



E800

High-performance RTK Receiver

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.

Multi-constellation and multi-frequency

With 800 channels of GNSS tracking, E800 provides stable and reliable accuracy. All GNSS signals are coming with standard including GPS, BDS, GLONASS, GALILEO, QZSS, IRNSS and SBAS.

Batteries for Long Time Operation

E800 is equipped with 13600 mAh Li-ion battery. There is no worry for long time field operation up to 15 hours. The USB type-c quick charge promise a full charge within 5 hours.

MEMS Dynamic Tilt Survey

eSurvey' s innovation tilt survey solution provides a surprising experience. The sensor is adapted to various of working environments and can be ready within 10 sec. Maximum 60 ° incline angle ensures a tilt-to-go survey without stopping your work.

L-band Atlas

Atlas is a service to provide global precision correction service over L-band satellites. With ATLAS subscription, E800 is able to achieve centimeter accuracy without any base station.

aRTK

Powered by Atlas, the innovative aRTK technology operates on any Atlas-capable device by enabling it to maintain RTK-level accuracy, availability, and reliability when RTK corrections fail without additional cost.

5-watt Internal Radio

The 5-watt internal radio modem extremely extend the working range up to 15Km. User can adjust the radio power between 2w and 5w depending on the demand.

Colorful Touch Screen

The 1.45" colorful touch screen is viewable in sunlight. The position status is under control with a glimpse. Working mode is settle down by simply sliding the screen.

Rugged Design

E800 main body is using magnesium materials to provide strong shock and vibration resistant characteristics. IP67 certification ensures operation in various of tough environments.

Product Specification

GNSS	
Satellites Tracking	GPS: L1CA/L1P/L1C/L2P/L2C/L5 BDS: B1I/B2I/B3I/B1C/B2a/B2b/ ACEBOC GLONASS: G1/G2/G3, P1/P2 GALILEO: E1/E5a/E5b/E6/ALTEC QZSS: L1CA/L1C/L2C/L5/LEX IRNSS: L5 SBAS1: L1/L5 L-Band: Atlas H10/H30/Basic
Channels	800
Signal Reacquisition	< 1 sec
Cold Start	< 10 sec
Warm Start	< 10 sec
Hot Start	< 10 sec
RTK Signal Initialization	< 8 sec
Initialization Reliability	> 99.9%
Update Rate	10 Hz standard, up to 50 Hz
Operation System	Linux
Internal Memory	32 GB

Performance	
High Precision Static	H: 2mm + 0.1 ppm V: 3mm + 0.4 ppm
Static/Fast Static	H: 2.5mm + 0.1 ppm V: 3.5mm + 0.4 ppm
RTK	H: 8mm + 1.0 ppm V: 15mm + 1 ppm
Code Differential	H: 0.25 m V: 0.45 m
SBAS	H: 0.3 m V: 0.6 m
L-Band	Atlas H10: 4 cm RMS Atlas H30: 15 cm RMS Atlas Basic: 30 cm RMS
Tilt compensation	Free-Calibration Magnetic resistance
RTK tilt-compensated	Additional horizontal uncertainty typically less than 8mm+0.04mm/° angle up to 60°

Power Supply	
Battery	Rechargeable and built-in Lithium-ion battery, 7.2 V ~ 13.6 Ah
Voltage	9~28 V DC with over-voltage protection

1. SBAS supports WAAS, EGNOS, GAGAN, SDCM, MSAS.
2. Depend on the environment and electromagnetic interference.

Working Time	Up to 15 hours
Charging Time	Typically 5 hours

Internal Radio	
Type	TX and RX
Frequency Range	410 ~ 470 MHz
Channel Spacing	12.5 KHz / 25 KHz
Emitting Power	5 W
Operation Range	8 ~ 10 Km typically 15Km with optimal conditions ²
Protocol	Satel, PCC, TrimTalk, TrimMark III, South, HiTarget

Internet Modem	
Support Band	Global GSM /WCDMA/LTE

Communication	
Bluetooth	BT 5.0, BLE
WIFI	802.11 ac/n(HT20)/a/b/g
SIM Card	Micro SIM card
5-pin Port	Connect to external radio and power, NMEA output
Type-C Port	Charge and internal storage access
TNC Port	Connect to internal radio antenna
Web UI	View status, update firmware, set up working mode, download data
Intelligent Voice	Broadcast working status
NMEA Output	GGA, ZDA, GSA, GSV, GST, VTG, RMC, GLL, Binary
Correction Data	CMR, CMR+, RTCM2, RTCM3, RTCM32
MEMS	Fast initialization, dynamic tilt survey up to 60°

Physical	
Dimension	154 mm x 154 mm x 76 mm
Weight	1.5 kg
Screen	1.45" colorful touchable screen
Operating Temperature	-40°C ~ +65°C
Storage Temperature	-45°C ~ +80°C
Water/Dust Proof	IP67
Shock	Survive a 2 m drop on concrete floor
Vibration	Vibration resistant
Humidity	Up to 100%
Indicators	Satellites, datalink, battery, Bluetooth
Button	Power button, short press to voice broadcast status
Certificate	CE, FCC, NGS Calibration



Shanghai e-Compass Science & Technology Co., Ltd
Building 4, No. 651 Wanfang Rd, Minhang District, Shanghai 201112, China

Tel: +86 21 54467213
Email: info@esurvey-gnss.com
Web: www.esurvey-gnss.com
Edition: 20201111