

Topcon HiPer HR

Hybrid GNSS Receiver

Every job site is different. Every project has unique geographic conditions. Each day brings new hurdles to overcome. Topcon's HiPer HR has everything you need in an integrated GNSS receiver in order to get your job done.

Features & Benefits

- 452 GNSS channel Vanguard Technology™ with Universal Tracking Channels for multi-frequency tracking of multiple satellite constellations such as GPS, GLONASS, BeiDou, QZSS, SBAS and Galileo.
- Industry leading full-wave Fence Antenna™ technology
- An internal battery and a detachable external battery
- An internal UHF (available today) or FH-915 radio modem (Fall 2016)
- Integrated Bluetooth®, multi-channel LongLink™, and Wi-Fi wireless and radio technology
- Topcon Integrated Leveling Technology (TILT™)



Seamless Synergy for Real Results

Next Generation in GNSS Receiver Technology

Topcon is proud to be the world leader in advanced satellite positioning technology. As the original pioneer of dual-constellation and G3 triple constellation integration, Topcon continues to lead all other manufacturers with the most sophisticated receiver technology and design.

A Cut Above the Rest

Standing on the shoulders of Topcon's proven, industry-leading GNSS technology and innovation, the HiPer HR comes out head and shoulders above the competition. Starting from the foundation of Topcon's world-class infrastructure GNSS receiver ([Topcon NET-G5](#)), we put that same power in a more portable, field-ready physical package. When it comes to communication options, it's the best of both worlds, marrying the simplicity of the [Topcon HiPer SR](#)'s LongLink™ Bluetooth® communication, with the versatility and range of the [Topcon HiPer V](#)'s radio choices (UHF and SS). Add to this flexibility with the use of the internal cellular modem in a base scenario with [MAGNET Relay](#). Or on the rover pole, create a Network RTK rover via correction services such as those provided by [TopNET/live](#). You now have the ultimate GNSS receiver at your disposal, primed and ready to tackle any GNSS project you may come across.

With an Eye to the Future AND Past

Topcon's HiPer HR fits a lot into a small package, without sacrificing features and capabilities. We've raised the bar on consumer expectations for GNSS receivers by adding new technology and features while maintaining backwards-compatibility with prior Topcon GNSS receiver products. This continues Topcon's mantra of creating future-proof products that also protect a customer's past investment in other Topcon products.

..wait, there's more!

Not only does is the HiPer HR a powerful, versatile RTK rover, but if you combine it with MAGNET Field software and a Topcon robotic system, you can leverage the flexibility of [Hybrid Positioning Technology](#) to complete your diverse projects in less time. Now the strengths of both RTK and robotic surveying are at your fingertips, allowing you to switch from one to the other with a single button-push. Enjoy increased productivity over what you can achieve with either RTK or robotic setups by themselves.

GNSS	
Signals Tracked	GPS: L1, L1C, L2, L2C, and L5 GLONASS: L1, L2, L3 Galileo*: E1, E5a, E5b, E5AltBOC, E6 BeiDou: B1, B2, B3 with ICD availability SBAS: L1 C/A, L5 (on supported SBAS satellites) QZSS: L1 C/A, L1C, L1-SAIF, L2C, L5 L-Band: 1525-1560 MHz (OmniStar and TerraStar)
Number of Channels	452-Channel Vanguard Technology with Universal Tracking Channels capable of All-in-View tracking

Antenna Type	Integrated, micro centered Fence Antenna™ with Ground Plane (1)
Positioning Performance (2)	
Static	H: 3mm + 0.1ppm (3) V: 3.5mm + 0.4ppm (3)
RTK	H: 5mm + 0.5ppm V: 10mm + 0.8ppm
Data Update/Output Rate	20 Hz Standard, upgrades available (to 100 Hz)
Correction format	TPS, RTCM SC104 2.x, 3.x**, MSM, CMR, CMR+, BINEX
ASCII Output	NMEA 0183 version 2.x and 3.0, RINEX and BINEX
RINEX	Onboard RINEX Conversion
Communication & Memory	
Optional Radio Type	Integrated UHF (410-470 MHz), 12.5 kHz spacing (Satel, PDL, TrimTalk protocols) Integrated Spread Spectrum (915MHz), FH915 & FH915+ protocols
Base Radio Output	0.1W to 1.0W, user selectable
Cellular Communications	Integrated HSPA Cinterion PXS8 (optional)
Wi-Fi	802.11 a/b/g (>20m indoors, 50m outdoors)
Bluetooth®	Class 1 LongLink™ (>300m outdoors) Class 2 (>25m outdoors) BLE (>2m indoors)
NTRIP	Server, Client, Caster
Input/Output	Serial, USB 2.0 (Client/Host), 1PPS (combined with Serial A)
Memory	Up to 32 GB
Data Logging	Up to 8 simultaneous files
Environmental	
Operating Temperature	-40°C to +65°C***
Humidity	100% Condensing (MIL-STD 810G)
Vibration Rating	MIL-STD 810G, Method 514.6, Broad band noise (random vibration), along each of 3 axes, Category 4, table 514.6C-IV
Mechanical Shock	Mil-STD 810G Method 516.6, along each of 3 axes. Procedure I - Functional Shock, Table 516.6-I, Fig. 516.6-8, accelerative forces up to 40g
Waterproof/Dustproof	IP67 per IEC60529
Drop and Topple	2.0m pole-drop onto concrete surface
Power	
Input Power (External)	6 to 28 VDC (ODU-5)
Internal batteries	(2x) 3.7V, 2600 mAh each
External Battery	7.2 V, 2900 mAh, user replaceable
Operating Time	GGD Standalone – 6h GGD UHF Rover – 4h GGD UHF Base – 3.5h
Battery charging time	< 5h
	6 W: minimum (GGD)

Power Consumption	8 W: full system tracked 12 W: UHF Base up to 30 W: during charging
Physical	
Size	131.5mm (H) x 115mm (W) x 115mm (D)
Weight	1kg - w/o secondary battery 1.145kg - w/ secondary battery
Ports	1 x RS232 (ODU-7), USB Micro A/B 2.0, WHAT ELSE GOES HERE?
Notes	
Note	<ol style="list-style-type: none"> 1. Multiple patents are associated with Fence Antenna technology. 2. Precision in RMS; Subject to multipath anomalies, interference, atmospheric conditions and atypical satellite geometry. GNSS survey best practices must always be applied. 3. Under nominal observing conditions and strict processing methods, including use of dual frequency GPS, precise ephemerides, calm ionospheric conditions, approved antenna calibration, unobstructed visibility above 10 degrees and an observation duration of at least 3 hours (dependent on baseline length).
Note	<p>* Support for Galileo signals is incorporated. Positioning solution with these signals will be integrated and made available when the constellation has matured and is ready for commercial use.</p> <p>** Use of industry standard RTCM 3.x is recommended for optimal performance</p> <p>*** -40 °C to +85 °C Storage Temp.</p>

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