HotSense™ ultrasonic sensors for in-service wall thickness monitoring

Minimise operational risk and maximise productivity with enhanced asset intelligence.

Ultrasonic transducers for 0° measurements ideal for thickness, corrosion and erosion monitoring for use in applications across **refining**, **oil & gas**, **energy**, **nuclear**, **aerospace** and **process sectors**.

Keywords: corrosion, erosion, in-service monitoring, extreme environments, high temperature

ionix
ADVANCED TECHNOLOGIES

HOTSENSE

- **A truly high temperature transducer** powered by the Ionix HPZ piezoceramic
- **Permanent installation** in extreme environments
- **-55 to +380 °C** wide operating temperature range for in-service monitoring
- **Online calibration** using integrated delay line
- **Time and temperature stable** signal for maximum reliability
- **Intrinsically safe Zone 0 transducer** for use in the most hazardous environments

DEPLOYMENT

- Installed on live plant in minutes and designed to survive the harshest of environments
- No welding required – Ionix clamps are safe to use on your pipework
- <50 mm total deployed height – install under insulation and weatherproofing to maintain your CUI defence
- Coupling survives aggressive thermal cycling to support stable thickness measurements

SOLUTIONS

- Support asset integrity and corrosion management programs (including RBI, FFS & FEA)
- Compatible with industry standard ultrasonic inspection hardware
- Integrated into wireless systems to provide your complete online wall monitoring solution - Ex certified monitoring solutions available now
- Increase your accuracy and precision by monitoring using installed transducers
- Reduce costs with replacement of intrusive manual methods and reduced scaffolding / insulation removal
- Increase safety with reduced exposure and man-hours at asset

hotsense® | Powered by ionix

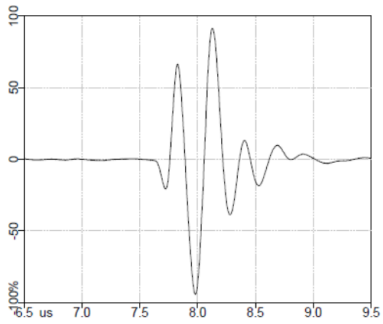
ix

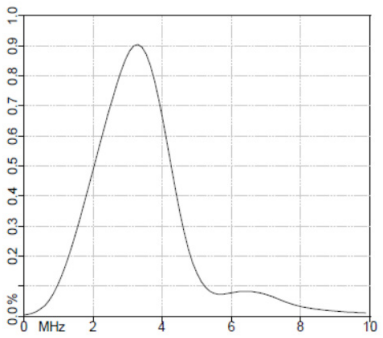
STANDARD TRANSDUCER SPECIFICATION

PARAMETER	VALUE	UNIT
Design Temperature	-55 to +380	°C
Continuous Operating Temperature	-40 to +350	°C
Delay Line Material	304 Stainless Steel	-
Delay Line Length	25	mm
Delay Line Form	Cylindrical, 10 mm spot contact	-
Ruggedisation	Certified to IP66 and IP68. Stainless steel construction	-
Connector Type	00 Lemo receptacle as standard	-
Active Element Diameter	10	mm
Transducer Centre Frequency	3.25	MHz
+ compatible with both 2.25 MHz and 5 MHz flaw detectors / UT hardware		
-6 dB Bandwidth	80	%
Signal to Noise Ratio	> 20	dB

*Other variations available via special request.
For other specification requirements please contact our sales team.

TYPICAL ULTRASONIC RESPONSE





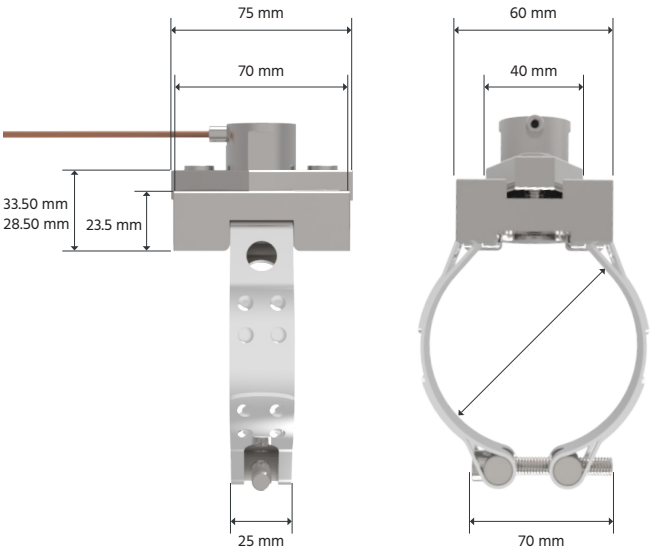
CERTIFICATION

II 1 GD Ex ia IIC T* Ga / Ex ia IIIC T* Da

CE IP 66 / 68

STANDARD DEPLOYMENT SPECIFICATION

PARAMETER	VALUE	UNIT
Material Straps/Mounting	316 Stainless Steel	-
Standard Pipe Sizes	NPS 3-16"	Other sizes available via special request
Total Mass (Transducer, mount, straps)	1.0 - 1.4 kg	Dependent on strap size



Flexible integration and monitoring system options. Can be used with a wide range of flaw detectors, local, remote, or wireless data collection systems.

Measurement resolution from 0.01 mm

Contact Ionix for further information and to find a solution for your application.

Want to discuss your demanding environment needs?

+44 (0) 1484 505859
contact@ionix.at
www.ionix.at
@ionix_at
ionix-advanced-technologies
@ionixadvancedtechnologies