

GV57(N) User Manual

GSM/GPRS/GNSS Tracker

TRACGV57UM001

Version: 1.01



International Telematics Solutions Innovator

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Contents

| | |
|--|----|
| Contents | 2 |
| Table Index | 3 |
| Figure Index..... | 4 |
| 0. Revision History..... | 5 |
| 1. Introduction | 6 |
| 2. Product Overview..... | 7 |
| 2.1 Check Parts List..... | 7 |
| 2.2 Parts List | 7 |
| 2.3 Interface Definition | 8 |
| 2.3.1 External Interface | 8 |
| 2.3.2 Internal Interface | 8 |
| 3. Getting Started | 8 |
| 3.1 Opening the Case | 8 |
| 3.2 Closing the Case | 9 |
| 3.3 Installing a SIM Card..... | 10 |
| 3.4 Installing the Internal Backup Battery | 10 |
| 3.5 Switching on the Backup Battery..... | 11 |
| 3.6 Power Connection | 11 |
| 3.7 Ignition Detection..... | 12 |
| 3.8 Digital Input | 12 |
| 3.9 Digital Output | 12 |
| 3.10 LED Status..... | 13 |
| 3.11 Motion Sensor Direction | 14 |

Table Index

| | |
|--|----|
| TABLE 1. GV57(N) PARTS LIST..... | 7 |
| TABLE 2: ELECTRICAL CHARACTERISTICS OF IGNITION DETECTION..... | 12 |
| TABLE 3: ELECTRICAL CHARACTERISTICS OF DIGITAL INPUT..... | 12 |
| TABLE 4: ELECTRICAL CHARACTERISTICS OF DIGITAL OUTPUT..... | 13 |
| TABLE 5. DEFINITION OF DEVICE STATUS AND LED..... | 13 |

Figure Index

| | |
|--|----|
| Figure 1. Appearance of GV57(N) | 7 |
| Figure 2. GV57(N) 5-Pin Cable..... | 8 |
| Figure 3. GV57(N) Micro USB Connector | 8 |
| Figure 4. Opening the Case | 9 |
| Figure 5. Closing the Case | 9 |
| Figure 6. Installing a SIM Card..... | 10 |
| Figure 7. Installing the Internal Backup Battery | 10 |
| Figure 8. Switch and ON/OFF Position | 11 |
| Figure 9. Typical Power Connection | 11 |
| Figure 10. Internal Driver Circuit for Digital Output..... | 12 |
| Figure 11. GV57(N) LEDs on the Case | 13 |
| Figure 12. Motion Sensor Direction | 14 |

0. Revision History

| Version | Date | Author | Description of Change |
|---------|------------|--------------|----------------------------------|
| 1.00 | 2020-05-20 | Stefan Chang | Initial |
| 1.01 | 2022-07-06 | Daniel Cheng | Added GV57N related information. |

1. Introduction

GV57(N) is a mini GNSS tracker designed for a wide variety of vehicle tracking applications. Its built-in GNSS receiver has superior sensitivity and fast time to first fix. Its dual band GPRS/GSM subsystem supports 850/1900 MHz, allowing the GV57(N)'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 and extends battery life through sophisticated power management algorithms. 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, low battery and scheduled GNSS position.

2. Product Overview

2.1 Check Parts List

Before starting, check whether all the following items have been included with your GV57(N). If anything is missing, please contact your supplier.



Figure 1. Appearance of GV57(N)

2.2 Parts List



| Name | Picture |
|-----------------|--|
| GV57(N) Locator |  |
| User Cable |  |

Table 1. GV57(N) Parts List

2.3 Interface Definition

2.3.1 External Interface

GV57(N) has a 5-Pin cable. The pin definition of the 5-Pin cable is shown below.

| | |
|-----|------------------|
| IN1 | Orange |
| VCC | Red with 5A fuse |
| GND | Black |
| OUT | Brown |
| IGN | White |

