

Combining GNSS and Optical Measurements



Hybrid Positioning

- Faster Field Work
- Hybrid Lock
- Hybrid Switch
- Hybrid Resection
- Compatible with all Topcon Robotic Instruments

Hybrid Positioning Technology

Maximizing measurement and field performance.

Topcon's commitment to automating data workflow and increasing your productivity can be seen in this latest technology. Topcon's slogan of "Your Productivity, Our Technology" is our commitment to providing industry-leading productivity systems based on software, hardware, and technology – all systems that improve the way you work. Topcon continues to enhance field measurement systems by providing unique technology combinations that make you more productive.

Hybrid Positioning™ technology is the ability to use both GNSS positioning and optical positioning data at the same time, in ways that improve field measurement efficiency. MAGNET™ Field software now has an available module for Hybrid Positioning. Topcon has revolutionized the industry by providing GNSS receivers that utilize the most advanced signal processing and robust performance in difficult environments. Additionally, Topcon's optical total station technology of advanced tracking and powerful EDM performance is industry leading. These two hardware solutions, plus MAGNET Field software, come together to make Hybrid Positioning technology.

GNSS positions are provided through any of Topcon's GNSS receivers and combined in the field controller software, MAGNET Field, to make the robotic total station a more productive solution. The GNSS positions assist the instrument to lock onto a prism faster, resection the robotic instrument location in real geodetic coordinates automatically with auto-localization, and provides a method of measurement even when the line of sight to the robotic instrument is blocked.

Choice of GNSS Receiver

Hybrid Positioning™ simply requires an incoming position from a GNSS receiver. This receiver can be a local RTK base/rover combination, a MAGNET Relay rover, or a Network RTK rover. Depending on the accuracy of the GNSS position, different levels of hybrid performance will be seen.



Hybrid Lock

- Turns the instrument toward the prism location
- Regain prism tracking
- Record more shots
- The ultimate in prism reacquisition



Hybrid Resection

- RTK coordinates for control
- Safe robotic location setup
- Geodetic coordinates
- Fast job site setup



Hybrid Switch

- User controlled
- Fast switch between GNSS or Optical
- No need for new setup
- Easy one-touch switch



Auto-Localization

- Automatic localization to geodetic coordinates
- Bing® Map background
- Multi-point localization
- Works with RTK positioning

Faster Field Work

Hybrid Positioning™ systems will perform faster in the field compared to other robotic systems and with more versatility than an RTK-only system. The hybrid system combines both GNSS positioning and optical robotic measurements into one rover pole measurement point. It is impossible to achieve a robotic line of sight to all points. Hybrid Positioning reduces the need for traversing and multiple tripod set ups.

HYBRID POSITIONING EXPLAINED



Compatible with Many

The Hybrid Positioning™ module can be added to MAGNET™ Field for any Topcon robotic instrument. For example, an owner of a QS robot could add a HiPer SR receiver to the system and use Hybrid Positioning technology to Hybrid Lock.



HYBRID POSITIONING COMPONENTS

- MAGNET Field, Field Layout, or Field Site
- Hybrid Positioning Module
- GNSS Prism Adapter
- Topcon Robotic Total Station
- Topcon GNSS Receiver



SPECIFICATIONS

Applicable Robotic Instruments

DS-AC+	GTS-800
GPT-8000	GTS-900
GPT-9000	QS
IS	PS

Applicable GNSS Receivers

HiPer SR	HiPer V
HiPer II	GRS-1
Tesla RTK	

GR Series is not recommended, based on weight

Supported Field Controllers

FC-250	FC-2600
FC-236*	FC-336*
Tesla*	Windows Tablets (Windows 7 or higher)

** includes an internal NMEA GPS correction*

For more specification information:
www.topconpositioning.com

Topcon TotalCare

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SOFTWARE

MAGNET™

A family of software solutions that streamlines the workflow for surveyors, contractors, engineers and mapping professionals.

MAGNET™ Field

MAGNET Field is the field software that enables users to collect land positioning data and perform construction, road layout, and land surveying functions using total stations, levels, and GNSS receivers.



MAGNET™ Office Tools

MAGNET Office is available in four versions (Office Tools, Office Topo, Office Site, and Office Site with Resurfacing) designed to meet the demands of the land surveyor and construction contractor.



MAGNET™ Enterprise

MAGNET Enterprise is a web environment for managing company assets and project data, as well as real-time communications with MAGNET Field and MAGNET Office users. This is the user interface to "The Cloud."



MAGNET™ Relay*

MAGNET Relay is a RTK GNSS correction service hosted by the MAGNET Solution. Connect a GNSS base receiver to the MAGNET Relay service via cellular connection, and thus make this base available for up to 10 rovers.

** Not available in all regions*



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