RS50

GNSS STSTEM

Fast setup. Stable fix



KEY FEATURES

- **Visual Stakeout:** See the point
- **100m Laser:** Reach farther, walk less
- **Laser Aiming Cam:** Aim faster, miss less
- **Solid Fix:** Hold a stable fix
- **Tilt Ready:** Work around obstacles
- **Rugged Built:** Jobsite tough

RTK

Laser Stakeout | Long-Range Points | Road Works | Utilities | Hard-to-Reach

Runione

RS50

Physical Characteristics

Dimension
- 130 × 130 × 75 mm

Weight
- 880g ± 10%

Display
- Size | 1.39 inches

Button
- 1 x Power

I/O Ports
- 1 x USB Type-C
- Charging, data download
- 1 x SIM Card Slot
- 1 x Nano-SIM card slot
- 1 x TNC
- UHF antenna interface
- 1 × 5-pin LEMO port | power supply, RS232, external radio communication port
- Audio | 1 x Integrated Speaker 1W

System Specification

Operating System
- Linux OS

Storage
- 32GB eMMC

Sensor
- IMU | Supported, 4D IMU initialization in 3 seconds
- Update rate | 5 / 10Hz
- Accuracy | <2.5cm within 120°
- Tilt compensation | 0～120°

Camera
- Laser assisted | 5.0 MP
- Laser distance | 100m
- AR camera | 5.0 MP

Power
- Battery | Li-Ion 7.4V 6600mAh (48.84wh) ,Built-in
- Battery Operating Time

  -Rover mode: 12 hours
  -Base mode: 7 hours
  -Static mode: 15 hours
- Power supply | Supports Type-C fast charging PD2.0 12W

Communication

GNSS Performance
- Signals tracking

  -GPS:L1C/A,L2C,L2P,L5
  -GLONASS:L1,L2,L3
  -BDS:B1,B1C,B2,B2a,B2b,B3
  -GALILEO:E1,E5a,E5b,E6
  -QZSS:L1,L2,L5
  -SSBAS:WAAS,EGNOS,MSAS,GAGAN,SDCM
- Channels | 1408
- Cold start | ＜60s
- Hot strart | ＜15s
- Positioning output rate | 1Hz～50Hz
- Signal reacquisition | <1s
- RTK initialization time | <5s
- Initialization reliability | >99.99%
- Time accuracy | 20ns

Positioning accuracy
- Code differential GNSS positioning | H:0.25m+1ppm RMS, V:0.50m+1ppm RMS
- SBAS differential positioning accuracy | Typically<5m 3DRMS
- Static GNSS surveying | H:2.5mm+0.5ppm RMS, V:5mm+0.5ppm RMS
- RTK surveying (baseline<30km) | H:8mm+1ppm RMS, V:15mm+1ppm RMS
- Network RTK | H:8mm+0.5ppm RMS, V:15mm+0.5ppm RMS
- Laser measurement | 3 cm within range 10 m
- Laser distance | 0.05m ~ 100m

Internal UHF
- 2W receiver and transmitter Typical 8km working distance
- Frequency band | 410MHz~470MHz,supports frequency modification
- Protocols | Trimtalk450S,Lora,South,Satel,PCC-EOT

Wi-Fi
- 802.11 a/b/g/n/ac (2.4 & 5GHz)
  access point & client mode, supports accessing to hotspot for correction transmission

Bluetooth
- Bluetooth 5.2 Classical / BLE proprietary dual-mode

NFC
- 13.56MHz 14443A

Cellular network
- LTE-FDD: B1/ 3/ 5/ 7/ 8/ 20
- LTE-TDD: B38/ 40/ 41
- UMTS: B1/ 8
- GSM: 900/ 1800

Differential data format
- RTCM2x, RTCM3x, CMR & CMR+, sCMRx

GPS output data format
- RINEX, NMEA-0183

Reliability

Environment
- Operating Temperature | - 30°C to +70°C
- Storage Temperature | - 40°C to +80°C
- Operating Humidity | 0% to 100% RH, non-condensing

Rugged
- Shock | MIL-STD-810H
- Vibration | MIL-STD-810H
- IP rating | IEC 60529-2013 IP67

Certification

Certification
- FCC / CE / ROSH / REACH / WEEE / UN38.3 / MSDS

DELIVER WITH CONFIDENCE.