

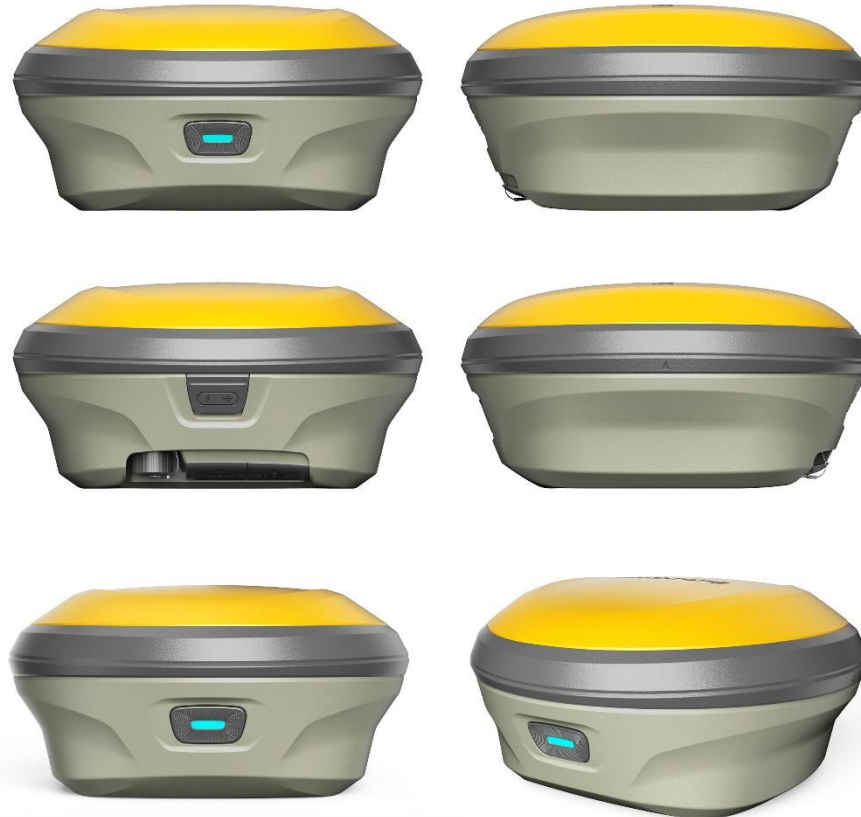
E500

2020.12.11 by eSurvey GNSS

E500

SUMMARY

- Overview
- Key Features
- Specifications
- Configurations
- Software



产品尺寸：直径148mm*厚74.5mm

Overview

- $\Phi 148\text{mm} * 74.5\text{mm}$
- 1.06 kg
- Internal Radio
- Internal 4G
- Type-C Charge
- Build-in Battery



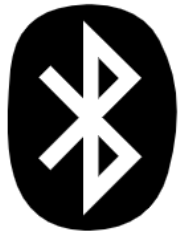
Key Features

- All GNSS Signals: 800 channels



Key Features

- Communication



Bluetooth



WIFI



4G Network



Radio

Key Features

- IMU Tilt Survey



E500 is equipped with IMU sensor.

- Fast initialization
- Tilt to go
- Tilt stakeout
- Up to 60°
- Accuracy <3cm
- Free from magnetic interference

Key Features

- ATLAS: GNSS Global Correction Service



<i>Service Level</i>	<i>Position Accuracy</i>
Atlas Basic	50 cm 95% (30 cm ^{RMS})*
H30	30 cm 95% (15 cm ^{RMS})*
H10	8 cm 95% (4 cm ^{RMS})*

Provide both Land Service and Offshore Service

Key Features

- ATLAS: GNSS Global Correction Service



Key Features

- aRTK: Free L-Band service



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.

