HYBRID ROBOTIC
INTEGRATED GNSS
AND TOTAL STATION
Software – Hardware – Technology

The Hybrid Robotic system solution is the combination of GNSS positioning, an optical total station, and automated data workflow. By utilizing both GNSS and optical measurements, any job site project can be completed faster, and with the precision needed. In addition, by adding new efficient data workflows from the entire MAGNET® system, productivity increases at each phase.

The precision and tracking ability of the DS robotic instrument provides precise measurements anywhere the prism can be seen. The GNSS positioning of the RTK rover pole can be used for measurements that are not in the line of site.

More than just an integrated surveying solution, the Hybrid Robotic System includes the data flow connection to the office. Exchange data files in real-time with MAGNET Enterprise.

There are many additional hardware configurations from Topcon that can benefit from the use of hybrid positioning. This technology is compatible with all modern robotic systems such as the Topcon PS, DS, IS, and QS total station, as well as GNSS receivers such as the HiPer SR, HiPer V, and others.

Hybrid Positioning Performance

Using the Hybrid Positioning System, job site measurements can be completed faster. Productivity will be increased with fewer robotic tripod setups. Collect measurements with GNSS or the robotic total station anywhere on the job site.

Network RTK, MAGNET Relay, or Local RTK

Use any type of GNSS positioning in your hybrid system to enhance your robotic re-acquisition and jobsite localization routines. TopNETlive, Network RTK, MAGNET Relay, or a local base station RTK message will provide the best hybrid positioning solution.

Learn more at www.topnetlive.com
HYBRID ROBOTIC SYSTEM

DS-AC+

HiPer SR with prism

MAGNET®

MAGNET Enterprise

FC-500
HiPer SR Rover
- Unbelievably small
- Rugged, waterproof design
- Network RTK rover
- Local base/rover RTK

DS-AC+ Total Station
- Small, compact robotic instrument
- Rugged, waterproof design
- Superior angle accuracy
- Powerful tracking EDM

Topcon FC-500
- Large bright screen
- Graphical and intuitive MAGNET Field data collection software
- Internal cellular data (optional)
- Internal NMEA GPS (optional)

Field and Office, connected
- Exchange files
- Chat with other crews
- Track assets
- Observe productivity

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**DS-AC+ Instrument Accuracy**

<table>
<thead>
<tr>
<th>Model</th>
<th>Instrument Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS-101</td>
<td>1 arc second</td>
</tr>
<tr>
<td>DS-103</td>
<td>3 arc seconds</td>
</tr>
<tr>
<td>DS-105</td>
<td>5 arc seconds</td>
</tr>
<tr>
<td>Prism EDM Range</td>
<td>6,000 m</td>
</tr>
<tr>
<td>Prism EDM Accuracy</td>
<td>1.5 mm + 2 ppm</td>
</tr>
<tr>
<td>Non-Prism Range</td>
<td>1,000 m</td>
</tr>
<tr>
<td>Non-Prism Accuracy</td>
<td>2 mm + 2 ppm</td>
</tr>
</tbody>
</table>

**HiPer SR Receiver**

- Number of Channels: 226-channel Vanguard Technology™ with Universal Tracking Channels
- Signals Tracked: GPS, GLONASS, SBAS, QZSS, Galileo, and COMPASS*
- RTK Accuracy: H: 10.0 mm + 1.0 ppm, V: 15 mm + 1.0 ppm
- Dust/Water Rating: IP67
- LongLink™ Range: 300+ m

**Topcon Tesla Geo 3G**

- CPU: 806 MHz PXA320
- Memory: 256 MB RAM, 4 GB Flash storage, SD/SDHC slot, user accessible
- Display: 5.7 in. VGA LCD (640 x 480) Portrait or landscape
- GSM: Penta-band 3G GSM/GPRS/EDGE/HSDPA 850/900/1800/1900/2100 MHz
- Dust/Water Rating: IP67
- Wireless Connection: Bluetooth® and Wi-Fi

* Galileo and COMPASS support will be incorporated into HiPer SR when these constellations have matured and are ready for commercial use.