

Datasheet

Dynamic Positioning Transponder 6 with Inclinometer (DPTi 6)



The Type 8301 Dynamic Positioning Transponder with dual-axis inclinometers (DPTi) is designed to monitor the angle of the riser flex joint on a drilling vessel.

The DPTi 6 supports Sonardyne's latest Wideband[®]2 acoustic ranging and telemetry providing high accuracy positioning, robust performance in noisy and multipath conditions and easy set-up and use. With hundreds of channels, less interference to and from other acoustic systems and multi-user capability, Wideband 2 enables easier SIMOPS vessel capability. These features of the DPTi 6 help de-risk subsea operations and save vessel time and cost.

The Type 8301 DPTi 6 is the standard length version and is based on the field proven mechanics of the previous version but with improvements to the endcap closure mechanisms. The design offers the perfect balance between size, acoustic output and battery life.

The DPTi 6 is fitted with internal inclinometers to accurately monitor riser angles. The unit can also be used with an external inclinometer unit to monitor BOP and flex joint angles.

DPTi 6 is fully compatible with all of Sonardyne's latest 6G[®] equipment including Sonardyne's Marksman LUSBL and Ranger 2 USBL systems.

Typical Applications

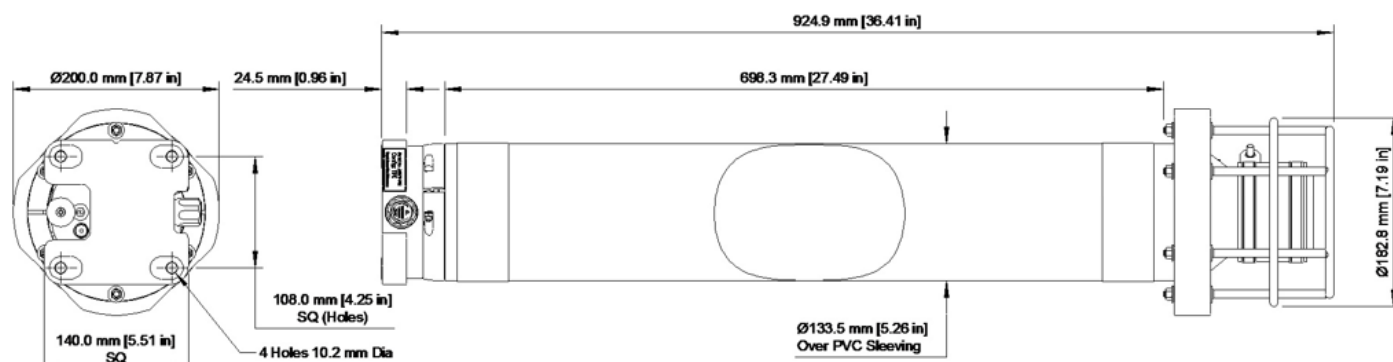
- Riser angle monitoring

Key Features

- Medium Frequency (MF) band utilising Sonardyne's latest Wideband 2 ranging and telemetry protocols
- Dramatically faster and easier to set-up and operate
- Real-time diagnostics available on ranges to enable quality control
- Reduced mutual interference to further improve simultaneous ops
- More than 500 unique Sonardyne Wideband 1 and 2 channels
- Sonardyne Wideband 1 and HPR400 USBL mode compatible
- Automatic power-down if not used for a programmable period
- Standard sensors: temperature, pressure and high accuracy inclinometer
- Real time diagnostics available on ranges to enable quality control
- Field proven

Specifications

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3 km Depth Rated MF Directional version shown (8301-3113)

DPT 6 Feature		Type 8301-3111	Type 8301-3113	Type 8301-5213
Depth Rating		3,000 m	3,000 m	5,000 m
Operating Frequency		MF (19–34kHz)	MF (19–34kHz)	MF (19–34kHz)
Transducer Beam Shape		Omni-directional	Directional	Directional
Transmit Source Level (dB re 1 μ Pa @ 1 m)		187–196 dB (4 levels)	190–202 dB (4 levels)	190–202 dB (4 levels)
Tone Equivalent Energy (TEE) ¹		193–202 dB	196–208 dB	196–208 dB
Receive Sensitivity (dB re 1 μ Pa)		90–120 dB (7 levels)	80–120 dB (7 levels)	80–120 dB (7 levels)
Ranging Precision		Better than 15mm	Better than 15mm	Better than 15mm
Number of Unique Addresses (Wideband 1 & 2)		>500	>500	>500
Battery Life (Listening, Disabled)	Alkaline	833 days	833 days	833 days
	Lithium	1,390 days	1,390 days	1,390 days
External Power Supply		24 V	24 V	24 V
Safe Working Load (4:1)		250 kg	250 kg	250 kg
Dimensions (Length x Diameter)		924.9 x 134 mm	924.9 x 182.8mm	924.9 x 182.8mm
Weight in Air/Water ²		22.5/11 kg	24.5/12 kg	25/12.5 kg
Endcap Sensors and Options				
Temperature ($\pm 0.1^\circ\text{C}$)		Standard	Standard	Standard
Tilt Switch ($\pm 30\text{--}45^\circ$)		Standard	Standard	Standard
Strain Gauge Pressure Sensor ($\pm 0.1\%$)		Standard	Standard	Standard
High Precision Strain Gauge ($\pm 0.01\%$) Presens or Keller		Optional	Optional	Optional
High Accuracy Inclinometer Range: $\pm 90^\circ$, Accuracy: $\pm 0.05^\circ$ over $0 - \pm 15^\circ$, ± 0.2 over $0 - \pm 45^\circ$		Standard	Standard	Standard
Power for External Sensors		Standard	Standard	Standard
Gyro Input		Standard	Standard	Standard

¹ WBv2+ signals are 4x the duration of (WBv1 & WBv2 are twice) Sonardyne tone signals, therefore the TEE figure is to give the user an idea of the operational performance when comparing Wideband and Tone systems.

² Estimated weights.