



## HIGH-PERFORMANCE RTK RECEIVER

### ■ 5-Watt Internal Radio: Longer Working Distance

No longer need to carry external radio, for its internal radio's working distance can reach 10-15 km.

### ■ Impressive Battery Life: Longer Working Time

Work up to 15 hours and no longer worry about a day's work, with its 13600 mAh battery, which makes your data save safely.

### ■ RTKTIMEOUT Technology: Uninterrupted Work

Work without interruption even when RTK corrections fail, powered by our RTKTIMEOUT technology.

### ■ Max 60° Tilt Survey:

#### A Completely Different Way of Working

- Quickly measure accurate points while standing or walking without leveling the pole.
- Concentrate on where the pole tip needs to go, which is especially useful during a stakeout.
- Easily start a survey in environments that are hard to reach, such as building corners and slopes.
- No longer worry about the movement of the pole when measuring.

The E800 is a high-performance product by eSurvey GNSS. The durable IP67 design makes it possible to work in various of environments. Multi constellation and frequency tracking always gives a Fixed solution for your job. The colorful touch screen is convenient for quick configurations.

# Specification

| GNSS Performance                 |                                                                                                          |                                             |
|----------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------|
| Satellites tracking              | GPS                                                                                                      | L1CA, L2P(Y), L2C, L5                       |
|                                  | BDS                                                                                                      | B1I, B2I, B3I, B1C, B2a, B2b <sup>1</sup>   |
|                                  | GLONASS                                                                                                  | L1, L2                                      |
|                                  | GALILEO                                                                                                  | E1, E5a, E5b, E6 <sup>1</sup>               |
|                                  | QZSS                                                                                                     | L1, L2, L5, L6 <sup>1</sup>                 |
|                                  | L-Band                                                                                                   | B2b PPP (Only for the Asian-Pacific region) |
| Channels                         | 1408                                                                                                     |                                             |
| Cold start                       | < 30 seconds                                                                                             |                                             |
| Warm start                       | < 20 seconds                                                                                             |                                             |
| Hot start                        | < 5 seconds                                                                                              |                                             |
| RTK signal initialization        | < 5 seconds                                                                                              |                                             |
| Initialization reliability       | > 99.9%                                                                                                  |                                             |
| Update rate                      | 20 Hz                                                                                                    |                                             |
| High precision static            | <ul style="list-style-type: none"> <li>H: 2.5 mm + 0.5 ppm RMS</li> <li>V: 5 mm + 0.5 ppm RMS</li> </ul> |                                             |
| RTK                              | <ul style="list-style-type: none"> <li>H: 8 mm + 1 ppm RMS</li> <li>V: 15 mm + 1 ppm RMS</li> </ul>      |                                             |
| Post-processing kinematics (PPK) | <ul style="list-style-type: none"> <li>H: 3 mm + 1 ppm RMS</li> <li>V: 5 mm + 1 ppm RMS</li> </ul>       |                                             |
| Standard point positioning       | <ul style="list-style-type: none"> <li>H: 1.5 m RMS</li> <li>V: 2.5 m RMS</li> </ul>                     |                                             |
| Code differential                | <ul style="list-style-type: none"> <li>H: 0.4 m RMS</li> <li>V: 0.8 m RMS</li> </ul>                     |                                             |
| Correction data                  | RTCM V3.X, RTCM2, CMR                                                                                    |                                             |
| NMEA0183 output                  | GGA, ZDA, GSA, GSV, GST, VTG, RMC, GLL, Binary                                                           |                                             |

  

| Power Supply  |                                                                      |
|---------------|----------------------------------------------------------------------|
| Battery       | Rechargeable<br>Built-in Lithium-ion battery x 1<br>7.2V ~ 13600 mAh |
| Voltage       | 9 - 28V dc                                                           |
| Working time  | 15 hours                                                             |
| Charging time | Typically 5 hours                                                    |
| Voltage       | 9~28 V dc<br>with over-voltage protection                            |

  

| Internet Modem |                                                                                                                                                                                                                                                         |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Support band   | Global 4G<br><ul style="list-style-type: none"> <li>LTE FDD: B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B25, B26, B28</li> <li>LTE TDD: B38, B39, B40, B41</li> <li>UMTS: B1, B2, B4, B5, B6, B8, B19</li> <li>GSM: B2, B3, B5, B8</li> </ul> |

- 1: It is not supported for now. It will be supported after firmware update in the future.  
 2: It decreases or increases with the obstacle and terrain.  
 3: It is only available for radio protocol "Satel", and the radio firmware is later than G001.02.27.

| System            |                                                                        |
|-------------------|------------------------------------------------------------------------|
| Operation system  | Linux                                                                  |
| Internal memory   | 32 GB                                                                  |
| Bluetooth         | BT 5.0, BLE                                                            |
| Wi-Fi             | 802.11 ac/n(HT20)/a/b/g                                                |
| SIM card          | √                                                                      |
| TNC               | Connect internal radio with antenna                                    |
| 5-pin port        | Connect to external radio and external power                           |
| Type-C port       | Charge and data transmission                                           |
| Web UI            | View status, update firmware, set up working mode, download data, etc. |
| Intelligent voice | Broadcast working mode and status                                      |
| MEMS              | Fast initialization, dynamic tilt survey up to 60°                     |

  

| Physical              |                                                                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimension             | Φ154 mm x H76 mm                                                                                                                                     |
| Weight                | 1500 g                                                                                                                                               |
| Operating temperature | -30°C - +65°C                                                                                                                                        |
| Storage temperature   | -40°C - +80°C                                                                                                                                        |
| Water / dust proof    | IP67                                                                                                                                                 |
| Shock                 | <ul style="list-style-type: none"> <li>Withstand topple over from a 2 m survey pole onto hard surfaces</li> <li>Survive a 1.2 m free drop</li> </ul> |
| Vibration             | Vibration resistant                                                                                                                                  |
| Humidity              | Up to 100%                                                                                                                                           |
| Indicators            | Satellites, datalink, battery, Bluetooth                                                                                                             |
| Button                | Power button, short press to voice broadcast working mode and status                                                                                 |
| Screen                | 1.45" colorful touchable screen                                                                                                                      |
| Certificate           | CE, FCC, NGS                                                                                                                                         |

  

| Internal Radio  |                                                                                                                       |
|-----------------|-----------------------------------------------------------------------------------------------------------------------|
| Type            | TX and RX                                                                                                             |
| Emitting Power  | 5 W                                                                                                                   |
| Operation Range | <ul style="list-style-type: none"> <li>8~10 km typically</li> <li>15km with optimal conditions<sup>2</sup></li> </ul> |
| Frequency range | 410 - 470 MHz                                                                                                         |
| Channel spacing | 6.25 KHz <sup>3</sup> / 12.5 KHz / 25 KHz                                                                             |
| Protocol        | Satel, PCC, TrimTalk, TrimMark III, TRANSEOT(PCC-GMSK), South, HiTarget, GEOTALK, GEOMK3, HZSZ                        |

