GENERAL LASER

GLMC 1 R & GLMC 2 R

High-performance RTK GNSS receiver designed for unmanned vehicles. Automotive-grade positioning chip, integrated MEMS inertial measurement unit and a functional safety processor. Deeply coupled navigation algorithms, effectively addressing challenges such as satellite signal interference, blockage, and multipath effects.

GLMC 1 R
GNSS Receiver, IMU, Unmanned Vehicles

- All constellations & all frequencies
- PPP-B2b, PPP-E6, SBAS supported
- Built-in deeply coupled navigation algorithm
- Heading with dual antenna (GLMC 2 R only)
- Compatibility with multiple protocols
- Safe encrypted data and cloud management

GLMC 2 R
GNSS Receiver, IMU, Dual Antenna Heading, Unmanned Vehicles

System	
Hardware System	ARM Cortex-A7 1.8 GHz
OS	Linux
GNSS	
GPS (GLMC 1 R) GPS (GLMC 2 R)	L1 C/A, L1C*, L2, L5 L1 C/A, L1C*, L2
GLONASS	L1, L2
BDS (GLMC 1 R) BDS (GLMC 2 R)	B1I, B2I, B3I, B1C*, B2a, B2b*(PPP) B1I, B2I, B1C*, B2b*(PPP)
GALILEO (GLMC 1 R) GALILEO (GLMC 2 R)	E1, E5a, E5b, E6*(PPP) E1, E5b
QZSS (GLMC 1 R) QZSS (GLMC 2 R)	L1C/A, L2, L5, L6(CLAS*) L1C/A, L1C*, L2
SBAS* (GLMC 1 R only)	L1C/A
NavIC (IRNSS) (GLMC 1 R only)	L5*
Channel (GLMC 1 R) Channel (GLMC 2 R)	1507 1500
Pseudirange Observation Accuracy (GLMC 1 R only)	≤ 10.0 cm
Carrier Phase Observation Accuracy (GLMC 1 R only)	≤ 1.0 cm
Single (RMS)	Horizontal: 1.5 m / Vertical: 2.5 m
RTK (RMS)	Horizontal: ± (10 mm + 1 ppm) Vertical: ± (15 mm + 1 ppm)
Static Accuracy (RMS) (GLMC 1 R only)	Horizontal: ± (2.5 mm + 1 ppm) Vertical: ± (5 mm + 1 ppm)
Timing Accuracy (RMS) (GLMC 1 R only)	≤ 20 ns (does not include delays caused by RF cables or antennas)
Directional Accuracy (RMS) (GLMC 2 R only)	0.1°/1 m baseline
Speed Accuracy (RMS) (GLMC 2 R only)	0.03 m/s
Position Data	NMEA-0183
Differential Data (GLMC 1 R) Differential Data (GLMC 2 R)	RTCM 3.X RTCM 3.3
Data Format	RINEX, Custom
Data Update Frequency	RTK: 1 Hz, 5 Hz, 10 Hz (turn off integrated navigation) IMU: 50/100 Hz
IMU	
IMU parameters	Gyroscope range: ±300°/s, Full temperature zero deviation: 0.3°/s, Scale error: 4‰, Three-axis orthogonal coupling error: 1.7‰ (0.1°)
Accelerometer	Measuring range: ±16g Full temperature zero deviation: 5mg, Scale eror: 2‰ Three-axis orthogonal coupling error: 0.9‰ (0.05°)
Inertial Navigation Ability (GLMC 2 R only)	In the situation that failed to track satellite signal 10 s, RTK can keep Positioning Accuracy: Horizontal 0.32 m; Vertical 0.2 m Velocity Accuracy: Horizontal 0.08m/s, Vertical 0.04m/s, Attitude Accuracy: roll 0.07°, pitch 0.07°; azimuth 0.24°
System	
Serial port	Standard RS232 interface, Baud rate supports 1200, 2400, 4800, 9600, 19200, 38400, 115200, 230400 bps
USB	Integrated on the 7-pin interface, support access to the computer to copy data directly
Network port	Standard RJ45 interface, 10/100 Mbps network adaptive
Network Communication (Full Netcom)	LTE FDD: B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28 LTE TDD: B38/39/40/41 WCDMA: B1/2/4/5/6/8/19 GSM: B2/3/5/8
Interface	PWE×1: Power supply port, DATA×1, PPS×1, SIM×1: Nano SIM card, Ethernet×1, 4G×1: 4G antenna port, GNSS×1: main antenna (GLMC 1 R) / GNSS×2: TCN port (GLMC 2 R)
Storage	32GB, circular storage, support multi-channel storage
Electrical	
Voltage Input	9-24 VDC (12 V typical)
Power Dissipation (GLMC 1 R) Power Dissipation (GLMC 2 R)	1.8 W (typ) 1.6 W (typ)
Environment	
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Ingress Protection	IP68
Physical	
Material	Magnesium alloy main body
Dimension	148.8 × 105 × 50.3 mm
Weight	490 g

* Firmware support is required
Errors and technical modification subject to change.

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