# TG-U2 User Guide


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# Table of Contents

# TG-U2 User Guide

# 1. Introduction

Thank you for using the TG-U2 device. These instructions will guide you on how to quickly use the device in regards to opening the equipment correctly and common work scenarios. For items you encounter that are not covered in these instructions or if you have problems using this device, you can either contact your dealer or Howay directly at Email: supports@howaygis.com

## 1.1. Feedback

If you discover any defect while using our equipment, feel free to send us feedback by email . We will get back to you promptly.

# 2. Overview

TG-U2 is a wearable, high-precision positioning product that has sub-meter and centimeter-level accuracy. It is designed to be both industrial and stylish. The internal design is unique, light, and strong which makes it an ideal device to cope with harsh work environments. Replaceable batteries are also included to meet the demands of long work hours. It is fully compatible with operating systems such as iOS, Android, and Windows Mobile. It can be used with smart phones and other products using Bluetooth, serial port connection, and other various types of tablet PC technology that provides high-precision positioning for intelligent terminals. TG-U2 can be used in various fields such as electric power inspection, forestry surveying, pipeline inspection, geological surveying, land use law enforcement, surveying and mapping, and other mobile high-precision positioning needs

## 2.1 Physical Specifications

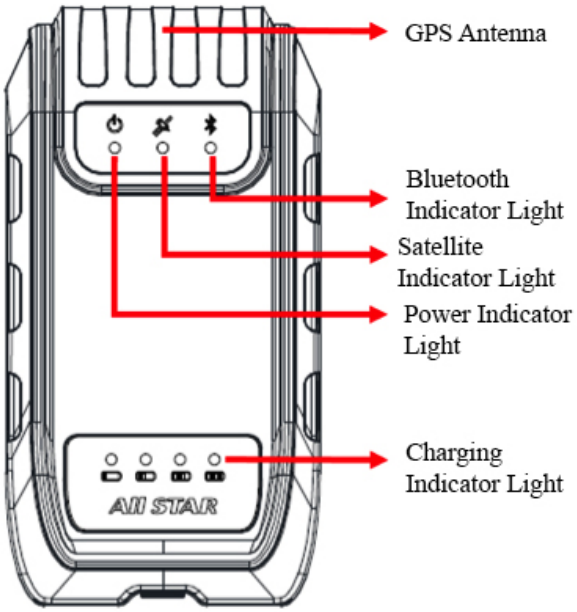
Size：137mm*72mm*50.4mm
Weight：<350 g
Material：PC+ABS
Operating Temperature：-20+60℃
Storage Temperature：-30+70 ℃
Drop：1.5m
IP Rating: IP67

## 2.2 Electrical Parameters

Device Power Consumption：1.6W
Charging Voltage：12V /1A
Battery：3400mAh.7.2V Sustainable for more than 8 hours

# 3. Equipment Instructions

## 3.1 Equipment Image




**Front View**

**GPS Antenna：**

Build-in GPS antenna, please don’t block when used.

**Bluetooth Indicator：**

Indicator Light【On】indicates the Bluetooth connection is successful.
Indicator Light【Off】indicates the Bluetooth is not connected

**Satellite Light：**

Indicator Light【Off】indicates that TG-U2 is not currently positioned
Indicator Light【Flashing】indicates that TG-U2 is reading a search less than 5 stars. Indicator Light【Slowly Flashing】indicates that TG-U2 is reading a search more than 5 stars.

**Note: This status of the satellite light are only for TG_T. While the satellite light for TG_U is always off; As for TG_H, the satellite light is always on.**

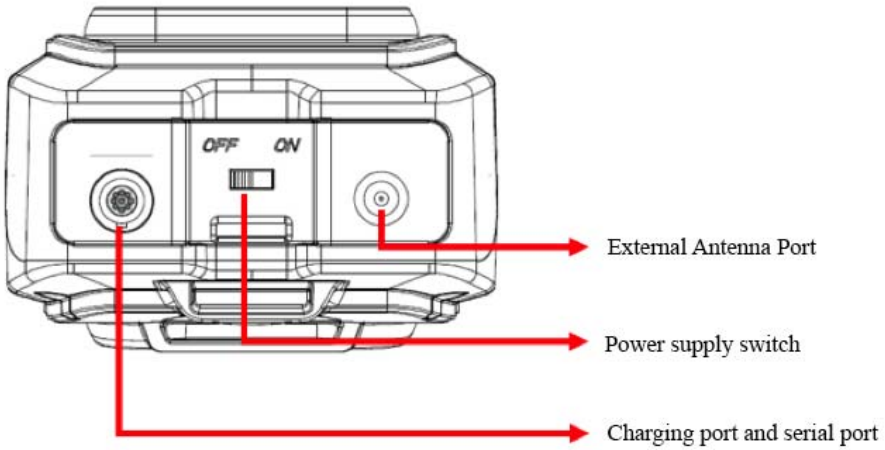
**Power Indicator：**

Indicator Light【Off】Indicates TG-U2 is not currently powered on. Indicator Light【On】Indicates TG-U2 is powered on successfully.

**Power Indicator Light；**

Indicator Light on Four lights【On】the device is fully charged.
Indicator Light on Three Lights【On】the device is at 75% power
Indicator Light on Two Lights【On】the device is at 50% power
Indicator Light on One Light【On】the device is at 25% Power
Indicator Light is Flashing【Flashing】The device is at 5% Power and needs to be charged.

When charging, the power indicator will incrementally power up light by light. When all four lights are lit, the device is fully charged.




**Bottom View**

**Switch：**

When the switch is set to【ON】the device is powered on, the power indicator is always on and the power is on successfully.

