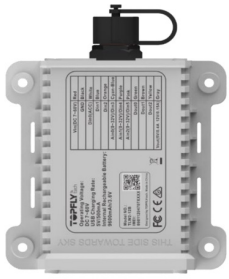
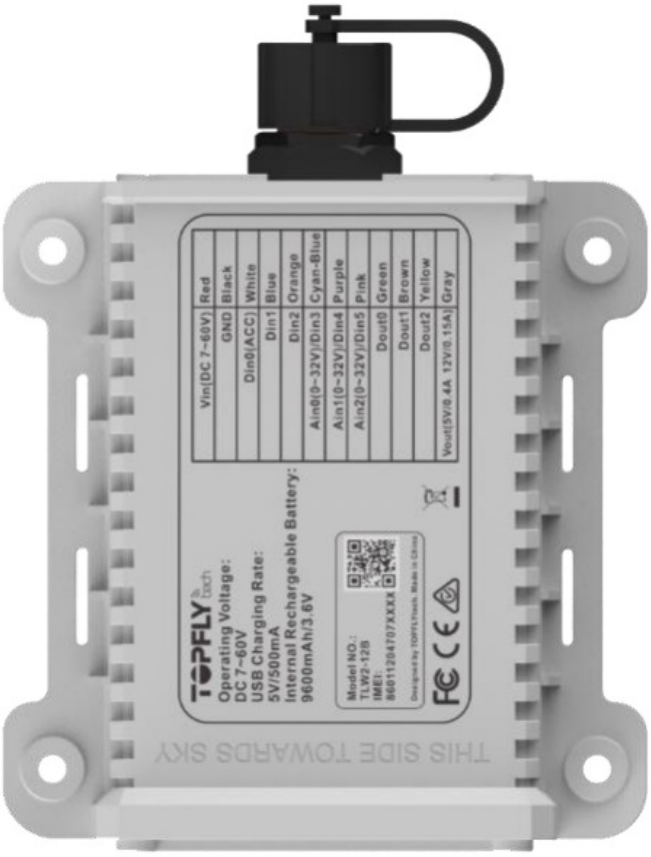


TOPFLYtech TLW2-12B Asset GPS Tracker User Manual

TOPFLYtech TLW2-12B Asset GPS Tracker
User Manual
20210223

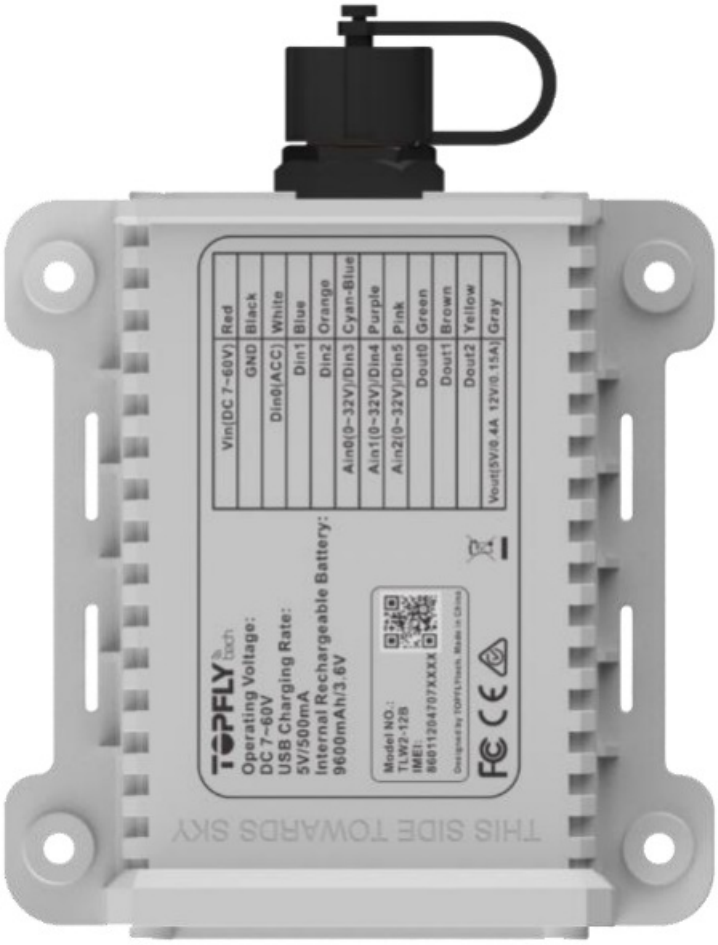
Thanks for your purchase of the high-quality GPS tracker from TOPFLYtech. Please read this user manual carefully before installation and operation. Information in this manual is the property of TOPFLYtech. Changes to the specifications and features in this manual may be made by TOPFLYtech without prior notice. No part of this manual could be reproduced, copied, translated, transmitted, or published in any form or by any means without TOPFLYtech's prior written permission.



