# Trimble GNSS Smart Target Base Station

## HIGH-PERFORMANCE GNSS REFERENCE STATION AND GROUND CONTROL

The Trimble GNSS Smart Target Base Station is an easy to use, survey grade multi-frequency, multi-constellation GNSS reference station complete with a foam Ground Control Target and integrated carrying case. It logs the raw GNSS observables required to do post-processed Differential GNSS positioning along with data logged from Rover receiver in a mapping UAV, and acts as a photo-identifiable Ground Control Point (GCP) for quality control.

Cost effective, simple to operate, and supported by both Applanix POSPac UAV and Trimble UASMaster, the Trimble GNSS Smart Target Base Station makes cm level mapping from UAV's easier than ever.

Simply place the foam target with receiver in the project area, stake it down, and start data logging wirelessly with the included Smart Phone app or web UI. At the end of the mission retrieve the target and download the raw GNSS observable for post-processing. Global coordinates of the base station are automatically surveyed using Trimble Centerpoint™ RTX Post-processing built into the Applanix POSPac UAV software[1], or if local coordinates are desired the foam target can be centered over a control point with pre-surveyed coordinates.

## Key Features

► Survey grade GNSS Base station data collection for UAV georeferencing

► Photo-identifiable target with integrated carrying case for simplified use of Base Station as a Ground Control Point in image processing

► Fully autonomous and battery operated

► Long duration with the possibility of recharging during operation

► Seamless wireless operation through wifi and bluetooth interface

► Integrated web server with support for all common browsers

► Supported by an Android App for simplified wireless operation (no cables required)

► Simple deployment regardless of terrain
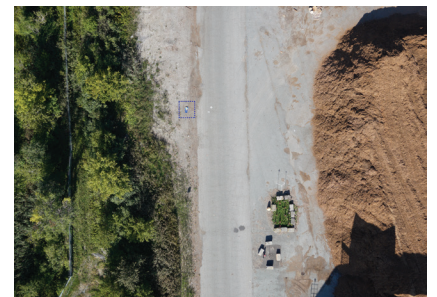
**⊕Trimble.**

## TECHNICAL SPECIFICATIONS

- Trimble GNSS Smart Target Base Station with 220 channel, multi-frequency, multi-constellation GNSS support
- GNSS tracking for all available satellite constellations (GPS, GLONASS, BeiDou, Galileo, QZSS)
- Proven Trimble low noise, low elevation tracking technology
- Onboard, internal storage (50 Mb Flash Memory) for 1 Hz raw measurement logging in Trimble T02 and RINEX format
- Applanix POSPac UAV support for surveying Global coordinates using Trimble Centerpoint™ RTX Post-processing
- Embedded lithium-ion battery
- Continual 4 hours of operation on internal battery, unlimited operation via external standard USB battery (not included)

## INTERFACE

- Aux USB connector for external battery and charge
- Powerbutton with encoded functionalities(On/Off/Reset)
- Wi-fi and bluetooth interfaces
- LED functionalities forstatusdisplay:
    - Wireless communication
    - Positioning
    - Correction service
    - Battery status

## PERFORMANCE SPECIFICATIONS

- Absolute accuracy of Global Base Station coordinates:
    < 2 - 5 cm  with Trimble Centerpoint™ RTX Post-processing[1],[2]
- Relative accuracy of UAV Differential GNSS trajectory:
    < 1 – 3 cm with POSPac UAV[3]

## PHYSICAL CHARACTERISTICS

| | |
|---|---|
| Size | ........45.5 L x 45.5 W x 10 H cm (nominal) |
| Weight | ...............................~1 kg (target included) |
| Power | .............4 hours of continuous operation with fully charged internal battery |
| Battery charge time | .............................3 hours[4]/unlimited via external USB battery (not included) |

## ENVIRONMENTAL CHARACTERISTICS

| | |
|---|---|
| Temperature | ........ -20°C to +50°C (operational) |
| Battery Charging Temperature | .................................+5°C to +50°C |
| | RoHS and CE standard compliance |

## ADDITIONAL ACCESORIES

Adapter cable kit with USB-A socket and universal charger included.



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[1] Requires Internet connection and at least 30 minutes of continuous base data collection

[2] Open sky location

[3] With Trimble APX-15 installed in UAV, baseline dependent

[4] 3 hours duration of battery charge applies in both modes, during operation and off mode