Geotab GO9 Telematics Device with Wi-Fi Hotspot Instruction Manual

Contents

GEOTAB®

Geotab GO9 Telematics Device with Wi-Fi Hotspot

GO9+ device
Geotab's GO9+ telematics device builds on the class-leading GO9 with the added benefit of an on-board Wi-Fi hotspot. Similar to the GO9®, the GO9+ offers state-of-the-art GPS technology, g-force monitoring, GEOTAB IOX® expandability, engine and battery health assessments, and communication on the LTE network.

Vehicle tracking
Using Geotab's patented tracking algorithm, the GO9+ accurately recreates vehicle trips and analyzes incidents. Improve fleet safety and performance. The GO9+ relays in-vehicle alerts to notify drivers of infractions in real-time and delivers live driver coaching — with hardware Add-Ons — for improved on-road performance. The GO9+ does not require a dash-mounted antenna or any wire splicing.

Security
Geotab platform security is designed for end-to-end protection of your data.

Key implementations include:

- GO™ device and network interfaces use authentication, encryption, and message integrity verification.
- GO devices are individualized. Each device uses a unique ID and non-static security key — making it difficult to fake a device's identity.
- Over-the-air updates use digitally-signed firmware to verify that updates come from a trusted source.
- Geotab uses independent third-party experts to validate the platform from end-to-end.
- FIPS 140-2 validated by NIST (certificate #3371).

In-vehicle Wi-Fi hotspot
Geotab's GO9+ telematics device delivers an in-vehicle Wi-Fi hotspot to connect tablets, phones, and other Wi-Fi capable devices. Stay connected to your drivers at all times and improve your fleet functions.

Top Features

- Wi-Fi hotspot functionality
- Easy installation

- LTE Connectivity
- Small form factor device
- Intelligent in-vehicle driver coaching
- Breakthrough collision detection and notification
- External device expandability via IOX Technology
- Built-in auto-calibrating accelerometer and gyrometer
- Near-real-time vehicle data
- Fast GPS acquisition time using Almanac OTA support
- Support for GPS+GLONASS connectivity
- Additional native support for more vehicle protocols
- End-to-end cybersecurity

Technical specifications and features

Engine Management
Legacy Interfaces

- Physical Interfaces: J1850 PWM, J1850 VPW, J1708, 9141-2 and ISO 14230 (KWP2000) at Pins 2 and 10
- Speed: 10.4/41.6 kbaud for J1850, 9141-2 and ISO 14230 and 9600/62500 bps for J1708
- Data packet protocols: J1850 PWM, J1850 VPW, J1708, J1708 CAT, ISO Toyota, ISO Vario, ISO Ford, ISO Isuzu
- Diagnostic/application protocols: OBD2

Standard CAN

- Physical Interfaces: CAN at Pins 6 and 14, Pins 3 and 11, Pins 2 and 10
- Speed: 125/250/500 kbps
- Data packet protocols: ISO 15765 CAN, GMLAN, VW TP 2.0, SAE J1939-21, SAE J1939- FMS
- Diagnostic/application protocols: Std OBD2, WWH-OBD, UDS (ISO 14229)

Single Wire CAN

- Physical Interfaces: Single Wire CAN at Pin 1
- Speed: 33/50/83.3 kbps
- Data packet protocols: GMLAN, OEM Specific

Medium/Low Speed CAN

- Physical Interfaces: J1939-13 Type 2, TTL CAN at Pins 3 and 11, Pins 2 and 10
- Speed: 50/125/250 kbps
- Data packet protocols: GMLAN, OEM Specific, ISO 15765 CAN, SAE J1939-21, SAE J1939- FMS
- Diagnostic/application protocols: Std OBD2, WWH-OBD, UDS (ISO 14229)
- 2- or 3-wire install support (for older vehicles/asset tracking)

