

iTGAC-FOSA

Triaxial Sensor Cube with Fiber Optical Gyros and Servo Accelerometers

For several years iMAR has been producing highly precise inertial measurement systems, featuring fiber-optical gyros, mechanical gyros or ring laser gyros in strap-down technique. Due to an intensive data processing by powerful process computers and the use of well-selected sensors these systems achieve outstanding results concerning bandwidth and shock resistance as well as a highly flexible systems configuration.



provided for dynamically motion analysis that covers applications which require a medium accuracy and a simple using. iTGAC-FOSA is a triaxial gyro cube with three orthogonal mounted rugged fiber optical gyroscopes and three servo-accelerometers with analog output. The iTGAC-FOSA will be delivered with a calibration sheet containing the polynomial coefficients for a user-operated external correction at room temperature for industrial applications like camera stabilisation, machine guidance or automotive testing..

With iTGAC a product family is

Technical Data of iTGAC-FOSA:

Triaxial Gyro and Accelerometer Cube ($\omega_x, \omega_y, \omega_z, a_x, a_y, a_z$):

Range:	± 200 deg/s (50 to 800 deg/s optional)	± 20 g (2...25 g optional)
Bias:	< 50 μ V (const. temp.)	1 mg (const. temp.)
	< 500 μ V @ 5V range (stability OTR)	approx. 0.6 mg/K (approx. 60 mg OTR)
Resolution:	< 25 μ V	0.1 mg
Scale factor:	40 deg/s/V (other as option)	0.5 g/V (other as option)
Scale factor error:	5 % (OTR)	0.05 % / K
Linearity error:	< 3 % (uncompensated)	0.3 %
	< 0.2 % (ext. polynomial correction by user)	< 0.3 %
Output:	± 10 V	± 10 V
	Option: Output scaled to ± 10 V, ± 5 V or customized	
g-sensitivity:	none	
Noise (0-100 Hz):	< 0.15 deg/ \sqrt{h} (9 deg/h/ \sqrt{Hz})	< 50 μ g/ \sqrt{Hz}
Bandwidth:	0...200 Hz (optional up to 300 Hz)	50 Hz
Power:	10...34 V DC, < 8 W	
Connector:	25 pin SUB-D (male)	
Temperature:	-40...+70 °C (case temperature)	
Shock:	90 g, 6 ms (gyro)	50 g, 11 ms (accelerometer)
Weight:	< 900 grams (light weight version on request)	
Size:	80x80x108 mm	

Please ask also for our systems with digital output (iVRU-FAS, iNAV-FMS).

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