NETSTAR

Wired GPS Vehicle Tracker
User Manual

Issue 1
August 2024

INTRODUCTION

Track Your Fleet with Ease

Introducing the Netstar Wired GPS Vehicle Tracker – an affordable 4G LTE & IoT tracking device that gives you peace of mind with reliable monitoring. The Wired GPS Vehicle Tracker helps you stay in control with real-time updates and detailed reports.

Optimise Performance & Enhance Safety

Monitor your fleet with near real-time tracking, ensuring you stay connected to your vehicles at all times. The Netstar Wired GPS Vehicle Tracker is designed to help you optimise vehicle performance, enhance safety, and streamline fleet operations.

Stay Connected with MyNetstar

Access all the data you need through MyNetstar, our user-friendly app. Whether you're checking vehicle locations or sharing your position with loved one, MyNetstar keeps you in control. Download the app on the App Store or Google Play and take the first step towards smarter fleet management.

TABLE OF CONTENTS

SAFETY INFORMATION

This message contains information on how to operate Wired GPS Vehicle Tracker safely. By following these requirements and recommendations, you will avoid dangerous situations. You must read these instructions carefully and follow them strictly before operating the device!

- The device uses SELV limited power source. The nominal voltage is +12 V DC. The allowed voltage range is +10…+30 V DC.
- To avoid mechanical damage, it is advised to transport the device in an impact-proof package. Before usage, the device should be placed so that its LED indicators are visible. They show the status of device operation.
- Before disconnecting the device from the vehicle, the 2x6 connector must be disconnected. The device is designed to be mounted in a zone of limited access, which is inaccessible to the operator. All related devices must meet the requirements of EN 62368-1 standard.
- The device Wired GPS Vehicle Tracker is not designed as a navigational device for boats.

Do not disassemble the device. If the device is damaged, the power supply cables are not isolated or the isolation is damaged, DO NOT touch the device before unplugging the power supply.

All wireless data transferring devices produce interference that may affect other devices which are placed nearby.

The device must be connected only by a competent individual.

The device must be firmly fastened in a predefined location.

Installation and/or handling during a lightning storm is prohibited.

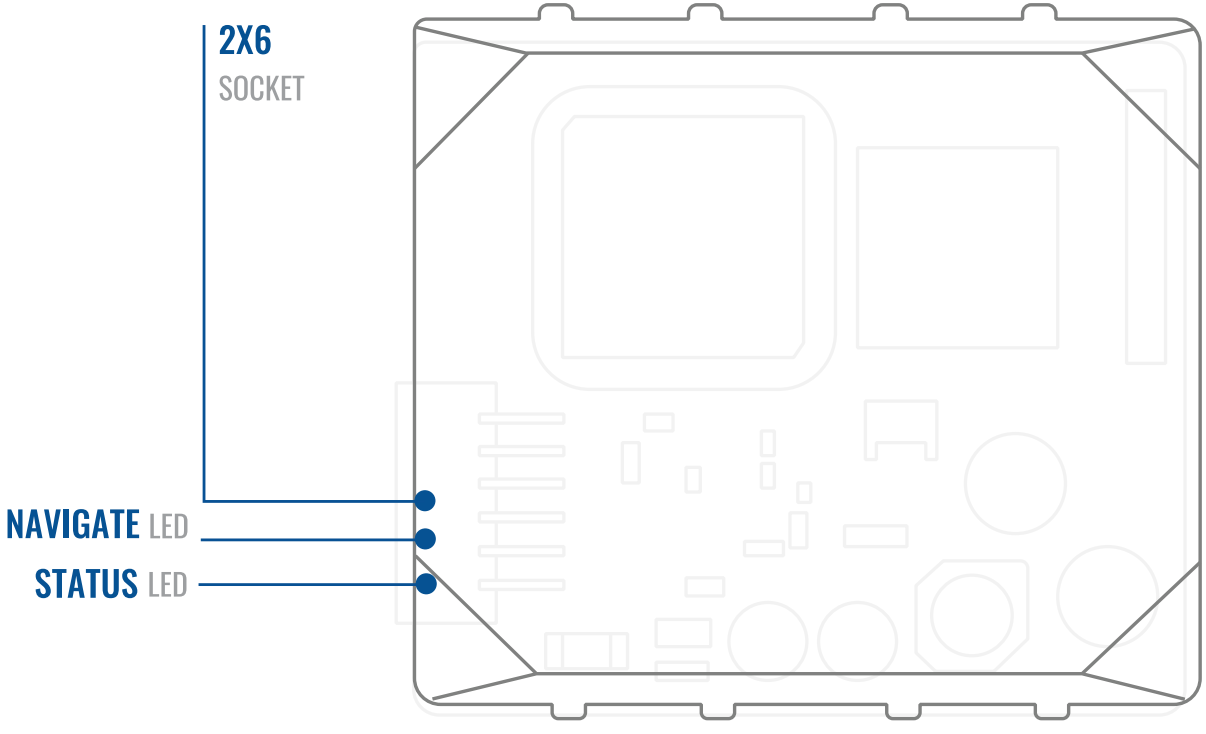
The device is susceptible to water and humidity.

