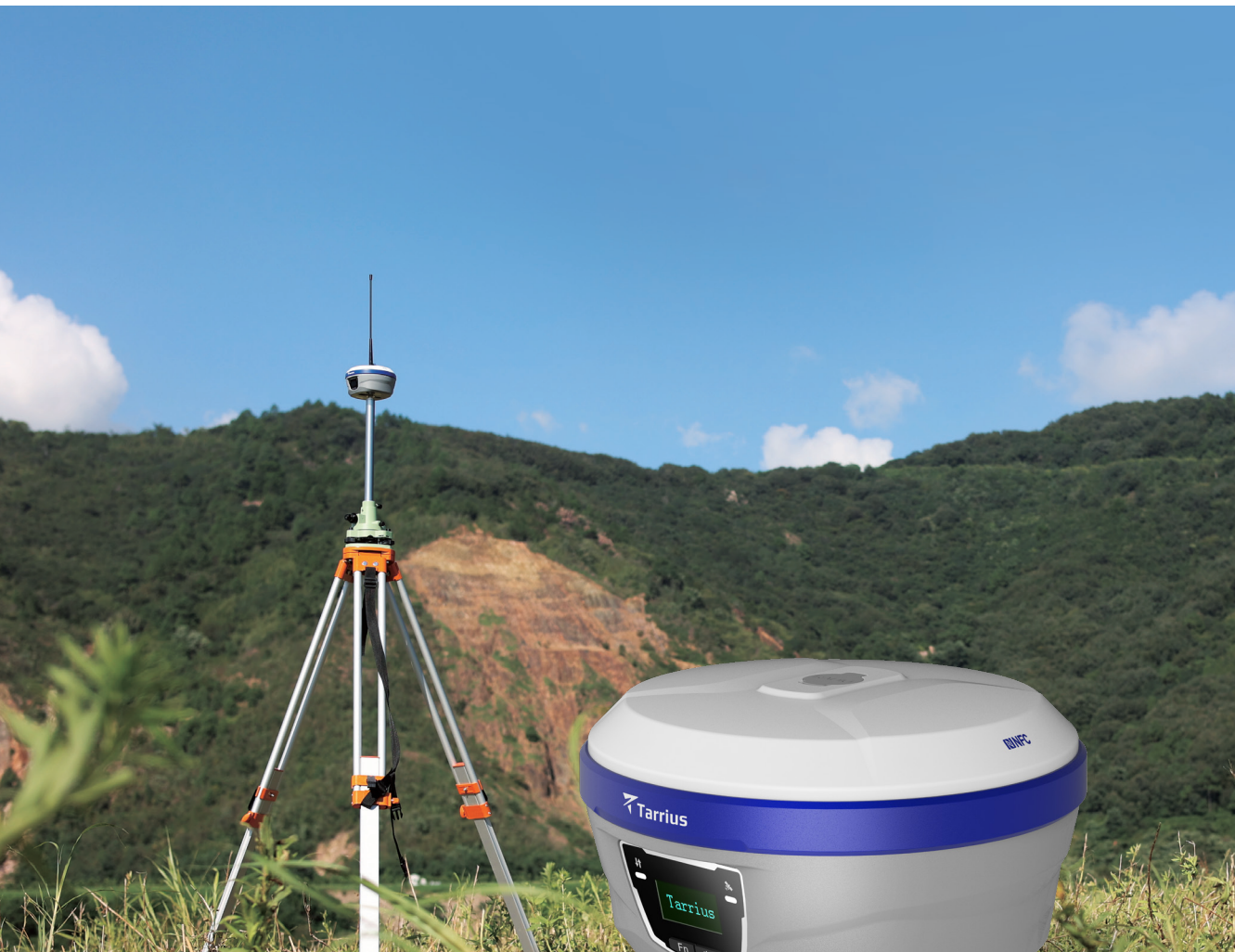


TR12B

Professional Base Receiver
with 5W Radio



Precision you can build on.

Tarrius | TR12B

Professional Base Receiver with 5W Radio

Highlights and Features

1 5W Built-in Radio – Reliable long-range coverage

A powerful 410–470 MHz UHF radio with selectable output power delivers stable communication up to 15 km.

- Compatible with TRIMTALK, TRANSEOT, and TRIMMARK3 protocols
- Long-range UHF communication up to 15 km



2 All-Constellation GNSS Tracking with Dual-Mode PPP

Integrated BDS B2b-PPP and Galileo E6B-HAS dual-mode PPP ensures global coverage with centimeter-level precision.