Input/Output

- Buzzer
- LEDs — Ignition, GPS, Cellular
- IOX (more details below)
- Internal GPS/Cellular antennas

Cellular
Availability varying on certification — full list of supported countries here.
GO9+ LTE ATT/TELUS
• LTE (CAT-4): Bands 2/4/5/12
GO9+ LTE EU/UK
• LTE (CAT-4): Bands 1/3/7/8/20
3GPP Compliant

GPS receiver
72-channel engine (GPS/GLONASS/Beidou/Galileo/SBAS/WAAS/EGNOS/MSAS/GAGAN)

- Under 1 second Time-To-First Fix for hot and aided starts
- Cold start: 26s
- Concurrent GPS & GLONASS system
- A-GNSS
- Accuracy: ~2.0 m CEP
- OTA FW updates supported

Onboard Wi-Fi

- Supports WPA2+AES security protocol
- Supports up to 10 simultaneous connections
- 802.11 b/g/n 2.4 GHz
- DL range: 0–25 Mbps
- UL range: 0–10 Mbps

Environmental

- Operating Temperature: -40°C to 85°C
- SAE J1455
- Temperature
- Temperature Cycle Test
- Thermal Shock
- Humidity
- Mechanical Vibration
- Random Vibration Testing
- General Heavy-Duty Truck Electrical Environment
- Conducted Transients (Inductive Switching, Burst Transients, Starter Motor Engagement)
- Coupled Transients (Electrical Fast Transients, Chattering Relay)

- Electrostatic Discharge (ESD)
- Electromagnetic Compatibility (EMC)
- Electromagnetic Interference (EMI)

Accelerometer & gyroscope
3D accelerometer and 3D gyroscope. Full-scale acceleration range of ±8 g and an angular rate range of ±250 dps. Acceleration and angular rate output data rate of 1.66 kHz.

Mechanical

- Weight: 97 g (0.21 lbs)
- Dimensions: 77.3 mm L × 53 mm W × 27.5 mm H
- Housing: PC + ABS – SABIC CY6414 (Flame retardant)

Electrical

Voltage: 12 V and 24 V systems supported
Tracking mode (ignition on)

Wi-Fi off
• Peak power: 320 mA @ 12 V, or 3.84 W
184 mA @ 24 V, or 4.416 W
• Average power: 96.2 mA @ 12 V, or 1.15 W
55.1 mA @ 24 V, or 1.322 W

Wi-Fi on
• Peak power: 433 mA @ 12 V, or 5.196 W (Tx power is 23 dBm)
249 mA @ 24 V, or 5.975 W
• Average power: 330 mA @ 12 V, or 3.96 W (Tx power is 10 dBm)
189.7 mA @ 24 V, or 4.554 W

IOX Operating Mode
• Up to 2 A Current
• Resettable overcurrent protection to IOX

Compliance
FCC, ISED, PTCRB, NOM, CE, RoHS, REACH, WEEE, UKCA, E-Mark
Carriers: AT&T, TELUS, Rogers

Over-the-air (OTA) support
Firmware Updates: For maintenance, new features, and custom applications
Parameters: For turning additional features on/off
Almanac/Ephemeris Data: For quicker GPS latch

In-cab buzzer
Decibel Output: >80 dBA at 10 cm
Driver Feedback: Harsh braking, harsh acceleration, harsh corners, over-revving, excessive idling and speeding, engine based seatbelt violations (when available), and custom

	Test Mode: Diagnostic beeps for validating GPS and wireless connection
Voltage recording	Curve-based voltage logging to detect weak batteries, failing alternators, and failing starters
64-Mb Non-volatile flash memory	**Main Data Memory**: Up to 80,000 logs in offline mode (out of coverage) **Collision Data Memory**: Buffer records over 100 minutes of second-by-second data (6,000 logs). Last 72 records (1.2 minutes) are sent instantly on accelerometer-triggered collision-level events.
Recording parameters	Patented curve-based GPS/voltage/accelerometer/engine data logging algorithm for fewer, more accurate data points
Intelligent ignition	Non-engine-based ignition detect on voltage and movement, allowing for 3-wire installation. Ideal for older vehicles with no engine information and covert installation for asset recovery.

