

Trimble R12 RTK GNSS 製品

概要

* Trimble Propoint™ GNSS 製品

GNSS 製品は、高精度の位置情報を提供するための RTK GNSS 製品です。Trimble Propoint™ GNSS 製品は、高精度の位置情報を提供するための RTK GNSS 製品です。

* Trimble SurePoint™ 製品

Ebubble 製品は、高精度の位置情報を提供するための RTK GNSS 製品です。

* Trimble CenterPoint® RTX 製品は、高精度の位置情報を提供するための RTK GNSS 製品です。VRS 製品は、高精度の位置情報を提供するための RTK GNSS 製品です。

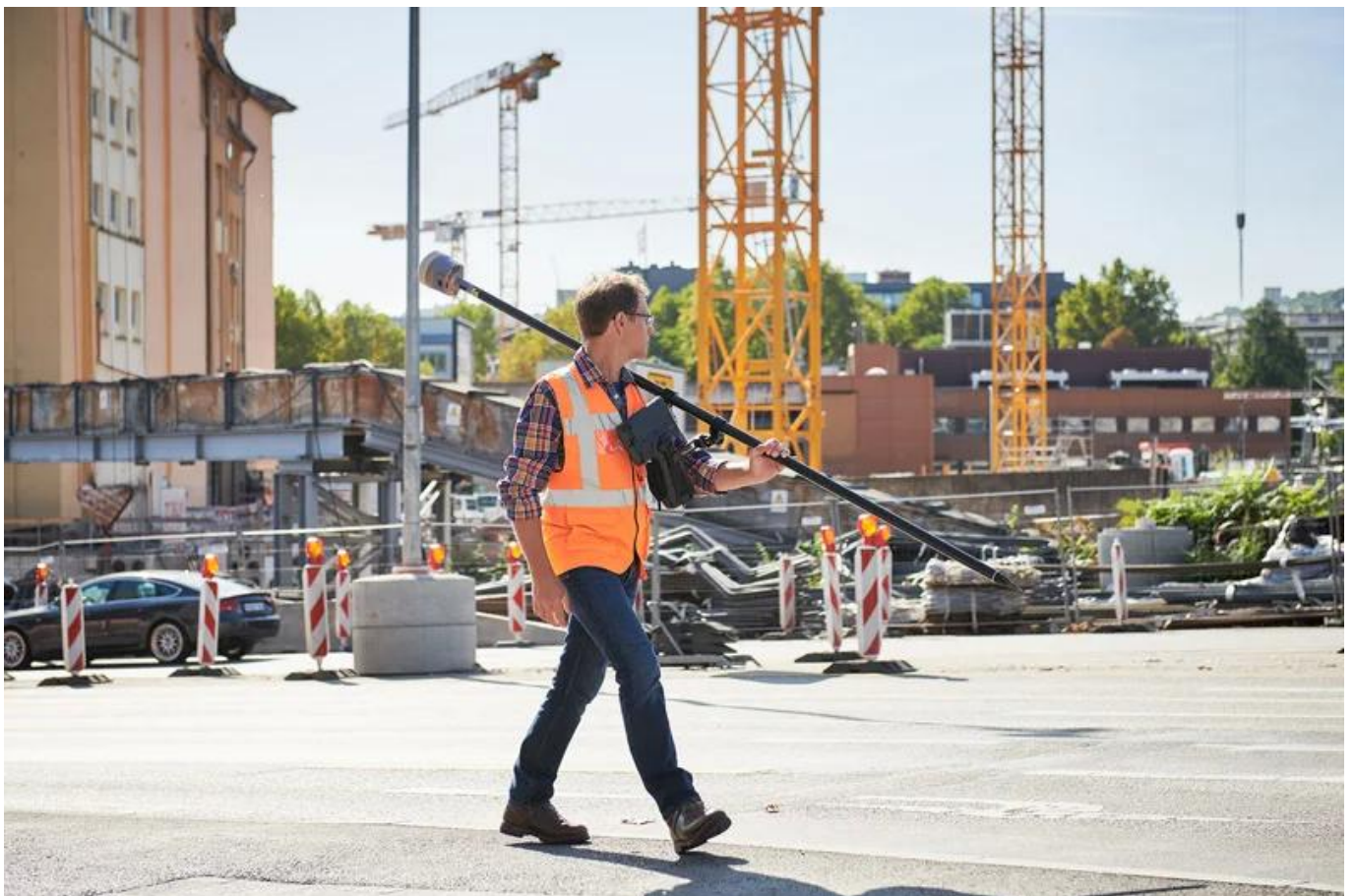
* Trimble 360 製品

672 製品は、高精度の位置情報を提供するための RTK GNSS 製品です。

* Trimble XFill® 製品

RTK 製品は、高精度の位置情報を提供するための RTK GNSS 製品です。

製品



PERFORMANCE SPECIFICATIONS

GNSS MEASUREMENTS

Constellation agnostic, flexible signal tracking and improved positioning ² in challenging environments with Trimble ProPoint GNSS technology	
Increased measurement productivity and traceability with Trimble SurePoint eBubble tilt compensation	
Advanced Trimble Custom Survey GNSS chips with 672 channels	
Reduced downtime due to loss of radio signal or cellular connectivity with Trimble xFill technology	
Signals tracked simultaneously	GPS: L1C, L1C/A, L2C, L2E, L5 GLONASS: L1C/A, L1P, L2C/A, L2P, L3 SBAS (WAAS, EGNOS, GAGAN, MSAS): L1C/A, L5 Galileo: E1, E5A, E5B, E5 AltBOC, E6 ² BeiDou: B1, B1C, B2, B2A, B3 QZSS: L1C/A, L1S, L1C, L2C, L5, L6 NavIC (IRNSS): L5 L-band: CenterPoint RTX
Iridium filtering above 1616 MHz allows antenna to be used up to 20 m away from Iridium transmitter	
Japanese LTE filtering below 1510 MHz allows antenna to be used up to 100 m away from Japanese LTE cell tower	
Digital Signal Processor (DSP) techniques to detect and recover from spoofed GNSS signals	
Advanced Receiver Autonomous Integrity Monitoring (RAIM) algorithm to detect and reject problem satellite measurements to improve position quality	
Improved protection from erroneous ephemeris data	
Positioning Rates	1 Hz, 2 Hz, 5 Hz, 10 Hz, and 20 Hz

