

GV500MAP User Manual

GPS Tracker

TRACGV500MAPUM001

Revision:1.00



International Telematics Solutions Innovator

www.queclink.com

| | |
|----------------------------|----------------------|
| Document Title | GV500MAP User manual |
| Revision | 1.00 |
| Date | 2019-04-19 |
| Status | Release |
| Document Control ID | TRACGV500MAPUM001 |

General Notes

Queclink offers this information as a service to its customers, to support application and engineering efforts that use the products designed by Queclink. The information provided is based upon requirements specifically provided to Queclink by the customers. Queclink has not undertaken any independent search for additional relevant information, including any information that may be in the customer's possession. Furthermore, system validation of this product designed by Queclink within a larger electronic system remains the responsibility of the customer or the customer's system integrator. All specifications supplied herein are subject to change.

Copyright

This document contains proprietary technical information which is the property of Queclink Wireless Solutions Co., Ltd. The copying of this document, distribution to others, and communication of the content thereof, are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of a patent grant or registration of a utility model or design. All specifications supplied herein are subject to change without notice at any time.

Contents

| | |
|------------------------------------|--------|
| Contents | - 2 - |
| Table Index | - 3 - |
| Figure Index | - 4 - |
| 0. Revision history | - 5 - |
| 1. Introduction | - 6 - |
| 1.1. Reference | - 6 - |
| 1.2. Terms and Abbreviations | - 6 - |
| 2. Product Overview | - 7 - |
| 2.1. Description | - 7 - |
| 2.2. Parts List | - 8 - |
| 2.3. Interface Definition | - 8 - |
| 3. Getting Started | - 9 - |
| 3.1. Opening the Case | - 10 - |
| 3.2. Closing the Case | - 11 - |
| 3.3. Installing a SIM Card | - 11 - |
| 3.4. Device Status LED | - 12 - |
| 4. Special Notes | - 13 - |
| 5. Bluetooth | - 13 - |
| 6. FCC Statement | - 13 - |

Table Index

| | |
|---|--------|
| TABLE 1: GV500MAP PROTOCOL REFERENCE | - 6 - |
| TABLE 2: TERMS AND ABBREVIATIONS | - 6 - |
| TABLE 3: PART LIST | - 8 - |
| TABLE 4: DESCRIPTION OF OBD II CONNECTIONS | - 9 - |
| TABLE 5: DEFINITION OF DEVICE STATUS AND LED..... | - 12 - |

Figure Index

| | |
|--|--------|
| FIGURE 1: APPEARANCE OF GV500MAP | - 7 - |
| FIGURE 2: THE OBD II CONNECTOR ON THE GV500MAP | - 8 - |
| FIGURE 3: OPENING THE CASE | - 10 - |
| FIGURE 4: CLOSING THE CASE | - 11 - |
| FIGURE 5: SIM CARD INSTALLATION..... | - 11 - |

0. Revision history

| Revision | Date | Author | Description of change |
|----------|------------|--------------|-----------------------|
| 1.00 | 2019-04-19 | Vincent.tang | Initial |

1. Introduction

The GV500MAP is a vehicle tracking device that plugs into a vehicle's OBD II port. Its compact design allows easy installation. Its built in GNSS receiver has superior sensitivity and fast time to first fix. It supports LTE CAT M1 B2/4/5/12/13 allowing the GV500MAP's location to be monitored in real time or periodically tracked by a backend server and mobile devices. Its built in 3-axis accelerometer allows motion detection. System integration is straightforward as complete documentation is provided for the full featured @Track protocol. The @Track protocol supports a wide variety of reports including: emergency, geo-fence boundary crossings, driver behaviour or scheduled GNSS position and many other useful functions.