Preparing for installation

Before installing the GO device, please record the device serial number. The serial number is used to verify the communication status of the GO device.
Carefully read the device release notes (goo.gl/fZURff) or the vehicle-specific installation notes (goo.gl/MCIXt0) to verify that we support your vehicle. If you have any questions or concerns, please consult your Authorized Reseller.
Ensure no dash warning lights are on in the vehicle while it is running, and all other functions, such as headlamps and flashers etc. work prior to installing the device.
Before Installation, add the device to your MyGeotab™ database using the device serial number. This will ensure all data logged from point of install onward is sent to your database.

NOTE: You must select the correct Geotab hardware suitable for your specific installation environment and vehicle use. For installations where exposure to the elements (e.g., liquids, dust, or interior wet cleaning/powerwash) is anticipated, select the GO RUGGED device (GR8 rated IP67, and GR9 rated IP68 and IP69K). For additional information regarding environmental contaminants, see the applicable installation instructions as well as the Important Safety Information & Limitations of Use section below.

Installation instructions

Read important related safety information and limitations of use following these installation instructions. Read and follow all instructions and warnings to prevent serious injury and/or vehicle damage.
WARNING! Prior to GO installation, read and follow important safety information including limitations of use located following these installation instructions. Always read and follow all safety information to prevent loss of vehicle control and serious injury.

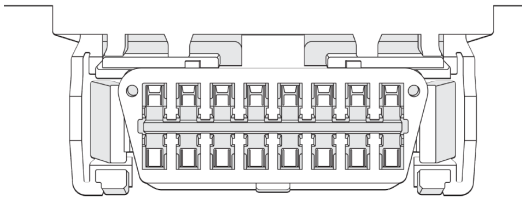
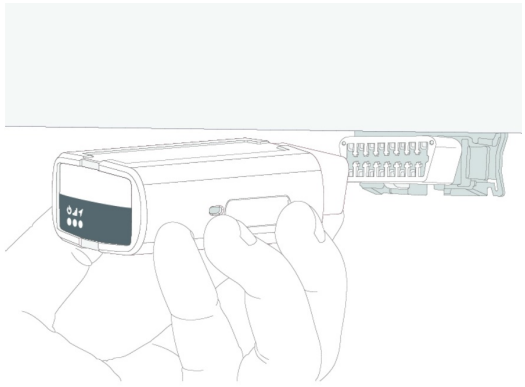
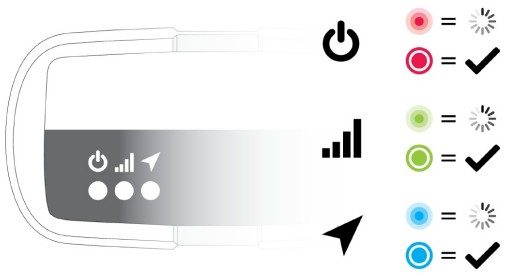
WARNING! Some installations are not straightforward and must be completed by an Authorized Geotab Installer to ensure a secure installation. An unsecure device installation can cause poor electric and/or data connection that can lead to short circuits and fires or cause malfunctions of vehicle controls that can result in serious personal

