α-GEO

BORN FOR SURVEY

Turning the ordinary into the extraordinary

LEGEND L6U

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IMU survey

OLED display

Full constellation

Ultra long range radio

Internal GSM antenna

Radio/CORS repeater

Large capacity battery

Magnesium alloy housing

Patented physical offset technology

PERFORMANCE SPECIFICATIONS

MEASUREMENTS

- 432 Tracking Channels
- Satellite signals tracked simultaneously
  - GPS: L1C/A, L1C, L2C, L2E, L5
  - GLONASS: L1C/A, L1P, L2C/A, L2P, L3
  - SBAS: L1C/A, L5 (Just for the satellites supporting L5)
  - Galileo: E1, E5A, E5B, E5 AltBOC, E6
  - BDS: B1, B2, B3
  - RTX, QZSS, WAAS, MSAS, EGNOS, GAGAN, SBAS
- Positioning rates
  - 1Hz, 2Hz, 5Hz, 10Hz, 20Hz ,and 50Hz
- Initialization time < 10s
- Initialization reliability >99.99%

POSITIONING

- 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: 3 mm + 0.1 ppm RMS
  - Vertical: 3.5m m + 0.4 ppm RMS
- Real time kinematic surveying

  Single baseline < 30km
  - Horizontal: 8 mm + 1 ppm RMS
  - Vertical: 15m m + 1 ppm RMS

  Network RTK
  - Horizontal: 8 mm + 0.5 ppm RMS
  - Vertical: 15m m + 0.5 ppm RMS

  RTK start-up time: 2 to 8 seconds
- RTX service
  - Horizontal: 2-4cm RMS
  - Vertical: 5cm RMS
  - Convergence time: < 15min

HARDWARE

PHYSICAL

- Material: Magnesium alloy
- Dimensions (W×H): 130mm×110mm
- Weight: 1.0kg with internal battery
- Operating temperature: -40℃ to +60℃
- Storage temperature: -55℃ to +85℃
- Ingress protection: IP67 dustproof, protected from 30min immersion to depth of 1m
- Shock: Survive a 2m pole drop onto concrete
- Vibration: MIL-STD-810G

COMMUNICATIONS & DATA STORAGE

- I/O Interface
  - 1 LEMO port (5pin): Supports power input, serial port control, and external radio communication
  - 1 micro USB port: Data download, OTG
  - 1 sim card slot: Supports micro sim card
  - 1 antenna port: UHF antenna interface
- Radio modem
  - Transmit power: 1w/2w/5w switchable, the work range is greater than 6km
  - Frequency band: 410MHz-470MHz; supports to freely set the frequency
  - Supports to retransmit correction from CORS; Compatible with other brands
- Cellular
  - Integrated full frequency band 4G modem, supports WCDMA/CDMA2000/TDD-LTE /FDD-LTE
- WiFi
  - 802.11 b/g standard, access point and client mode, supports to access to hotspot to transfer corrections
- Bluetooth
  - Fully integrated Bluetooth V4.0, range = 50m
- Data format
  - sCMRx, RTCM3.2, CMR, RTCM 3.x input and output
  - Dat, Rinex, NMEA outputs
- Storage
  - 8GB, 16GB, 32GB internal memory optional, supports cyclic storage; over one-year raw observations based on 5 seconds interval

OTHERS

PRACTICAL

- OS system: Intelligent LINUX operating system
- Tilt survey: Calibration free; accuracy, <2.5cm in 30 degree
- Relay station: CORS relay, radio relay
- Supported controllers: All Android devices with supported software

DESIGN

- Display: 1.54’’ high brightness LCD screen
- Button: 1 power key, 2 function keys
- Indicator: 1 power indicator, 1 data link indicator, 1 satellite indicator
- Voice: Intelligent voice prompts

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1 IMU survey, which is the most advanced tilt compensation technology up to now. The GNSS receiver can real time calculate the accurate position with the data which supplied by the IMU unit. It gets rid of the affects of magnetic fields when compares to the general tilt sensor. Without leveling the pole, and even when the tilt angle is more than 30, it still can get a good accuracy result. It makes the tilt survey much faster, more reliable and productive. The IMU L6U really realizes 'fast survey and go'.

2 α-GEO's patented offset measurement technology, using a rotatable connector, allows the centering pole to be tilted more than 90 ° in any environment, thereby achieving the purpose of offset measurement