Key Features

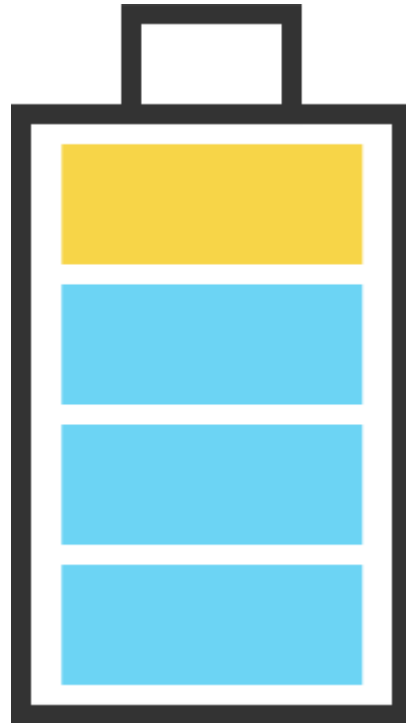
- Smart Battery Indicator



Press power button to check battery level without power on device.

Key Features

- Build-in Battery

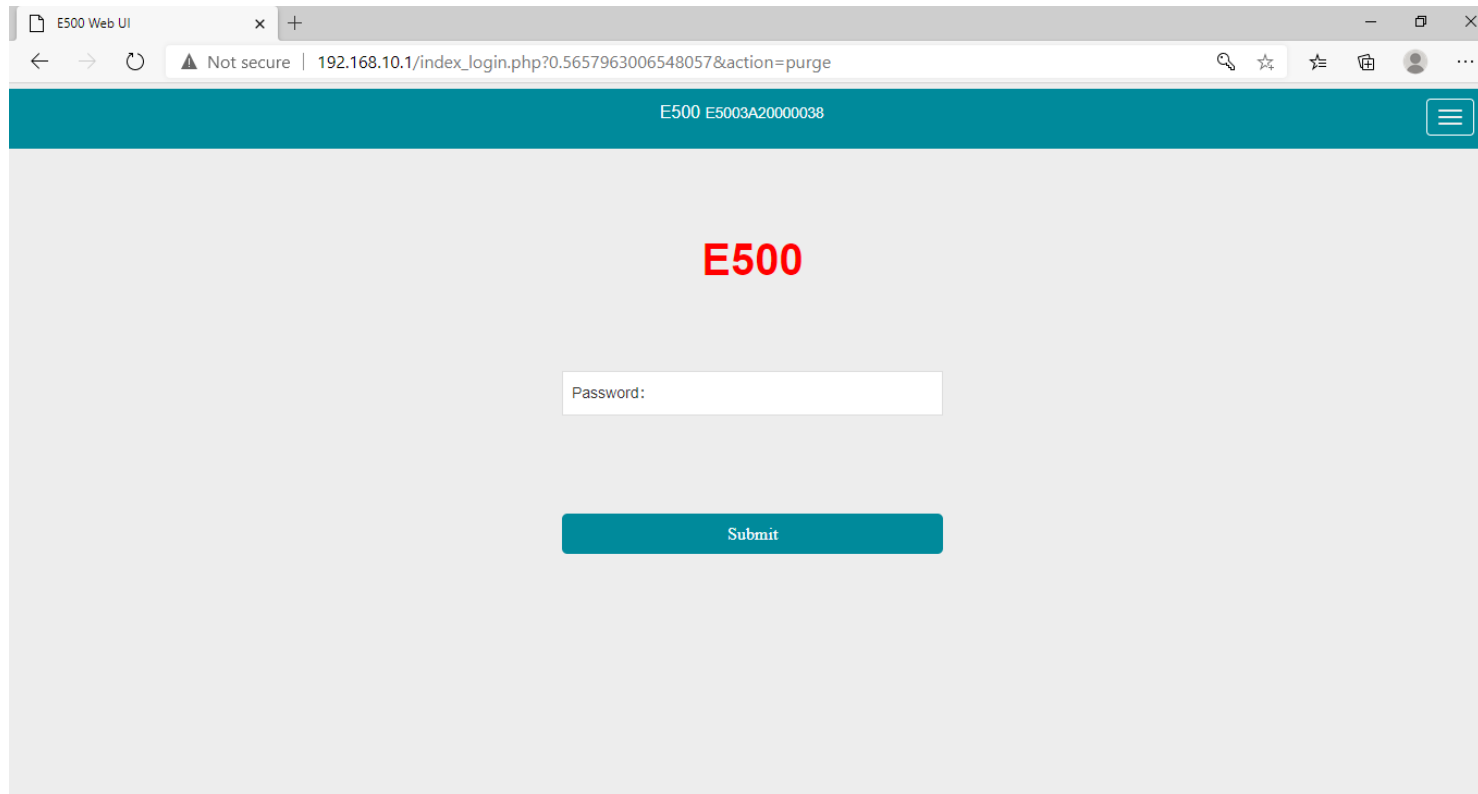


Build-in Li-on Battery

- 7.2V, 6800mAh
- Up to 12 hours
- Full charge within 4 hours
- Support power bank

Key Features

- Web User Interface

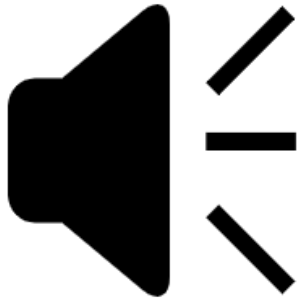


Smart Web User Interface:

- Connect PC, phone and tablet
- View device status
- Setup working mode
- Download raw data
- Update firmware

Key Features

- Additional Features



Smart Voice



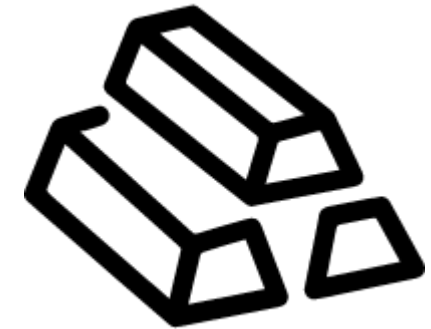
IP67



1.2m Drop



-30°C ~ +65°C













Magnesium Alloy









Specifications

GNSS		Internal Radio	
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/ALTBOC QZSS: L1CA/L1C/L2C/L5/LEX IRNSS: L5 SBAS ¹ : L1, L5 L-Band: Atlas H10/H30/Basic	Type	TX and RX
Channels	800	Frequency Range	410 ~ 470 MHz, 902.4 ~ 928 MHz
Signal Reacquisition	< 1 sec	Channel Spacing	12.5 KHz / 25 KHz
Cold Start	< 60 sec	Emitting Power	1 W
Warm Start	< 30 sec	Operation Range	3 ~ 5 Km typically 10 Km with optimal conditions ²
