



G3S-KS-OM-NA-P-B
G3S-KS-OM-NA-L

Specification

Product model: G3S-KS-OM-NA-P-B

G3S-KS-OM-NA-L

Version: Version0.1

Manufacturer: Shenzhen Omni Intelligent Technology Co., LTD

1. Product Description

G3S-KS-OM-NA-P-B and G3S-KS-OM-NA-L is a customized IOT for scooters, Ebike and other models. Product shape design idea is semi-embedded assembly, small exposed volume, simple, beautiful, solid and reliable. With BLE, Voice notification, 4G, GPS, and other functions. Among them, the communication mode between vehicles and IOT include URAT and CAN, which can be selected in different versions.



2. Product Features

- IPX 7 waterproof
- Dual-frequency and multi-mode and high-precision positioning
- BLE 5.2
- 4G LTE-Cat1
- Clear Voice Notification
- Wide Working Voltage
- URAT communication / CAN communication
- Semi-embedded assembly method, robust and reliable
- The PCBA glue filling process
- Compact size

3. Technical Parameter

| Basic Information | | |
|-------------------|-------------------------|--|
| No. | Item | Specification |
| 1 | working current | ≤100mA@36V |
| 2 | input voltage | 24-100 V |
| 3 | Back-up Battery | 1800 mAh (18650 lithium battery) |
| 4 | Serial port baud rate | 115200 |
| 5 | Working temperature | -20°C ~+65°C |
| 6 | Storage temperature | -40°C ~+80°C |
| 7 | Waterproof | IPX 7 (PCBA glue filling process) |
| 8 | Communication Interface | TTL Serial Port / CAN Bus |
| 9 | Audio frequency | 24bit, 8 – 96 Kbps frequency, 82dB SNR |
| 10 | BLE Version | BLE5.2 |
| 11 | Voice | Class D power amplifier, 4 Ω 2W horn |
| 12 | SIM Card | Micro Sim (3FF) |
| 13 | Case material | PC (FR6005+) |
| 14 | Installation | 2-M6 screws |
| 15 | Product Dimension | 157.1*42.5*71mm |
| 16 | Net weight | About 260g |

| GPS module Specification | | |
|--------------------------|---------------------|---|
| No. | Item | Specification |
| 1 | Receive Bands | GPS/QZSS: L1C/A、L5C BDS: B1I、B2a GLONASS: L1OF Galileo: E1、E5a |
| 2 | Receive Sensitivity | Cold start-up: -148 dBm Hot start-up: -155 dBm Recatch: -158 dBm |
| 3 | Position Precision | <=2M(open sky) |
| 4 | Starting Time | Cold start: <35s Temperature start: <30s Hot start: <2s |
| 5 | Antenna | Built-in dual-frequency ceramic antenna 25*25*4mm/18*18*4 mm |

| Bluetooth Information | | |
|-----------------------|-----------------------|-----------------|
| No. | Item | Specification |
| 1 | Bluetooth version | BLE5.2 |
| 2 | Max Transmitted Power | +10 dBm |
| 3 | Receiving sensitivity | -98 dBm |
| 4 | Frequency | 2.4Ghz |
| 5 | Antenna | Onboard Antenna |

| (European version) Communication module specification (CAT 1) | | |
|---|---------|----------------------------|
| No. | Item | Specification |
| 1 | 4G Band | FDD-LTE B1/B3/B5/B7/B8/B20 |
| 2 | 2G Band | GSM 900/1800MHz |

| (Australian version) Communication module specification (CAT 1) | | |
|---|---------|--------------------------------------|
| No. | Item | Specification |
| 1 | 4G Band | FDD-LTE B1/B2/B3/B4/B5/B7/B8/B28/B66 |
| 2 | 2G Band | GSM 850/900/1800/1900MHz |

| (North American Edition) Communication Module Specification (CAT 1) | | |
|---|---------|--------------------|
| No. | Item | Specification |
| 1 | 4G Band | FDD-LTE B2/ B4/B12 |
| 2 | 3G Band | WCDMA B2/B5 |

