

SV100 DUAL

GNSS RECEIVER

Designed For Vehicle Navigation & Machine Guidance



EASY CONFIGURATION

For vertical industry users requiring GNSS navigation data, SingularXYZ provides a user-friendly android configuration app connected via Bluetooth, offering a clean interface for necessary functions. Users can easily get RTK fixed solution via 4G/UHF, and then output the navigation data to their system via RS232 serial port, 4G or Ethernet.

PRECISE NAVIGATION

To ensure superior positioning and navigation performance, the SV100 dual is equipped with a dual-antenna GNSS engine that can track GPS, BDS, GLONASS, Galileo, QZSS & IRNSS. Embedded with multi-frequency anti-jamming technology, the SV100 dual offers high quality GNSS data even in urban blocks and tree shade.

RUGGED HOUSING

Considering various working environments, the SV100 dual is protected with rugged housing. IP67 waterproof and dustproof design, suitable for outdoor work in all kinds of weather. Magnesium aluminum alloy housing and compact structure to avoid accidental drop damage. Anti-vibration design for in-vehicle environments such as agriculture and machine control.

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
Velocity accuracy	0.03m/s
Heading Accuracy	(0.2/R)° ¹
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 ²	- Working range: Up to 15km with optimal conditions - Frequency range: 410-470MHz - Protocol (TX & RX): LoRa - 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 TNC connector for UHF 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 ³ , 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, 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	Aluminum alloy

DATA RECORDING

Storage	8 GB ⁴ , support loop recording
Storage format	RINEX 3.02/3.04, Binary format *.xyz

ENVIRONMENTAL

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

1. R (unit: meter) is the distance of the baseline.
2. The enhanced UHF base is not compatible with normal UHF rovers on the market. For different user needs, SingularXYZ also provides normal UHF as an option compatible with UHF of other brands. Please clarify your requirements when placing the order.
3. The MQTT protocol is customizable.
4. Storage can be expanded to 32GB according to user demands.

All specifications are subject to change without notice.

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