DTS1

Depth/Tilt Sensor

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DTS1
Depth/Tilt Sensor

The DTS1 Depth/Tilt sensor is intended primarily as a measurement tool for use during the installation of Mag-03RCU Three-axis Range Magnetometers.

Mag-03RCU magnetometers are predominantly used in magnetic signature and degaussing ranges, typically installed in seabed-mounted, vertically-orientated cylinders. The DTS1 is used to measure the depth and tilt angle of these cylinders.

The DTS1 is also suitable for permanent installation in a measurement system. For example, the DTS1 can be used to provide depth/tide information in a magnetic signature range.

The sensor is operational to a depth of 25 metres (2.5 bar), and can measure an angular displacement of ±20°. It is supplied with a bow-spring mounting arrangement, suitable for mounting in a vertical seabed cylinder. A polyurethane-jacketed connecting cable is recommended to ensure reliable operation to a distance of up to 2km.

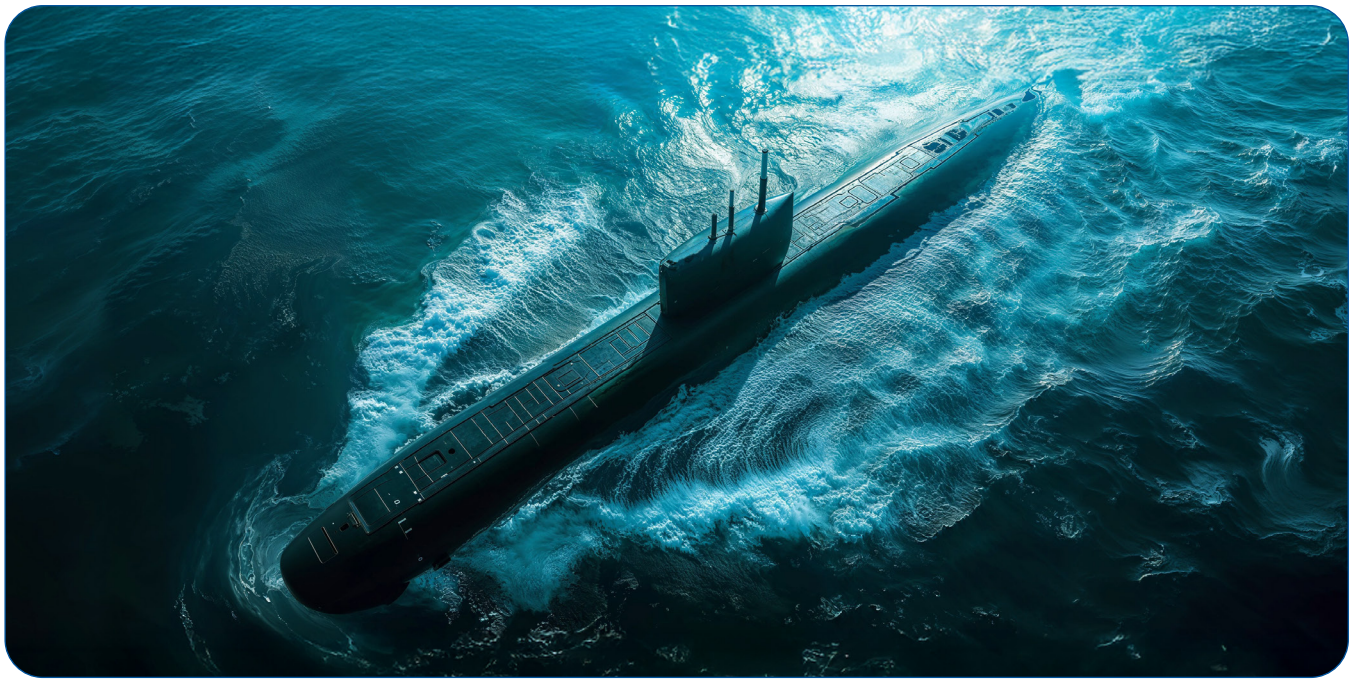
Features

- Depth sensor range 0 to 2.5 bar gauge
- Tilt sensor range ±20°
- Depth sensor accuracy ±0.25%
- Suitable for permanent installation in a measurement system
- Environmentally sealed

Product Identification

Product name	DTS1
Cable Tail	T = Cable Tail, 5 metres long
Connector Type	U = Underwater mateable connector
Connector material	No code = Stainless steel T = Titanium

DTS1T-UT = DTS1 with an underwater mateable titanium connector on a 5m long cable tail.