| (China version) Communication module specification (CAT 1) | | |
|--|---------|--|
| No. | Item | Specification |
| 1 | 4G Band | LTE-FDD B1/B3/B5/B8 LTE-TDD B34/B38/B39/B40/B41 |

| (Korean version) Communication module specification (CAT M) | | |
|---|-----------------------|---|
| No. | Item | Specification |
| 1 | CAT-M frequency range | B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27 /B28/B66/B85 |

| Accelerometer | | |
|---------------|--------------------------|---|
| No. | Item | Specification |
| 1 | Specification | The 3-axis acceleration sensor |
| 2 | Acceleration value range | $\pm 2G/\pm 4G/\pm 8G/\pm 16G$ |
| 3 | Posture detection | Fall detection, vibration detection, roll detection |

| MCU characteristic | | |
|--------------------|-----------|---------------|
| No. | Item | Specification |
| 1 | Core | ARM Crotex M4 |
| 2 | Frequency | 144 MHz |
| 3 | Flash | 256 KB |
| 4 | RAM | 32 KB |

4. Other Technical Parameters

(1) Charging management

Integrated dynamic power path management, no backup battery when there is external power supply. When the external power supply is cut off, automatically switch to the backup battery power supply.

Support the maximum charging current of 0.2A

Support battery short-circuit protection and chip overheating protection

Support for rechargeable battery temperature detection

(2) Power interface

Wide voltage input range 24-72V DC, maximum voltage 100V

short-circuit protection

Soft start

(3) Serial port communication interface

Support 9600,115200 (default) port rate

Built-in level conversion circuit, compatible with 3.3V and 5V level

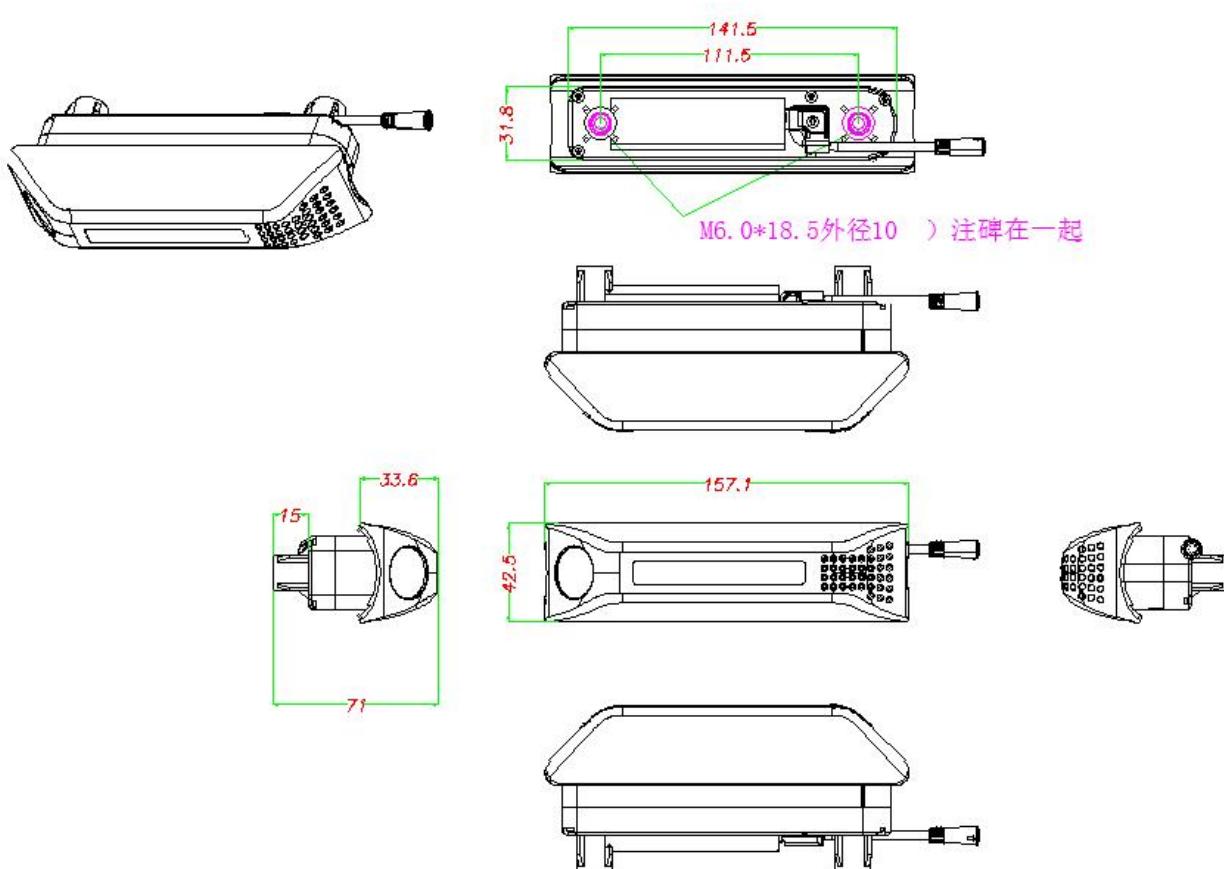
(4) Power to enable the ON / OFF control feet