- Dual-mode PPP (BDS B2b + Galileo HAS) for true global coverage
- Faster RTK initialization and stronger signal resilience in obstructed skies



3 Long-lasting Battery Life – All-day Productivity Without Compromise

TR12B supports up to 10 hours of RTK base operation and 48 hours of static surveying, with full charging completed in just 4 hours.

- Integrated design for flexible deployment
- Fast charge minimizes downtime



4 Rugged protection – built for the field operation

TR12B operates reliably from -40°C to +75°C, with 100% non-condensing humidity resistance. Matches top-tier ruggedness for continuous long-term field and job-site operation.

- IP67 ingress protection
- 2 m pole drop resistance



Overview

TR12B is a professional GNSS base receiver with the signal coverage, radio range, and data-link flexibility to keep surveying projects productive in any environment.

Operating as a base station broadcasting corrections or as a rover collecting precise data, TR12B delivers the connectivity, precision, and measurement versatility to keep your projects moving forward.



5 Smart OLED Display – Clear Visibility, Easy Control



6 RTK HOLD Outage Bridging – 10 Minutes of Centimeter-Level Accuracy



7 Calibration-Free, Magnetism-Immune IMU



8 Full-Stack Connectivity – Wi-Fi, Bluetooth, 4G & UHF Radio

Application Scenarios

Surveying & Mapping



Road & rail Construction



Machine Control



Mining & Energy



Technical specifications

GNSS performance	
Satellites tracking	Channels: 1040
	GPS: L1C/A, L2C, L5
	BDS: B1I, B1C, B2I, B2a, B2b, B3I
	GLONASS: G1, G2
	Galileo: E1, E5a, E5b, E6
	QZSS: L1 C/A, L2C, L5, L6
	NavIC: L5
	SBAS: L-band
	PPP: BDS B2b-PPP, Galileo E6B-HAS
Accuracy ¹	
Real time kinematic (RTK)	Horizontal: 8 mm + 1 ppm RMS
	Vertical: 15 mm + 1 ppm RMS
	Initialization time: <10 s
	Initialization reliability: > 99.9%
RTKHOLD technology ²	Up to 10 min bridging of RTK outages H: 2.5 cm V: 5 cm
Post-processing kinematic (PPK)	Horizontal: 3 mm + 1 ppm RMS
	Vertical: 5 mm + 1 ppm RMS
Static	Horizontal: 2.5 mm + 0.5 ppm RMS
	Vertical: 5 mm + 0.5 ppm RMS
PPP	H: 10 cm V: 20 cm
Positioning rate	Up to 20Hz
Time to first fix	Cold start: <30 s; Hot start: < 10 s; Signal re-acquisition: < 1 s
Tilt survey performance	Additional horizontal pole-tilt uncertainty: 8 mm + 0.3 mm/° tilt (total horizontal accuracy < 2 cm within 30° tilt)
Electrical	
Internal battery	Built-in lithium-ion battery, 7.2V, 13600mAh, full charge in 4 hours
Operating time on internal battery ³	RTK base: up to 10 h
	RTK rover: up to 40 h
	Static: up to 48 h

Communications	
NFC	Receive only
Wi-Fi	Wi-Fi 5G 802.11ac /a/b/g/n
Bluetooth®	Bluetooth V5.0/V4.0 /4.2/EDR
Ports	1 × USB Type-C port
	1 × SMA antenna port
LTE	FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28
	TDD: B38/39/40/41
	WCDMA: B1/B2/B4/B5/B6/B8/B19 850/900/1800/1900MHz
UHF radio	Standard Internal Tx/Rx: 410 – 470 MHz
	Protocol: TRIMTALK, TRANSEOT, TRIMMARK3
	Power: 1W, 2W, 5W
	Link rate: 9,600 bps to 19,200 bps
	Range: Typical 8km, up to 15 km with optimal conditions
Data formats	RTCM 3.x
	RINEX 2.11, 3.02, 3.04
	NMEA 0183 output
Data storage	8 GB internal memory
Physical	
Dimensions (W x H)	144 mm × 81 mm
Weight	1500 g
Control panel	2 synchronized LED lights, 2 physical button, 0.96" OLED Display
Operating temperature	–40°C to +75°C
Storage temperature	–45°C to +85°C
Humidity	100% non-condensation
Water/dust proof	IP67
Shock	Survive 2 m pole-drop onto the concrete
Tilt sensor	Calibration-free IMU for pole-tilt compensation. Immune to magnetic disturbances.
Tilt angle	0–60°

All specifications are subject to change without notice.

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

2. Accuracies are dependent on GNSS satellite availability. RTKHOLD positioning ends up to 10 minutes without differential data.

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