Leica GM30
Ready for today and tomorrow

All-in-one-GNSS monitoring receiver

The GM30 is designed for continuous operation and a wide range of monitoring scenarios. It is packed with full feature onboard software including Site Monitor, Leica VADASE, data logging and FTP push. With low energy consumption, highly redundant communication capabilities and designed to withstand challenging environment conditions, this rugged receiver is ready for any challenge.

High-end GNSS technology

Exceeding GNSS signal needs today and tomorrow by supplying 555 GNSS channels, the GM30 monitoring receiver is future-proof, reliably delivering the highest quality results 24/7. With the support of all available and future GNSS signals, and with SmartTrack+ technology, it delivers accurate information on the status of sensitive structures to detect and react, even under the harshest conditions.

Versatile and customisable

The GM30 is ready to be customised for any monitoring scenario, from long-term static to dynamic high-frequency monitoring. It is easily combined with a variety of external devices and seamlessly connected with Leica Spider and Leica GeoMoS. In addition, the onboard data logging provides a direct connection with the Leica CrossCheck service.

- when it has to be right

Leica Geosystems
Leica GM30

GNSS TECHNOLOGY

Leica Smart Track+

Very low noise GNSS carrier phase measurements (<0.5 mm rms). Signal acquisition < 30 s. Industry leading Pulse Aperture Correlator (PAC) multipath mitigation technology for superior quality measurements. Advanced radio frequency power spectrum analysis and interference mitigation on all GNSS bands.

GNSS signals

GPS (L1C/A, L1C, L2P(Y), L2C, L5)²; GLONASS (L1, L2P, L2C, L3)³; Galileo (E1, E5a, E5b, ARBDC, E6)¹; BeiDou (B1, B2, B3)¹; QZSS (L1C/A, L1C, L2C, L5)³; NAVIC L5; SBAS² (WAAS, EGNSOS, GAGAN, MSAS);
Available as GPS + GLONASS L1 only receiver.

Number of channels

555 universal tracking channels

MEASUREMENT PERFORMANCE AND ACCURACY

Code differential Hz: 0.25 m + 1 ppm  / V: 0.5 m + 1 ppm

Site Monitor

RTK positioning modes: Reference Station (smoothed) Monitoring (instantaneous) Network RTK (instantaneous)

Single baseline (<30 km):

Hz: 6 mm +1 ppm
V: 10 mm +1 ppm
Hz: 8 mm +1 ppm
V: 15 mm +1 ppm
Hz: 8 mm +1 ppm
V: 15 mm +1 ppm

Time for initialisation (typical):

10s 10s 4s

VADASE (Velocity and displacement engine)

Velocity accuracy: Hz: 0.003 m/s, V: 0.005 m/s
Typical velocity derived displacement sensitivity: Hz: 1 cm/s, V: 2 cm/s

PORTS AND CONNECTORS, COMMUNICATIONS

Ports

PWR: Lemo-1 female, 5 pin
Serial P1: Lemo-1 female, 8 pin
GNSS antenna: TNC female
P3 slot-in antenna: TNC female
Oscillator: MMCX female, 24QMA-50 2-3/133, 5/10 MHz
Ethernet: RJ45 ruggedised, 10/100 Mbit
USB client: Type Mini B

Slot-in communication interface

Exchangeable radio/GSM/GPRS/UMTS devices supported. Automatic gateway routing provides backup of internet access for continuity of communications.

TECHNICAL AND ENVIRONMENTAL

Power supply

Nominal 24 V DC, range 10.5 – 28 V DC.

Battery

External. Can serve as primary power source or as UPS backup.

Power consumption

3.5 W typical, 24 V at 145 mA

Dimension / weight (with rubber bumpers)

220x200x94 mm / 1.67 kg

Temperature

Operating: -40 to 65 °C, Storage: -40 to 80 °C

Humidity

Up to 100% non-condensing, Compliance with ISO9022-13-06, ISO9022-12-04 and MILSTD-810G - 507.5-I

Vibration

Withstands strong vibration during operation. Compliance with ISO9022-36-08 and MIL-STD-810G - S14.6-Cat.24.

Drop

Withstands 1 m drop onto hard surfaces.

Proof against water, sand and dust

IP67 (IEC 60529) and MIL-STD-810G - S12.5-I

Dust tight. Protected against water jets. Waterproof up to 1 m temporary submersion.

GENERAL

User interface

Web interface for full receiver control and status information.

Data logging

Removable SD card up to 32 GB. 12 parallel logging sessions. Data rates up to 50 Hz. RINEX 2.11/3.xx, Hatanaka and Leica MDB formats including Zip compression.

Data streaming

Up to 20 parallel data streams with multiple connections. Data rates up to 50 Hz. Supports Leica, Leica AG, CMR, CRN+, RTCM v2.12/2.2/3.3, BIXIT, NMEA 0183 V 2.20 and proprietary formats via TCP/IP. Ntrip and serial.

ReWorx Web and FTP services

Full control and configuration of the receiver over a web browser through Ethernet, mobile internet, serial or USB. Integrated watchdog for maximum quality and uptime. Backup and restore feature. Detailed event log and onboarding messaging service. Ntrip server (source), Ntrip client and Ntrip caster functionality with unlimited number of mount points. Secure access using HTTPS, SSL certificates, access management and port blocking. FTP Server and FTP Client (push), Email notification, SNMP support.

Leica Active Assist

Automatic on-site and real-time online support service.