

MAHRS

Meridian Attitude & Heading Reference System

Accurate stand-alone attitude and heading solution

MAHRS is an attitude and heading reference system employing the characteristics of a dynamically tuned gyro (DTG), the effect of gravity and the earth's rotation to produce exceptional heading performance. This is combined with a Dynamic Motion Sensor (DMS) to provide accurate heave, roll and pitch.

MAHRS has been designed to provide reliable, maintenance free operation. The remarkably stable heading performance provided by MAHRS can be maintained for turn rates in excess of 200° per second making the system ideal for use on fast survey craft and in river/harbour environments.

By closely coupling the two sensors, the MAHRS becomes a simple and fast method of providing accurate heading and attitude data.

TSS has complete repair, test and calibration facilities in the UK and USA aided by factory-trained service engineers on every continent.



PRODUCT FEATURES AND BENEFITS

- Innovative design with state-of-the-art motion sensors and DTG elements
- Attitude and heading in all dynamics
- Small, lightweight and versatile
- Fast 40 minute settle time
- 0.2° heading accuracy
- 0.03° roll and pitch accuracy
- Maintenance-free dry element
- MTBF >30,000 hours
- Dynamic turn rates of up to 200° per second



TELEDYNE TSS
Everywhereyoulook™

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TECHNICAL SPECIFICATIONS

Performance	Heading	Settle point error	±0.1° secant latitude
		Static error	±0.05° RMS secant latitude
		Dynamic accuracy	0.2° RMS secant latitude
		Settle point repeatability	±0.1° secant latitude
		Follow-up speed	~200°/s
		Alignment time	<45 minutes to within 0.70° from +/-30° initial heading offset
	Roll & pitch	Resolution	0.01°
Range		±45°	
Dynamic accuracy		0.03° RMS (for a 5° amplitude), 0.05° RMS (for a 45° amplitude)	
Heave	5cm or 5% whichever is greater (period 0 to 20s)		
Compensation	Latitude	80N to 80S	
	Speed	0 - 90 knots	
Power	Power supply	24Vdc (18 - 36Vdc)	
	Power consumption	5A at power on / 2.5A operating	
Interface	Digital outputs	2 serial ports, RS232 and RS422, baud rates 1200, 2400, 4800, 9600, 19200, 38400	
	Data output rate	Digital - Up to 100Hz	
	Digital data output formats	TSS HRP, TSS1 +NMEA HDT; TSS1 default: TSS1 with remote heave; TSS3; Simrad EM1000; Simrad EM1000 with remote heave; Simrad EM3000; Simrad EM3000 with remote heave; NMEA PRDID; DMT1; Polled, user configurable; NMEA HDT; NMEA ROT; S G Brown (1/10th); Robertson	
Physical Characteristics	Dimensions	242mm (h) x 232mm (w) x 429mm (d)	
	Weight in air	18.5kg	
	Weight in water	N/A	
	Rating	IP65	
Environmental and EMC	Operating temperature	-10°C to +55°C	
	Storage temperature	-20°C to +70°C	
	Environmental	IEC 60945	
	EMC	IEC 60945	
	MTBF	>30,000 hours	
	Shock (survival)	>10g	
Options	N/A		
Compliance	Standards	N/A	
	Export	UK	ECCN 7A003.d.1
		USA	ECCN 7A003.d.1
Warranty	12 months international warranty including parts and labour		

COMPANY WITH
MANAGEMENT SYSTEMS
CERTIFIED BY DNV
= ISO 9001 =
= ISO 14001 =
= OHSAS 18001 =



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