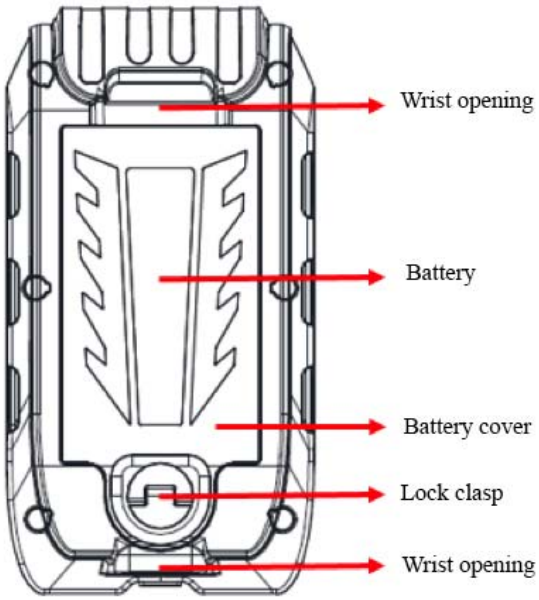
When the switch is set to 【OFF】the device is powered down and the power indicator will be off.

**External Antenna:**

The external antenna interface uses a dedicated single-core coaxial fisher head to TNC cable for external antenna connection.

Charging port and serial port:

The 9-pin connector is a multiplexed port that charges the device when using a 9-pin DC IN cable. GPS data can be output from the serial port using a 9-pin Fisher plug to DB9 cable.




**Rear View**

**Lock：**

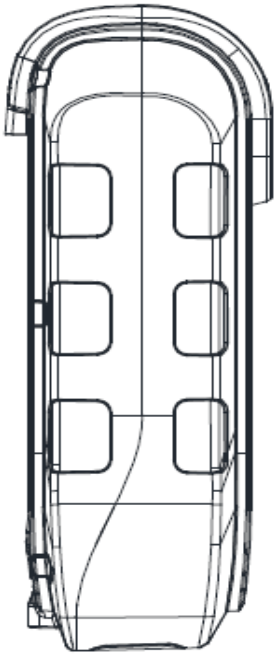
The battery cover and the battery itself lock to prevent battery shake.

**Battery：**

The TG-U2 device has a 3400mAH 7.2V battery that supports over 9 hours of work use.

**Arm with hanging hole, Arm with Hanging Hole:**

**Bracket hanging hole for attaching armband**



Side View

Top View

## 3.2 Operating Instructions

**A Unboxing Protocol**

Upon receiving the device, check that you have received all included accessories including host, battery, power adapter, 9-pin DC IN cable, and an arm.

**B Installing the battery**

Remove the TG-U2 device and battery from the box, open the back cover, and properly install the battery into the device.

**C Booting the device**

Turn the power switch to【ON】and make sure the power indicator light turns on. Check the power indicator to see the battery level. If it is low, you can charge the device first.

**D Connect to Bluetooth**

Open the Bluetooth settings on your phone to search for devices. TG's Bluetooth name is TG-U2******** and the password is 0000. Use your phone's app to open the Bluetooth connection and set the Bluetooth indicator to【On】。

**E Using the TG-U2 device**

◆**Wear to use**

Portable on the arm

Remove the band from the box, secure the armband to the TG-U2 using the arm hole, and then attach the TG-U2 to the armband. Release both hands to attach.

Portable —Engineering Clothing（Optional）

Engineering clothing from our company is based on actual operation of the device, safety, and convenience. The clothing is yellow in color and made of reflective material to improve visibility for workers. We designed our engineering clothing with a special pocket to prevent accidental drop.

Portable Backpack（Optional）

In order to meet the demands of a complex environment, we set up a backpack to store the TG-U2 in. The top of the backpack has a short centering pole pouch that an antenna can be placed in if you encounter harsh environmental conditions.

**◆Portable Positioning**


The TG-U2 has a compact body that provides convenience. It can even be carried in your pocket. The bottom of the TG-U2 is designed to be flat. Observe how it sits on a flat surface completely level.

◆**High-precision positioning**

The TG-U2 as a built-in high precision positioning module that supports RTK functionality and high-precision needs. An external antenna can also be used as an RTK device.

◆ **TG-U2 Charging**

Use the charger connected by 9-pin DC IN. Connect the TG-U2 charging port. When the device is charging, the lights will light up and when completely lit, charging is completed.

# 4. Equipment List

## 4.1Standard Accessories

| Name | Quantity | Image |
|---|---|---|
| Machine | 1 |  |
| Battery | 1 |  |
| Charger<br>( Input110-220V<br>Output 12V/1A DC) | 1 |  |

| | | |
|---|---|---|
| 9-pin DC IN | 1 |  |
| Armband | 1 |  |

## 4.2: Optional Accessories

| Name | Quantity | Image |
|---|---|---|
| 9pin Fisher Plug to DB9 | 1 |  |
| TG-U2 – Seat Charger | 1 |  |
| Battery | 1 |  |
| Single-core coaxial Fisher plug to TNC connector | 1 |  |
| TNC male to TNC Male Extension Cord | 1s |  |

## 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.
RF warning for Portable device:
The device has been evaluated to meet general RF exposure requirment. The device can be used in portable exposure condition without restriction.

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.

**ISED RSS Warning:**

This device complies with Innovation, Science and Economic Development Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:
(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage

ISED RF exposure statement:
This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment.The device has been evaluated to meet general RF exposure requirement.

Le matériel est conforme aux limites de dose d'exposition aux rayonnements énoncés pour fac un autre environnement.ce dispositif a été évalué à satisfaire l'exigence générale de l'exposition aux rf.