



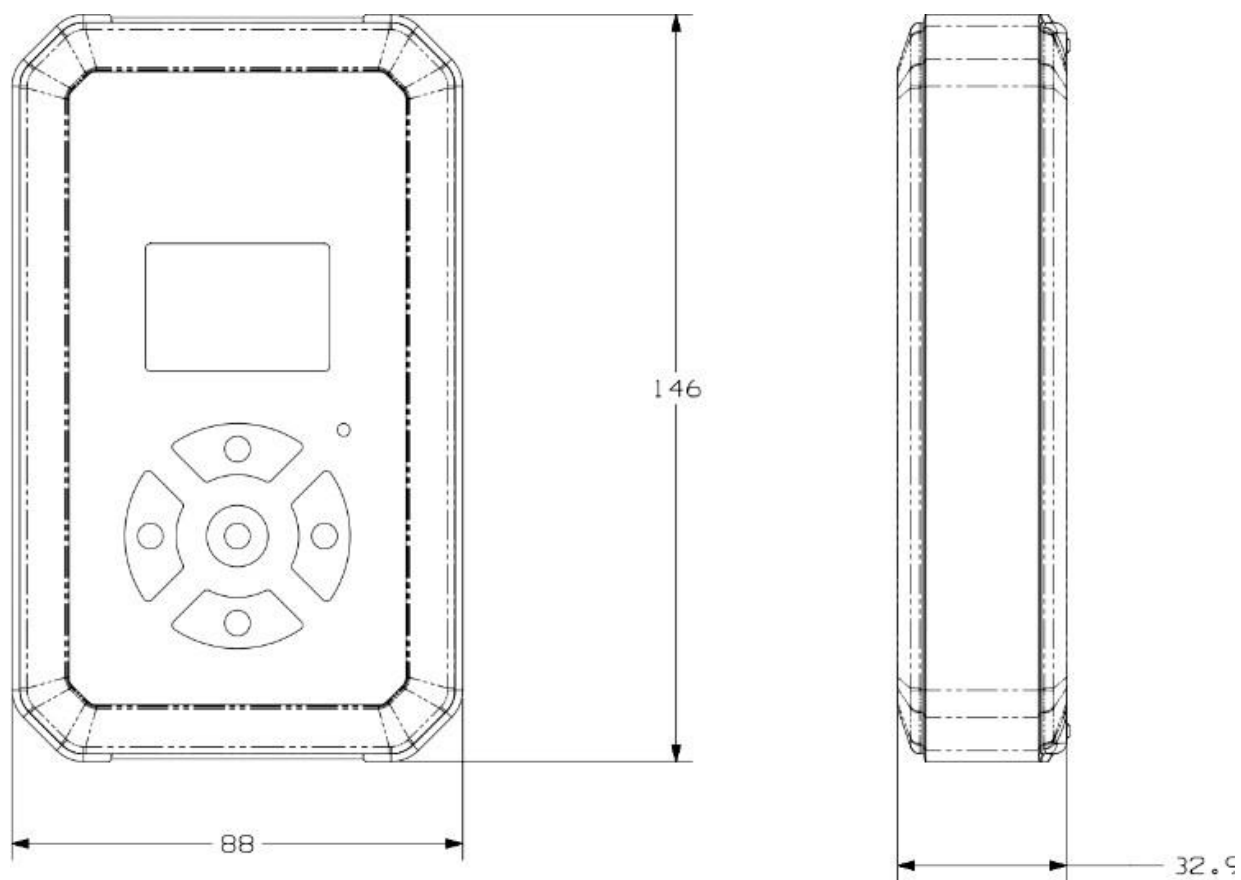
TruPin User Manual and Quick Start Guide

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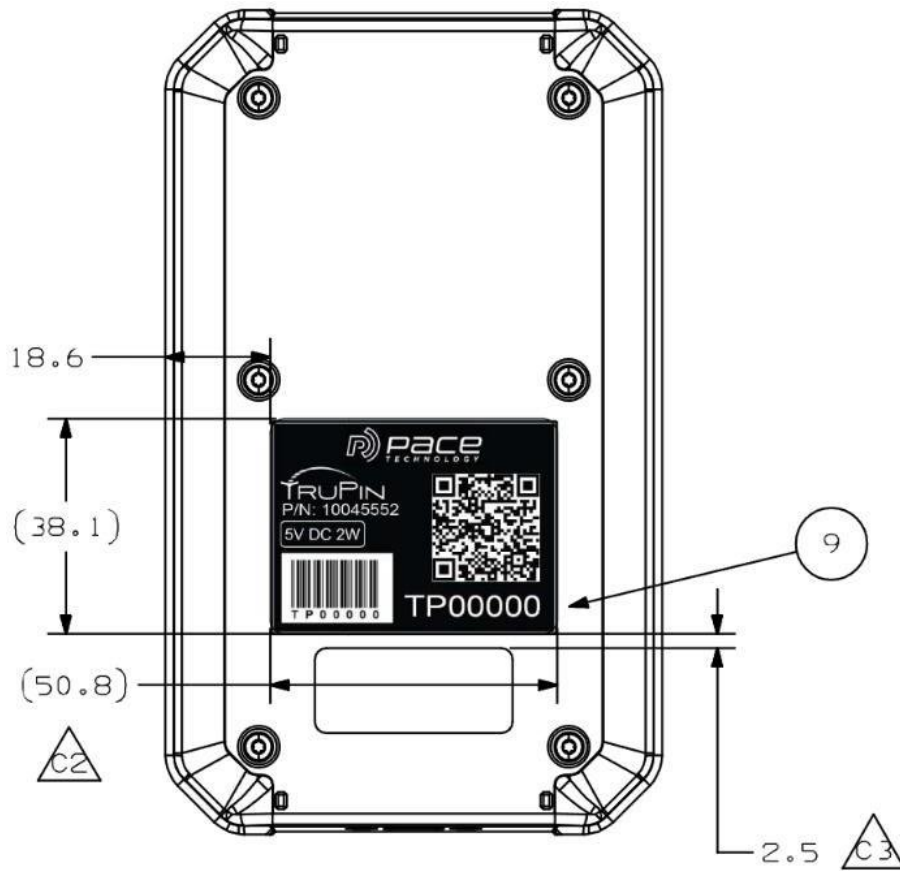
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1 Dimensions

