

GNSS Receiver eGPS 20T

*High Accuracy.
High Performance.*



High-Performance IMU-RTK GNSS Receiver

The eGPS 20T GNSS receiver integrates a state-of-the-art GNSS RTK engine, a calibration-free high-end IMU sensor and advanced GNSS tracking capabilities to dramatically increase your RTK availability and reliability.

Full GNSS Positioning

The eGPS 20T is a 336 channel multi-constellation GNSS receiver that provides robust RTK position availability with reliability you can depend on.

Increased Productivity

With the eGPS 20T, you can boost survey and stakeout speed. The built-in IMU ensures interference-free and automatic pole-tilt compensation in real time. 3 cm accuracy is achievable with pole-tilt range of up to 30 degrees.

High Accuracy

Compatible with existing constellation L-Band and RTX correction signals, the eGPS 20T provides you with accurate, sub-decimeter positioning in locations where RTK networks, GSM coverage or traditional GNSS base stations are not available.

Easy Setup

Get up and running in less time with the 20T. No complicated calibration process, rotation, leveling or accessories are necessary. Easily initialize the 20T internal IMU module and enable GNSS RTK survey in difficult field environments.

Highlights

- ▶ 336 channel multi-constellation receiver
- ▶ 4G network modem
- ▶ Internal UHF radio modem
- ▶ Built-in IMU sensor

Scan QR code to access additional guides and resources on the eGPS 20T,
or visit us at store.egps.net/products/egps-20t-gnss-receiver



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GNSS Specifications¹

336 channels with simultaneously tracked satellite signals²

GPS	L1C, L1 C/A, L2E, L2C, L5
GLONASS	L1 C/A, L2 C/A, L3 CDMA
BeiDou	B1, B2 ³ , B3
Galileo	E1, E5A, E5B, E5AltBOC, E6
SBAS	L1 C/A, L5 (L-Band capable)
OZSS	L1 C/A, L1 SAIF, L2C, L5, LEX
IRNSS	L5
L-BAND	RTX

Performance Specifications⁴

Real-Time Kinematics (RTK)

Horizontal	8 mm + 1 ppm RMS
Vertical	15 mm + 1 ppm RMS
Initialization Time	< 10 s
Initialization Reliability	> 99.9%

Post-Processing Kinematics (PPK)

Horizontal	2.5 mm + 1 ppm RMS
Vertical	5 mm + 1 ppm RMS

Post-Processing Static

Horizontal	2.5 mm + 0.5 ppm RMS
Vertical	5 mm + 0.5 ppm RMS

Code Differential

Horizontal	0.25 m RMS
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Autonomous

Horizontal	1 m RMS
Vertical	1.5 m RMS
Positioning Rate	Up to 50 Hz

Time To First Fix⁵

Cold Start	< 45 s
Hot Start	< 10 s
Signal Re-Acquisition	< 1 s

RTK Tilt-Compensated Additional horizontal pole-tilt uncertainty typically less than 10 mm + 0.7 mm/° tilt

Physical Specifications

Size (L x W x H)	159 mm x 150 mm x 110 mm (6.3 in x 5.9 in x 4.3 in)
Weight	1.26 kg (2.77 lb)
Tilt Sensor	Calibration-free IMU for pole-tilt compensation. Immune to magnetic disturbances. E-Bubble leveling.
Front Panel	4 status LED 1.46" OLED display

Communication

Network Modem	Integrated 4G modem LTE (FDD): B1, B2, B3, B4, B5, B7, B8, B20 DC-HSPA+/HSPA+/HSPA/UMTS: B1, B2, B5, B8 EDGE/GPRS/GSM 850/900/1800/1900 MHz
WiFi	802.11 b/g/n, access point mode
Bluetooth	v4.1
Ports	1 x 7-pin LEMO port (external power and RS-232) 1 x USB Type-C port (data download, firmware update) 1 x UHF antenna port (TNC female)
UHF Radio	Standard Internal Rx/Tx: 410-470 MHz Transmit Power: 0.5 W to 2 W Protocol: CHC, Transparent, TT450, SATEL3AS Link Rate: 9600 bps to 19200 bps Range: 5 km under optimal conditions
Data Formats	RTCM 2.x, RTCM 3.x, CMR, CMR+, SCMRX input and output HCN, HRC, RINEX 2.11, 3.02 NMEA 0183 output NTRIP Client, NTRIP Caster
Data Storage	32 GB internal memory

Environment

Operating Temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Storage Temperature	-40 °C to +85 °C (-40 °F to +185 °F)
Humidity	100% condensation
Waterproof & Dustproof	IP67 - protected from temporary immersion depth of 1 m
Drop	2 m protection

Electrical Specifications

Power Consumption	5 W (depending on user settings)
Li-ion Battery Capacity	2 x 3400 mAh, 7.4 V
Operating Time on Internal Battery ⁶	
UHF Receive/Transmit (0.5 W)	5 h to 8 h
Cellular Receive Only	Up to 9 h
Static	Up to 10 h
External Power Input	9 V DC to 28 V DC

¹ Compliant, but subject to availability of BDS ICD and Galileo commercial service definition. GLONASS L3, BDS B3 and Galileo E6 will be provided through future firmware upgrade.

² Reception is dependent upon firmware versions and licensed features.

³ Includes BeiDou satellites 1-14.

⁴ Accuracy and reliability are determined under open sky, free of multipaths, optimal GNSS geometry and atmospheric condition. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices.

⁵ Typical observed values.

⁶ Battery life is subject to operating temperature.

Specifications are subject to change without notice.

We will not let you fail.



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