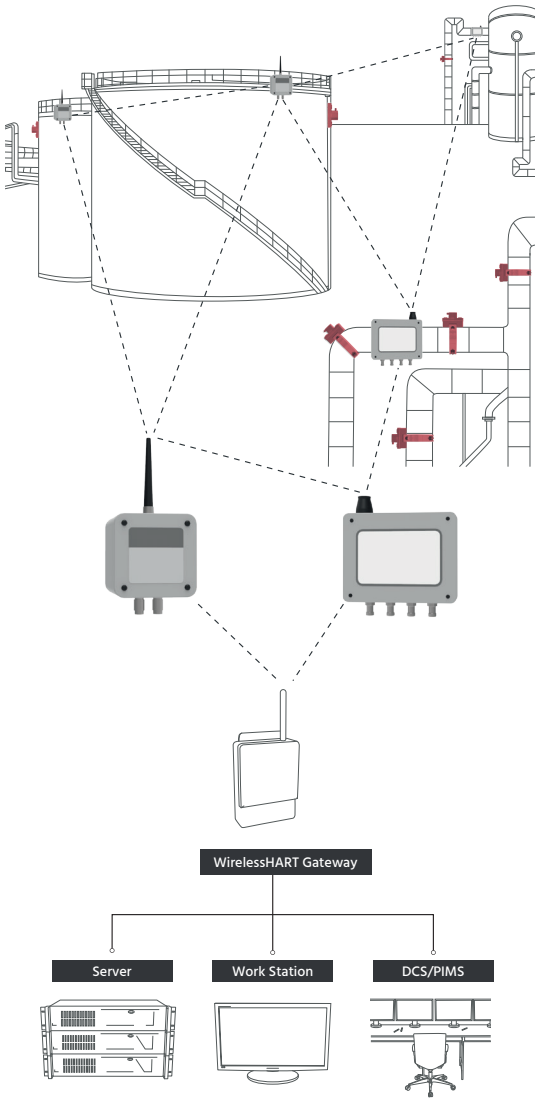
HotSense™ enabled wall thickness monitoring solutions for in-service corrosion and erosion monitoring

Minimise operational risk and maximise productivity with enhanced asset intelligence.

Non-invasive, automated and wireless ultrasonic monitoring solutions for applications across **refining**, **oil & gas**, **nuclear** and **process sectors**.

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



FLEXIBILITY

- **Increase what can be monitored** - HotSense™ transducers allow for deployment directly to hot assets for measurements from -55˚C to + 550˚C (-67 to 1022 deg F).
- **Reduced maintenance** - Multiple transducers per measurement node to minimise batteries. Service packages available.
- **Improved network stability** - Transducers and node may be positioned independently to allow for ease of access for battery change or to maximise wireless signal.
- **Increased area usage** - Intrinsically safe for deployment across your whole facility.

AUTOMATED

- **Automated** - thickness measurements, temperature measurements and corrosion rates transmitted directly to your control room.
- **Security** - Advanced data management software on local server or data direct to you DCS and PIMS – data never leaves your site.
- **Configurable alarms** - Robust and reliable measurements for determination of wall loss rates absolute thickness.
- **Inhouse data access** - Make data available to both maintenance and operations teams to better optimise plant productivity.
- **Built-in calibration** - Measurements may be validated using HotSense™ transducer integrated calibration block.

WIRELESS

- WirelessHART certified for integration into your operations.
- Remote measurement configuration and maintenance.
- Battery life is transmitted allowing maintenance and data collection scheduling.

hotsense® | Powered by ionix

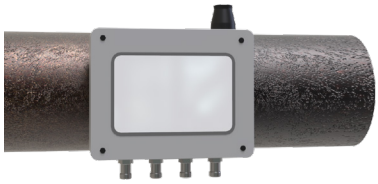
STANDARD SYSTEM SPECIFICATION

PARAMETER	VALUE
MEASUREMENT	
Temperature Range	-55 ˚C to +550 ˚C
Resolution	0.010 mm (0.4 mil)* to 0.025 mm (1mil)
Thickness range	See transducers
SYSTEM	
Channels per node	1*-4
Thermocouples	Integrated into transducer or standalone
Certification	IS/Class I, Division 1, Groups A/B/C/D; Ex ia IIC T4 for -55°C ≤ Ta ≤ +55°C;
	Ex ib IIC T4 Gb (Ta = -40°C to +70 °C)*
Rating	IP65*/IP66
Battery type	Lithium D
Battery life	5 years
WIRELESS	
Communication protocol	WirelessHART (IEC 62591)
Security	128-bit AES encryption
Max units per gateway	100
Maximum total number to devices	30,000
Data collection frequency	1 hour +
SOFTWARE	
Data output	Thickness, wall loss rate (short & long), temperature, battery, A-scan
Export	Whole database or subset, .csv
Data storage and access	Local server, DCS, PIMS etc
Protocol	EtherNet/IP, Modbus RTU/TCP, OCP
Diagnostics	Remote diagnostics of transducer, node, network and measurement
Calibration	At install and manual online
Battery remaining life	As a function of usage or voltage

*** Increased resolution system.**

STANDARD TRANSDUCER SPECIFICATION

	HOTSENSE SINGLE ELEMENT	BONDED SINGLE ELEMENT*	DUAL ELEMENT
Frequency	3 MHz	3 MHz	5 MHz
Application	All	Low temperature vessels	Low temperature, thin walled
Thickness range	>2.5 mm	>2.5 mm	>1 mm
Continuous temperature range	-55 °C to + 380 °C 550 °C by request	-40 °C to + 200 °C	-55 °C to +150 °C
Deploymet options	Straps, welded studs	Epoxy	Straps + epoxy
Cable length	0.325 m high tem-perature + 2 m flex	1.5 m standard (3 or 6 m by request)	2 m



200 x 100 x 75mm, 1kg

130 x 135 x 90mm, 1.5kg

INSTALLATION, SURVEY AND MAINTENANCE

Ionix, with our system and global service partners can provide planning and pre-installation surveys, aswell as ongoing system service and data health packages tailored to your requirements.

Full online monitoring service and data health check packages available:

- Remote or on-site
- Review of system set-up and data outputs
- Sensor and network stability check
- Battery levels and health
- Training

Want to discuss your demanding environment needs?

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