Specifications

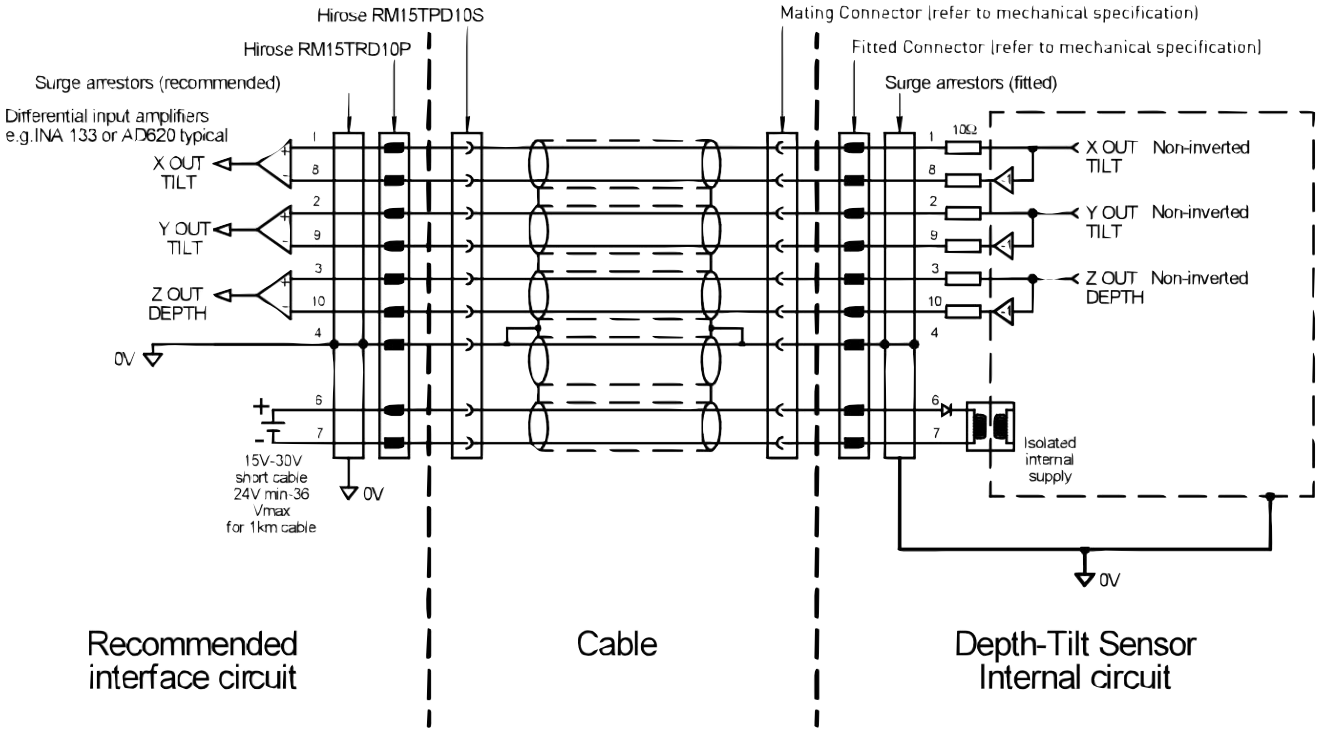
Performance	
Depth Sensor	
Range	0 to 2.5 bar gauge
Accuracy	±0.25% full scale (includes linearity and hysteresis)
Repeatability	±0.1% full scale
Tilt Sensor	
Range	±20°
Output	0.4Vdc/° nominal
Resolution	0.02° nominal

