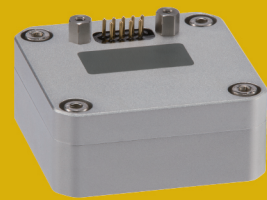




Fiber Optic Gyroscope Products



Single Axis Gyroscope
[FG 150]



Inertial Measurement Unit
[FI 200C]



Gyrocompass



Inertial Measurement Unit (IMU)

FI 200P

Advanced Solution of Stabilization and Flight Control



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LEA-FI 200P-03

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Inertial Measurement Unit (IMU)

FIBERPRO's FI 200P integrates three fiber optic gyros with three high-accuracy accelerometers and state-of-the-art electronics in a compact and lightweight package. FI 200P provides digital data of incremental velocity and angular rate through Synchronous Data Link Control (SDLC) or Universal Asynchronous Receiver Transmitter (UART).

Applications

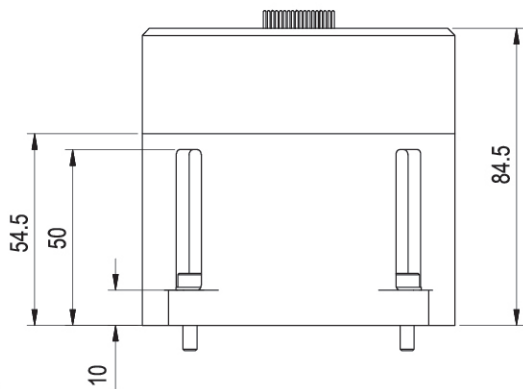
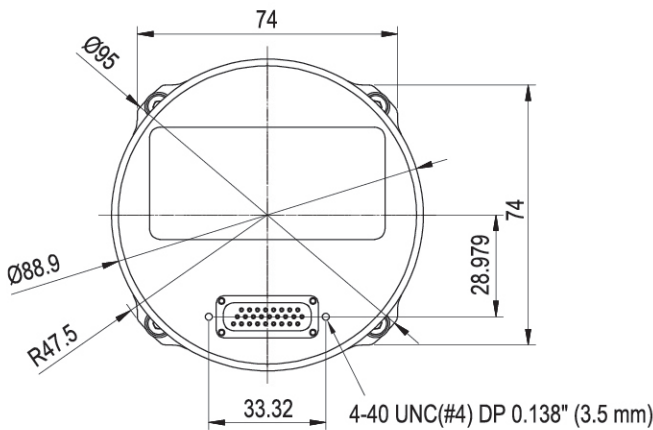
- Unmanned Aerial Vehicle
- Camera / Radar Stabilization
- Guidance / Flight Control
- Antenna Stabilization
- Motion Compensation
- Attitude and Heading
- Reference System (AHRS)



FI 200P

Dimensions

(Unit : mm)



Specifications

Performance	
Rate Sensor	
Technology	Closed-loop FOG
Operating Range	$\pm 1,000^\circ/\text{sec}$
Bias Repeatability (over temp. range)	$\leq 0.5^\circ/\text{hr}$ (1 σ , RMS)
In-run Bias Stability	0.03 $^\circ/\text{hr}$ (typical, 1 σ) $\leq 0.05^\circ/\text{hr}$ (max, 1 σ)
Scale Factor Accuracy	≤ 100 ppm (1 σ , RMS)
Scale Factor Non-linearity (full rate, 25 $^\circ\text{C}$)	≤ 20 ppm
Angle Random Walk	0.025 $^\circ/\sqrt{\text{hr}}$ (typical, 1 σ)
Axis Misalignment	≤ 100 μRad
Accelerometer ¹⁾	
Technology	Quartz Servo
Operating Range	± 10 g ²⁾
Bias Repeatability (over temp. range)	300 μg (1 σ , RMS)
In-run Bias Stability	3 μg (typical, 1 σ)
Scale Factor Accuracy	≤ 200 ppm (1 σ , RMS)
Velocity Random Walk	0.015 m/s/ $\sqrt{\text{hr}}$ (typical, 1 σ)
Axis Misalignment	≤ 200 μRad
Bandwidth	≥ 200 Hz (-3 dB)
Electrical/Mechanical	
Start-up Time	< 0.6 sec
Signal Input/Output	UART(RS-422), SDLC
Baud Rate (UART)	460.8 Kbps
Data Rate	100 / 400 / 600 / 1,000 Hz ^{3), 4)}
Input Voltage	+ 5 V, ± 15 V
Power Consumption	5 W @ 25 $^\circ\text{C}$ (< 12 W, @ - 40 $^\circ\text{C}$)
Dimensions	88.9 mm $\varnothing$ $\times$ 84.5 mm H (3.5" $\varnothing$ $\times$ 3.3" H, w/o connector)
Weight	900 g (1.98 lbs)
Environment	
EMC/EMI	MIL-STD-461F
Humidity	Up to 95 %
Low Pressure	1750 Pa, 30 min (@ 55,000 ft)
Temperature (operating)	- 40 $^\circ\text{C}$ to + 71 $^\circ\text{C}$ (- 40 $^\circ\text{F}$ to 160 $^\circ\text{F}$)
Shock (MIL-STD-810G)	40 g, 11 msec, Sawtooth (operation)
Vibration (MIL-STD-810G)	7.7 g RMS (20 Hz to 2,000 Hz)

- 1) Replacement upon request
- 2) It is optional up to 80 g
- 3) Select one data rate
- 4) In case of SDLC, 1,600 Hz is available

The specification and technical information contained herein are subject to change without notice and are furnished without charge or obligation. They are given and accepted at recipients sole risks.