1.1. Reference

Table 1: GV500MAP Protocol Reference

| SN | Document name | Remark |
|-----|--|---|
| [1] | GV500MAP @Track Air Interface Protocol | The air protocol interface between GV500MAP and backend server. |

1.2. Terms and Abbreviations

Table2: Terms and Abbreviations

| Abbreviation | Description |
|--------------|---------------------------------|
| PWR | External Power Supply |
| GND | Ground |
| OBD | On-Board Diagnostics |
| SAE | Society of Automotive Engineers |
| HS_CAN | High Speed CAN |
| MS_CAN | Medium Speed CAN |
| SW_CAN | Single Wire CAN |

2. Product Overview

2.1. Description



GV500MAP is based on the OBD II interface GNSS vehicle tracking device, compact design and easy to install. GV500MAP contains an 5PIN micro USB connector, an internal LTE antenna, two internal GNSS antennas and two LEDs.



Figure 1. Appearance of GV500MAP

2.2. Parts List

Table 3: Part List

| Name | Picture |
|------------------------|---|
| GV500MAP Locator | 49.49mm*48.5mm*21.9mm |
| Data_Cable_MC5 |  |
| Special Micro USB 5PIN |  |

2.3. Interface Definition

The GV500MAP has an OBD II connector. The sequence and definition of the OBD II connector are shown in following figure:



Figure 2. The OBD II connector on the GV500MAP

Table 4: Description of OBD II Connections

| Index | Description | Comment |
|-------|-------------|--|
| 1 | SW_CAN | SW_CAN line of ISO 15765; Only support 12V car battery |
| 2 | NC | No Connect |
| 3 | MS_CAN_H | MS_CAN_H line of ISO 15765 |
| 4 | GND | Power and digital ground |
| 5 | GND | Power and digital ground |
| 6 | HS_CAN_H | HS_CAN_H line of ISO 15765 |
| 7 | NC | No Connect |
| 8 | NC | No Connect |
| 9 | NC | No Connect |
| 10 | NC | No Connect |
| 11 | MS_CAN_L | MS_CAN_L line of ISO 15765 |
| 12 | NC | No Connect |
| 13 | NC | No Connect |
| 14 | HS_CAN_L | HS_CAN_H line of ISO 15765 |
| 15 | NC | No Connect |
| 16 | PWR | External DC power input, 8-32V |

2.4. Motion Sensor Direction

GV500MAP has an internal 3-axis accelerometer supporting driving behaviour monitoring, power conservation and motion detection. The following shows the direction of the motion sensor.



3. GettingStarted

3.1. Opening the Case

Insert the triangular-pry-opener into the gap of the case as shown below, push the opener up until the case unsnapped.



Figure 3. Opening the Case

3.2. Closing the Case

The step of closing case is shown as following:



Figure 4. Closing the Case

3.3. Installing a SIM Card

Open the rubber plug and insert the SIM card into the holder as shown below.



Figure 5. SIM Card Installation

3.4. Device Status LED



Figure 6. GV500MAP LED on the Case

Table 5: Definition of Device status and LED

| LED | Device status | LED status |
|------------------|--|-----------------------|
| CELL (note1) | Device is searching network | Fast flashing (Note2) |
| | Device has registered to network. | Slow flashing (Note3) |
| | SIM card needs pin code to unlock. | ON |
| GNSS (note 1) | GNSS chip is powered off | OFF |
| | GNSS sends no data or data format error. | Slow flashing |
| | GNSS chip is searching GNSS info. | Fast flashing |
| | GNSS chip has gotten GNSS info. | ON |

Note:

1. CELL LED and GNSS LED can be configured to turn off after a period of time using the configuration tool.
2. Fast flashing is about 60ms ON/ 780ms OFF
3. Slow flashing is about 60ms ON/ 1940ms OFF

4. Special Notes

For firmware version A01, the device does not support voltage virtual ignition detection function on pure electric vehicles.

5. Bluetooth

The device role of Bluetooth could be Master and Slave.

When the device role is Slave, the device will provide below services: device information service, battery information service, virtual serial port service. Other devices can read or use these services after connecting devices.

When the device role is Master, the device will provide below services: the others devices can read or use the above services after connecting devices, connect the designated device to read the data or related information of the designated Bluetooth devices. After reading the data, the server can be reported to the server by the corresponding message.

6. FCC Statement

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

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 minimum distance 20cm between the radiator & your body.