

MicroStrain Sensing Product Datasheet

RTK Ready All In One Navigation Solution 3DMGQ7-GNSS/INS



The **3DMGQ7** is an all-in-one navigation solution featuring centimeter-level position accuracy. It is our first dual-antenna, RTK enabled INS designed for outstanding performance, even in unpredictable conditions. It arrives equipped with dual multiband GNSS receivers, low noise and low drift MEMS inertial sensors, and a robust adaptive Kalman filter. When paired with our SensorCloud™ RTK corrections service, the **3DMGQ7** is the best single-vendor RTK navigation solution available.

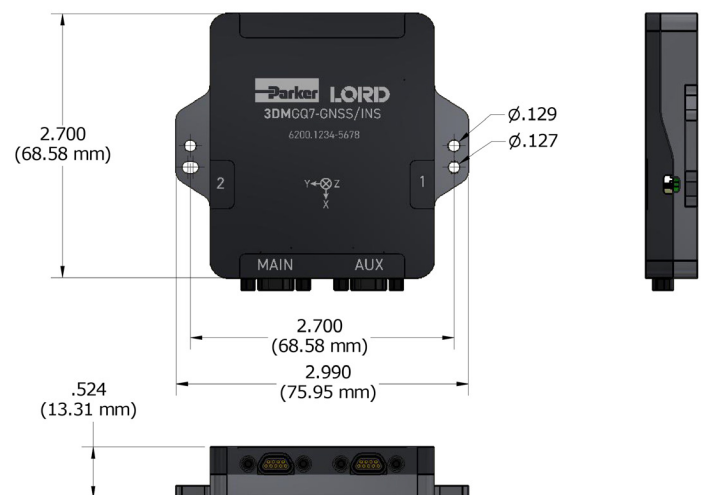
APPLICATIONS

Uses for the **3DMGQ7** include applications requiring beyond visual line of sight (BVLOS) navigation, autonomous vehicle (AV) operation, simultaneous localization and mapping (SLAM), and wheeled or legged robotics. Combined with the SensorCloud RTK network service and cell enabled RTK, the **3DMGQ7** is a complete out-of-the-box, advanced, centimeter-level accuracy navigation solution.

Featured Specifications

Position accuracy	2 cm with L1/L2 RTK corrections
Velocity accuracy	0.05 m/sec
Attitude accuracy	±0.1° RMS roll & pitch ±0.25° RMS heading (typical)
Attitude repeatability	0.1° (typical)
Data output rate	1KHz
Gyro in-run bias stability	<2°/h
Gyro bandwidth/range	300Hz / ±300°/s
Accel in-run bias stability	±0.02 mg
Accel bandwidth/range	225Hz / ±8g
Accel noise density	20ug/√Hz (2g option)
Interface	Dual Micro-DB9, USB, RS-232, Dual MMCX
Protocols	MIP, RTCM3
GNSS	GPS/QZSS, GLONASS, Galileo, BeiDou*
GNSS Freq Bands	L1C/A, L2C, L10F, L20F, E1B/C, E5b, B1I, B2I
Size	76 mm x 68.6 mm x 13.3 mm
Weight	78g

*Kalman filter support for BeiDou measurements (tightly-coupled and RTK) to be provided in a future firmware release.



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