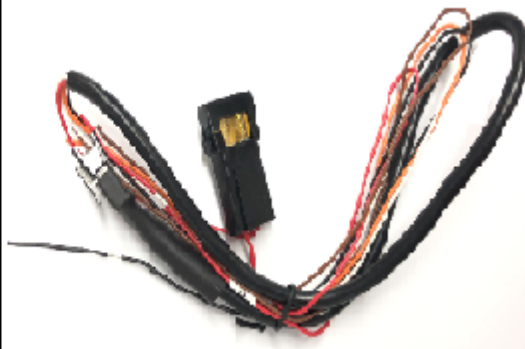


Figure 2. GV57(N) 5-Pin Cable

2.3.2 Internal Interface

GV57(N) has a micro USB connector which is shown in the following figure.



Figure 3. GV57(N) Micro USB Connector

3. Getting Started

3.1 Opening the Case

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



Figure 4. Opening the Case

Note: Waterproof equipment. Don't disassemble repeatedly.

3.2 Closing the Case

Place the cover as shown in the figure below. Slide the cover until it snaps.



Figure 5. Closing the Case

3.3 Installing a SIM Card

Open the case and ensure the device is not powered (unplug the 5-Pin cable and switch the internal battery to OFF position).

Slide the holder to open the SIM card holder.

Insert the SIM card into the holder as shown below with the gold-colored contact area facing down. Take care to align the cut mark. Close the SIM card holder. Close the case.



Figure 6. Installing a SIM Card

3.4 Installing the Internal Backup Battery



Figure 7. Installing the Internal Backup Battery

There is an internal backup Li-ion battery. Please install the internal backup battery as Figure 7 before use.

3.5 Switching on the Backup Battery

To use the backup battery, the switch must be in the ON position. Switch and ON/OFF position are shown below.



Figure 8. Switch and ON/OFF Position

Note:

1. The switch must be in the “OFF” position when shipped on an aircraft.
2. When the switch is in the “OFF” position, the battery cannot be charged or discharged.
3. To reset the device: Remove the external DC power and then switch off the backup battery. Then connect the external power supply and switch on the backup battery.

3.6 Power Connection

PWR (VCC, Red) / GND (Black) are the power input pins. The input voltage range for this device is from 8V to 32V. The device is designed to be installed in vehicles that operate on 12V/24V vehicle without the need for external transformers.

| | |
|-----|------------------|
| IN1 | Orange |
| VCC | Red with 5A fuse |
| GND | Black |
| OUT | Brown |
| IGN | White |

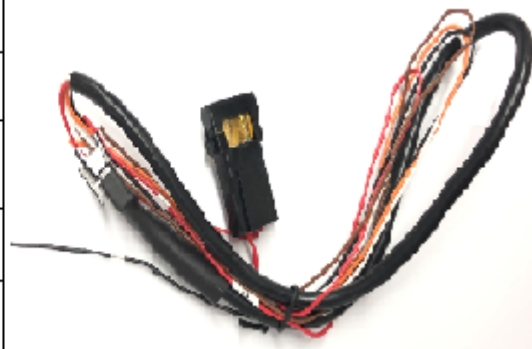


Figure 9. Typical Power Connection

3.7 Ignition Detection

Table 2: Electrical Characteristics of Ignition Detection

| Logical Status | Electrical Characteristics |
|----------------|----------------------------|
| Active | 5.0V to 32V |
| Inactive | 0V to 3V or open |

IGN (White) is used for ignition detection.

An alternative to connecting to the ignition switch is to find a non-permanent power source that is only available when the vehicle is running, for example, the power source for the FM radio.

IGN signal can be configured for the device to start transmitting information to the backend server when the ignition is on, and enter the power saving mode when the ignition is off.

3.8 Digital Input

There is one general purpose digital input on GV57. It is a negative trigger.

| Logical Status | Electrical Characteristics |
|----------------|----------------------------|
| Active | 0V to 0.8V |
| Inactive | Open |

Table 3: Electrical Characteristics of Digital Input

3.9 Digital Output

OUT (Brown) is a digital output on GV57(N). It is of open drain type and the maximum drain current is 150mA.

