SV100

GNSS RECEIVER

For Your Reference Stations/Portable Base

ONE DEVICE, DUAL-PURPOSE

With a stable choke ring antenna installed outdoors, the SV100 can serve as a reference station, providing stable GNSS raw data for 4G network or deformation monitoring.

POWERFUL GNSS ENGINE

To ensure superior GNSS performance in all application scenarios, the SV100 is equipped with a high-precision GNSS engine for simultaneously tracking GPS, BDS, GLONASS, Galileo, QZSS & IRNSS. Embedded with multi-frequency anti-jamming technology, the SV100 offers high quality GNSS data even in complex environment.

FLEXIBLE CONFIGURATION

For professional users of reference stations, the web UI accessed via Ethernet/WiFi contains comprehensive status display, working modes and data transmission settings. For field users of portable base stations, SingularXYZ also provides an android app connected via Bluetooth, offering a clean interface for necessary functions.

SATELLITES TRACKING

Channels	1408
BDS	B1I, B2I, B3I, B1C, B2a, B2b
GPS	L1C/A, L1C, L2C, L2P(Y), L5
GLONASS	G1, G2, G3
Galileo	E1, E5a, E5b, E6
QZSS	L1C/A, L1C, L2C, L5
NavIC	L5
SBAS	WAAS, EGNOS, SDCM, BDSBAS, GAGAN
L-Band	Support
Cold start	<30s
RTK Initialization Time	<5s(typical)
RTK initialization reliability	>99.9%
Re-acquisition	<1s

ACCURACY

Standalone	1.5m Horizontally 2.5m Vertically
DGPS	0.4m Horizontally 0.8m Vertically
Static post-processing	2.5mm+0.5ppm Horizontally 5mm+0.5ppm Vertically
RTK	8mm+1ppm Horizontally 15mm+1ppm Vertically
PPP	5cm Horizontally 10cm Vertically
SBAS	< 1.0 m 3D RMS
Time Accuracy	20ns

COMMUNICATION

4G modem	FDD-LTE B1/B3/B5/B7/B8 TDD-LTE B38/B39/B40/B41 TDSCDMA B34/B39 WCDMA B1/B2/B5/B8 GSM B2/B3/B5/B8 CDMA1x/CDMA2000 BC0/BC1
UHF modem	- Frequency range: 410-470MHz - Receive Only - Protocol(RX): TRIMATLK, TRANSEOT, SATEL, TRIMMARK3, etc. - Channel spacing: 25KHz - Transmit power: 0.5W~2W selectable
Bluetooth	BT4.0 dual mode
WiFi	802.11 a/b/g/n/ac
FTP	Support FTP download
NAT-DDNS	Support
Interface	- 1 10-pin connector, including 1 RS232, 1 PPS output, 1 USB and power supply - 1 RJ45 for Ethernet - 1 TNC connector for GNSS antenna - 1 SMA connector for 4G antenna - 1 SIM card slot

DATA FORMAT

Data output format	- NMEA-0183 - Binary format *.xyz
Data update rate	1～50Hz selectable
Correction data format	RTCM v3.3/3.2/3.1/3.0
Network protocol	TCP, MQTT[2], Ntrip Server, Ntrip Caster

USER INTERACTION

LED indicators	4 LEDs indicating battery, satellite tracking, RTK status and network
WebUI	- Accessible via Wi-Fi, Ethernet - Support configuration, data checking, data storage and system upgrade
Power switch	Power switch on 10-pin cable

ELECTRICAL

Power consumption	3.5W
Input voltage	- Without battery: 9 - 28V DC - With internal battery: 9 - 22V
Battery (optional)	6600 mAh, support up to 13 hours working time.
MTBF	> 20000 hours

PHYSICAL

Size	162×142×65 mm, including connectors
Weight	1.05 kg without battery
Housing material	Aluminum alloy

DATA RECORDING

Storage	8 GB[3], support loop recording
Storage format	RINEX 3.02/3.04, Binary format *.xyz

ENVIRONMENTAL

Working temperature	−40 ℃ to + 75 ℃
Storage temperature	−55 ℃ to + 85 ℃
Humidity	95% non-condensing
Waterproof & dustproof	IP67
Drop	Designed to survive a 1m drop onto concrete
Vibration	MIL-STD-810

1. The MQTT protocol is customizable.
2. Storage can be expanded to 32GB according to user demands.

All specifications are subject to change without notice.