N1

GNSS RECEIVER

For Precise GNSS Network Infrastructure

FULL-CONSTELLATION TRACKING

The N1 GNSS receiver offers comprehensive full-constellation tracking, ensuring precise GNSS correction data from GPS, BDS, GLONASS, Galileo, and QZSS. This capability is fundamental for reliable CORS station operation, providing highly accurate positioning data crucial for various applications.

HIGH STABILITY FOR UNINTERRUPTED OPERATION

The N1 GNSS receiver prioritizes stability with versatile network connectivity options, including Ethernet and 4G support, bolstering its resilience. Combined with a dual power source, it guarantees uninterrupted operation and mitigates voltage fluctuations. The N1 achieves an exceptional MTBF of over 20,000 hours, emphasizing its reliability.

FLEXIBLE COMMUNICATION

Seamlessly integrate the N1 GNSS receiver into your projects with its support for industry-standard protocols and various data formats. This flexibility extends to synchronous GNSS raw data logging and abundant interfaces like PPS, Event, OSC, RS485, RS232, etc., enhancing adaptability and ease of use.

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N1 GNSS RECEIVER

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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

DATA FORMAT

Data output format	- NMEA-0183 - Binary format *.xyz – RINEX 3.02
Data update rate	1～20Hz selectable
Correction data format	RTCM v3.3/3.2/3.1/3.0
Network protocol	TCP, MQTT[1], Ntrip Server, Ntrip Caster, UDP

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
WiFi	802.11 a/b/g/n/ac
FTP	Support FTP download and FTP push
NAT-DDNS	Support

PHYSICAL

Size	238*168*62mm, including connectors
Weight	3 kg without battery
Housing material	Aluminum alloy

USER INTERACTION

OLED Display	2.45" screen, displaying status information
WebUI	- Accessible via Wi-Fi, Ethernet - Support configuration, status checking, data transfer, data storage and system upgrade
Buttons	- 1 power button - 1 esc/return button - 1 enter/confirm button - 4 arrow buttons
LED indicators	4 LEDs indicating satellite tracking, RTK status, network and power supply

INTERFACE

2 TNC connector	- 1 for GNSS antenna - 1 for oscillator
1 Type-C interface	For data download
1 DB9 port	For configuration, support RS232
3 SMA connector	- 1 for 4G antenna - 1 for PPS output - 1 for Event input
3 Lemo Ports	- 1 for RS485 serial port - 1 for RS232 serial port - 1 for power supply
1 SIM card slot	
1 RJ45 port	LAN Ethernet
1 USB port	For external data storage

ELECTRICAL

Power consumption	3.5W
Input voltage	- Without battery: 9 - 28V DC - With internal battery: 9 - 22V
Battery (optional)	16.75Ah, up to 16 hours continuously working
MTBF	> 20000 hours

DATA RECORDING

Storage	8 GB[2], 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.

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