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Battery should not be disposed of with general household waste. Bring damaged or worn-out batteries to your local recycling centre or dispose them to battery recycle bin found in stores.

WIRED GPS VEHICLE TRACKER
PRODUCT OVERVIEW

Top View



INSTALLATION INSTRUCTIONS

Connecting Wires

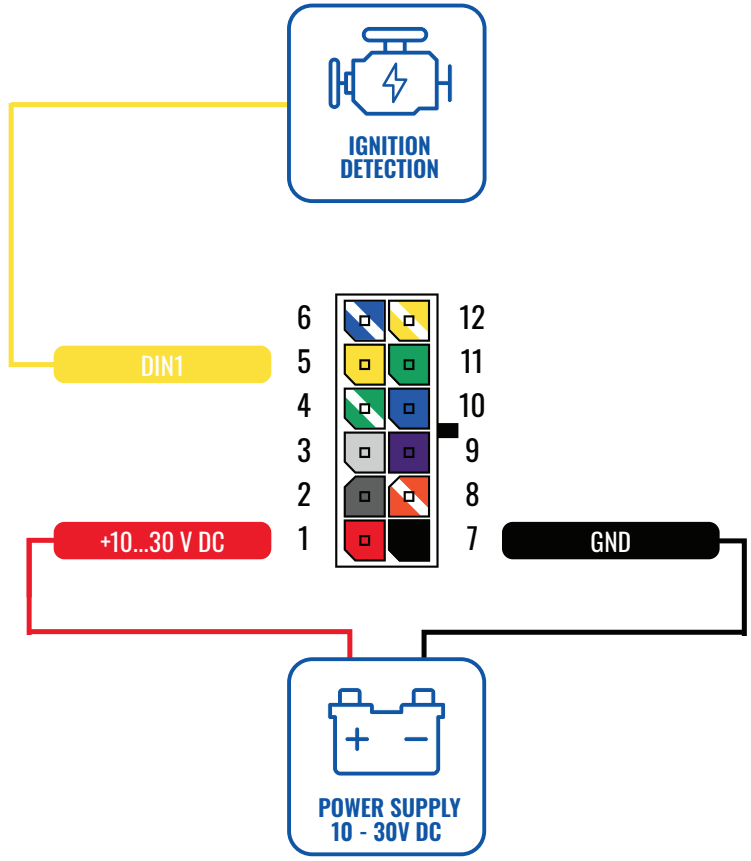
1. Wires should be fastened to the other wires or non-moving parts. Try to avoid heat emitting and moving objects near the wires.

2. The connections should not be seen very clearly. If factory isolation was removed while connecting wires, it should be applied again.

4. If the wires are placed in the exterior or in places where they can be damaged or exposed to heat, humidity, dirt, etc., additional isolation should be applied.

5. Wires cannot be connected to the board computers or control units.

Wiring Scheme



Connecting Power Source

1. Be sure that after the car computer falls asleep, power is still available on chosen wire. Depending on car, this may happen in 5 to 30 minutes period.
2. When module is connected, measure voltage again to make sure it did not decrease.
3. It is recommended to connect to the main power cable in the fuse box.
4. Use 3A, 125V external fuse.

Connecting Ignition Wire

1. Be sure to check if it is a real ignition wire i. e. power does not disappear after starting the engine.
2. Check if this is not an ACC wire (when key is in the first position, most of the vehicle electronics are available).
3. Check if power is still available when you turn off any of vehicles devices.
4. Ignition is connected to the ignition relay output. As alternative, any other relay, which has power output when ignition is on, may be chosen.

Connecting Ground Wire

1. Ground wire is connected to the vehicle frame or metal parts that are fixed to the frame.
2. If the wire is fixed with the bolt, the loop must be connected to the end of the wire.
3. For better contact scrub paint from the spot where loop is going to be connected.

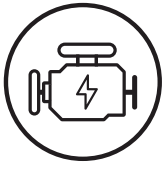
MyNetstar App

1. Download MyNetstar App in App Store or Google Play Store.
2. Login or Register your account.
3. Follow on screen prompts to activate your Wired GPS Vehicle Tracker.

Default Configuration Settings

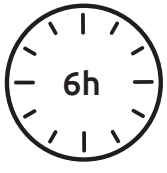
MOVEMENT AND IGNITION DETECTION:

Vehicle movement will be detected by accelerometer



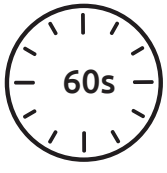
Ignition will be detected by DIN1 input

DEVICE MAKES A RECORD ON STOP IF:



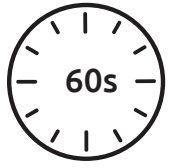
6 hour passes while vehicle is stationary and ignition is off

RECORDS SENDING TO SERVER:

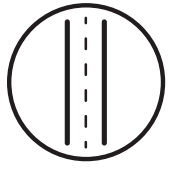


Every 60 seconds it is sent to the server if device has made a record

DEVICE MAKES A RECORD ON MOVING IF ONE OF THESE EVENTS HAPPEN:



Passes 60 seconds



Overspeed 130kmh

Vehicle turns 35 degrees

Netstar reserve the right to make changes to these specifications.

