GESELLSCHAFT FUER INERTIALE MESS-,
AUTOMATISIERUNGS- UND REGELSYSTEME MBH
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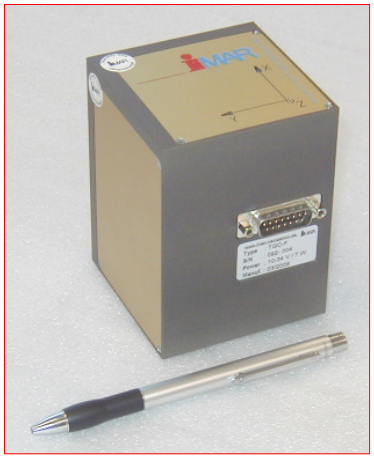
iTGAC-FC

Triaxial Sensor Cube
with Fiber Optical Gyros and MEMS 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.

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



Technical Data of iTGAC-FC:

Triaxial Gyro and Accelerometer Cube (ω_x, ω_y, ω_z , a_x, a_y, a_z):			
Range:	± 200 deg/s (50 to 800 deg/s optional)		±10 g (2g or 30 g optional)
Bias Stability:	< 50 µV	(const. temp.)	2 mg (const. temp. @ range 10 g)
	< 500 µV @ 5V range	(stability OTR)	approx. 1 mg/K
Resolution:	< 25 µV		0.5 mg
Scale factor:	20 deg/s/V (@ range ±200 deg/s)		1 g/V (@ range ±10 g)
Scale factor error:	5 %	(OTR)	< 250 ppm/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 (factory set)		
g-sensitivity:	none		
Noise (0-100 Hz):	< 0.15 deg/$\sqrt{h}$ (9 deg/h/$\sqrt{Hz}$)		< 50 µg/$\sqrt{Hz}$
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)		1000 g, 1 ms (accelerometer)
Weight:	< 900 grams (light weight version on request)		
Size:	80x80x108 mm		

Please ask also for our systems with digital output (iVRU-FA5, iNAV-FMS).

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