



HYBRID POSITIONING

COMBINING GNSS AND
OPTICAL MEASUREMENTS





Maximizing Measurement and Field Performance

- Expanded work zones, all production
- Hybrid Lock for fast prism reacquisition
- Hybrid Resection control setup option
- Hybrid Switch from GNSS to optical with single-button tap
- Compatible with all Topcon robotic instruments

Combine and define

Topcon's Hybrid Positioning™ technology delivers the time-saving option to get the most out of your robotic total station and GNSS systems. The ability to combine and use both at the same time improves field measurement efficiency in ways like never seen before. MAGNET® Field data collection software intuitively offers a unique activation module specifically for Hybrid Positioning.

An ideal pairing

Topcon has revolutionized the positioning industry by providing GNSS receivers that utilize the most advanced signal processing and performance especially 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.

Positions are provided through any of Topcon's field-ready GNSS receivers and combined within MAGNET Field data collection software to make the robotic total station a more productive solution. The GNSS location assists the instrument to lock onto your prism faster, resecting 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 and rover combination, a MAGNET Relay session, or while working within a hosted GNSS reference station network.

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.

Compatible with many

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



HYBRID POSITIONING EXPLAINED



Robotic Instrument



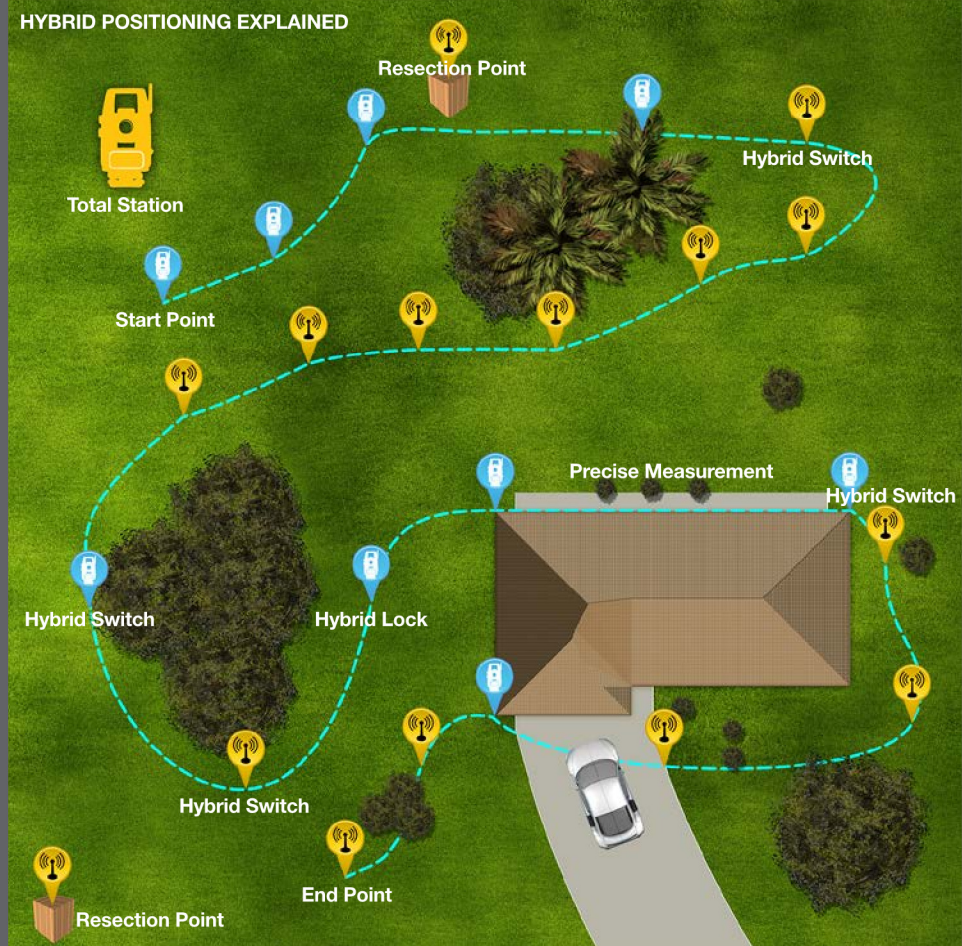
Total Station



Robotic Measurement



GNSS Measurement



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	

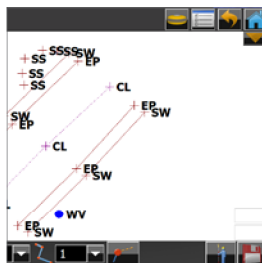
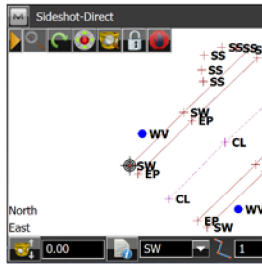
GR Series is not recommended, based on weight

Supported Field Controllers	
FC-500	FC-2600
FC-236*	FC-336*
Tesla*	Windows Tablets (Windows 7 or higher)

* includes an internal NMEA GPS correction

Hybrid Positioning components

- MAGNET data collection software of Field, Field Site, or Field Layout
- Hybrid Positioning module
- GNSS prism adapter
- Topcon Robotic total station
- Topcon GNSS receiver



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
- Automatic satellite imaging as a background
- Multi-point localization
- Works with RTK positioning



For more information:
topconpositioning.com/hybrid

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