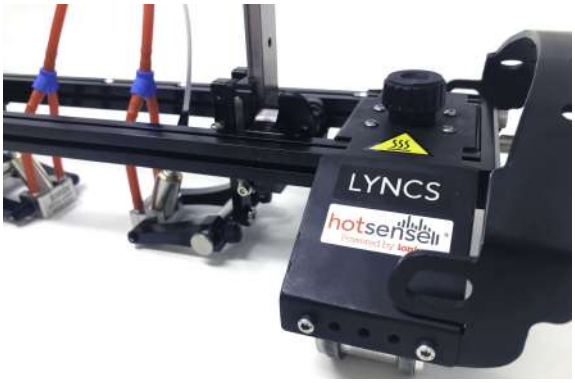
HotSense™ Ultrasonic Time-Of-Flight Diffraction (TOFD) Transducers

Minimise operational risk and maximise productivity with on-stream asset intelligence

Time-of-flight diffraction transducers for on-stream weld root corrosion and crack/defect detection for use in applications across **refining**, **oil & gas**, **energy**, **nuclear**, **aerospace** and process sectors.

Keywords: TOFD, weld inspection, on-stream inspection, extreme environments, ultrasonic testing, high temperature

ionix
ADVANCED TECHNOLOGIES



HOTSENSE™

- **Built on the award winning HotSense™ ultrasonic platform** powered by the proprietary Ionix HPZ piezoceramic.
- **-55 to +350°C** [-67 to +662°F] continuous use temperature range.
- **No cooling** required. Increase your productivity by eliminating duty cycling.
- **High Sensitivity** with integrated wedges across the temperature range.
- **Stable signal** for reliability and repeatability - no duty cycling means no drift from thermal gradients in the wedges.
- **Short approach** to beam exit to get clear to weld caps.
- **Enhanced wear resistance** for the most extreme environments and applications.
- **Compatible** with commercial scanners, calipers and crawlers.

APPLICATION

- Make weld inspections on hot assets, on-stream, without the need to shutdown or isolate.
- Make effective weld root corrosion assessments rapidly at high-temperature.
- Detect and size cracks or defects in welds or parent material on-stream.
- Screen for HTHA in-service.
- TOFD carries the highest POD for NDT methods.

SOLUTIONS

- Maximise productivity with reduced down-time and outages with on-stream inspection.
- Perform high-temperature pre-inspection to optimise shutdowns.
- Standardise data collection using commercial UT flaw detectors and scanners.
- Reduce operational costs and maximise production margins.
- Compliant to ISO 22232-2 and ASTM E/1065 to meet your existing asset integrity UT procedures.

hotsensell® | Powered by ionix

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HotSense™ TOFD

ISO 9001 Certified ExVeritas UKAS MANAGEMENT SYSTEMS 8413

STANDARD TRANSDUCER SPECIFICATION

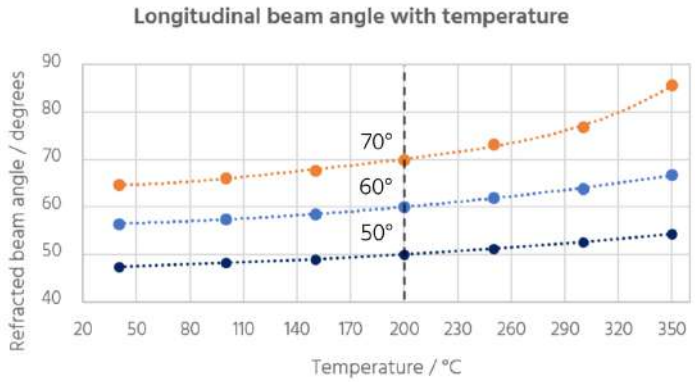
PARAMETER	VALUE	UNIT
Operating Temperature	-55 to +350 / [-67 to +667]	°C / [°F]
Refracted beam	50, 60 and 70, longitudinal at 200°C / 392°F	degrees
Wedges	Engineering polymer in steel, integrated Profiled on request	
Connector type	Lemo 00	
Pivot pins	5mm pins as standard *	
Couplant nozzles	To fit 4 - 4.5 mm tubes	
Ruggedisation	Designed to meet IP 65 Stainless steel construction	
Acoustic characteristics certificate of conformity to ISO 22232-2 supplied with each unit		
Transducer centre frequency	5.0 at 50 & 60 deg wedge angle 6.0 at 70 deg wedge angle	MHz
Active element diameter	6.0	mm
Beam exit distance from edge	1.5	mm

Compatible with UT flaw detectors and scanners
*Other variations available via special request
For couplant, cables accessories and other specifications please contact our sales team.

MEASUREMENT RANGE

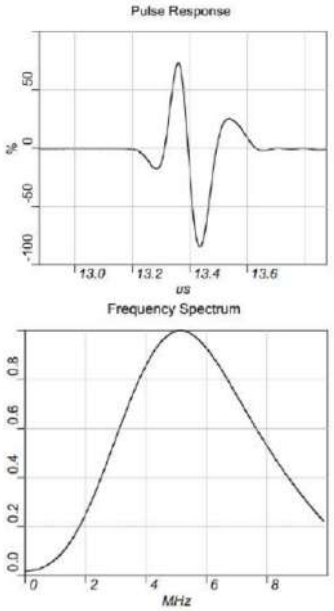
PARAMETER	VALUE	VARIABLES
Minimum wall thickness	6 mm	at 20 °C

*Refracted angle temperature dependence on steel



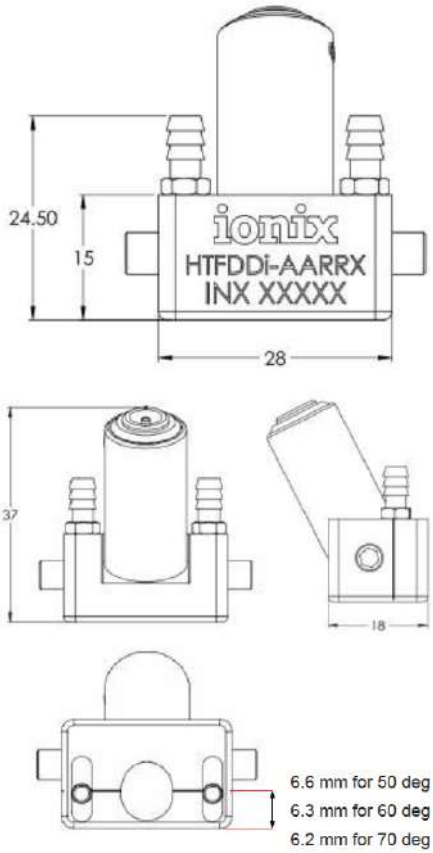
Contact Ionix to order, for further information or to find a solution for your application

TYPICAL ULTRASONIC RESPONSE



CERTIFICATION

Meets the requirements of ISO 16828



Want to discuss your demanding environment needs?

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