ZK201FAP User Manual

1. Introduction

F9P-RTK module, integrated high-precision board (ZED-F9P) can simultaneously receive GPS, Beidou, GALILEO, GLONASS satellite system L1, L2 frequency points, combined with high-precision antenna integrated design, small size, light weight, fast Complete the realization of RTK base station assisted positioning function.

2. Product Overview

3. Specifications

3.1 General Specifications

Size (L*W*H)	195*37*71 mm
External power supply range	40V-60V
Operating temperature	-20℃~60℃
Support area	USA

3.2 LTE Specifications

No.	Item	Parameters
1	Antenna	Internal Antenna
2	Module Type	Cat4 module
3	Frequency	FDD-LTE: B2/B4/B5/B12/B13
4	LTE features	LTE: DL 150Mbps，UL 50Mbps
5	RF output power	LTE Cat4: 23dBm
6	Sensitivity	LTE-FDD: -92dBm
7	Transmission Mode	TCP

3.3 RTK module Specifications

No.	Item	Parameters
1	Antenna	Internal dual-band antenna
2	Module type	RTK base station module
3	Sensitivity	Tracking & Navigation: -167dBm Recapture: -160dBm Cold start: -148dBm Hot Start: -157dBm
4	Position accuracy (CEP, 50%, 24H static, -130dBm)	PVT[1] : 1.5m RTK: 10cm
5	First calibration time (open sky)	Cold start: 29 seconds Hot start: 2 seconds Assist start: 2 seconds
6	Receiving type	GPS: L1C/A，L2C BDS: B1I，B2I GLONASS: L1OF，L2OF Galileo: E1-B/C，E5b

3.4 BLE Specifications

No.	Item	Parameters
1	Antenna	Internal Antenna
2	Chip type	BLE
3	Frequency	2.4GHz RF transceiver is compatible with Bluetooth Low Energy (BLE)
4	Bluetooth version	BLE 5.0
5	Sensitivity	-96dBm@1Mbps, -104dBm@125Kbps
6	Maximum RF Power	2dBm

3.5 Other Specifications

No.	Item	Parameters
1	Main control chip	Core: M4 core Flash: 512K bytes Memory: 192K bytes

		Frequency: 200Mhz
2	Status of LED Indicators	RTK works fine, white flashes (flashing at 1000ms intervals); The communication of RTK F9P chip fails, and the red flashes quickly (flashing at 300ms interval); RTK fails to obtain position, red flashes slowly (flashing at 1000ms interval); RTK network connection fails, red and white flash alternately (flashing at 300ms intervals); RTK server connection failed, red and white flashing alternately (flashing at 1000ms interval).

4. Interface Description

4.1 5-pin Connector Interface

Pin No.	Pin Name	Description
1	GND	Power ground wire (black)
2	CANON	Control signal output (blue)
3	CAN-H	CAN bus line H (green)
4	CAN-L	CAN bus line L (yellow)
5	input power: 48V	Power input wire (red)

4.2 USB Debug Cable

Pin No.	Pin Name	Description
1	VBUS	USB 5V Input (Red)

2	DM	Data negative signal wire (orange)
3	DP	Data positive signal wire (brown)
4	GND	Ground wire (grey)

5. User Instructions

5.1 Debugging

Users can use the 5-pin interface to give commands to the device locally for the purpose of testing and debugging.

5.2 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 -10 to 50℃.

- Do not place GPS Tracker close or dispose to fire. This may cause the device to explode.

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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and

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

5.3 RADIATION EXPOSURE STATEMENT

This equipment should be installed and operated with minimum distance 20cm away from your body.