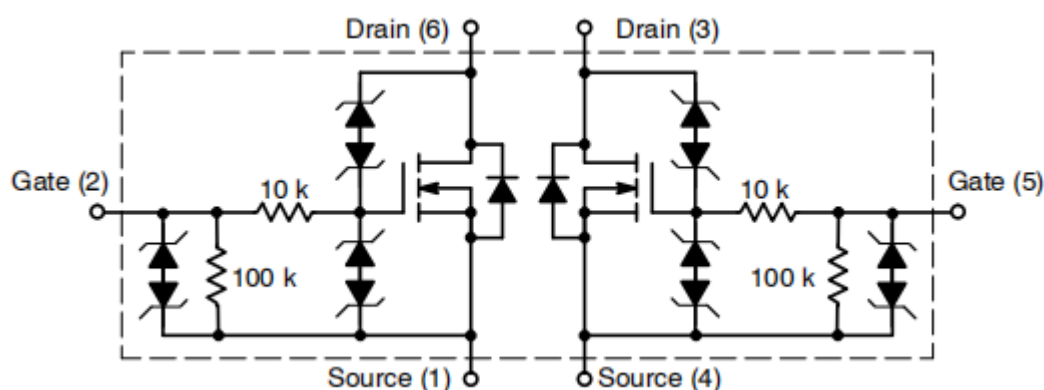


Figure 10. Internal Driver Circuit for Digital Output

| Index | Description | Remark |
|-------|-------------|--------|
|-------|-------------|--------|

| | | |
|---|---------|---------------|
| 1 | Enable | <1.5V @ 150mA |
| 2 | Disable | Open drain |

Table 4: Electrical Characteristics of Digital Output

3.10 LED Status

GV57(N) has two status LEDs that are CELL LED and GNSS LED.



Figure 11. GV57(N) LEDs on the Case

| LED | Device Status | LED Status |
|----------------|---|---------------|
| CELL (Red) | Device is searching GSM network. | Fast flashing |
| | Device has been registered to GSM network. | Slow flashing |
| | SIM card needs pin code to unlock. | On |
| GNSS (Blue) | GNSS chip is powered off. | Off |
| | GNSS sends no data or data format error occurs. | Slow flashing |
| | GNSS chip is searching GNSS information. | Fast flashing |

Table 5. Definition of Device Status and LED

Note:

1. CELL LED status cannot be configured.
2. GNSS LED can be configured to turn off after a period of time using the Manage Tool.

3.11 Motion Sensor Direction

GV57(N) has an internal 3-axis accelerometer supporting driving behavior monitoring and motion detection. The following shows the directions of the motion sensor. The Z axis faces straight down.

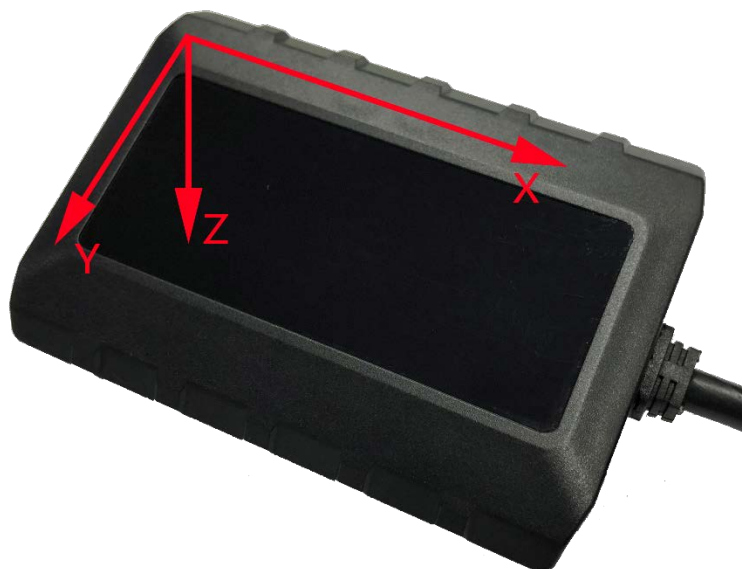


Figure 12. Motion Sensor Direction

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.

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.