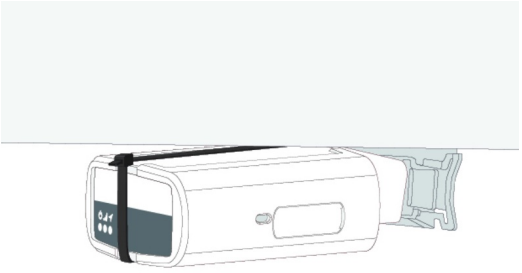
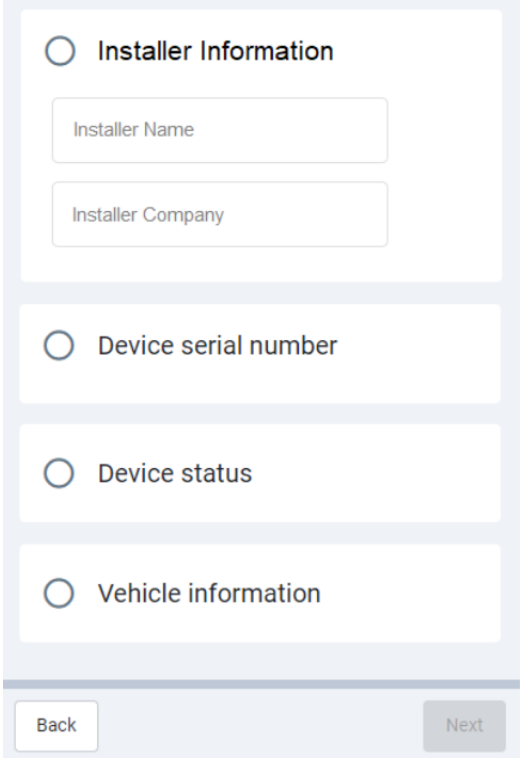
injury or significant damage to your vehicle. Some examples requiring professional installation from an Authorized Geotab Installer are:

- The OBD port location is such that the device protrudes and interferes with entering or exiting the vehicle, or located where it could be inadvertently kicked or bumped during vehicle operation
- The device isn't fully secured and so may come loose with vibrations or accidental contact
- An electrical harness or additional wiring is required
- Vehicle mounting modifications are required to secure the device, i.e. removing of panels; deformed/damaged OBD connector; or physical damage to the electrical wiring
- The device does not beep six times and power on when first installed
- The installer questions their ability to complete a secure installation according to these instructions

WARNING! Do not attempt to install, reconfigure, or remove any product from a 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 devices while the vehicle is in motion could result in malfunctions or collisions, leading to death or serious personal injury.
Please refer to the GO9+ Installation FAQ if any questions during the installation process.

Installing the GO device

1	Locate the vehicle's engine diagnostic port, typically found in t he driver's area at or below knee level. ✱ **NOTE**: Heavy-duty trucks often use a different Diagnostic L ink Connector (DLC). Contact your Authorized Reseller to lear n about DLC applications for heavy-duty trucks, or how to use a vehicle- specific harness if available.	
2	Align the receiver end of the device with the engine diagnostic port and push in place. Please ensure the device is connected to the diagnostic port. Once connected, the device emits 6 qui ck beeps.	
3	Once the device is connected and receives power, the LEDs o n the front of the device start blinking then turn solid once com pleting the actions below: **Red** LED — Device configuration **Green** LED — Cellular network connectivity **Blue** LED — GPS network connectivity The device emits two quick beeps every 60 seconds during set-up. Initial startup may take several minutes to complete.	