Hot Start	< 10 sec	Protocol	Satel, PCC, TrimTalk, TrimMark III, South, HiTarget
RTK Signal Initialization	< 8 sec	Internet Modem	
Initialization Reliability	> 99.9%	Support Band	Global GSM /WCDMA/LTE
Update Rate	10 Hz standard, up to 50 Hz	Communication	
Operation System	Linux	Bluetooth	BT 5.0 + EDR, BLE
Internal Memory	8 GB	WiFi	802.11 b/g/n
		SIM Card	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°
Performance		Physical	
High Precision Static	H: 2 mm + 0.1 ppm V: 3 mm + 0.4 ppm	Dimension	Ø148 mm x H74.5 mm
Static/Fast Static	H: 2.5 mm + 0.1 ppm V: 3.5 mm + 0.4 ppm	Weight	1.06 kg
RTK	H: 8 mm + 1 ppm V: 15 mm + 1 ppm	Operating Temperature	-40°C ~ +65°C
Code Differential	H: 0.25 m V: 0.45 m	Storage Temperature	-45°C ~ +80°C
SBAS	H: 0.3 m V: 0.6 m	Water/Dust Proof	IP67
L-Band	Atlas H10: 4 cm RMS Atlas H30: 15 cm RMS Atlas Basic: 30 cm RMS	Shock	Survive a 2 m drop on concrete floor
		Vibration	Vibration resistant
		Humidity	Up to 100%
		Indicators	Battery
		Button	Power button
		Certificate	CE, FCC, NGS Calibration
Power Supply			
Battery	Rechargeable and built-in Lithium-ion battery, 7.2 V ~ 6800 mAh		
Voltage	9~28 VDC with over-voltage protection		
Working Time	Up to 12 hours		
Charging Time	Typically 4 hours		

