Fiber Optic Gyroscope Products



Single Axis Gyroscope
[FG 150]

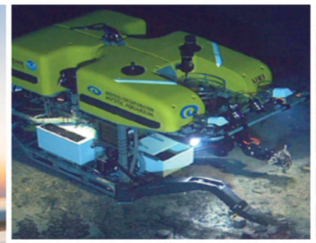


Inertial Measurement Unit
[FI 200P]



Gyrocompass
[FN 210G]









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LEA-FI 180-00

FIBERPRO

Inertial Measurement Unit (IMU)

FI 180

High Performance Tactical Grade FOG IMU **ITAR FREE**

www.fiberpro.com

Inertial Measurement Unit (IMU)

FIBERPRO's FI 180 is a fiber optic-based Inertial Measurement Unit, which is small, lightweight and offers the highest performance / price ratio of its kind. FI 180 provides inertial data of incremental velocity and angular rate through digital format. Its low operating voltage and low power consumption provide one of the lowest ownership cost.

Applications

Autonomous Underwater Vehicle

Pipeline Inspection Gauge

Motion Compensation

Camera / **R**adar Stabilization

Guidance / **F**light Control

Attitude and Heading

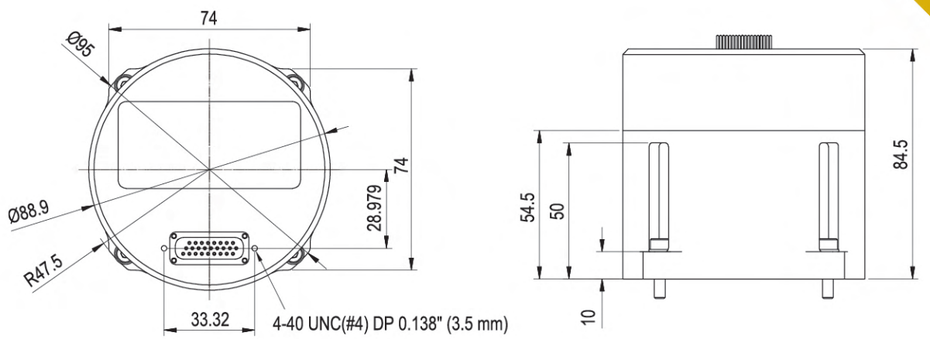




FI 180

Dimensions

(Unit : mm)



Specifications

	Unit	FI 180-A8	FI 180-A15	FI 180-A40
Rate Sensor				
Technology		Closed-loop FOG		
Operating Range	°/sec	± 490	± 490	± 490
Bias Repeatability (over temp. range) (1σ, RMS)	°/hr	≤ 0.5	≤ 0.5	≤ 0.5
In-run Bias Stability (1σ)	°/hr	≤ 0.05	≤ 0.05	≤ 0.05
Scale Factor Accuracy (1σ, RMS)	ppm	≤ 100	≤ 100	≤ 100
Scale Factor Non-linearity (full rate, 25°C)	ppm	≤ 20	≤ 20	≤ 20
Angle Random Walk (typical, 1σ)	°/√hr	0.025	0.025	0.025
Axis Misalignment	μRad	≤ 100	≤ 100	≤ 100
Accelerometer				
Technology		MEMS		
Operating Range	g	± 8	± 15	± 40
Bias Repeatability (over temp. range)	mg	1.0	1.3	1.5
In-run Bias Stability (1σ)	μg	5	10	20
Scale Factor Accuracy (1σ, RMS)	ppm	150	300	500
Velocity Random Walk (1σ)	m/s/√hr	0.015	0.035	0.045
Axis Misalignment (1σ)	μRad	≤ 200	≤ 200	≤ 200
Bandwidth (-3 dB)	Hz	≥ 260	≥ 260	≥ 260
Electrical/Mechanical				
Start-up Time	sec	< 0.6		
Signal Input/Output		UART (RS-422)		
Baud Rate (UART)	bps	460, 800		
Data Rate	Hz	100 / 200 / 400 / 600 /1 000 [1) 2)]		
Input Voltage	V	+ 5 V		
Power Consumption	W	5 W @ 25°C (< 8 W, @ - 40°C)		
Dimensions	mm	88.9 Ø × 84.5 H (3.5" Ø × 3.3" H, w/o connector)		
Weight	g (lbs)	810 (1.79)		
Environment				
EMC/EMI		MIL-STD-461F		
Humidity		Up to 95 %		
Low Pressure		1750 Pa, 30 min (@ 55,000 ft)		
Temperature (operating)	°C (°F)	-40 to +71 (- 40 to 160)		
Shock (MIL-STD-810G)		40 g, 11 msec (terminal sawtooth)		
Vibration (MIL-STD-810G)		7.7 g RMS (20 to 2,000)		

1) Select one data rate
2) 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 receipients sole risks.

Ordering Codes

FI 180-(1)-(2)-(3)-(4)

1. Acceleration Range ➡ A08: 8 g, A15: 15 g, A40: 40 g
2. ROHS ➡ Compliance: - R, Non-compliance: - NR
3. Data Rate ➡ - 01: 100 Hz, - 02: 200 Hz, - 04: 400 Hz, - 06: 600 Hz, - 10: 1000 Hz
4. Interface ➡ - A: SDLC, - B: UART