

# GNSS Receiver

## HiPer VR



### Better form and function

The HiPer VR is versatile and rugged, designed with the advanced GNSS technology delivering precise measurements in the most challenging of environments.

Topcon patented Universal Tracking Channels™ technology provides the industry's most efficient approach in identifying and using every satellite signal. All constellation signals are tracked automatically from any available channel. Thus, reaching maximum performance with a reduced number of channels.

#### TILT™

The HiPer VR incorporates a revolutionary 9-axis Inertial Measuring Unit (IMU) and an ultra-compact 3-axis eCompass. Topcon Integrated Leveling Technology compensates for mis-leveled field measurements out of plumb by as much as 15°.

- Compact, lightweight, rugged design
- Field tested, field ready IP67 design
- Compact form factor ideal for Hybrid Positioning
- Revolutionary 9-axis IMU and ultra-compact 3-axis eCompass

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[www.topconpositioning.com/hiper-vr](http://www.topconpositioning.com/hiper-vr)

#### GNSS TECHNOLOGIES (SIGNAL TRACKING)

GPS	L1 C/A, L1C, L1P(Y), L2P(Y), L2C, L5
GLONASS	L1 C/A, L1P, L2C/A, L2P, L3C
Galileo	E1, E5a, E5b, E5 Alt-BOC
BeiDou	B1, B2
IRNSS (NavIC)	SPS-L5
SBAS	WAAS/EGNOS/MSAS
QZSS	L1 C/A, L1C, L2C, L5
L-band	Yes
Universal Tracking Channels™	226 GNSS channels Vanguard Technology™ with Universal Tracking Channels™; 2 reserved for L-band
TILT™	Topcon Integrated Leveling Technology™
GNSS Antenna	Integrated Full wave Fence Antenna™ technology with internal ground plane

#### POSITIONING PERFORMANCE

Precision Static	H: 3 mm + 0.1 ppm   V: 3.5 mm + 0.4 ppm
Static/Fast Static*	H: 3 mm + 0.4 ppm   V: 5 mm + 0.5 ppm
RTK	H: 5 mm + 0.5 ppm   V: 10 mm + 0.8 ppm
Code Differential GNSS	H: <0.25 m   V: <0.50 m
RTK, TILT Compensated	H: 1.3 mm/°Tilt; Tilt ≤ 10°   H: 1.8 mm/°Tilt; Tilt > 10° Maximum recommended angle for tilt compensation is 15°**

#### COMMUNICATIONS

Internal Radio (Optional)	405–470 MHz UHF or FH915 spread spectrum Max Transmit Power: 1W Range: 5–7 km typical; 15 km in optimal conditions.***
Cellular	Optional 4G internal cellular module
LongLink™	Up to 328.1 m / 1000 ft
Bluetooth™	Yes
Ports	1 Serial, 1 USB, 3 Connectors

#### DATA FORMAT AND MEMORY

Data Output	TPS, RTCM, CMR/CMR+, NMEA, BINEX
Internal Memory	8 GB
Update Rate	Up to 20Hz

#### POWER

External Power Supply	9.0 – 27.0 V DC
Battery	Li-ion 11,600 mAh, 3.7 V
Operating time with radio	RX mode – 10 hr   TX mode 1W – 6 hr Use of external 12V battery is recommended when using as a base

#### HARDWARE

Dimensions (W x H)	14.90 cm x 9.46 cm (5.86 in x 3.72 in)
Weight	1.061 kg (2.33 lb)
Ingress Protection	Dust and water IP67
Vibration	MIL-STD 810G
Drop	Survive 2m pole drop on concrete surface
Operating Temperature	-40° C to +65° C (-40° F to +149° F)
Humidity	100%

\* 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).

\*\* Subject to successful TILT calibration and operating environment free of magnetic disturbances.

\*\*\* Varies with terrain and operating conditions (UHF radio only).