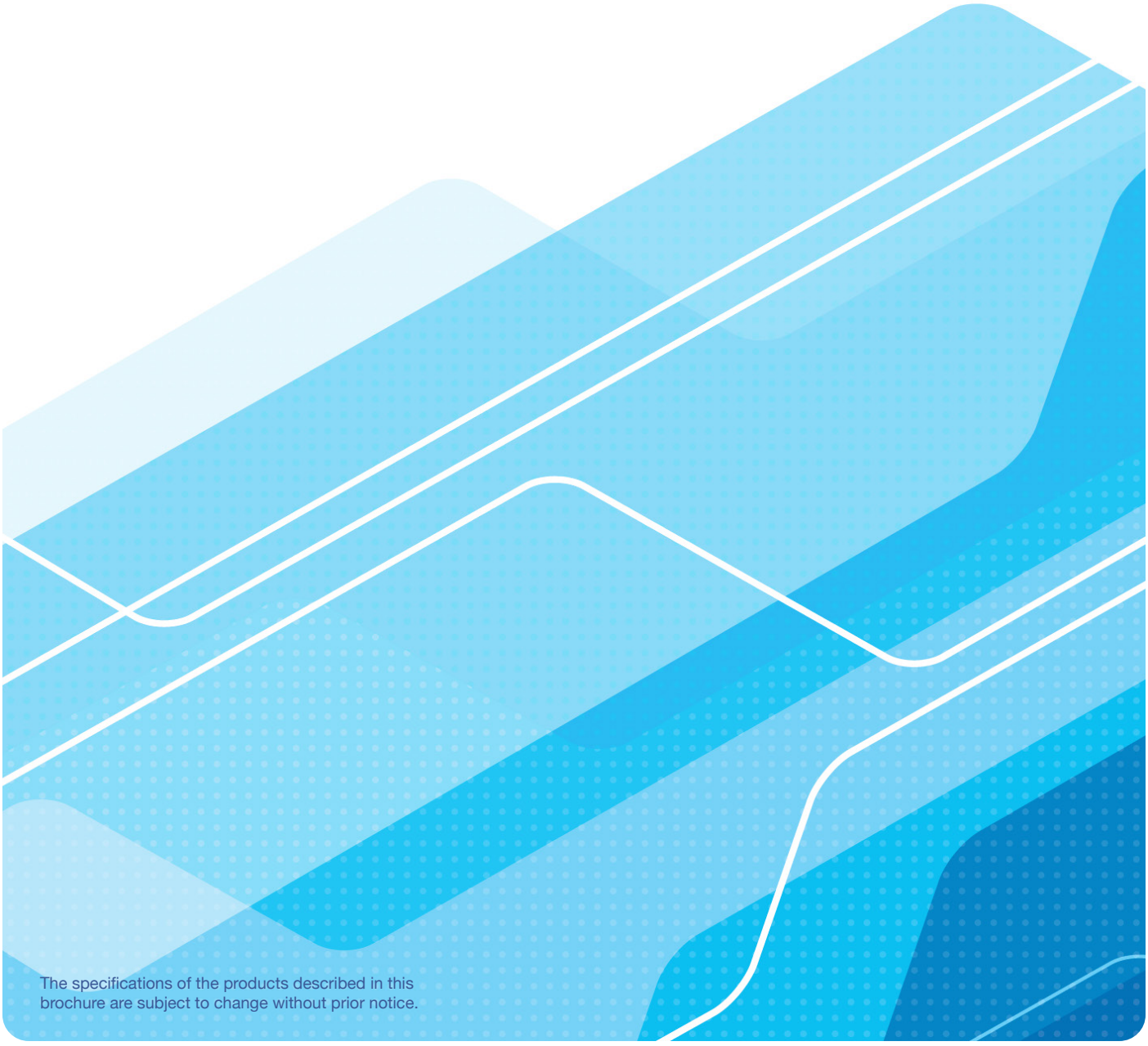
Environmental	
Operating temperature range	-10 to +50°C
IP Rating	IP68 25m
Compliance	EMC BS EN 61326:2013 & RoHS

Mechanical	
Enclosure material	Black Polyacetal (POM) & PEEK
Dimensions	517 x Ø50mm (excluding bowspring assembly)
Weight (in air)	1.65kg
Connector	Hydrobond HRS106-10P/SS/L, or Hydrobond HRS106-10P/Ti/L
Mating connector	Hydrobond HRS206-10S/SS/L, or Hydrobond HRS206-10S/Ti/L
Mounting arrange-ments	Adjustable bowspring and centring studs for location within a 120 – Ø250mm barrel

Electrical	
Supply voltage Supply voltage (absolute min. and max.)	+15V to +30V ±12V to +36V
Current consumption	50mA typical at 25V
Power-on surge	83mA typical
Analogue Outputs: X & Y (Tilt), Z (Depth/Pressure)	±10V balanced, differential; each output ±5V
Output impedence	10Ω
Maximum cable length	Maximum, 2km (dependent upon cable specification)

Cable	
Insulation material	Polyether Polyurethane
Construction	5 x screened twisted pairs with overall screen and Toredo Worm Barrier
Connectors: Magnetometer-end Data Acquisition-end	 Hydrobond HRS206-10S/SS/L or HRS206-10S/Ti/L Hirose RM15-TPD-10S(71)
Maximum length	2km
Overall diameter	15.3mm (±0.5mm)
Minimum bend radius: Static Dynamic	 122mm 184mm
Weight (in air)	255kg/km
Weight (in seawater)	66kg/km
Maximum conductor resistance	40.1Ω/km
Working voltage	300V
Minimum insulation resistance Core – Core Core – Screen Screen - Screen	 >1000MΩ/km >500MΩ/km >10MΩ/km





The specifications of the products described in this brochure are subject to change without prior notice.

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