POSITIONING PERFORMANCE³

CODE DIFFERENTIAL GNSS POSITIONING

Horizontal	0.25 m + 1 ppm RMS
Vertical	0.50 m + 1 ppm RMS
SBAS ⁴	typically <5 m 3DRMS

STATIC GNSS SURVEYING

High-Precision Static

Horizontal	3 mm + 0.1 ppm RMS
Vertical	3.5 mm + 0.4 ppm RMS

Static and Fast Static

Horizontal	3 mm + 0.5 ppm RMS
Vertical	5 mm + 0.5 ppm RMS

REAL TIME KINEMATIC SURVEYING

Single Baseline <30 km

Horizontal	8 mm + 1 ppm RMS
Vertical	15 mm + 1 ppm RMS

Network RTK⁵

Horizontal	8 mm + 0.5 ppm RMS
Vertical	15 mm + 0.5 ppm RMS
RTK start-up time for specified precisions ⁶	2 to 8 seconds

TRIMBLE RTX™ TECHNOLOGY (SATELLITE AND CELLULAR/INTERNET (IP))

CenterPoint RTX⁷

Horizontal	2 cm RMS
Vertical	5 cm RMS
RTX convergence time for specified precisions - Worldwide	< 15 min
RTX QuickStart convergence time for specified precisions	< 1 min
RTX convergence time for specified precisions in select regions (Trimble RTX Fast Regions)	< 1 min

TRIMBLE XFILL⁸

Horizontal	RTK ⁹ + 10 mm/minute RMS
Vertical	RTK ⁹ + 20 mm/minute RMS

PHYSICAL

Dimensions (W×H)	11.9 cm x 13.6 cm (4.6 in x 5.4 in)	
Weight	1.12 kg (2.49 lb) with internal battery, internal radio with UHF antenna, 3.95 kg (8.71 lb) items above plus range pole, Trimble TSC7 controller & bracket	
Temperature ¹⁰		
	Operating	−40 °C to +65 °C (−40 °F to +149 °F)
	Storage	−40 °C to +75 °C (−40 °F to +167 °F)
Humidity	100%, condensing	
Ingress protection	IP67 dustproof, protected from temporary immersion to depth of 1 m (3.28 ft)	
Shock and vibration (Tested and meets the following environmental standards)		
	Shock	Non-operating: Designed to survive a 2 m (6.6 ft) pole drop onto concrete. Operating: to 40 G, 10 msec, sawtooth
	Vibration	MIL-STD-810F, FIG.514.5C-1

ELECTRICAL

	Power 11 to 24 V DC external power input with over-voltage protection on Port 1 and Port 2 (7-pin Lemo)	
	Rechargeable, removable 7.4 V, 3.7 Ah Lithium-ion smart battery with LED status indicators	
	Power consumption is 4.2 W in RTK rover mode with internal radio ¹¹	
Operating times on internal battery ¹²		
	450 MHz receive only option	6.5 hours
	450 MHz receive/transmit option (0.5 W)	6.0 hours
	450 MHz receive/transmit option (2.0 W)	5.5 hours
	Cellular receive option	6.5 hours

COMMUNICATIONS AND DATA STORAGE

Serial	3-wire serial (7-pin Lemo)
USB v2.0	Supports data download and high speed communications
Radio modem	Fully Integrated, sealed 450 MHz wide band receiver/transmitter with frequency range of 403 MHz to 473 MHz, support of Trimble, Pacific Crest, and SATEL radio protocols: Transmit power2 W Range3–5 km typical / 10 km optimal ¹³
Cellular ¹⁴	Integrated, 3.5 G modem, HSDPA 7.2 Mbps (download), GPRS multi-slot class 12, EDGE multi-slot class 12, Penta-band UMTS/HSDPA (WCDMA/FDD) 800/850/900/1900/2100 MHz, Quad-band EGSM 850/900/1800/1900 MHz, GSM CSD, 3GPP LTE
Bluetooth	Fully integrated, fully sealed 2.4 GHz communications port (Bluetooth) ¹⁵
Wi-Fi	802.11 b/g, access point and client mode, WPA/WPA2/WEP64/WEP128 encryption
I/O ports	Serial, USB, TCP/IP, IBSS/NTRIP, Bluetooth
Data storage	6 GB internal memory
Data format	CMR+, CMRx, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2 input and output 24 NMEA outputs, GSOE, RT17 and RT27 outputs, 1 PPS output

WEBUI

Offers simple configuration, operation, status, and data transfer
Accessible via Wi-Fi, Serial, USB, and Bluetooth

SUPPORTED CONTROLLERS & FIELD SOFTWARE

Trimble TSC7, Trimble T10, Trimble T7, Android and iOS devices running supported apps
Trimble Access 2019.10 or later

FCC Part 15 (Class B device), 24, 32; CE Mark; RCM; PTCRB; BT SIG

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