FIBER OPTIC GYRO

8088 000-4xx DIGITAL/ANALOG

The new generation of Saab´s high performance Fiber Optic Gyro with both analog and digital output. Backed up by over 50-years' experience in inertial sensors.

This new generation Fiber Optic Gyro is specifically designed for stabilization applications where there is a need for high performance single-axis rate sensing. The units are equipped with both analog and digital interface in parallel giving the flexibility to be used as a standard configuration in various systems.

Fiber Optic Gyro (FOG).

Operation:
A Fiber Optic Gyro is based on the Sagnac effect. The time for light to travel in a coil is dependent of the rotation of the coil. In a ring fiber optic gyro light is divided into two beams entering a fiber coil in opposite directions. After exiting the coil the two beams are combined in a coupler and a phase difference proportional to the rate of rotation is measured

Applications:
- Gun stabilization
- Missile stabilization
- Inertial measurement units
- Sight stabilization
- Camera stabilization
- Antenna stabilization
- Autonomous vehicles

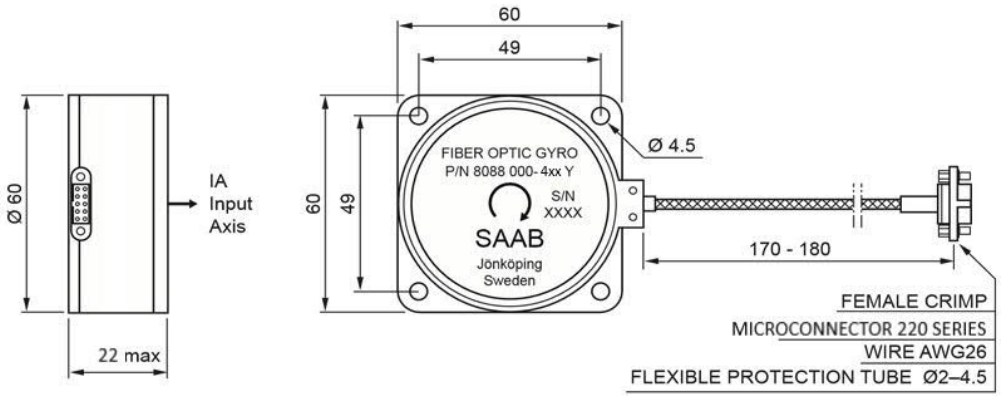
Features:
- Solid state
- Low drift
- High shock usability
- No delay on analog interface
- High internal sampling rate
- Low delay on digital interface
- Single +5VDC Supply
- Small size
- Available in EMI protected version

Company Background:
Saab has been a producer of gyros of various designs for over 50 years. Production was initially intended for Saab designed aircraft sight and missile requirements.

Since the end of 70´s, the gyro production have expanded into a product line of its own including design and production of gyro products for worldwide customers. Up to the present time, we have produced more than 50.000 sensors. Gyros based on FOG technology has been the main product since the end of 90´s.

Mechanical Gyros.

DIMENSIONAL DRAWING 8088 000-4xx



SPECIFICATION VERSION 8088 000-4xx

CHARACTERISTICS	UNIT	VALUE
Range	°/s	50 -350
Bias at 20°C (initial cond.)	°/h	20
Bias variation peak to peak over temperature range	°/h	40
Bias stability	°/h rms	1
SF error in Room Temperature	%	0.1
SF variation Over Temperature Range	%	0.3
Linearity error 0-150 °/s	% of Full Scale	0.2
Bandwidth	Hz	<1000
Start up time	msec	100
Weight	grams max	100
Temperature Sensor Output		
Built In Test Output		
POWER REQUIREMENTS		
Supply Voltage	VDC	+5 (4.90 to 5.25)
Input Power	W	1.5
ENVIRONMENTS		
Shock	g : msec	90 : 6
Vibration, sine	g : Hz	10 : 20-2000
Vibration, random	g²/Hz : Hz	0,09 : 20-2000
Operating temperature range (OTR)	ºC	-40 to +70
Storage temperature range	ºC	-46 to +75
DIGITAL OUTPUT FORMAT RS422		
Resolution	Bits	20-24
Transmission Rate	kBaud	115.2 – 921.6
Output Update Rate	kHz	1-4
ANALOG OUTPUT FORMAT		
Differential Output	VDC	±4
Output Load	kΩ	10

Specifications subject to change without notice Sept 2020

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