



SATURN

Surface Navigation Systems

When Performance Matters

SATURN, from Teledyne TSS, is a world leading marine navigation system for surface applications. Built on TSS core fibre optic gyro technology giving unparalleled attitude and heading reference system (AHRS) performance. SATURN offers a fast alignment time of only 10 minutes, from switch-on.

It has been designed to address a market need for cost-effective products with competitive specifications for surface use including survey vessels, workboats and commercial shipping vessels. Based on proven FOG technology, and with no moving parts, SATURN is maintenance-free with high MTBF. It is available in three standard heading accuracy variants: 0.1° sec lat (SATURN10), 0.3° sec lat (SATURN30) and 0.5° sec lat (SATURN50).

Accurate attitude information is delivered through SATURN's roll/pitch capability (0.01° SATURN10 and 0.05° SATURN30/50), and 5cm or 5% heave measurement.

All SATURN units are IMO approved and are WheelMark certified to the Marine Equipment Directive.



SATURN10



SATURN30/50

PRODUCT FEATURES & BENEFITS

- Three model options: 0.1°, 0.3° and 0.5° sec lat heading accuracy
- Heading, pitch, roll, heave and velocity outputs
- Maintenance free with high MTBF
- Low power consumption compared to RLG alternatives
- Based on the dependable Teledyne TSS FOG IMU
- Fast alignment giving less down time, and more operational time
- IMO approved and WheelMark certified
- AHRS to INS upgrade functionality
- Simple configuration and set up via TSS common embedded browser
- Robust aluminium construction, IP31-rated





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TECHNICAL SPECIFICATIONS

		SATURN 10	SATURN 30	SATURN 50
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	Bi-directional	4 x configurable RS-232 / RS-422		
	Transmit only	4 x configurable RS-232 / RS-422		
	Ethernet	1 x Ethernet		
		Status / Alarm relay contacts		
	Data formats	NMEA 0183 / IEC 61162, TSS proprietary and industry standard		
	Aiding inputs	GPS, EM Log, DVL		
Physical Characteristics	Dimensions	179.5mm (h) x 165mm (w) x 366mm (d)		
	Weight	8.2kg	7.1kg	7.1kg
	Rating	IP66	IP31	IP31
	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		
	MIL-STD	MIL-STD-167-1A MIL-STD-810H MIL-STD-461G		
Compliance	Standards	Approved to IMO A424(XI), IMO A821 (19), IMO A694(17), MSC 191(79), ISO 8728, ISO 16328, IEC 60945, IEC 62288, IEC 61162, US Coast Guard MRA		
	Export	Goods are subject to Strategic Export Control		
Warranty		12 months international warranty including parts and labour		
Scope of Supply		SATURN10 unit	SATURN30 unit	SATURN50 unit
		Power/data cable (5m)*	Power cable (3m)	Power cable (3m)
		RJ45 Ethernet cable (3m)	RJ45 Ethernet cable (3m)	RJ45 Ethernet cable (3m)
Options		Power/data cable up to 20m		
		Optional data cables up to 20m		



TELEDYNE MARINE

TSS

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Specifications subject to change without notice.
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