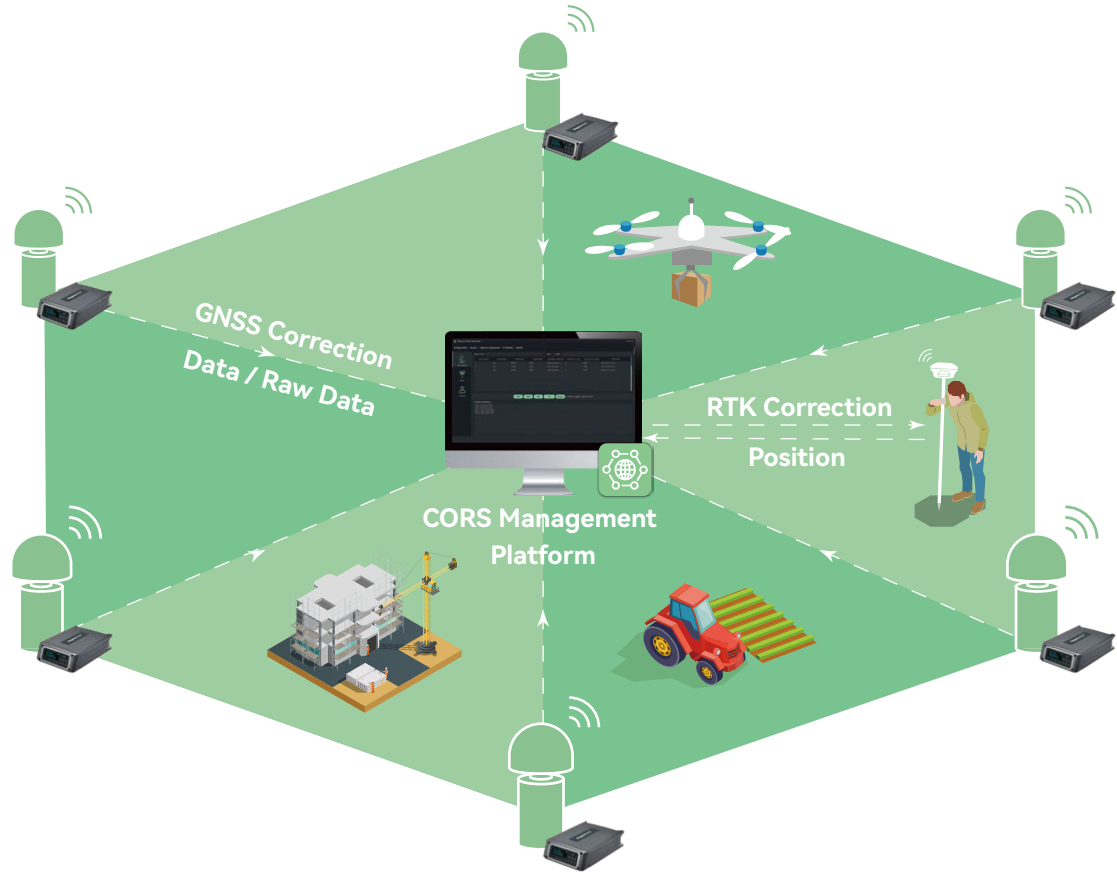


N1 CORS SOLUTION

With the popularity of high-precision GNSS technology, CORS networks that provide RTK correction services to various industries have become the infrastructure of a digital and precise society.

SingularXYZ N1 CORS solution, designed with full-constellation tracking, industry standard protocols, uninterrupted long-term operation, comprehensive web server and remote control for your easy configuration, offering an expertise choice for your CORS network.



High Precision Service For Wide Industries



Machine Control



Surveying & GIS



Precision Agriculture



Unmanned System & Robotics



Personnel Tracking

N1 PROFESSIONAL CORS SOLUTION

Version 13-12-2024

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

DATA RECORDING

Storage	8 GB ² , support loop recording
Storage format	RINEX 3.02/3.04, Binary format *.xyz

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

PHYSICAL

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

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

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. 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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N1 CORS

ONE-STOP CORS SOLUTION

Professional For High Precision GNSS Applications



FEATURES




Full-Constellation Tracking

Comprehensive tracking of GPS, BDS, GLONASS, Galileo and QZSS for reliable GNSS correction and positioning.




System Stability & Data Integrity

Versatile connectivity options and dual power sources ensure uninterrupted operation with an MTBF over 20,000h.



Abundant Interfaces

Supports industry-standard protocols and interfaces like PPS, Event, OSC, RS485 and RS232 for enhanced adaptability.



Standard Communication

Support industry-standard protocols of TCP, Ntrip server, Ntrip caster, etc., and formats of NMEA-0183, RTCM v3.3/3.2/3.1/3.0, etc.



Remote Control

Featuring both DDNS and NAT-DDNS for remote control, you don't need to go to the site any more no matter you are using Ethernet or 4G.


IP67 Rugged Housing

IP67 protection, aluminum alloy housing and MIL-STD-810 anti-vibration design for any work environments.




Professional Web UI

Accessed via Ethernet/WiFi, users can monitor, configure and upgrade the N1 on the web UI comprehensively and easily.



Linux OS

Equipped with Linux operating system, the N1 provides ultra-stable performance for long-term operation.



