

DMS

DYNAMIC MOTION SENSORS

TECHNICAL SPECIFICATIONS

Dynamic accuracy	Heave	Roll & Pitch				
	All (except DMS-RP25/30)	DMS-05	DMS-10	DMS-25	DMS-RP25	DMS-RP30
5cm or 5% whichever is greater (period 0 to 20s)	0.05° RMS	0.10° RMS	0.25° RMS	0.25° RMS	0.30° RMS	
Maximum range	±10m	±60°				
Bandwidth	0.05 to >30Hz	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 (dia) x 172mm (h) (excluding connector and mounting plate)					
Weight	3000m <2.3Kg; (6000m <4.0Kg)					
Power supply	15-30V DC					
Temperature range	-20°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) (05/10/25 only)					
Shock (survival)	30g peak 40ms half-sine					
Vibration (operating)	30mm/s or 0.2mm, 7-300Hz					
Available output formats	DMSView for Windows™ 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	50,000 hours					
Warranty	12 months international warranty including parts and labour					

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

WORLD LEADERS IN MARINE INSTRUMENTATION



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DMS

DYNAMIC MOTION SENSORS

Accurate motion measurement in all sea conditions.

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 units ever produced by TSS.

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

Benefits

- Intuitive control software with user-configurable outputs
- Real-time digital and analogue outputs
- Compact and lightweight



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DYNAMIC MOTION SENSORS

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.

The DMSView software programme is an intuitive Windows™- 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.

Product	Dynamic Accuracy	Depth Rating	Heave	Roll	Pitch
DMS-H	X	X	✓	X	X
DMS-RP30	0.30°	X	X	✓	✓
DMS-RP25	0.25°	X	X	✓	✓
DMS-05	0.05°	✓	✓	✓	✓
DMS-10	0.10°	✓	✓	✓	✓
DMS-25	0.25°	✓	✓	✓	✓
DMM	0.25°	✓	✓	✓	✓

These products may be subject to Export License Control.



DMS-H

Whether in ports and harbours, offshore or as part of a hydrographic mapping programme, the need to measure ocean depths with the utmost accuracy is vital.

The DMS-H heave sensor has been developed to work with a wide range of modern single beam echosounders. With their design allowing acceptance of correction data from the DMS-H, real-time heave compensation of the sounder data is now achievable. Providing heave data in analogue and digital format, the outputs of the DMS-H are easily configurable via a simple operator menu.

Compact, ruggedised and quick to install, the sensor is supplied with the cable connector necessary for interfacing and is accompanied by a comprehensive operation manual.

In addition to echosounder compensation, the DMS-H is ideally suited to a wide range of offshore applications including crane and winch control, wave radar and ship motion measurement.

Covered by a comprehensive warranty, the DMS-H also has free technical telephone support for the total life of the product.



Features

- Measurement to meet IHO standards
- Provides cost savings by increasing weather windows for survey
- Solid state accelerometers and rate sensors
- Accurate real-time heave data
- Removes vertical motion errors from survey data to eliminate the need for post-processing
- Suitable for a wide variety of vessels
- Free telephone support for life of product
- Designed to provide operators with the optimum cost benefit solution
- IP 65 Rated

DMS-05/10/25

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.

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

Benefits

- Intuitive control software with user-configurable outputs
- Real-time digital and analogue outputs
- Compact and lightweight



DMS-RP30/RP25

The DMS-RP sensors meet the requirements of the dynamic positioning industry for accurate vessel roll and pitch measurement. The units provide 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 and a complimentary blending algorithm has proven that the DMS is the highest performance vertical reference unit ever produced by TSS.

The DMS-RP sensors are IP65 rated. The sensors 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.

Features

- Dynamic roll and pitch accuracy to 0.25°
- IP65 rated
- Solid state angular rate gyros
- High dynamic accuracy during vessel turns

Benefits

- DMSView intuitive control software
- User-configurable outputs
- Real-time digital outputs
- Compact and lightweight