1.1 Front and Side View



1.2 Back View



2 Hardware Specifications

Features	Description
OS	FreeRTOS — real-time embedded OS
Processor	ESP32-S2 embedded, Xtensa® single-core 32-bit LX7 microprocessor, up to 240 MHz
Memory	128 KB ROM + 320 KB SRAM + 16 KB SRAM in RTC + 4 MB Flash Internal
LTE Cellular Modem	Telit SMT CELL MODEM - CAT-M1 ME310G1-WW LTE UE Cat M1, 3G and 2G global fallback frequency support – 15x18mm Requires SIM holder
GPS	Locosys MC-1010-V2b
Wi-Fi	Espressif ESP32 S2 WROOM module
Antennas	GNSS: Taoglas One Stage GPS-GLONASS-GALILEO-BeiDou Embedded Active Patch Antenna Module with Front-End SAW Filter AGVB.25A.07.0060A; patch antenna (uFL connected); Wi-Fi – PCB antennas on the main board; LTE – Internal ceramic antenna SR4L034-L
Battery	1S configuration; Lithium Polymer chemistry. – default configuration 1500mAh cell. MIKROE-4473
Vibration	DC Motor VC1030B028F
Sound	Piezo Buzzer CMT-1032-85-SMT-TR
LED	Low current Red/Green APBD3224LSURKZGKC
LCD	102x64 pixels (EA DOGS102W-6) with white backlight (EA LED39X41-W)

3 System Details

3.1 Operating System

The board runs a customized version of an embedded OS featuring multi-tasking libraries, device drivers, and other components required to operate the hardware platform.

3.2 Application Processor

ESP32-S2 embedded, Xtensa® single-core 32-bit LX7 microprocessor, up to 240 MHz

3.3 LTE Modem

Telit ME310G1-WW modem with internal antenna (Antenova SR4L034-L) and SIM holder.

3.4 Wi-Fi

Espressif ESP32 S2 WROOM module

3.5 GNSS / GPS

Integrated receiver Locosys MC-1010-V2b module with Taoglas AGVB.25A.07.0060A internal patch antenna.

3.6 Battery

The base configuration contains 1500mAh@3.7V Lithium Polymer (LiPo) cells.

3.7 Vibration

The device contains vibration for feedback.

3.8 Display

LCD use SPI interface

3.9 Charging

2W Wired USB-C

3.10 Sound

The device features a piezoelectric buzzer.

