## GNSS Performance

| | |
|---|---|
| Satellite signals tracked simultaneously | GPS: L1 C/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

| | |
|---|---|
| Code differential GNSS positioning | Horizontal: 0.25 m + 1 ppm RMS |
| | Vertical: 0.50 m + 1 ppm RMS |
| | SBAS differential positioning accuracy[2]: typically <5m 3DRMS |
| Static GNSS surveying | Horizontal: 2.5 mm + 0.5 ppm RMS |
| | Vertical: 5 mm + 0.5 ppm RMS |

### RTK Surveying

| | |
|---|---|
| Single Baseline < 30 KM | Horizontal: 8 mm + 1 ppm RMS |
| | Vertical: 15 mm+ 1ppm RMS |
| Network RTK[3] | Horizontal: 8 mm + 0.5 ppm RMS |
| | Vertical: 15 mm + 0.5 ppm RMS |

## Hardware

### Physical

| | |
|---|---|
| Material | Magnesium alloy |
| Dimensions | 150mm * 71mm (without bottom connector 60mm) |
| weight | ≤1.0 Kg |
| 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 a 2m pole drop onto concrete |
| Vibration | MIL-STD-810G |
| Humidity | 100%, condensing |

1- Precision and reliability may be subject to anomalies due to multipath, obstructions, satellite geometry, and atmospheric conditions. The specifications stated recommend the use of stable mounts in an open sky view, EMI and multipath clean environment, optimal GNSS constellation configurations. Base lines longer than 30 km require precise ephemeris and occupations up to 24 hours may be required to achieve the high precision static specification.

## Power

| | |
|---|---|
| Power: 9~24 V DC external power input on 5 pin LEMO port | |
| Support USB Type-C fast charging | |
| Internal 6800mA lithium-ion battery | |
| Battery Life | Rover Mode: 12 hours |
| | Base Mode: 7 hours |
| | Static Mode: 15 hours |

## Communication & Data Storage

### I/O Interface

| | |
|---|---|
| LEMO port (5pin) | Supports power input, serial port control, and external radio communication |
| USB Type-C port | Data download / Charging |
| Sim card slot | Supports Nano-SIM |
| Antenna port | UHF antenna interface |

### Radio

| | |
|---|---|
| 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 V4.0, 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

## Other

### System Integration

| | |
|---|---|
| OS system: | Intelligent LINUX operating system |
| Tilt Compensation | IMU up to 60° (Calibration free) |
| Relay station | CORS relay, Radio relay |
| Supported controllers | All android devices with supported software |

### Design

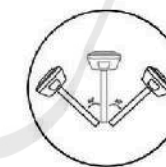| | |
|---|---|
| button | Power key |
| Indicator | Power indicator, data link indicator, satellite indicator, Bluetooth indicator |
| Voice | Intelligent voice prompts |
| WEBUI | Support WEBUI configuration |

# α-GEO

# L300
## GNSS receiver



# PRECISION
## you can trust

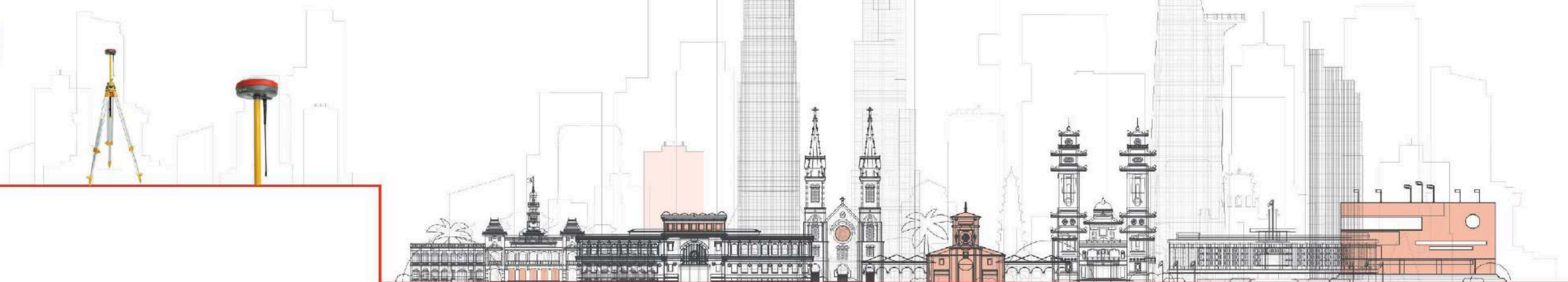**IMU TILT**   **UHF RADIO**   **WEBUI**   **FULL GNSS**

# α-GEO

# L300
## GNSS receiver

L300 is a compact new generation of smart GNSS receiver designed for any surveying project using the latest GNSS technology. This receiver is equipped with all modern required connectivity modules: Bluetooth, Internal radio, WIFI & 4G modem. 6800mAh Built-in battery, IMU tilt technology and WebUI are other latest technologies used in L300 receivers.

### ■ Multi constellation

L300 with its 1408 channels new generation full GNSS chipset & ability to support multiple satellite constellation including GPS, GLONASS, BEIDOU, GALILEO, QZSS, SBAS and IRNSS provides precise and accurate spatial data for all users around the world.
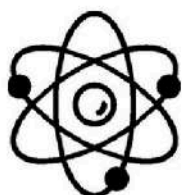
### ■ WiFi and WebUI

L300 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

L300 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 60°.
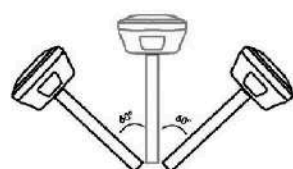
### ■ GSM & Super radio

A fast internet connection is guaranteed with a built-in 4G module that accelerate receiving correction data using all telecommunication signals and bands. L300 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

L300 is delivered with an internal large capacity 6800mAh 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. L300 with its high quality magnesium alloy body provides such advantages without decreasing quality or notable increase in price.

### ■ Working mode

Every surveyor needs to operators 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. L300 is offering all you need in a package!