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 CORS network or deformation monitoring. In addition, with the detachable hook, SV100 can also be easily attached to the tripod as a portable base station, broadcasting correction data via 4G/UHF for your construction site or precision agriculture.

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. 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.

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SV100 GNSS RECEIVER

Version 17-08-2022

SATELLITES TRACKING

BDS	B1I, B2I, B3I, B1C, B2a, B2b[1]
GPS	L1 C/A, L1C, L2P, L2C, L5
GLONASS	L1, L2
Galileo	E1, E5a, E5b
QZSS	L1, L2, L5
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	2.5 mm + 1 ppm Horizontally 5 mm + 1 ppm Vertically
RTK	8mm+1ppm Horizontally 15mm+1ppm Vertically
Velocity Accuracy	0.03m/s
Time Accuracy	20ns

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

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 (optional)	- Working range: 3 – 5 km - Frequency range: 410-470MHz - Protocol: TRIMATLK, TRANSEOT, TRIMMARK3, etc. - Channel spacing: 25KHz - Transmit power: 0.5W/1.0W
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 TNC connector for UHF antenna - 1 SMA connector for 4G antenna - 1 SIM card slot

USER INTERACTION

LED Indicators	4 LEDs indicating battery, satellite tracking, RTK status and network
WebUI	- Accessible via Wi-Fi, Ethernet - Support configuration, status checking, data transfer, 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	Magnesium-aluminum alloy

DATA RECORDING

Storage	8 GB[3], support loop recording
Storage format	RINEX3.0, 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 BDS B2b signal is reserved for future upgrade.
2. The MQTT protocol is customizable.
3. Storage can be expanded to 32GB according to user demands.

All specifications are subject to change without notice.

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