4 **Connectors**

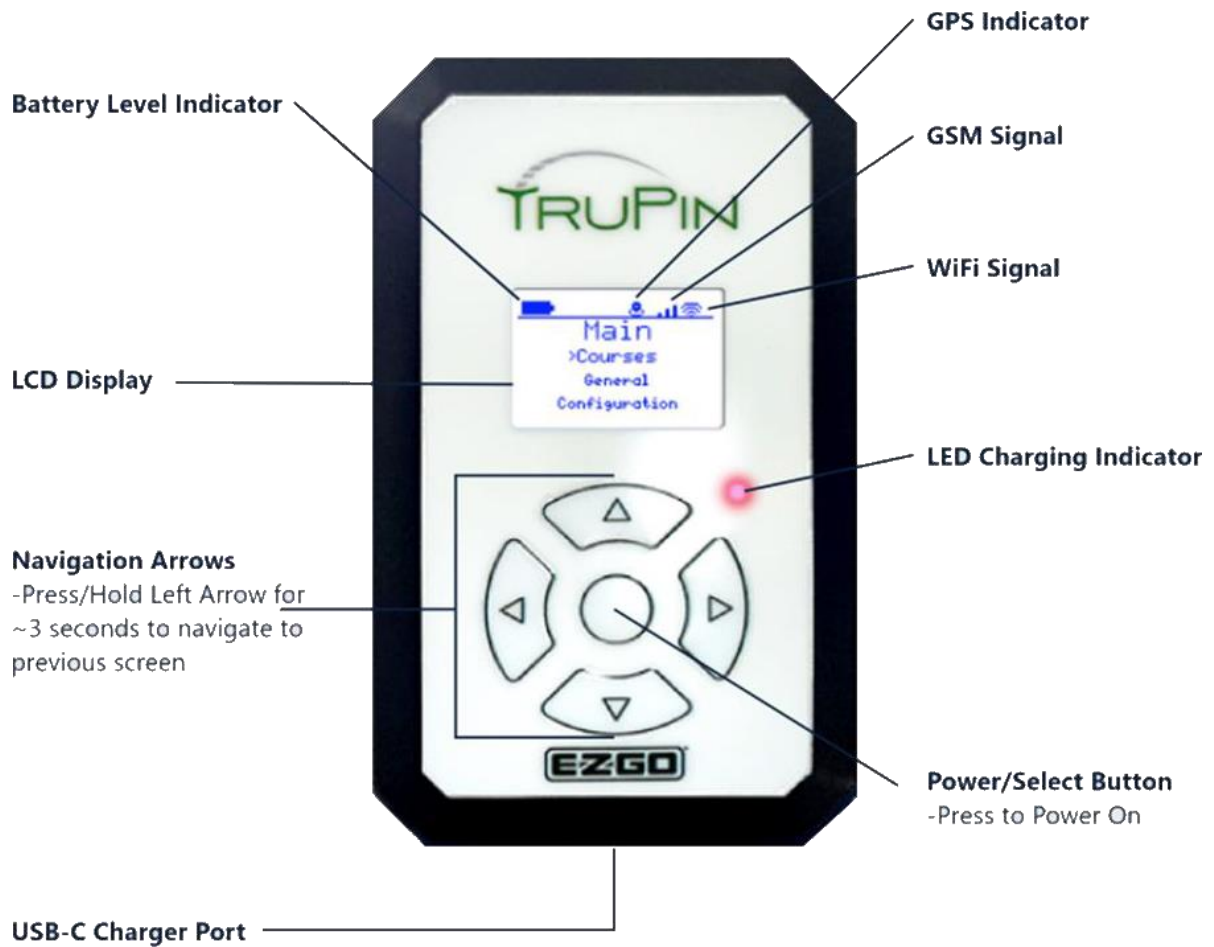
- USB-C 2.0

5 **Environmental Conditions**

- Operating Temps
 - -4°F to 122°F
- Storage Temps
 - -40°F to 185°F
- Test IP67
 - Water
 - 30 minutes submerged no deeper than 40 inches
 - Dust

6 User Guide

6.1 Features



6.2 Turning On Device

Powered Off TruPin Device



Powered On TruPin Device



Push the center button to turn on the TruPin device. *

*Note that the TruPin device should be powered on **5-10** minutes prior to use for the device to acquire satellite signal.

6.3 Marking Tee Position

From the Main menu, select "Courses."

From the "Courses" menu, you will be able to select your course.



Once a course has been selected, you will be directed to the “Holes” menu.



Select Current Hole

From the “Holes” menu, select the hole on which the tees will be marked.

Mark Tees Position

Once the holes have been cut, hold the device over the center of the hole and select the “Tees” option to mark the location.

Await Confirmation

After marking the tees, a confirmation will appear on the screen indicating a successful position mark.

Navigate back to the hole selection screen after completing each hole to select the next hole. Repeat this process until all holes are complete.

6.4 Marking Pin Position

To mark a pin position, repeat the same process for marking a tee position, but selecting the “Pin” option instead.

From the Main menu, select “Courses.”

From the “Courses” menu, you will be able to select your course.



Once a course has been selected, you will be directed to the “Holes” menu.



Select Current Hole

From the “Holes” menu, select the hole on which the pin will be marked.



Mark Pin Position

Once the holes have been cut, hold the device over the center of the hole and select the “Pin” option to mark the location.



Await Confirmation

After marking the pin, a confirmation will appear on the screen indicating a successful position mark.

Navigate back to the hole selection screen after completing each hole to select the next hole. Repeat this process until all holes are complete.

6.5 Turning Off Device

To turn off the TruPin device, navigate to the Main menu and scroll down to select “Power.”

In the “Power” menu, select the “Sleep” option to turn off the device.



7 Regulatory Compliance Information

FCC Requirement

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.

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 ID: 2BBDD-TRUPIN

IC Requirement

This device contains licence-exempt transmitter(s) /receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- 1) L'appareil ne doit pas produire de brouillage;
- 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

ISED Requirement

This device complies with Industry Canada license-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.

The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

Le présent appareil est conforme aux CNR d'Industrie Canada 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 est susceptible d'en compromettre le fonctionnement. L'appareil numérique du CIEM conforme canadien peut -3 (b) / nmb -3 (b).

For Transmitter:

This device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

Cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 2.5 du CNR - 102 et conformité avec RSS 102 de l'exposition aux RF, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs RF et la conformité.

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. The device is installed and operated without restriction.

Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé. Die Installation und der Betrieb der Ausrüstung sind uneingeschränkt.