

Intelligent Gyro Compass Data Sheet

The Tritech Intelligent Gyro Compass (iGC) is a marine motion reference unit (MRU) and heading sensor. Combining three angular rate gyros with three orthogonal DC accelerometers and three orthogonal magnetometers, the instrument provides real time geometry information required for ROV, AUV and marine platforms.



Features

- Depth rated to 4000m.
- Programmable digital output.
- Three angular rate gyros
- Triaxle accelerometers
- 3 component fluxgate magnetometer.

With a 9 sensor orientation processor and simple interface the iGC offers movement data not commonly available from Magnetically Slaved Gyro and Flux Gate Compasses. The orientation matrix and quaternion formats can be utilised directly for complete integration into a third party software packages. Alternatively the iGC offers a number of industry standard navigation output telegrams which can be read directly by any terminal program. A document outlining the available telegrams is available under downloads. We request customers select their required telegram prior to a rental so the instrument can be programmed.

Product Dimensions

Physical	Dimensions (L x W x H)	Weight
(instrument only)	7.9cm x 7.9cm x 12cm	0.95kg in air: 0.45kg in water

Technical Specifications

Orientation Range:	360° full scale, all axes.
Angular Velocity Range:	±300° per second.
Sensor Resolution:	16 bit.
Dynamic Compensation:	Close loop digital control (0-50Hz).
Orientation Resolution:	< 0.1°.
Accuracy:	Better than 1°.
Temperature Drift:	±0.025% per °C
Linearity:	0.23% full scale (tested in static conditions).
Repeatability:	0.2°.
Range:	Gyros: ±300° per second. Accelerometers: ±5g. Magnetometers: ±250uT.
Data Formats:	NMEA 0183. Proprietary iGC. ROV specific hardware interface via separate interface card (not offered for rental).
Digital Output:	RS232 or RS485.
Analogue Output:	Optional analogue output and external synchronisation.
Output Rate:	Max 20Hz.
Baud Rate:	from 1200Bd to 115.2kBd.
Power:	24V DC at 100mA.
Operating Temperature:	-40 to 70°C.

Gallery



Tritech iGC mounted on the GEEP multi sensor platform.



iGC ship kit, including; software, manual and interface cable to bare wires.