

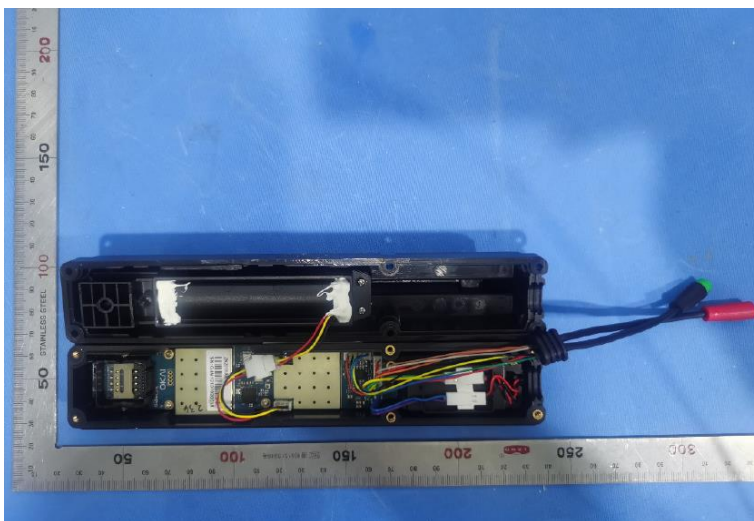
The background of the page is a light gray technical drawing. It features various geometric shapes, lines, and dimension lines. Dimensions are labeled with numbers: 1.4, 50.8, 2.7, 27.4, 6.85, and 40.95. On the right side, there is a faint outline of a car's rear section, showing a taillight and a bumper. The overall style is clean and professional, typical of a technical manual cover.

# ZK201FAR User Manual

## 1. Introduction

ZK201FAR is a GPS positioning tracker specially designed for scooters based on LTE Cat4 network technology, combined with dual frequency and RTK positioning technology. Its built-in dual band GPS receiver has superior sensitivity, can receive signals in L1 and L2 frequency bands at the same time, provides centimeter level positioning accuracy, and has extremely fast first positioning time (TTFF). It can quickly locate successfully within 35S whether it is cold start or hot start. LTE Cat4 technology has extremely high bandwidth, which can establish connection with back-end servers or other designated terminal devices, track vehicle status in real time and realize remote vehicle control. The local electronic fence function can define up to 30 fence areas, each area is limited to 50 positioning points, and can also flexibly set the restriction measures for vehicles in each fence area. Users can judge the working status of the equipment through the high-brightness LED color indicator light. The internal integrated audio playback circuit can support up to 30 pieces of audio data, and the size of each piece of audio data is limited to 300Kbyte (sampling frequency 48K, length 10s), and the playback of each piece of audio can be triggered by the server issuing playback instructions. At the same time, it supports remote OTA for all electronic components of the body.

## 2. Product Overview



### 3. Specifications

#### 3.1 General Specifications

Dimensions(L*W*H)	195*37*71(mm)
External Battery Voltage	40V~60V
Operating Temperature	-20℃ ~ +60℃

#### 3.2 LTE Specifications

No.	Item	Parameters
1	Antenna	Internal Antenna
2	Chip	L506
3	Frequency	FDD-LTE: B2/B4/B5/B12/B13
4	LTE Function	LTE:DL 150Mbps, UL 50Mbps
5	RF Output Power	LTE Cat4: 23dBm
6	Sensitivity	LTE-FDD: -92dBm
7	Transmission Mode	TCP

#### 3.3 GPS Specifications

No.	Item	Parameters
1	Antenna	Internal Dual-Band Antenna
2	Chip Set	U-Blox ZED-F9R
3	Sensitivity	Tracking & Navigation -160 dBm Reacquisition -160 dBm Cold start -147 dBm Hot start -158 dBm
4	Location Accuracy (CEP, 50%, 24H Still, -130dBm, >6 SVs)	PVT[1]: 1.5 m RTK: 20 cm
5	First Correction Time (Open Sky)	Cool Start: 35 s

		Hot Start: 3 s Assistance Start: 5 s
6	Receiving Mode	GPS: L1C/A, L2C BDS: B1I, B2I GLONASS: L1OF, L2OF Galileo: E1-B/C, E5b

[1] Location accuracy without RTK.

### 3.4 BLE Specifications

No.	Item	Parameters
1	Antenna	Internal Antenna
2	Chip Set	nRF52810
3	Frequency	2.4GHz (BLE)
4	Bluetooth Version	BLE 5.0
5	Sensitivity	-96dBm@1Mbps, -104dBm@125Kbps
6	Max out RF Power	2 dBm

### 3.6 Other Specifications

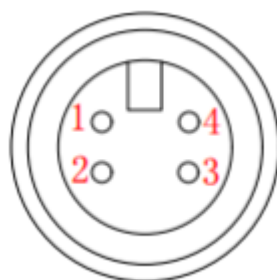
No.	Item	Parameters
1	Main Control Chip	Core: M4 Core Flash: 512K bytes Memory: 192K bytes Frequency: 200Mhz
2	Six-Axis Sensor	Acceleration Range: $\pm 2/\pm 4/\pm 8/\pm 16g$
3	Speaker	2.0W@8 $\Omega$
4	Local Electronic Fence	Can support 30 areas with max. 50 points

## 4. Interface Description

### 4.1 5-pin Connector Interface



Pin No.	Pin Name	Description
1	GND	Black, ground wire
2	CANON	Green, controlling signal output
3	CAN-H	Blue, CAN-H
4	CAN-L	Yellow, CAN-L
5	Voltage	Red, power input wire



PIN No.	Name	Description
1	VBUS	Red, 5V
2	DM	Orange
3	DP	Brown
4	GND	Grey

## 5. User Instructions

### 5.1 Installing SIM Card

1. Turn off ZK201FAR.
2. Open ZK201FAR and insert SIM card in the red circle place.



## **5.2 Installing ZK201FAR to the Scooter**

Connect the 5-pin interface to the scooter, and then it will be powered on and can communicate with the scooter. ZK201FAR can report the position and status of the scooter to the backend server and the backend sever can send commands to ZK201FAR to transfer to scooter to control the behavior of the scooter also.

## **5.3 Communicating with Backend Server**

After installing SIM card and powered on, ZK201FAR can communicate with the backend server through network, and transfer reports of emergency, Geo-fencing, device status and scheduled GPS position etc. It is easy for service provider to set up their tracking platform based on the functional wireless tracking protocol.

## **5.4 Debugging**

Users can use the 4-pin interface to give commands to the device locally for the purpose of testing and debugging.

## **5.5 WARNING**

Pay attention to any warnings.

- Do not attempt to open or disassemble GPS Tracker.
- Do not place GPS Tracker on or in heating devices, such as heaters, fire source etc.
- Do not expose GPS Tracker to extreme temperatures. The recommended temperature ranges are from -20 to 60°C.
- Do not place GPS Tracker close or dispose to fire. This may cause the device to explode.

## **5.6 RADIATION EXPOSURE STATEMENT**

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,
- (2) This device must accept any interference received, including interference that may cause undesired operation.

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.

## **5.7 NOTE**

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.