

## GNSS RECEIVER

## F90

- › Multi-Constellation with L-Band and SBAS
- › GNSS measurement technology revolution
- › The F90 overturns the traditional and enlightens the future!



F90 tracks GPS, GLONASS, Galileo, BeiDou and can maximize the tracking to observe all visible GNSS satellite signals, thereby providing maximum performance for accuracy and real-time measurements. F90 also support RTX correction service, can get cm accuracy just with one receiver.

### Performance

F90 can quickly search available satellites and soon get Fixed solution. F90 with its advanced technology ensures it works well even in harsh environment such as under heavy foliage.

### Highly integrated internal components

The innovative technology made F90 has excellent combination with GNSS, 4G, Bluetooth and Wi-Fi antenna. F90 is also inserted with highly integrated Bluetooth, Wi-Fi and 4G network modules, which reduces the internal signals crosstalk. The powerful 360-degree omni-direction signal receiving in F90 enables full omnidirectional communications.

### Third generation tilt surveying technology

Inserted with high-sensitive E-bubble and brand-new tilt survey algorithm, F90 is calibration-free. Immune to magnetic disturbance and free from limitation of tilt angles. F90 can measure points where a vertical placement of the pole is not possible such as house corners.

### All protocol compatible internal radio

Initially adopt our independent R & D TRM series internal radio, F90 enables frequency band change ranges from 410-470MHZ. Enables communication with protocol like SATEL, PCC-GMSK, TrimTalk 450s, South, TrimMark III (19200) and GeoTalk, GeoMark. F90 is able to work distance of 5 kilometers with only 1 Watt radio.

### 4G Network

F90 with its advanced 4G module, guarantee 4G network can transmit world-widely. This results more convenient and stable network communication. will alarm immediately

## Multi-Connectivity and WEB UI Control

Distinguished from former GNSS, F90 provides two connecting methods for receiver and controller—Bluetooth connection and Wi-Fi connection. Data transmission proves to be more stable with these new connecting ways.

The second generation WEB UI on F90 is full compatible with all devices and all browsers. It's more convenient with WEB UI control.

## Long Life Battery

Inserted with 2 smart hot swappable Lithium batteries (same battery used with SXPad 1000P), F90 can work maximum of 10 hours without stopping. Battery level can be viewed at the press of one button. With new excellent design, more than 20% power consumption can be reduced.

## Weight & Dimension

Without affecting accuracy and efficiency, this innovative GNSS Receiver F90 is made extremely light and small. Even till equipped with magnesium alloy fuselage, F90 weighs only 1 kg and measures only 140mm x 157mm x 76mm.

## SYSTEM

OS	Linux
Memory	Internal 8G, TF Extended, Max≥32G
Bluetooth	V2.1+EDR / V4.1 Dual Mode Class2
Wi-Fi	802,11 b/g/n
4G	EC25-E, EC25-A: LTE, WCDMA, GSM
Data format	CMR, CMR+, RTCM 2,3, RTCM3.x, RTCA
Internal UHF	TRM101 Power 1 Watt Frequency: 410-470 MHz Work Distance: 5km in good environment
Protocol	SATEL, PCC-GMSK, TrimTalk 450S, South, TrimMark III(19200), South 19200
Electric Bubble	Support, Support tilt survey

## INTERFACE

TNC	For UHF Antenna
5 pins	External radio and external power
7 pins	NMEA output + USB Port
Others	SIM slot and TF slot
Buttons	Power button with indicators
Indicator	4 indicators, Satellites, Datalink, Bluetooth, WIFI Status
Language	Supports TTS Multi language voice

## PHYSICAL

Dimensions	157 mm x 76 mm
Weight	1.2KG with 2 batteries inside

## ENVIRONMENT

Work Temperature	-30°C - + 65°C
Stock Temperature	-40°C - + 80°C
Protection	IP67
Shock	Withstand 2 meters pole drop, 1.2m drop without pole
humidity	100%

## GNSS

GPS Board	BD 990
Channels	336
Satellites	GPS: L1 C/A, L2C, L2E, L5 GLONASS: L1 C/A, L2C, L3 BeiDou: B1/B2/B3 Galileo: E1/E5 AltBOC/E5a/E5b/E6 IRNSS: L5 SBAS: L1/L5 QZSS: L1C/A, L1C, L2C, L5
Update rate	50 Hz
Static accuracy	Horizontal ± 2.5 mm + 0.1 ppm RMS Vertical ± 3.5 mm + 0.4 ppm RMS
RTK accuracy	Horizontal ± 8 mm + 1 ppm RMS Vertical ± 15 mm + 0.4 ppm RMS

## POWER

Battery	Dual Battery, 7.2V/3400mAh  Can work at least 10 hours
Input	9~28V DC