GEOMATE

Premium Surveying. Trusted Solutions

GEOMATE GS100

INNOVATIVE SURVEYING SLAM SOLUTION

GS100
HANDHELD SLAM 3D GNSS RTK LASER SCANNER +

The GS100 brings a new approach to geospatial surveying by integrating GNSS RTK, laser scanning and visual SLAM technologies into a single platform designed to improve the efficiency and accuracy of indoor and outdoor 3D scanning and surveying tasks. The GS100 is a versatile solution for surveying, civil engineering and BIM professionals, as well as for applications such as agricultural and forestry surveying, power line inspection, material pile volume calculation and data collection in underground spaces. With the GS100, surveyors are able to overcome the challenges of surveying in areas with poor or no GNSS signals, bringing a new level of flexibility and accuracy to their work. By supporting both traditional GNSS RTK surveying and innovative 3D reality capture,the GS100 simplifies fieldwork and improves data reliability.

GENERAL SYSTEM PERFORMANCE

Absolute accuracy	H: < 5cm RMS (1) V: < 5cm RMS (1)
Relative accuracy	<1cm
Power supply mode	Lithium battery, supports hot-swapping and portable charger
Working time from a single battery (2)	1 h
Data storage	512 GB
Field of view	360° × 270°
Weight	1.9 kg (including RTK and battery)

Laser Scanner

Laser product classification	Class 1 Eye Safe
Range	0.05 to 120 m
Channel	16
Point cloud thickness	2 cm
Range capability	80 m @10% reflectivity (Channels 5 to 12) 50 m @10% (Channels 1 to 4, 13 to 16)
FOV (Horizontal)	360°
Horizontal angle resolution	0.18° (10 Hz)
FOV (Vertical)	30° (-15° to +15°)
Max. effective measurement rate	320,000 points/sec
Selectable scan speed	10 Hz

GNSS Performance (3)

Channels	1408 channels with iStar2.0
	GPS: L1C/A, L2C, L2P(Y), L5 GLONASS: L1, L2, L3* Galileo: E1, E5a, E5b, E6* QZSS: L1C/A, L1C, L2C, L5, L6* NavIC/ IRNSS: L5* PPP: B2b-PPP SBAS: EGNOS (L1, L5)

GNSS Accuracies

Real time kinematic (RTK) (4)	H: 8 mm + 1 ppm RMS V: 15 mm + 1 ppm RMS Initialization time: <10 s Initialization reliability: >99.9%
Post-processing kinematic (PPK)	H: 3 mm + 1 ppm RMS V: 5 mm + 1 ppm RMS
PPP	H: 10cm | V: 20cm
High-precision static	H: 2.5 mm + 0.1 ppm RMS V: 3.5 mm + 0.4 ppm RMS
Static and rapid static	H: 2.5 mm + 0.5 ppm RMS V: 5 mm + 0.5 ppm RMS
Code differential	H: 0.4 m RMS V:0.8 m RMS

IMU

IMU update rate	200 Hz
Attitude accuracy after post-processing	0.005° RMS pitch/roll, 0.010° RMS heading
Position accuracy after post-processing	0.010 m RMS horizontal, 0.020 m RMS vertical

Camera

Number of cameras	3
Resolution	15MP (5MP*3)
Sensor size	2592 (H) × 1944 (V)
Pixel size	2.0 μm
FOV	210°×170°

Environments

Operating temperature	-20 °C to +50 °C
Storage temperature	-20 °C to +60 °C
Ingress protection	IP64 (5) (according to IEC 60529)
Humidity (operating)	80%, non-condensing

Electrical

Input voltage	9-20V DC
Power consumption	< 30W
Battery capacity	24.48 Wh

*All specifications are subject to change without notice.

(1) According to CHCNAV test condition.

(2) Typical observed values.

(3) Compliant, but subject to availability of GLONASS, Galileo, QZSS and IRNSS commercial service definition. GLONASS L3, Galileo E6, QZSS L6 and IRNSS L5 will be provided through future firmware upgrade.

(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) Splash, water, and dust resistant and were tested under controlled laboratory conditions with a rating of IP64 under IEC standard 60529.

GEOMATE
Premium Surveying. Trusted Solutions

SG MADE IN SINGAPORE

Geomate Positioning Pte. Ltd.

13 Tampines Lane #09-53
Singapore 528479
+65 8919 0418
office@geomate.sg
www.geomate.sg