The tracker is using GNSS & LTE technologies and could collect device coordinates then transfer them via LTE network to the server. It provides customers with cost-effective, efficient, and safe management. It has been widely used in commercial transportation, company vehicle fleet management, intelligent transportation, logistics, car rental, engineering machinery, marine transportation, and other segments.

Contents

Quick Reference



Intelligent Power Management

To extend the battery life, we designed an intelligent power management algorithm. This algorithm allows the tracker to work for a long period when the battery is low and disconnected from external power. Once the battery is charged back, the tracker will report as normal. This function is enabled in default. Customers can disable it by command. The detailed working logic is:

- When the battery voltage value is down to 3.5V, then the tracker will report every 24 hours no matter moving or standstill.
- When the battery is charged back to 3.6V, the device will report as what is set by the customer.

FOTA (firmware over the air) Notification

TOPFLYtech is committed to providing clients with the best user experience. We are offering an automatic firmware update feature for every device. This feature allows devices to always have the latest version of the firmware. It can save clients the time and effort of updating firmware manually. Please note that this feature is enabled in default. If you want to turn it off, please contact with TOPFLYtech. If this feature is disabled, the fw update only can be done by sending the upgrade command manually.

Product Specifications

Network Specifications	
Operating Band	FDD: Bl/B2/133/134/135/138/1312/B13/1318/B19/ 1320/1325/626/1328 TDD: B39 (Cat M1 only) EGPRS: 850/900/1800/1900MHz
Data Transmission	MTC: Max. 300Kbps (DL). Max. 375Kbps (UL)

	NB1: Max. 32Kbps (DL). Max. 70Kbps (UL) EDGE: Max. 296Kbps (DL). Max. 236.8Kbps (UL) GPR& Max. 107Kbps (DL). Max. 85.6Kbps (UL)
GNSS Specifications	
GNSS Chipset	Quakomm Gen 8 GNSS receiver
GNSS System	GPS+Glonass+Galileo+Beidou
Receiver type:	33 tracking / 99 acquisitions- channel GNSS receiver
SensitMty	Cold start -149 dam Tracking: -163 dBm
Position Accuracy in open sky (CEP-50)	< 2m
Standalone TIFF	Cold start < 2% Warm start: < 27s Hot start: < Is
Interfaces	
Digital Input	
Digital Output	3
Configurable Input	3 (input range 0-32V. 316V trigger in digital)
Voltage Output (DC 5V/12V)	
Charging	DC 7-60V or USI3 cable
Data Transmission	LI513 cable
Network GNSS Antenna	Internal only
Indicator LED	Network, GNSS, and Battery
FOTA	Yes
Light Sensor	1 backlight sensor
Temperature Sensor	1 temperature sensor
BLE 50	Yes
General Specifications	
Waterproof	IP67

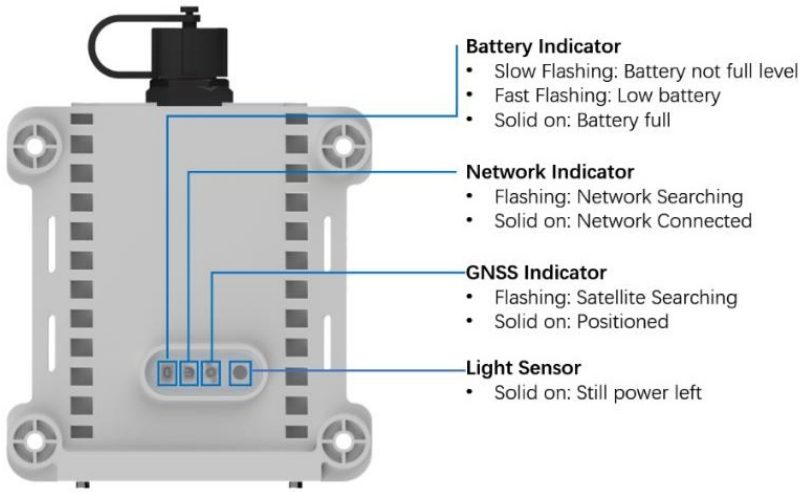
Dimensions	132min 100mm 34mm (52- 3.93′ I34″
Weight	320g (11.3oz)
Battery	Rechargeable Li 9600 rriAh/ 3.6V
Standby Time (2 hours active tracking per day witbo: :t accessories and charging)	10 minutes reporting: 320 Days 5 minutes reporting: 17 0 Days 1-minute reporting: 68 Days
Operating Temperature	-251C – +70°C (-13T – 158'F)
Mounting	Magnet/Screw
Air Interface Protocol	
Transmit Protocol	TCP. UDP. MQTT, SMS
Protocol Check & Encryption Support	MD5/ AES256
BLE Accessory Support	Yes
Scheduled Timing/angle/distance Rev.	Report position and status at preset interva –,.

