

TR10

Pocket-Sized Receiver
with IMU & Visual Stakeout



Precision you can build on.

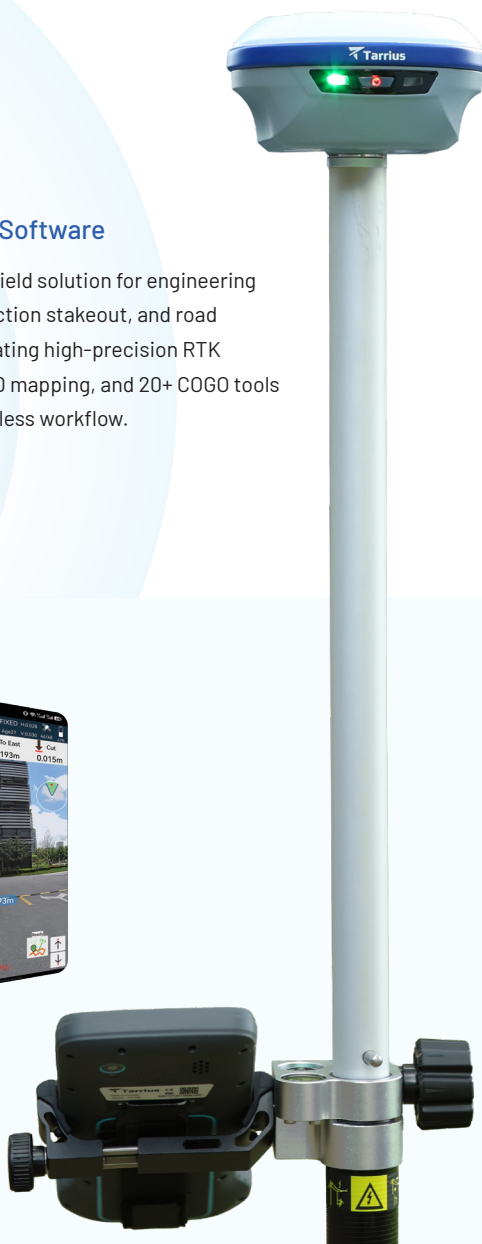
Tarrius | TR10

Pocket-Sized Receiver with IMU & Visual Stakeout

TarriFlow APP

Field Survey Software

Your all-in-one field solution for engineering survey, construction stakeout, and road design – integrating high-precision RTK positioning, CAD mapping, and 20+ COGO tools in a single seamless workflow.



Overview

TR10 is a pocket-sized GNSS receiver engineered for professionals who demand centimeter-level accuracy without compromise.

Designed for surveying, construction stakeout and geospatial applications, TR10 integrates cutting-edge multi-constellation support, tilt-compensation, visual stakeout and flexible correction services into a single, rugged device.



Highlights and Features

1 Pocket-Sized Powerhouse – Fits in One Hand

TR10 packs aluminum magnesium alloy body, IP67 protection, and 2m pole-drop survival into a compact form factor.

- Construction stakeout
- Utility mapping
- Topographic survey



2 Visual Stakeout – See It, Stake It

Bottom-mounted 2MP camera delivers real-scene AR stakeout – turning complex stakeout into a simple point-and-measure workflow.

- Construction stakeout
- Utility mapping
- Topographic survey



3 Calibration-Free, IMU – Tilt Anywhere, No Compromise

Built-in calibration-free IMU with explicit immunity to magnetic disturbances. Delivers <2cm accuracy within 60° tilt.

- High-voltage line surveys
- Metal-rich environments
- Mining operations



4 RTKHOLD – 10-Minute RTK Outage Bridging

Exclusive RTKHOLD technology automatically bridges RTK signal outages for up to 10 minutes, maintaining centimeter-level accuracy.

- Urban canyon surveying
- Forested area stakeout
- Wilderness area



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5

Dual-Constellation PPP –
BDS B2b + Galileo E6-HAS



6

1040 Channels –
All Constellation Tracking



7

WiFi 5G – Dual-Band Speed for
Faster Data Sync



8

All-Day Power,
Minimal Downtime

Application Scenarios

Surveying & Mapping



Construction Stakeout



Urban-scene Survey



Mining & Infrastructure



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)
Cameras	
Sensor pixels	2 MP for the bottom
Frame rate	30 fps
Features	Support visual navigation, CAD AR Stakeout
Electrical	
Internal battery	Built-in lithium-ion battery, 7.2V, 4900mAh, full charge in 2 hours
Operating time on internal battery ³	UHF/4G RTK Rover w/o camera: up to 17 h
	Visual Stakeout: up to 15 h
	Static: up to 22 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
UHF radio	Standard Internal Rx: 410 – 470 MHz
	Protocol: TRIMTALK, TRANSEOT, TRIMMARK3
	Link rate: 9,600 bps to 19,200 bps
Data formats	Range: Typical 3km, up to 5 km with optimal conditions
	RTCM 3.x
	RINEX 2.11, 3.02, 3.04
Data storage	NMEA 0183 output
	8 GB internal memory
Physical	
Dimensions (W x H)	108 mm × 57 mm
Weight	470 g
Control panel	3 synchronized LED lights, 1 physical button
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.