

TR09N

Multi-functional Receiver
for CORS and Monitoring



Precision you can build on.

Tarrius | TR09N

Multi-functional Receiver for CORS and Monitoring

Highlights and Features

1 Full-Constellation, Multi-Frequency Tracking

Powered by a high-performance GNSS engine, TR09N provides native support for 1040 channels and more than 20 frequency bands.

- High-precision surveying
- CORS reference station deployment
- Long-term monitoring projects



2 Global 4G LTE Compatibility

One device for worldwide deployment, TR09N with built-in global 4G LTE module supports major frequency bands worldwide.

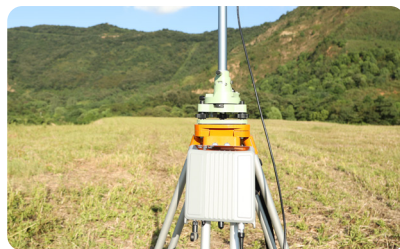
- Simplified regional deployment
- Reduced hardware variants
- Lower inventory and maintenance costs



3 Ultra-Low Power Consumption for Long-Term Operation

Only 2.5W power consumption (typical), designed for remote and unattended applications, TR09N delivers exceptional energy efficiency.

- 50%-70% lower power consumption compared with similar products
- Extended operating time with solar power and batteries
- Reduced maintenance frequency and operating costs



4 Rich Interfaces & Sensor Integration

Flexible expansion for smart applications, TR09N provides multiple interfaces supporting various external devices with stronger scalability.

- Multiple interface design
- Support meteorological, tilt, displacement and other devices
- Integration with CORS and monitoring platform



Overview

TR09N is an industrial-grade GNSS receiver purpose-built for 7*24 continuous operation in demanding infrastructure and monitoring environments.

Engineered for CORS networks and deformation monitoring, TR09N combines full-constellation tracking capability, robust wireless connectivity, an intuitive web management interface, and onboard data storage into a single, rugged device.



5 Dual Power Supply with Hot-Swap Protection



6 Triple-Link Communication for Always-On Connectivity



7 Proprietary GNSS Algorithm Engine



8 TarriNCaster Smart Correction Service Platform

Application Scenarios

CORS Reference Station Network



Unattended Monitoring



Surveying & Mapping



Infrastructure Monitoring



Technical specifications

GNSS performance	
Satellites tracking	Channels: 1040
	GPS: L1C/A, L1C, L2C, L2P(Y), L5
	Beidou: B1I, B2I, B3I, B1C, B2a, B2b
	GLONASS: G1, G2, G3
	Galileo: E1, E5a, E5b, E6
	QZSS: L1C/A, L1C, L2C, L5, L6
	NavIC: L5
	SBAS: L1C/A
Initialization time	Typically < 8 seconds
Initialization reliability	> 99.9%
Accuracy ¹	
Real-time kinematic (RMS)	Horizontal: 8 mm + 1 ppm
	Vertical: 15 mm + 1 ppm
Post-processing static (RMS)	Horizontal: 2.5 mm + 0.5 ppm
	Vertical: 5 mm + 0.5 ppm
Physical	
Size (L x W x H)	185mm×160mm×55mm
Weight	1.4 kg
Buttons	Power x 1
	ESC/Return x 1
	Enter/Confirm x 1
	Arrows x 4
LED indicators	4 LEDs indicating power supply, satellite tracking, network and datalink
Front panel	OLED display
Power Consumption	2.5 W
Internal Battery	6800 mAh, 7.2 V
Operating time on internal battery	Up to 20 h
External power	9 - 36 V DC
Temperature	Operating: -40°C to +65°C
	Storage: -45°C to +80°C
Humidity	95% non-condensation
Ingress protection	IP67
Impact protection	IEC 60068-2-27

Communications	
Input/output ports	9-pin LEMO (2×RS232, POWER)
	2-pin LEMO (POWER)
	TYPE-C (Data Download, External Storage)
	RJ45 (TCP/IP, UDP, FTP, NTRIP Caster, NTRIP Server, NTRIP Client)
	TNC GNSS Antenna Port
	SIM card slot
	SMA Radio Antenna Port
	SMA LTE Antenna Port
Web UI	Support
Wi-Fi	2.4G/5G, 802.11 a/b/g/n/ac
Bluetooth®	V4.1
LTE	FDD: B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28/66
	TDD: B34/38/39/40/41
	WCDMA: B1/2/4/5/6/8/19
	GSM/EDGE: B2/3/5/8
UHF radio	Standard Internal Tx/Rx: 410 - 470 MHz
	Protocol: TRIMTALK, TRANSEOT, TRIMMARK3
	Power: 0.5W, 1W
	Link rate: 9,600 bps to 19,200 bps
	Range: Typical 3km, up to 5 km with optimal conditions
Data formats	Correction data: RTCM2.x, RTCM 3.x
	Data outputs: RINEX 2.11, 3.02, 3.04, NMEA 0183
	Output Frequency: 20Hz
Data storage	32 GB (Optional)

All specifications are subject to change without notice.

1. Accuracy and reliability are determined by multipath, obstructions, satellite geometry, interference and atmospheric conditions.

2. Operating time varies with environment, temperature, and battery condition.