

GEOMATE



GEOMATE GC5

GNSS REFERENCE STATION



GEOMATE GC5

The GC5 GNSS reference station integrates 624 channels for tracking multi-constellation GNSS signals, large storage and battery capacity, secure and diverse network connectivity, and smart access rights management and makes it extremely reliable and easy to use. The GC5 GNSS receiver suits any environment, and it features voltage stabilization, lightning protection, real-time selfdiagnosis, and status monitoring to ensure uninterrupted operation. The GC5 is an advanced GNSS reference station to provide positioning services in various demanding industries, such as GNSS ground augmentation, deformation monitoring, atmospheric research, seismic research, precision agriculture, machine control, and vehicle and ship navigation.

SPECIFICATIONS

GNSS characteristics

Channels	624
GPS	L1C/A, L2C, L5
GLONASS	L1C/A, L2C/A
Galileo	E1, E5a, E5b
BeiDou	B1, B2, B3, B1c, B2a
QZSS	L1C/A, L2C, L5
SBAS ⁽¹⁾	L1

GNSS accuracies⁽²⁾

Real time kinematic (RTK)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS Initialization time: < 8 s Initialization reliability: > 99.9%
Post-processing static	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS
Post-processing static (long observation)	Horizontal: 3 mm + 0.1 ppm RMS Vertical: 3.5 mm + 0.4 ppm RMS

Hardware

Size (L × W × H)	200 mm × 150 mm × 69 mm (7.9 in x 5.9 in x 2.7 in)
Weight	2.15 kg (75.8 oz) with battery
Environment	Operating: -40°C to +65 °C (-40°F to +149°F) Storage: -45°C to +80°C (-49°F to +176°F)
Humidity	100%
Ingress protection	IP67 waterproof and dustproof, protected from temporary immersion to depth of 1 m

Electrical

Power consumption	5 W (depending on user settings)
Internal battery capacity	17,000 mAh, 7.4 V
Operating time on internal battery ⁽³⁾	Up to 20 h (depending receiver configuration)
External power	9 V DC to 36 V DC

Communications and Data storage

Ports	1 x 10-pin LEMO port (external power, RS-232) 1 x USB 2.0 port (data download, firmware update) 1 x LAN port HTTP / HTTPs, TCP/IP, UDP, FTP, NTRIP Caster, NTRIP Server, NTRIP Client – Simultaneously transmits multiple data stream – Support proxy server and route table 1 x DB9 port 1 x GNSS antenna port 1 x SIM card slot
Protocols	Correction formats: CMR, RTCM2.x, RTCM 3.x Observables: RINEX2.x, RINEX3.x Position/Status I/O: NMEA 0183 output Met sensor
Internal data logging and position	Output frequency up to 20 Hz (optional) Storage capacity 32 GB
External storage	Up to 1 TB
Bluetooth®	V 4.1
Wi-Fi	802.11 b/g/n, access point mode
Network modem (Internal 4G modem)	TE (FDD): B1, B3, B8, all bands with diversity LTE (TDD): B38, B39, B40, B41, all bands with diversity DS-HSPA+/HSPA+/HSPA/UMTS: B1, B5, B8, B9, all bands with diversity TD-SCDMA: B34, B39 EDGE/GPRS/GSM 900/1800 MHz

*All specifications are subject to change without notice.

(1) SBAS will be provided through future firmware upgrade. (2) 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. (3) Battery life is subject to operating temperature.