



# *GNSS Receiver* **P8/P8Pro** Portable RTK Receiver

# P8/P8Pro Portable RTK Receiver

The P8/P8Pro is a portable intelligent positioning terminal developed based on BDS high-precision positioning technology. The main unit is lightweight and compact, making it easy to carry around. It supports tracking of signals from all satellite constellations with 1408 channels, providing centimeter-level positioning accuracy. It caters to various measurement and layout tasks such as road construction, power line surveying, site leveling control, CAD applications, railway stakeout, and more.

## CHARACTERISTIC

### Integrated Hardware & Software

Based on fully autonomous domestic hardware and the FreeRTOS intelligent system platform, this device provides users with efficient computing power and the ability to expand product functionality infinitely.

### Centimeter-level Positioning

The P8/P8Pro Portable RTK Receiver is equipped with a compact and omnidirectional helical antenna that supports tracking signals from all constellations and frequencies. With 1408 channels, it can simultaneously receive BDS, GPS, GLONASS, GALILEO, QZSS and SBAS signals. It enables full constellation positioning, supports base station differential correction, and can integrate with the GBAS. The accuracy can reach centimeter-level precision.

### Multipurpose

The Receiver supports 4G CAT1 network, Bluetooth connectivity for communication and control purposes. It can be combined with a cloud server to enable remote monitoring, configuration, and alerts for the main unit.

### Compact & portable

The P8/P8Pro Portable RTK Receiver weighs only 141g, making it convenient for portable use. It also has low power consumption. With a built-in 1800mAh lithium battery, the device can work continuously for over 8 hours.

### Tilt Measurement

The P8Pro is equipped with a built-in intelligent high-precision inertial navigation module, providing real-time tilt compensation that enhances the accuracy of RTK measurements. Providing positioning accuracy of less than 2cm within a tilt range of 60 degrees (P8 does not support tilt measurement).



# P8/P8Pro GNSS Receiver

## Portable RTK Receiver

**141g(P8), 143g(P8Pro) | 53.8\*37\*117.5mm**

Easy to carry with one hand

**1408 Channel**

GPS GLONASS BDS GALILEO  
QZSS SBAS

**P8Pro Supports Tilt Measurement**

60° IMU, error<2cm

**7.4V, 1800mAh**

More than 8 Hours

**SDK provided**




Easy for further development



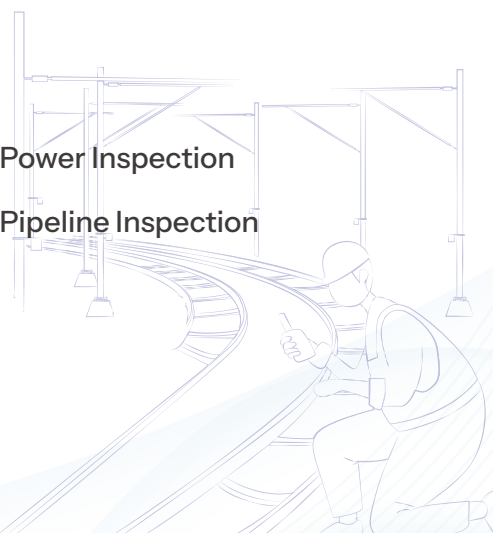
## GIS APPLICATION AREA



| WIDTH   | THICKNESS | WEIGHT |
|---------|-----------|--------|
| 53.8 mm | 37 mm     | 141g   |

-  Engineering Survey
-  Agricultural Mapping
-  Landscaping

-  Power Inspection
-  Pipeline Inspection



# SPECIFICATION

| SYSTEM                  |   |
|-------------------------|---|
| HARDWARE SYSTEM         | ESP32+ASR ARM   |
| OS                      | FreeRTOS  |
| GNSS                    |   |
| GPS                     | L1 C/A, L1C, L2P(Y), L5   |
| GLONASS                 | G1, G2  |
| BDS                     | B1I, B2I, B3I, B1C, B2a   |
| GALILEO                 | E1, E5a, E5b  |
| QZSS                    | L1/C, L2C, L5   |
| SBAS                    | L1C/A   |
| Channel                 | 1408  |
| Data Format             | NMEA-0183   |
| Correction I/O Protocol | RTCM 3.X  |
| Data Update Frequency   | 5Hz(max)  |
| ACCURACY                |   |
| SINGLE (RMS)            | Horizontal: 1.5m / Vertical: 2.5m   |
| RTK (RMS)               | Horizontal: $\pm (8\text{mm}+1\text{ppm})$<br>Vertical: $\pm (15\text{mm}+1\text{ppm})$ |
| SYSTEM                  |   |
| Bluetooth               | BR+EDR  |
| Network                 | Multi-network Compatible<br>LTE FDD: B1, B3, B5, B8<br>LTE TDD: B34, B38, B39, B40, B41 |
| INDICATOR               |   |
| Power Indicator         | Show power status   |

| Satellite Indicator       | Show position status                                    |
|---------------------------|---|
| Data Link Indicator       | Show differential signal status                         |
| Bluetooth Indicator       | Show Bluetooth status                                   |
| ENVIRONMENT               |   |
| Operating Temperature     | -20°C~+60°C   |
| Storage Temperature       | -40°C~+85°C   |
| Protection Rating         | IP67  |
| PHYSICAL                  |   |
| Materials                 | PC+ABS  |
| Dimension                 | 53.8mm*37mm*117.5mm (Height including helical antenna)  |
| Weight                    | P8: 141g/P8Pro: 143g (Weight including helical antenna) |
| BATTERY                   |   |
| Battery                   | 7.4V, 1800mAh   |
| Endurance                 | Over 8 hours  |
| Charging                  | 5V/2A   |
| ACCESSORIES               |   |
| P8/P8Pro Device           | 1 SET   |
| Full-band Helical Antenna | 1 PCS   |
| Plumb Rod Adapter         | 1 PCS   |
| 5V/2A USB Power Adapter   | 1 PCS   |

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Manufacturers may update parameters at any time, please refer to the latest product information.



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