Control the power supply of the vehicle controller, and the internal Open Drain open and leakage output mode

(5) Flash

Built-in 64M Bit SPI Flash, used to store local electronic fence data, Log data, upgrade files, location data, etc.

5. Product display



Installation instructions:

The horn hole of G3SG IOT is facing downwards, connect the cable, and it is embedded in the vehicle tube. The back is locked to the tube with 2 M6 screws to complete the installation.

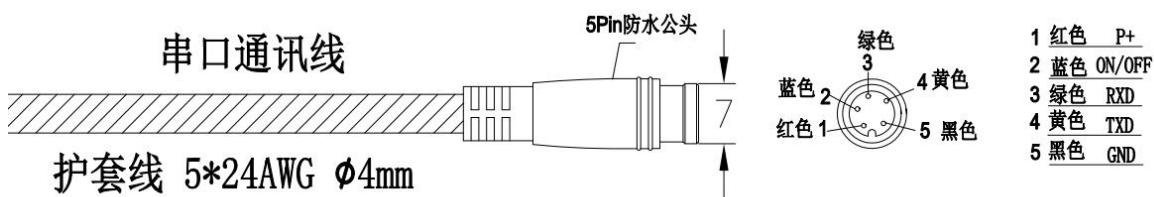


1: 1: G3SGIOT喇叭孔
朝下，连接好相关的
连接线，装入车管装到
底面，用2个M6螺
丝在背面连接车管锁紧
在一起完成安装。

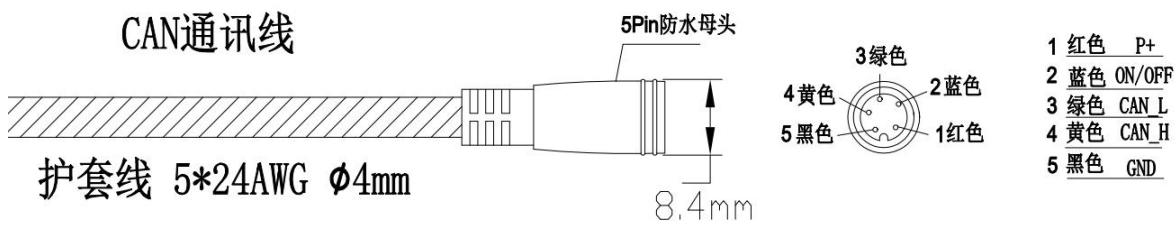


Picture of PCB glue perfusion

6. Communication Interface Definition



Note: The TX and the RX are described for the IOT



Note: The CAN-H and CAN-L are described for the IOTs

7. Certification Statement

FCC Statement

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.

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.

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

FCC RF Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

ISED Notice:

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.

Cet appareil est conforme à la norme RSS d'Industrie Canada. Son fonctionnement est sujet aux deux conditions suivantes:

- (1) led dispositif ne doit pas produire de brouillage préjudiciable, et
- (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

ISED RF Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.