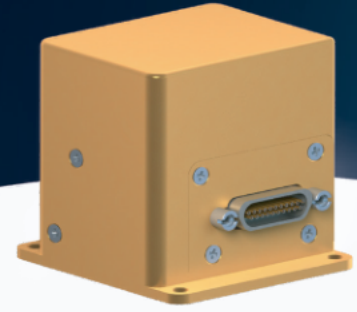


GC3DG02-ETC

MULTI-AXES GYROSCOPE MODULE
with EtherCAT Interface



ITAR
FREE

The GC3DG02 series represents a family of high-precision MEMS gyroscopes available in 1, 2, or 3-axis configurations, designed to deliver accurate guidance, control, stabilization, and navigation across a wide range of demanding applications combined with a robust EtherCAT communication interface.

Key Advantages

- » EtherCAT Interface – Enables real-time, high-speed, and deterministic communication.
- » Compact & Lightweight – Ideal for size- and weight-constrained systems. Low Power Consumption – Suitable for battery-powered and energy-efficient platforms.
- » Maintenance-Free Design – No recalibration or periodic servicing required. High Reliability – Operates in harsh and dynamic environments.
- » Cost-Effective – Comparable accuracy to fiber optic and laser based gyroscope at a fraction of the cost.

Application Areas

- » Unmanned aerial vehicles, guided systems, and GNSS/INS integrated navigation applications.
- » EO/IR gimbals, antenna stabilization units, and other precision pointing platforms.
- » Land, marine, and industrial robotic systems requiring reliable attitude and motion sensing.

GCIMU02-ETC SPECIFICATIONS

Size	44 mm x 45 mm x 28.8 mm
Weight	< 100 g
Power Consumption	< 2.5 W
Operating Temperature Range	[-40 , +70] (°C)
Data Rate	up to 4kHz filtered angular rate and linear acceleration 500 Hz compensated Δθs (other frequencies available)
Gyro Operating Range	Varies by configuration up to 10.800 deg/sec
Supply Voltage	4-36 V
Timing Stability	< 2.5 ppm
Data Interface	EtherCAT, RS422

GC3DG02 TYPICAL PERFORMANCE OVER FULL OPERATING TEMPERATURE RANGE

GYRO Type	Bias Repeatability (deg/hr)	Bias Instability (deg/hr)	ARW (deg/rhr)
GR1	< 3	< 0.5	< 0.125
GR2	< 1	< 0.1	< 0.05
GR3*	< 0.5	< 0.05	< 0.025

**Measurement range for GR1 and GR2 is ±500 deg/sec. It is ±400 deg/s for GR3.