

TOGSINS

Subsea Navigation Systems

Next The Next Generation of Subsea Inertial Navigation Systems

The new TOGSINS builds on core TSS fibre optic gyro technology by incorporating inertial navigation (INS) capability. As with TOGS, it is available in three standard heading accuracy variants: 0.1° (TOGSINS1), 0.3° (TOGSINS3) and 0.5° (TOGSINS5), all rated for operational depths to 4,000m or 6,000m giving you a range for all your needs.

Inertial position data is produced using an INS algorithm, within the firmware framework of TOGS, whilst attitude data is delivered via accurate roll/pitch measurement of 0.01° (TOGSINS1) and 0.05° (TOGSINS3 and TOGSINS5), and a heave performance of 5cm or 5%.

The TOGSINS operates at its ultimate performance when coupled directly to an external DVL and/or an external USBL. It can also be connected to an external depth sensor for enhanced performance.



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
- Additional external coupling; DVL/GPS/USBL/LBL
- Fast alignment giving less down time, and more operational time
- Able to accept both external depth sensor and SVS to give better flexibility
- Low power consumption
- Large range of outputs to suit most applications

TOGSINS has a fast alignment time, from switch-on to settle, of only 10 minutes giving less downtime and allowing for more operational time.

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



TELEDYNE MARINE
TSS
Everywhereyoulook™

TOGSINS Subsea Navigation Systems

TECHNICAL SPECIFICATIONS



		TOGSINS1	TOGSINS3	TOGSINS5	
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°			
Position <small>*performance aiding sensor dependent</small>	GPS aiding*	factor of 3 improvement	factor of 3 improvement	factor of 3 improvement	
	DVL aiding (CEP50)	0.2% distance travelled	0.4% distance travelled	0.6% distance travelled	
	No aiding (CEP50)	1.5m after 1 min / 6m after 2 min	5m after 1 min / 20m after 2 min	Not specified	
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, Depth Sensor, SVS, USBL/LBL			
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		TOGSINS1 unit	TOGSINS3 unit	TOGSINS5 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)	
		Data cable (1.5m)	Ethernet configuration cable (2m)	Ethernet configuration cable (2m)	
		Ethernet configuration cable (2m)			
Options		Power/data cable up to 20m			
		Optional data cables up to 20m			
		Right Angle Connector options			
		Extended warranty			



TELEDYNE MARINE

TSS

Everywhere you look™

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Specifications subject to change without notice.
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