Measurements**) in MyGeotab. This report also contains the public MAC address of the beacon you use and can be leveraged to create custom reports to meet a variety of needs.

Accessing Beacon Data through the MyGeotab SDK

All of the status data above is also available via the MyGeotab API (my.geotab.com/SDK). The API is used to associate status data with the beacon from which it originated. The beacon data is configured as engine information accessed through the StatusData object, with the specific diagnostics described in the table above – found in the Diagnostic object of the API.

Limiting Beacon Data to Specific Beacon Types (Beta)

Because the IOX-BT detects any beacon with a public MAC address, it is possible to exceed the beacon data limits set for the IOX-BT. Using the custom parameters below, limit the beacon data that you receive in the database to a specific beacon type. This feature requires XXX.14.XX firmware or newer.

Type of Data	Custom Parameter
Reports all beacons with public MAC address	No custom parameter needed.
BeWhere Beacons only	<GoParameters><Parameter Description="Restrict Bluetooth Beacons To BeWhere" Offset="167" Bytes="01"/></GoParameters>
Beacons using Geotab BLE protocol only	<GoParameters><Parameter Description="Restrict Bluetooth Beacons To Geotab" Offset="167" Bytes="02"/></GoParameters>
BeWhere Beacons and Beacons using Geotab BLE protocol only	<GoParameters><Parameter Description="Restrict Bluetooth Beacons To Geotab and BeWhere" Offset="167" Bytes="03"/></GoParameters>

Important Safety Information and Limitations of Use

For the latest version of the Limitations of Use, please visit: goo.gl/k6Fp0w.

WARNING! Do not attempt to install, configure or remove any product from any vehicle while the vehicle is in motion or otherwise in operation. All installation, configuration or removal must be done only in stationary vehicles which are securely parked. Attempting to service units while being operated could result in malfunctions or accidents, leading to death or serious personal injury.

WARNING! All in-vehicle devices and related cabling must be securely fastened and kept clear of all vehicle controls, including gas, brake and clutch pedals. You must inspect devices and cabling on a regular basis to ensure all devices and cabling continue to be securely attached. Loose cabling or devices may impede the use of vehicle controls, resulting in unanticipated acceleration, braking or other loss of vehicle control, which could lead to death or serious personal injury. Improperly fastened in-vehicle devices may detach and impact operators upon sudden acceleration or deceleration, which may cause injury.

WARNING! If at any point after an in-vehicle device is installed a warning light illuminates on the vehicle dash or the vehicle stalls or has a marked drop in performance, shut off the engine, remove the device, and contact your reseller. Continuing to operate a vehicle with these symptoms can cause loss of vehicle control, and serious injury.

WARNING! Your in-vehicle devices must be kept clear of debris, water and other environmental contaminants. Failure to do so may result in units malfunctioning or short-circuiting that can lead to a fire hazard or vehicle damage or serious injury.

WARNING! Do not attempt to remove the devices from the vehicle in which they are originally installed for installation in another vehicle. Not all vehicles share compatibility, and doing so may result in unexpected interactions with your vehicle, including sudden loss of power or shutdown of the vehicle's engine while in operation or cause your vehicle to operate poorly or erratically and cause death or serious injury and/or vehicle damage.

NOTICE – This product does not contain any user-serviceable parts. Configuration, servicing, and repairs must only be made by an authorized reseller or installer. Unauthorized servicing of these products will void your product warranty.

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov.