

KRIO

Gyrocompass Navigation for Special Missions



IMU/AHRS/Gyrocompass and Stabilization



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 CIVITANAVI
SYSTEMS®

KRIO

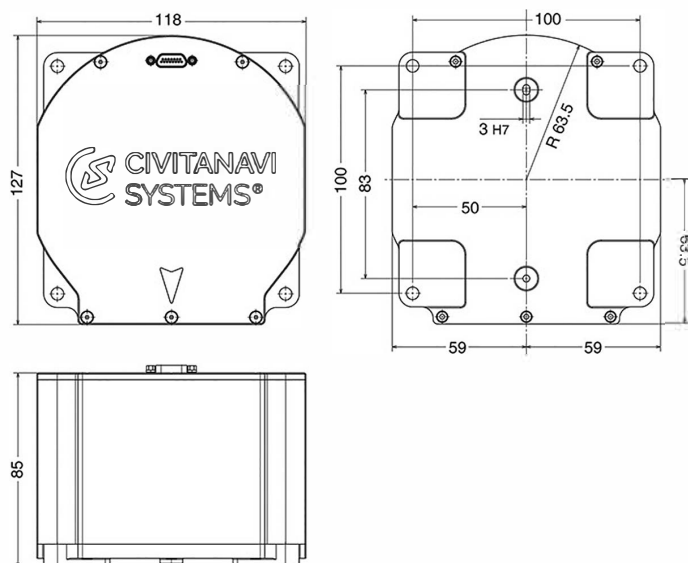
Fiber Optic Gyro Inertial Measurement Unit

KRIO is Civitanavi System's response to the requirement for a dual use, ITAR free **Inertial Measurement Unit for commercial, military and industrial applications providing customers with greater flexibility in its use, system accuracy and function.** The fully flexible design provides for a multiple range of capabilities from tactical through to a complete gyrocompassing AHRS function, weighing a mere 1Kg and consuming less than 14 Watts of input power, it is the world's lightest, smallest and lowest power consuming Inertial Measurement Unit available in the market today.

The AHRS version of the KRIO is certifiable to DO-178B and DO-254 standards and is capable of meeting the very demanding and precise navigation capability required by airborne applications.

All KRIO configurations can be installed with variations of software, including:

- Attitude and Heading Reference System (AHRS)
- Motion Compensation
- Radar Stabilization
- Guidance
- Flight Control Software
- EO Stabilization



► PERFORMANCE RANGES ◀

GYROCOMPASS/AHRS	INTERFACES
Heading accuracy (RMS): $<1^{\circ}$ - 0.5° sec Latitude	RS422 digital I/O
Roll/Pitch (RMS): $<0.5^{\circ}$ - 0.1°	SDLC
Aiding source: GNSS (RTK/Omni star)	Data output rate: up to 2KHz
SW/HW certification: DO-178B/DO-254	
IMU GYROSCOPES	ENVIRONMENTAL
Type: FOG	Operating Temperature: $-54^{\circ}\text{C} < T < 71^{\circ}\text{C}$
In run Bias stability (1σ) Allan variance: <0.1 - $0.01^{\circ}/\text{hr}$	EMI/Vibration/Shock: DO-160G/MIL-810F
Bias repeatability (1σ): $<0.5^{\circ}$ - $0.1^{\circ}/\text{hr}$	
ARW: <0.05 - $0.005^{\circ}/\sqrt{\text{hr}}$	PHISICAL
Scale factor stability/Linearity (1σ): <300 - 100 ppm	Size (WxHxD): 118x85x127mm
Maximum rate: ± 400 - $1000^{\circ}/\text{sec}$	Weight: $>1\text{Kg}$
Bandwidth (-3db): 70-500Hz	
IMU ACCELEROMETERS	POWER SUPPLY
Type: MEMS/Quartz	Consumption: 10-14W
Bias repeatability: <1 - 15mg	Supply Voltage: 18-36VDC
Input Range: $\pm 5/10/20/40/60\text{g}$	
Bandwidth: 70-500Hz	