LED Indications

NAVIGATION LED INDICATIONS

BEHAVIOUR	MEANING
Permanently switched on	GNSS signal is not received
Blinking every second	Normal mode, GNSS is working
Off	GNSS is turned off because: Device is not working or Device is in sleep mode
Blinking fast constantly	Device firmware is being flashed

STATUS LED INDICATIONS

BEHAVIOUR	MEANING
Blinking every second	Normal mode
Blinking every two seconds	Sleep mode
Blinking fast for a short time	Modem activity
Off	Device is not working or Device is in boot mode

Basic Characteristics

MODULE

Name	Quectel BG95-M3, Teltonika TM2500
Technology	LTE CAT M1/CAT NB2/EGPRS/GNSS

GNSS

GNSS	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, DGPS, AGPS
Receiver	33 channel
Tracking sensitivity	-165 dBM
Accuracy	< 3 m
Hot start	< 1 s
Warm start	< 25 s
Cold start	< 35 s

CELLUAR

Technology	LTE CAT M1, CAT NB2
2G bands	EGPRS: B2/B3/B5/B8
4G bands	CAT M1: LTE-FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 CAT NB2: LTE-FDD: B1/B2/B3/B4/B5/ B8/B12/B13/B18/B19/B20/B2/B28/ B66/B71/B85
Data transfer	BG95: LTE: Max. 588Kbps (DL)/Max.1119Kbps (UL) GPRS: Max. 107Kbps (DL)/Max.85.6Kbps (UL)
Maximum output power	Class 4 for GSM850/900: 33±2dBm Class 1 for GSM1800/1900: 30±2dBm Class 3 for LTE-TDD: 20±2dBm Class 3 for LTE-FDD: 20±2dBm

POWER

Input voltage range	10 - 30 V DC with overvoltage protection
Back-up battery	170 mAh Li-Po battery 3.7 V (0.63 Wh)
Internal fuse	3A, 125V
Power Consumption	BG95: LTE: Max. 588Kbps (DL)/Max.1119Kbps (UL) GPRS: Max. 107Kbps (DL)/Max.85.6Kbps (UL)
	At 12V < 6.5 mA (Ultra Deep Sleep) At 12V < 8 mA (Deep Sleep) At 12V < 13 mA (Online Deep Sleep) At 12V < 16.3 mA (GPS Sleep) At 12V < 31 mA (nominal with no load) At 12V < 0.25A Max. (with full Load/ Peak)

INTERFACE

Connection	Wired
GNSS antenna	Internal High Gain
GSM antenna	Internal High Gain
LED indication	2 status LED lights
SIM	Micro-SIM Pre-fitted
Memory	128MB internal flash memory

PHYSICAL SPECIFICATION

Dimensions	67,2 x 49,6 x 25 mm (L x W x H)
Weight	63 g

OPERATING ENVIRONMENT

Operating temperature (without battery)	-40 °C to +85 °C
Storage temperature (without battery)	-40 °C to +85 °C
Operating humidity	5% to 95% non-condensing
Operating temperature (with battery)	-20 °C to +40 °C
Ingress Protection Rating	IP41

OPERATING ENVIRONMENT (continued)

Battery charge temperature	0 °C to +45 °C
Battery discharge temperature	-20 °C to +60 °C
Battery storage temperature	-20 °C to +45 °C for 1 month -20 °C to +35 °C for 6 months

FEATURES

Sensors	Accelerometer
Configuration and firmware update	Over the air - OTA
Time Synchronisation	GPS, NITZ, NTP
Ignition detection	Accelerometer

Warranty

Our products come with a 12-month warranty[1] period. All batteries carry a 6-month warranty period.

Post-warranty repair service for products is not provided.

If a product stops operating within this specific warranty time, the product can be:

- Repaired
- Replaced with a new product
- Replaced with an equivalent repaired product fulfilling the same functionality
- Replaced with a different product fulfilling the same functionality in case of EOL for the original product

Warranty Disclaimer: Customers are only allowed to return products as a result of the product being defective, due to order assembly or manufacturing fault. Products are intended to be used by personnel with training and experience. Warranty does not cover defects or malfunctions caused by accidents, misuse, abuse, catastrophes, improper maintenance or inadequate installation – not following operating instructions (including failure to heed warnings) or use with equipment with which it is not intended to be used. Warranty does not apply to any consequential damages. Warranty is not applicable for supplementary product equipment
(i. e. PSU, power cables, antennas) unless the accessory is defective on arrival.

[1] Additional agreement for an extended warranty period can be agreed upon separately.

CONTACT US

North Building, Level 2,
22 Giffnock Avenue,
Macquarie Park, NSW, 2113

1300 728 882

customersupport@netstaraus.com.au

netstaraustralia.com.au