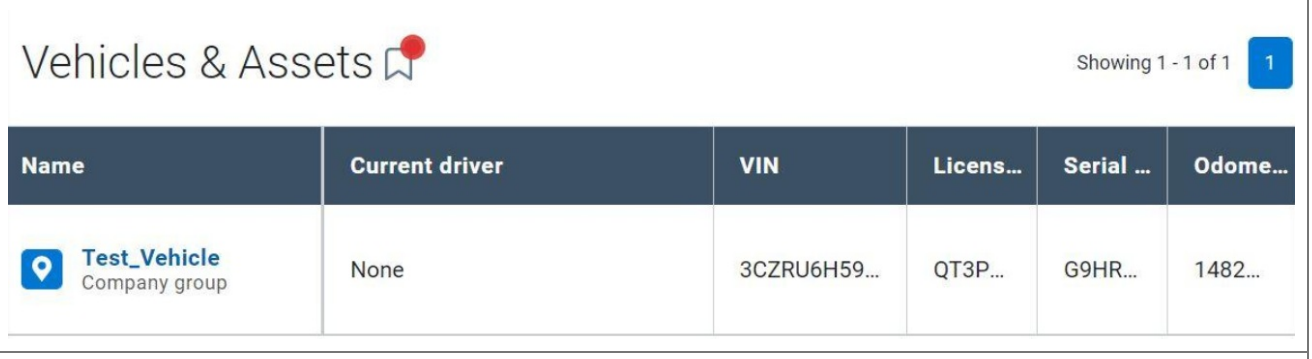
4	Once all three LEDs turn solid and you hear 10 quick beeps, secure the device using the provided cable tie. Ensure there is always a 20cm separation between the driver and the device. This applies to all users of the vehicle. NOTE: The device is considered installed when the Green and Blue LEDs turn solid.	
5	When performing under-dash installations with an extension harness, make sure the antenna side points upwards — towards the sky for faster GPS latch times. The GPS antenna in the GO9+ is located on the bottom of the device.	
6 7	Navigate to installmygps.com and open MyInstall (public) to verify that the device is communicating. Under Installer Information, enter your name and your company name, and then press Next. Under Device serial number, enter your GO device serial number, found at the bottom of the device, then press Validate. and installation comments. You can manually enter the Make, Model, and Year fields or tap the search icon beside VIN to auto-populate them. If you enter the Odometer value, you must select a unit of measurement (km or miles). Use the Work order reference field to enter the work order number. Enter Installation comments if desired. Tap Finish installation to complete the installation. NOTE: For some vehicle makes and models, the auto-populate option might not be possible. Please see the MyInstall User Guide for more information.	