Large Storage

With default 8GB or up to 32GB customizable internal memory, loop recording capability for your GNSS raw data storage.

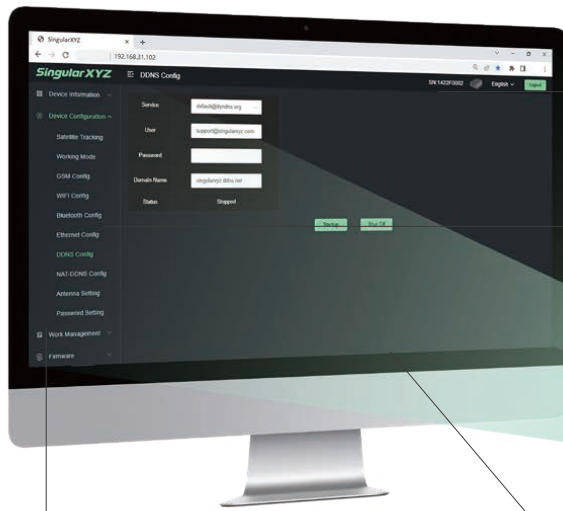
FRONT DISPLAY PANEL



- Power Indicator
- Satellite Indicator
- Differential Data Indicator
- Network Indicator
- Esc/Return Button
- Enter/Confirm Button
- Power Button

WEB SERVER

With all operation functions integrated into the web UI (such as device status, work configuration, system upgrade, etc.) and easy remote access to the web UI via DDNS/NAT-DDNS, users can achieve comprehensive control of N1 from anywhere, facilitating CORS network management.



Work Management:

Support industry-standard protocols and formats.

- GNSS raw data recording and download.
- Data transmission configuration.

Detailed Status:

Satellite tracking, position information and device working status.

DDNS/NAT-DDNS:

Support common DDNS and NAT-DDNS service providers for remote control.

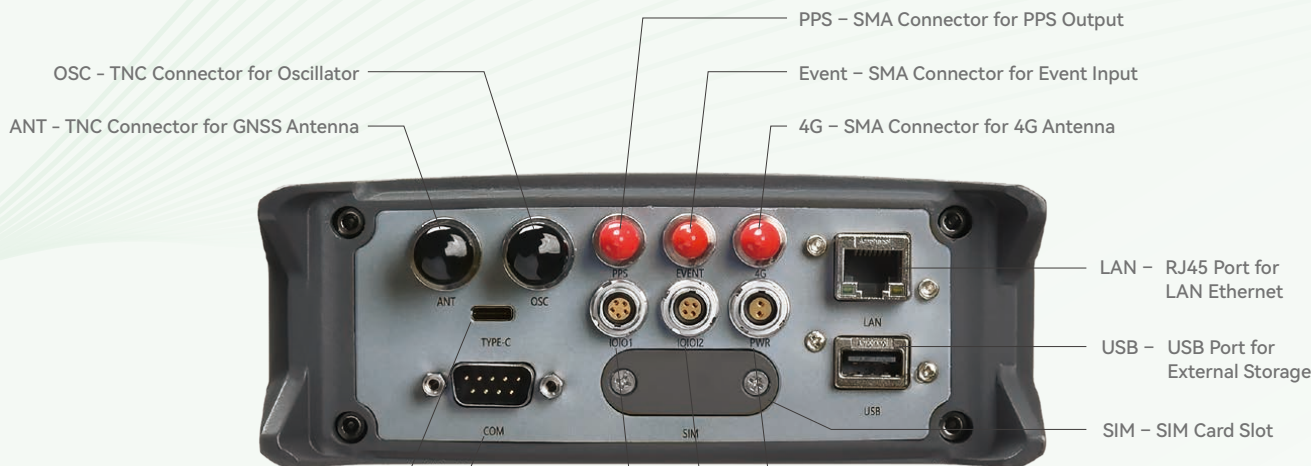
- DDNS: NO-IP, DynDNS, Zoneedit, FreeDNS
- NAT-DDNS: Ngrok, NATAPP

Upgrade:

Remotely upgrade the system firmware via the web server.



REAR INTERFACE PANEL



- Type-C - Type-C for Data Download
- COM - DB9 Serial Port for Configuration
- PWR - Lemo Port for Power Supply
- IOIO2 - Lemo Port for RS485 Input/Output
- IOIO1 - Lemo Port for RS232 Input/Output

PARTNERED PRODUCTS



SA500 CHOKE RING ANTENNA

- Full-constellation signal receiving
- High gain and wide beam width
- LNA for out-of-band rejection, suppress the EMI
- GFRP rugged housing with IP67 protection



SINGULARCASTER NTRIP CASTER/CORS PLATFORM



Full-Constellation Support

Supports GPS, BDS, GLONASS, Galileo, and QZSS for stable and reliable correction data.



Standard RTK Corrections

Supports RTCM 3.X, RTCM 2.X formats, compatible with mainstream GNSS rover models globally.



Easy to Get Started

User-friendly interface and free license for up to 3 reference stations, minimizing startup costs.



CORS Station Monitoring

Enables real-time status monitoring and management of CORS stations for optimal performance.



Real-Time Rover Management

Provides real-time monitoring and management of connected users for streamlined operations.



Smart User Accounts

Efficiently manages user subscriptions and licenses, enhancing account management.