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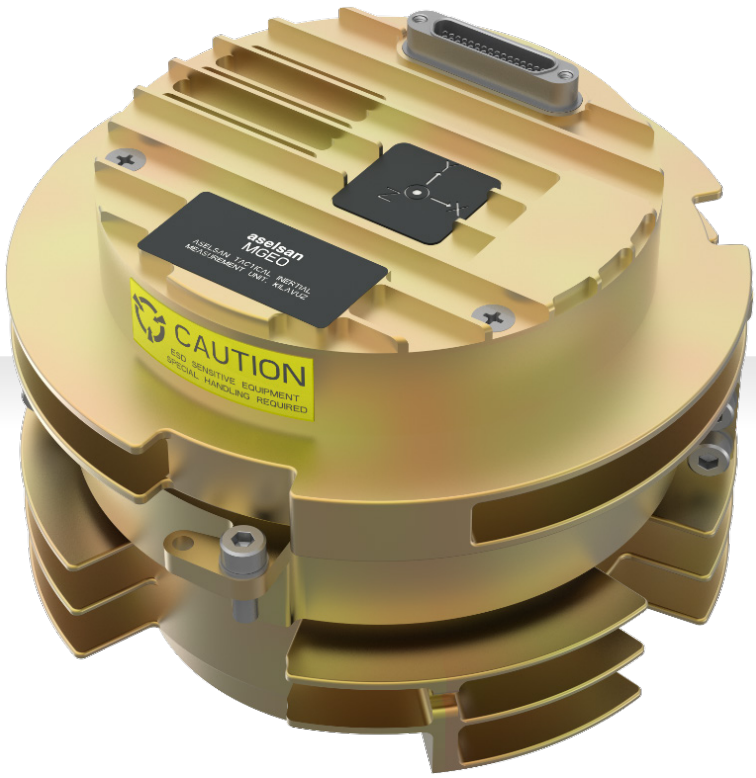
KILAVUZ-31 TG-IMU

TACTICAL GRADE INERTIAL MEASUREMENT UNIT

FIBER-OPTIC GYROSCOPES
MEMS ACCELEROMETERS



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KILAVUZ-31 TG-IMU

TACTICAL GRADE INERTIAL MEASUREMENT UNIT

Kılavuz-31 is a tactical grade inertial measurement unit, which is designed and developed by ASELSAN, to be used in systems like land/air/naval inertial navigation system, guided munition kit, guided aircraft bomb, UAV munition, cruise missile and air defense missile.

Kılavuz-31 uses fiber optic gyroscopes and MEMS accelerometers for measurement of angular rate and acceleration of the platform. It has a small size, high reliability, low weight and low power consumption by using the advantages of the MEMS and fiber optic technology.

Applications
- Navigation
- Guidance and Control

Gyro Performance Specifications

• Measurement Range*	: ±2000 °/s (±490 °/s)
• Angular Random Walk (const temp)	: ≤0.035 °/√h
• Scale Factor (over temp)	: ≤100 ppm (1σ)
• Misalignment (over temp)	: ≤0.2 mrad (1σ)
• Bias (over temp)	: ≤1 °/h (1σ)
• Bias Instability (Allan Variance)	: ≤0.1 °/h

Accel Performance Specifications

• Measurement Range*	: ±40 g (±15 g)
• Velocity Random Walk (const temp)	: ≤50 µg/√Hz
• Scale Factor (over temp)	: ≤200 ppm (1σ)
• Misalignment (over temp)	: ≤0.5 mrad (1σ)
• Bias Repeatability (run to run)	: ≤1 mg (1σ)
• Bias Stability (over temp, in run)	: ≤150 µg (1σ)
• Bias Instability (Allan Variance)	: ≤50 µg

Physical/ Electrical Specifications

• Data Rate (UART)	: Configurable up to 2kHz
• Data Rate (SDLC)	: 100/600 Hz
• Dimensions	: Ø 127 mm x 91.6 mm (max)
• Weight	: 940 ± 10 g
• Input Voltage	: +5 VDC, ± 15 VDC
• Power Consumption	: 10 W (nominal), 14W (max)
• Serial Interface	: RS 422; SDLC or UART

Environmental Specifications

• Operating Temperature	: -54 to +71°C
• Storage Temperature	: -54 to +71°C
• Vibration (Functional)	: 6 grms, 20 Hz... 2000 Hz
• Shock (Functional)	: 40 g 11 ms halfsin

*Values in parentheses apply to civilian versions.

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