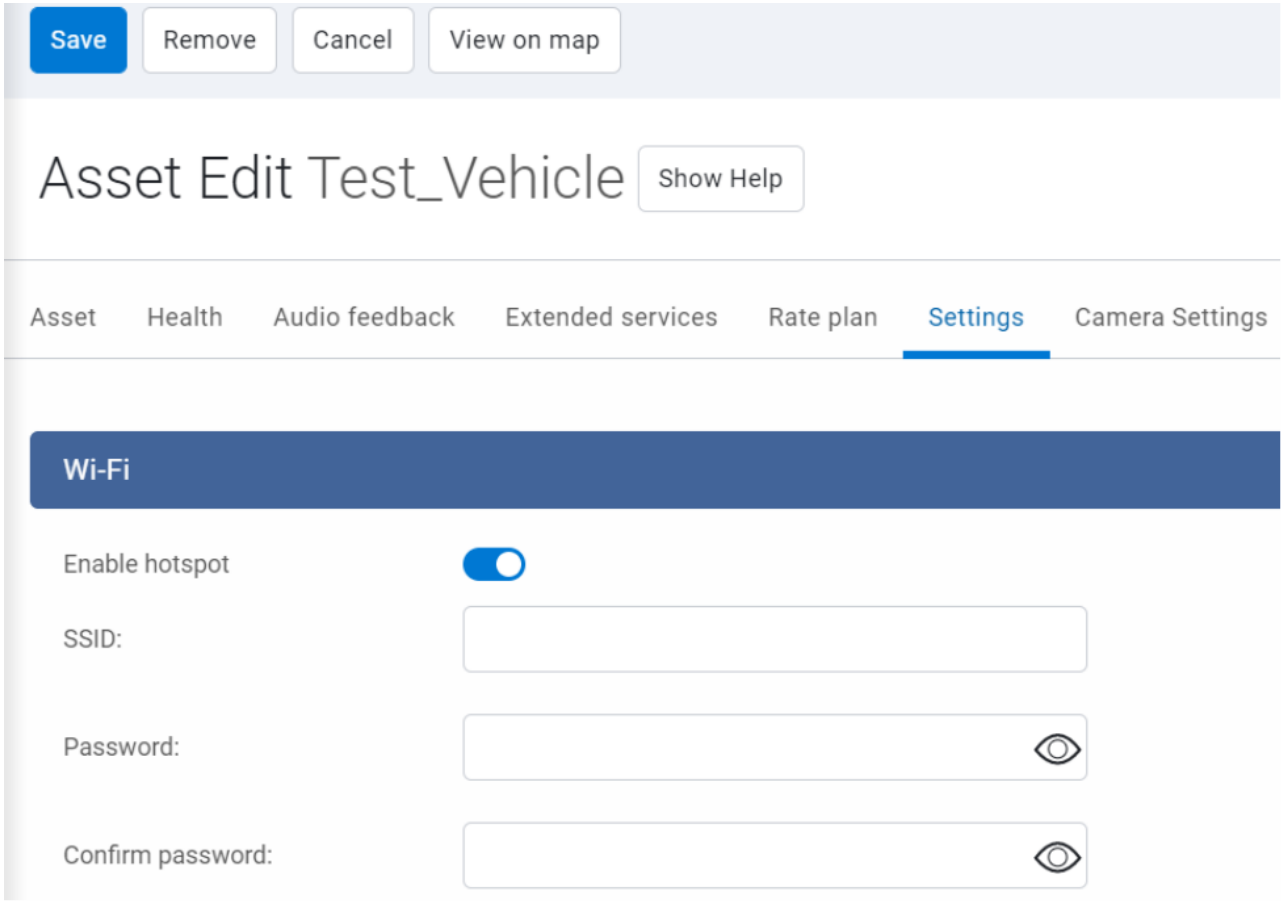
Setting up the GO9+ Wi-Fi hotspot

Please ensure your MyGeotab database is on the latest version of the software. To check your version of MyGeotab, do the following:

- In MyGeotab, navigate to Administration in the main menu and then click About.
- The MyGeotab version is listed at the top of the page.

Please ensure your device is connected, communicating, and on the ProPlus + Wi-Fi rate plan, then follow the steps below to enable and connect to the Wi-Fi hotspot:

1	In MyGeotab, navigate to **Vehicles & Assets** in the main menu.
2	On the **Vehicles & Assets** page, select the desired vehicle from the list.
	
3	On the **Assets Edit** page, select the **Settings** tab.
4	Under the **Wi-Fi** drop-down menu , toggle the **Enable hotspot** toggle to On.

	
5	In the **SSID** field, enter a unique SSID. The information entered in this field indicates the Wi-Fi network nam e.
6	In the **Password** field, enter a unique password for the Wi-Fi network.
7	Click the **Save** button to save your changes.
8	On the desired mobile device, navigate to device settings then select the desired Wi-Fi network and enter th e password. **Note**: The Wi-Fi network name and password are the same as the information entered in Steps 5 and 6.

Using the GO9+ Wi-Fi hotspot
By default, the Wi-Fi hotspot will turn off when the vehicle's ignition is turned off, and the device goes into sleep mode. You can extend this by using the "Turn External Devices Off" option in MyGeotab. Steps for enabling this are:

1. In MyGeotab, navigate to Vehicles & Assets in the main menu.
2. On the Vehicles & Assets page, select the desired vehicle from the list.
3. On the Asset Edit page, select the Settings Wi-Fi tab.
4. Click the Advanced drop-down menu and select the 'duration to keep the device alive in the "Turn External Devices Off" subsection. You can set this to immediately, 10 minutes, 1 hour or 4 hours and the Wi-Fi will stay on accordingly.

