TSS DMS-05
MOTION SENSOR

The DMS range of motion sensors is designed specifically for the motion measurement needs of the marine industry. Whether it is achieving IHO standard survey from any size of vessel, or providing safety critical monitoring of offshore platforms, large vessels, helicopter landing decks, cranes and positioning systems, the DMS provides accurate motion measurement in all sea conditions. Incorporating an enhanced external velocity and heading aiding algorithm for improved accuracy during dynamic manoeuvres, the solid state angular rate sensors offer reliability in the highest performing vertical reference unit ever produced by TSS. The DMSView software programme is an intuitive WindowsTM – based programme enabling installation, set-up and integrity checking, and monitoring of the sensor. The user can select from a series of frequently used data protocols or configure a bespoke output from a selection of variables. The DMS is rated to 3000m as standard with 6000m available on request. The sensor can be supplied in various configurations for integration with towed vehicles and other bespoke applications. As with all TSS systems, the DMS is certified to meet all current and anticipated European legislation for electromagnetic compatibility and electronic emissions.

Key Features

Dynamic roll and pitch accuracy to 0.05°.
Depth rated to 3000m (optional 6000m).
Survey to Class 1 IHO standard.
High dynamic accuracy during vessel turns.
Intuitive control software with user-configurable outputs.
Real-time digital and analogue outputs.
Compact and lightweight.

Specifications

Dynamic accuracy	Heave	Roll & Pitch			
		DMS-05	**DMS-10**	**DMS-25**	**DMS-RP25**
	All (except DMS-RP25) 5cm or 5% whichever is greater (period 0 to 20s**)**	0.05°	0.10°	0.25°0.25°	
Maximum range	±10m	±60°			
Bandwidth	0.05 to >30 Hz	0 to 30Hz			

Data output rate	Digital: up to 200 Hz; Analogue: up to 500 Hz (with an external repeater)
Available output parameters	Adjustable data packet output rate down to 1 Hz Heave; roll; pitch; remote heave; angular rate X, Y, Z – acceleration X, Y, Z (body frame); angular rate east north, up – acceleration east, north, up (geographical frame); IMU temperature; surge; sway; sensor status; external speed; external heading; UTC time
Dimensions	99mm (d) x 172mm (h) (excluding connector and mounting plate)
Weight	3000m <2.3 Kg; (6000m <4.0 Kg)
Power Supply	15-30 Vdc
Temperature range	0°C to 55°C operating; -20°C to +70°C storage
Power requirement	10-36V, <6.5W
Velocity input packet formats	NMEA 0183 (required VTG & GLL or GGA); TSIP; (DMS-05, -10, -25 models only) Doppler Speed Log
Heading input packet formats	NMEA 0183; SGB; Robertson; Sperry LR40/60
Depth rating	3000m (optional 6000m)
Shock (survival)	30g peak 40ms half-sine
Vibration (operating)	30mm/s or 0.2mm, 7-300 Hz
Available output formats	DMSView for WindowsTM offers standard TSS and other manufacturers' data strings in addition to a user-configurable menu

Software interface	Digital: RS232 or RS422 (software selectable)
	Analogue: via an optional remote interface for power, communications and aiding
MTBF (computed)	50,000 hours

Due to continuous development, specifications may vary from those listed above.