3. Standard Accessories Introduction

USB cable

Extension cable

LED indicator



Note: Indicator lights will go out automatically after the tracker turns on for 8 mins.

Installation Guide

5.1 SIM Card Pre-Installation Note
5.1.1 SIM card data service should be enabled.
5.1.2 If the SIM card is locked via PIN, please unlock it first.

5.1.3 Ensure there is sufficient balance in the SIM card.

5.2 SIM card installation and tracker power switch

5.2.1 Open the tracker rear cover with the screwdriver.

5.2.2 Insert the SIM card with a little push. Turn the power switch from off to on.

5.2.3 Put the cover back and use a screwdriver to fix the cover tightly.

5.3 Power extension cable

5.3.1 Untighten the cap of the tracker.

5.3. 2 Plug the extension cable to make it solid attached.

5. 3.3 Tighten the cap on the extension cable until it can't be turned anymore.

5.3.4 With a big capacity internal battery, the device can be used without an extension cable. Please make sure the trucker cap is tightened firmly to protect the pins.

5.4 Installation

5.4.1 Away from emission sources such as all kinds of sensors, burglar alarms, and other communication devices.

6. Quick Trouble Shooting

6.1 Unable to Connect to the Tracking Platform

6.1.1 Check the APN and IP settings.

6.1.2 Check the SIM card whether supports a specific network and the data service whether is enabled.

6.1.3 Make sure there is no limitation or already added server IP to the IP white list when using an M2M SIM card.

6.1.4 Check the remaining balance or network signal of the SIM card.

6.2 Tracker Shows Offline

6.2.1 Check the external power voltage to see whether the tracker is disconnected from external power.

6.2.2 Check whether the vehicle entered the network blind area.

6.2.3 Check the balance of the tracker SIM card.

6.2.4 If the connection loss happens on the last several days of the month, check whether the network service is terminated by the carrier because of exceeding the max data usage volume.

6.3 Unable to locate 6.3.1 Is the top side (with the TOP SIDE logo on) facing upwards without being shielded by metallic things during the installation?

6.3.2 Does the vehicle enter an area with no satellite coverage?

6.4 Location Drift In an area with poor GNSS signal (like the areas with lots of high buildings), location drift may happen. When moving to open area, the drift will no longer exist.

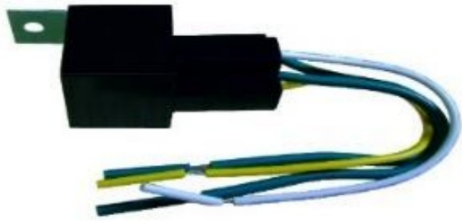
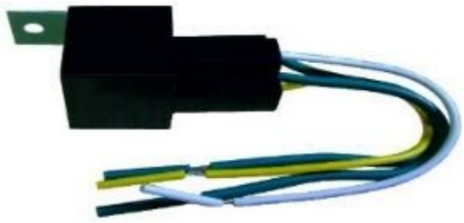
6.5 No Command Reply

6.5.1 Check the command format. Make sure it's correct. 6.5.2 Vehicle may be in-network blind area. 6.5.3 Ensure the SIM card is properly inserted.

Warranty and Stock

The device's standard warranty period is 12 months starting from the date of purchase. If the device will be stored for a long time, please connect it to the external power and recharge the internal battery (20 hours) every 3 months. It will be helpful to extend the internal battery life.

8. Optional Accessories List

TA01	Fuel Supply Cut Relay(12V)	
TAll	Fuel Supply Cot Relay(24V)	
TA34	Internal TPS Suite (BLE)	
TAI2	BLE Tag	
TA2C	External TPS Suite (BLE)	
TA22	Internal TPS Suite (BLE)	

15TH1-B	BLE 5.0 Wireless Temperature & Humidity Sensor	
TSDT1-8	BLE 5.0 Wireless Door & Temperature Sensor	
TSR1-B	BLE 5.0 Wireless Relay	
TA39	Magnet Set (4 units)	

9. FCC Warning

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
Caution! Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
IMPORTANT NOTICE: FCC Radiation Exposure Statement This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance 20 cm between the radiator and your body.

Documents / Resources

	TOPFLYtech TLW2-12B Asset GPS Tracker [pdf] User Manual 20TLW212B, 2ASWY20TLW212B, TLW2-12B Asset GPS Tracker, TLW2-12B, Asset GPS Tracker