NOTE: Using this feature to keep the Wi-Fi hotspot active may lead to vehicle battery drain.
NOTE: Once you reach the monthly data usage limit, the hotspot data will turn off for the remainder of the month. The hotspot data will be re-enabled on the first day of the next month and your data usage limit will reset. You are responsible for monitoring your data usage. Upon reaching your monthly limit, and without warning, you may lose

access to hotspot data. Geotab will not be responsible or liable for any losses or damages arising from the disconnection of hotspot data once the monthly data usage limit is exceeded.

Thermal mitigation details (device response to different temperatures)
The GO9+ offers much more cellular data access as compared to the GO9 device. As such, it includes a much more powerful CAT4 cellular modem that is capable of providing quick network speeds for Telematics and Wi-Fi data. Since the internal temperature of the device can affect device performance, the mitigation logic below is used to protect against any overheating scenarios.

Mitigation level	Action	Device response	Recovery	Debug record from device
Level 1		Throttle upload speeds to 5mbps.		
Level 2		Throttle download speeds to 15mbps.		
Level 3		Wi-Fi Hotspot disabled. Telematics data still active.		
Level 4		All Cellular data on device is disabled (no device communication).		

Level 1		**Level 2**		**Level 3**		**Level 4**	
Temp threshold	**Action**	**Temp threshold**	**Action**	**Temp threshold**	**Action**	**Temp threshold**	**Action**
101	**Data throttling**: Limit uplink throughout.	**102**	**Tx power backoff:** Limit maximum TX power in backoff.	**110**	**Limit access to Wi-Fi AP**: Shut down Wi-Fi access.	**113**	**No service**: The call is released, no service for data module.
99	**Cancel the action**: Remove the uplink data limit action on the modem.	**100**	**Cancel the action**: Remove the limit action on the Modem of level 2.	**105**	**Cancel the action**: Remove the limit action on the Wi-Fi AP of level 3.	**111**	**Cancel the action**: Remove the limit action of level 4.

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. This requires the use of a cable tie when securing the device or any extension harness to the OBD connector, securing both sides of the harness. If you do not use a cable tie, vibration in the vehicle can lead to a loose connection which could indirectly cause the vehicle's engine computer to fail, loss of vehicle control and cause serious injury. Inspect devices and cabling regularly to ensure all devices and cables remain securely attached.
- If at any point after an in-vehicle device is installed a warning lights up 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.

Important safety information and limitations of use

For the latest version of the Limitations of Use, please visit: goo.gl/k6Fp0w.
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 and cause loss 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 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.
NOTICE: The EU Declaration of Conformity is available at **https://gtb.page.link/pMwn**

Regulatory statements

Warning: RF exposure compliance
The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. Users and installers must be provided with antenna installation instruction and transmitter operating conditions for satisfying RF exposure compliance.

CANADA
CAN ICES-003 (B) / NMB-003 (B)
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-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.

USA

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.

NOTE: 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.

Changes or modifications not expressly approved by Geotab could void the user's authority to operate the equipment.

EU
Product Wireless Information 703-748 MHz: 22 dBm EIRP 832-862 MHz: 22 dBm EIRP 890-915 MHz: 22.5 dBm EIRP 1710-1785 MHz: 22.5 dBm EIRP 1920-1980 MHz: 22 dBm EIRP 2412-2472 MHz: 20.5 dBm EIRP 2500-2570 MHz: 22 dBm EIRP

Documents / Resources

	Geotab GO9 Telematics Device with Wi-Fi Hotspot [pdf] Instruction Manual GO9 Telematics Device with Wi-Fi Hotspot, GO9, Telematics Device with Wi-Fi Hotspot, Device with Wi-Fi Hotspot, Wi-Fi Hotspot, Hotspot

References

- Firmware Product Guide [PUB]
- Limitations of Use Rev 1.1
- Vehicle-Specific Installation Notes [PUB]
- MyAdmin
- Firmware Product Guide [PUB]
- Limitations of Use Rev 1.1
- Vehicle-Specific Installation Notes [PUB]
- GO9+ Device Installation FAQ
- MyAdmin
- User Manual