Configurations

E500 Base					
NO.	Items	Quantity	Model	Description	Picture
1	Base Carrying Case	1	---	Carry case for E500, suitable for base and rover	
2	E500 GNSS Receiver	1	---	---	
3	Charger	1	KSA-45P-45W D5	Type-C port, UK/America/Europe/Australia	
4	Power Cable	1	---	Type-C to Type-C	
5	Measuring Tape	1	---	3m/10ft-16mm	
6	UHF Antenna	1	QT440A (430-450MHz)	QT410A(410-430MHz) optional QT450A (450-470MHz) optional QT900L-T (902-928MHz, TRM121) Optional	
7	Extension Pole	1	---	25cm	
8	Tribratch Adapter	1	---	---	
9	Plate Antenna Adapter	1	---	---	
10	Warranty Card	1	---	---	

Configurations

E500 Rover					
NO.	Items	Quantity	Model	Description	Picture
1	Rover Carrying Case	1	---	Carry case for E500, suitable for base and rover	
2	E500 GNSS Receiver	1	---	---	
3	Charger	1	KSA-45P-45W D5	Type-C port, /UK/America/Europe/Australia	
4	Power Cable	1	---	Type-C to Type-C	
5	Measuring Tape	1	---	3m/10ft-16mm	
6	UHF Antenna	1	QT440A (430-450MHz)	QT410A(410-430MHz) optional QT450A (450-470MHz) optional QT900L-T (902-928MHz, TRM121) Optional	
7	Tribratch Adapter	1	---	---	
8	Warranty Card	1	---	---	

Data Collection Software-SurPad4.0

Positioning Informations

GPS
BD
GLN
GAL
SBAS

FIXED H:0.006
Age2 V:0.009

Point name: H:58.006
N:3439887.756 E:359820.049
Ant. H:1.8m+0.072m Base distance:0.0

e-survey

EASY TO SURVEY

CAD

FIXED H:0.005
Age2 V:0.007

4 33
Slope:? Fill:1468.728
:66739.347 Dist to Bottom:?
Offset:(Left)48.545

Post Process Software-GEOSolution

The screenshot displays the GEOSolution software interface. The main window shows a network of GNSS baselines (green dashed lines) connecting several stations: Ahungalla base, Alpitiya, mnnana, 128B, 127B, 128C, 127A, 135A, 135C, 126C, and 126a. The map includes a coordinate grid and a scale bar indicating 2.42 km. The left sidebar contains a Project Manager and various processing options like Static Settings, Dynamic Settings, Baseline Process, and Adjustment process. The bottom status bar shows coordinates: B: 006d 18m 46.99003464s L: 080d 04m 04.15648191s.

Log of Processing Results:

Time	Message
2019-07-24 11:42:13	(48/51)72491660-60501660[128B-128C]Baseline processed...
2019-07-24 11:42:14	(48/51)72491660-60501660[128B-128C]Baseline processed finished!!
2019-07-24 11:42:14	(49/51)72491661-60501661[127B-127A]Baseline processed...
2019-07-24 11:42:15	(49/51)72491661-60501661[127B-127A]Baseline processed finished!!
2019-07-24 11:42:15	(50/51)72491662-60501662[135A-135C]Baseline processed...
2019-07-24 11:42:16	(50/51)72491662-60501662[135A-135C]Baseline processed finished!!
2019-07-24 11:42:16	(51/51)72491663-60501664[126C-126a]Baseline processed...
2019-07-24 11:42:17	(51/51)72491663-60501664[126C-126a]Baseline processed finished!!

THANK YOU

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