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.

Subsea

Surface

PRODUCT FEATURES & BENEFITS

- Dynamic roll and pitch accuracy from 0.03° to 0.50° RMS
- Heave accuracy ±5cm or 5%
- Solid state solution available in surface or subsea housings
- Survey to Class 1 IHO standard
- High dynamic accuracy during vessel turns
- High reliability
- Power and data over Ethernet (surface units)
- Independently configurable serial outputs
- Complies with IEC 60945
- 24 hour, 365 days per year technical support
- Intuitive control software with user-configurable outputs
- Real-time digital and analogue outputs
- Compact and lightweight
- Low power, cost-effective solutions

TELEDYNE MARINE
TSS
Everywhereyoulook™

DMS

Dynamic Motion Sensors

The DMS range of sensors is available in surface or subsea variants - the subsea unit is rated to 3000m as standard with 6000m available on request. As with all TSS systems, the DMS is certified to meet all current and anticipated European legislation for electromagnetic compatibility and electronic emissions.

The latest 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-05	0.05°	✓	✓	✓	✓
DMS-10	0.10°	✓	✓	✓	✓
DMS-25	0.25°	✓	✓	✓	✓
DMS-RP25	0.25°	✓	x	✓	✓
DMS-RP30	0.30°	x	x	✓	✓
DMS-H	x	x	✓	x	x
DMS-525	0.25°	x	✓	✓	✓
DMS-525RP	0.25°	x	x	✓	✓
DMS-535RP	0.35°	x	x	✓	✓
DMS-550	0.50°	x	✓	✓	✓
DMS-550RP	0.50°	x	x	✓	✓

*Dynamic Accuracy at +/- 30°
No formal restrictions for most countries although heave products are subject to Export Licence.

Heave, Roll, Pitch

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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.

DMS-05
Subsea

Roll, Pitch

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 and enhanced external velocity and heading aiding algorithm for improved accuracy during dynamic manoeuvres, the solid state angular 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 available in subsea and surface versions. The sensor can be supplied in various configurations for integration with towed vehicles and other bespoke applications.

DMS-RP25
Subsea

PRODUCT FEATURES & BENEFITS

- Dynamic roll and pitch accuracy to 0.03° (+/- 5°)
- Heave ±5cm
- Survey to Class 1 IHO standard
- High dynamic accuracy during vessel turns
- Surface and depth rated options available
- Real-time digital and analogue
- Compact and lightweight

PRODUCT FEATURES & BENEFITS

- Dynamic roll and pitch accuracy from 0.25° to 0.50° RMS
- Surface and subsea options available
- Independently configurable serial outputs
- Power and data over Ethernet (surface only)
- Survey to Class 1 IHO standard
- High dynamic accuracy during vessel turns
- DMSView intuitive control software
- User-configurable ouputs
- Real-time digital outputs
- Compact and lightweight

TELEDYNE MARINE

DMS Dynamic Motion Sensors

TECHNICAL SPECIFICATIONS

	DMS-05	DMS-10	DMS-25	DMS-RP25	DMS-RP30	DMS-H	DMS-525	DMS-525RP	DMS-535RP	DMS-550	DMS-550RP
PERFORMANCE											
Roll & Pitch °RMS											
+/- 5° Dynamic	0.03	0.06	0.15	0.25	0.30	N/A	0.05	0.25	0.35	0.10	0.50
+/- 30° Dynamic	0.05	0.10	0.25	0.25	0.30	N/A	0.25	0.25	0.35	0.50	0.50
Heave	5cm or 5%	5cm or 5%	5cm or 5%	N/A	N/A	5cm or 5%	5cm or 5%	N/A	N/A	5cm or 5%	N/A
Maximum Calibrated Range	Heave ±10m, Roll & Pitch ±30°						Heave ±10m, Roll & Pitch ±30°				
Data Resolution	Heave 1cm, Roll & Pitch 0.01						Heave 1cm, Roll & Pitch 0.01				
DATA OUTPUT RATE											
Digital	Up to 100Hz						Up to 100Hz				
Analogue	Up to 500Hz (with optional DMS repeater)						N/A				
PHYSICAL CHARACTERISTICS											
Dimensions	99mm (d) x 172mm (h) (excluding connector)						160mm x 160mm x 160mm (240mm max at base)				
Weight in Air	2.3kg (3000m), 4.0kg (6000m)				2.3kg	2.3kg	4.0kg				
Weight in Water	1.0kg (3000m), 2.7kg (6000m)				N/A	N/A	N/A				
Depth Rating	3000m standard, 6000m on request				N/A	N/A	N/A				
Power Supply	12 - 36Vdc (2A supply)						12 - 36Vdc (2A supply)				
Power Requirement	<6.5W						<12W				
Power Over Ethernet	N/A						IEEE 802.3AF-2003				
Temperature Range	-15°C to +55°C operating, -20°C to +70°C storage						-15°C to +55°C operating, -20°C to +70°C storage				
Shock (survival)	30g peak (40ms half sine)						30g peak (40ms half sine)				
Vibration (operating)	IEC 60945						IEC 60945				
INTERFACE FORMATS											
Sensor Aiding Velocity	NMEA0183 (VTG & GLL or GGA)						NMEA0183 (VTG & GLL or GGA)				
Sensor Aiding Heading	NMEA0183, SGB, Robertson; Sperry LR40/60						NMEA0183 (DMS-550)				
Output Data Formats	Industry Standard formats						Industry Standard formats				
INTERFACE											
Digital	RS232 or RS422 (software selectable)						RS232 or RS422 (software selectable), Ethernet				
Analogue	Via optional DMS repeater						Via optional DMS repeater				
Ethernet	N/A						Dual redundant frequencies. Packet output via TCP, UDP or UDP multicast				
Application Software	DMSView for Windows™						DMS500View for Windows™				
SYSTEM											
MTBF	50,000 hours										
Warranty	24 months international warranty including parts and labour										
Export Compliance	Goods may be subject to export control. Details upon quotation										

TELEDYNE MARINE
TSS
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MANAGEMENT SYSTEM CERTIFICATION DNV·GL ISO 9001:2015
MANAGEMENT SYSTEM CERTIFICATION DNV·GL ISO 14001:2015
MANAGEMENT SYSTEM CERTIFICATION DNV·GL ISO 45001:2018

CE