α-GEO

L100 PRO+

AR | IMU TILT | UHF RADIO | WEBUI | FULL GNSS

Specification

Performance Specification	
Satellite signals tracked simultaneously	GPS: L1C/A, L1C, L2P(Y), L2C, L5 GLONASS: L1, L2,L3 BEIDOU: B1I, B2I, B3I, B1C, B2a, B2b GALILEO: E1, E5a, E5b,E6 QZSS: L1, L2, L5, L6 SBAS: L1, L5 IRNSS: L5
Channels	1408 tracking Channels
Cold start	<60 s
Hot start	<15 s
Positioning output rate	1Hz - 20Hz
Signal Reacquisition	<1s
RTK Initialization time	<10s
Initialization Reliability	>99.99%
Time accuracy	20 ns
Positioning[1]	
Code differential GNSS positioning	Horizontal: 0.25 m + 1 ppm RMS Vertical: 0.50 m + 1 ppm RMS SBAS differential positioning accuracy : typically <5m 3DRMS
Static GNSS surveying	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS
Real Time Kinematic Surveying	
Single Baseline < 30 KM	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1ppm RMS
Network RTK[2]	Horizontal: 8 mm + 0.5 ppm RMS Vertical: 15 mm + 0.5 ppm RMS
HARDWARE	
PHYSYCAL	
Material	Magnesium alloy
Dimensions	131× 64mm
weight	0.76kg
Operating temperature	-40°C to + 75°C
Storage temperature	-55°C to + 85°C
Protection IP	IP67 dust proof, protected from 30min immersion to depth of 1m
Shock	Survive 2 m drop onto the concrete
Vibration	MIL-STD-810G
Humidity	100%, condensing
ELECTRYCAL	
Power	9~24 V DC external power
USB Type-C fast charging	Support
Battery capacity	Internal 7000mAh lithium-ion battery
Battery Life	Rover Mode: 15 hours Base Mode: 7 hours Static Mode: 17 hours
Communication & Data Storage	
I/O interface	
LEMO port (5pin)	Supports power input, serial port control, and external radio communication
USB Type-C port	Charging
Sim card slot	Supports Nano-SIM
Antenna port	UHF antenna interface
Radio modem	
Transmit power	1/2 w switchable,Work range can reach to 15km under AlphaTalk15 protocol
Frequency band	410MHz-470MHz; supports to set the frequency
Protocols	AlphaTalk15, TrimTalk450s, SOUTH, Satel,PCC-EOT
Cellular	
Integrated full frequency multi band 4G modem, supports WCDMA/CDMA2000/TDD-LTE/FDD-LTE	
WIFI	
802.11 b/g standard, access point & client mode, supports access to hotspot for correction transmission	
Bluetooth	
Fully integrated Bluetooth V5.2, range ≤ 50m	
Data format	
RTCM2x, RTCM3x, CMR & CMR+, sCMRx, Dat, RINEX, NMEA outputs	
Storage	
8GB internal memory, supports cyclic storage; with ability to collect over one year raw observation based on 5 seconds interval	
Camera	
AR	5M high-definition camera with large viewing angle and support for live scene stakeout
Others	
System integration	
OS system	Intelligent LINUX operating system
Tilt Compensation	IMU up to 120° (Calibration free)
Supported controllers	All android devices with supported software
Design	
button	Power key
Indicator	Power indicator, data link indicator, satellite indicator, Bluetooth indicator
Voice	Intelligent voice prompts
WEBUI	Support WEBUI configuration

L100 PRO +

L100 PRO + is a new generation of compact smart GNSS receivers designed for various surveying projects using latest GNSS features. This receiver equipped with modern required technologies such as Bluetooth module, IMU tilt sensor, 7000mAh lithium-ion internal battery, etc. **L100 PRO +** is able to work in different work modes (Network RTK, Static & PPK) based on different required accuracy & conditions. **L100 PRO +** is the most economic GNSS package you can purchase to fulfill your technical needs on field!

■ Advanced Multi-Constellation Tracking & PPP Technology

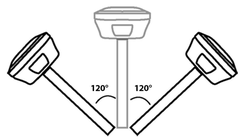
Equipped with a 1408-channel high-performance GNSS board, the L100 PRO＋ delivers full signal tracking across all operational satellite constellations, including GPS, GLONASS, BDS, GALILEO, QZSS and IRNSS, ensuring continuous, high-precision spatial positioning even in challenging environments.
At the meantime, L100 PRO＋ supports state-of-the-art PPP technologies, such a highlight performance makes L100 PRO＋ achieve centimeter-level standalone accuracy with BDS PPP and sub-decimeter precision with Galileo HAS.

■ WiFi and WebUI

L100 PRO＋ serves as a WIFI hotspot, so users can easily access,manage the status, set the configuration or download static and PPK raw data through advanced WebUI using computer, smartphone or other electronic devices with WIFI support without any need to third party software or cable.

■ IMU Tilt Sensor

L100 PRO＋ is equipped with a fast initialization, calibration free & immune to magnetic interference Inertial Measurement Unit (IMU). All users can use this technology to collect or stakeout topo points up to 120°.



■ AR

When the stakeout points are marked directly on the ground, surveyors can easily find the exact location of the stakeout points. By following the arrows on the real-life map, you can stake out points in one go, without having to move the pole back and forth, making the stakeout work more accurate and efficient.

AR

■ GSM & UHF radio

A fast internet connection is guaranteed with a built-in 4G module that accelerate receiving correction data using all telecommunication signals and bands. L100 PRO＋ comes with an integrated 15 km-range Tx/Rx internal UHF radio that ranges from 410 MHz to 470 MHz with selectable frequency providing ability to connect and collect accurate real time data in Base/Rover mode.

UHF

■ Battery & Power

L100 PRO＋ is delivered with an internal large capacity 7000mAh lithium-ion internal battery supporting USB type-C fast charging which allows users to work for more than 12 hours in daily field work.

12h

■ IP67

Choosing a small, light but professional, reugged GNSS receiver has always been a concern among professional surveyors. L100 PRO＋ with its high quality magnesium alloy body provides such advantages without decreasing quality or notable increase in price.

■ Working mode

Every surveyor needs to operate and choose suitable working method based on project requirements and required accuracy.
In order to work in such condition users will need a device to be able to work in different modes such as Static, Network RTK, UHF RTK, PPK & etc. L100 PRO＋ is offering all you need in a package!