

TOGS

Subsea Navigation Systems

Next Generation of Subsea Attitude and Heading Reference Systems (AHRS)

The new TOGS subsea navigation system is built on core TSS fibre optic gyro (FOG) navigation technology with significant improvements in efficiency and functionality. It is available in three standard heading accuracy variants: 0.1° (TOGS1), 0.3° (TOGS3) and 0.5° (TOGS5), all rated for operational depths to 4,000m or 6,000m. Attitude data is delivered via accurate roll/pitch measurement capabilities of 0.01° (TOGS1) and 0.05° (TOGS3 and TOGS5), and a heave performance of 5cm or 5%.

Built for OEM ROV manufacturers and operators, and with a number of options available, the highly flexible TOGS units are ideally suited to installation on a wide range of ROVs.

All TOGS systems have an alignment time, from switch-on to settle, of only 10 minutes giving less downtime and allowing for more operational time. An AHRS-to-INS option is also available to upgrade to the new TOGSINS for inertial positioning.



PRODUCT FEATURES & BENEFITS

- Three model options; 0.1°, 0.3° and 0.5° sec lat heading to cover all your needs
- Choice of lightweight, high quality 4,000m and 6,000m rated titanium casings
- Based on tried and tested Teledyne TSS fibre optic gyro technology
- Easy to use common TSS embedded browser interface
- Fast alignment giving less down time, and more operational time
- Low power consumption
- AHRS-to-INS upgradable
- Large range of outputs to suit most applications



TOGS Subsea Navigation Systems

TECHNICAL SPECIFICATIONS



		TOGS1	TOGS3	TOGS5	
Performance	Heading accuracy	0.1° secant latitude RMS	0.3° secant latitude RMS	0.5° secant latitude RMS	
	Roll & pitch accuracy	0.01° RMS	0.05° RMS	0.05° RMS	
	Heave accuracy	5 cm or 5%	5cm or 5% (delayed)	5cm or 5% (delayed)	
	Alignment time	10 minutes			
	Angular rate	≥300°/s	≥500°/s	≥500°/s	
	Operating latitude	± 80°			
Power	Power supply	18 - 36Vdc			
	Power consumption	16W	14W	14W	
Interface	Serial (bi-directional)	4 x configurable RS-232 / RS-422			
	Serial (transmit only)	4 x configurable RS-232 / RS-422			
	Ethernet	10 / 100 MB			
	Data formats	NMEA 0183 / IEC 61162, TSS proprietary and industry standard			
	Aiding inputs	GPS, EM Log, DVL			
Physical Characteristics	Dimensions	4000m	182mm (Ø) x 306mm (h)	157mm (Ø) x 280.5mm (h)	157mm (Ø) x 280.5mm (h)
		6000m	182mm (Ø) x 309mm (h)	157mm (Ø) x 283.5mm (h)	157mm (Ø) x 283.5mm (h)
	Weight in air	4000m	14.5kg	10.2kg	10.2kg
		6000m	16.0kg	11.5kg	11.5kg
	Weight in water	4000m	7.2kg	5.4kg	5.4kg
		6000m	8.5kg	6.5kg	6.5kg
	Rating	4000m	4000m rated titanium	4000m rated titanium	4000m rated titanium
		6000m	6000m rated titanium	6000m rated titanium	6000m rated titanium
MTBF	150,000 hours				
Environmental and EMC	Operating temperature	-20°C to +55°C			
	Storage temperature	-30°C to +70°C			
	Environmental	Meets or exceeds IEC 60945			
	EMC	Meets or exceeds IEC 60945			
Compliance	Standards	N/A			
	Export	Goods are subject to Strategic Export Control			
Warranty	12 months international warranty including parts and labour				
Scope of Supply		TOGS1 unit	TOGS3 unit	TOGS5 unit	
		Power/data cable (1.5m)*	Power/data cable (1.5m)	Power/data cable (1.5m)	
		Subsea Ethernet cable (1.5m)	Subsea Ethernet cable (1.5m)	Subsea Ethernet cable (1.5m)	
		Ethernet configuration cable (2m)	Ethernet configuration cable (2m)	Ethernet configuration cable (2m)	
Options		Power/data cable up to 20m	Power/data cable up to 20m	Power/data cable up to 20m	
		Optional data cables up to 20m			
		Right Angle connector options			
		Extended warranty			

*Port 1 and Port 2, optional data cable(s) required for additional ports

