



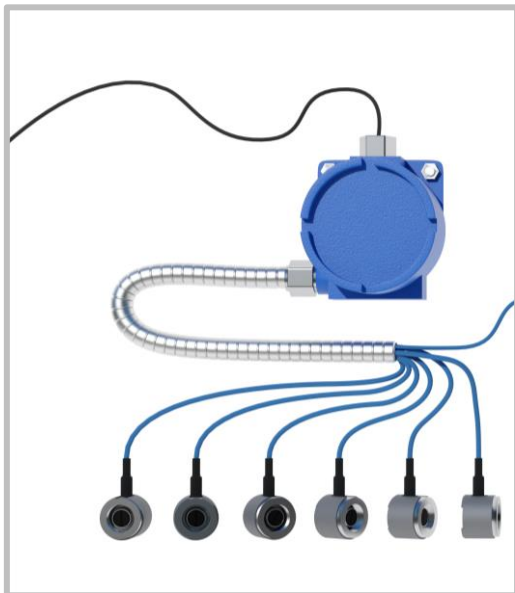
# Real Time UT Wall Thickness Monitoring



SMS provides sand monitoring using best in class, field proven technology. After extensive testing of intrusive monitoring systems, we identified the instrumentation to give our clients the edge they require.

## System Overview

The Real -Time UT Wall Thickness Monitoring System is a series of installed UT wall thickness sensors, which form a monitoring array. The system measures absolute wall thickness with no averaging or extrapolation, this allows early identification of corrosion/ erosion activity, areas of high-risk can be monitored continuously.



## Features

### Continuous Monitoring

- Early identification of wall loss at high-risk areas

### Flexible Array

- Up to 16 sensors per location allows greatest coverage of high-risk areas

### Data Alarming Integration

- Realtime data and alarming integration to end user acquisition or database

### Non-Intrusive

- Mounted externally via a banding strap

### Zone 2

- For use in Zone 2 applications

## Benefits

### Increased Safety

- No need for personnel to inspect high-risk areas

### Reduced Costs

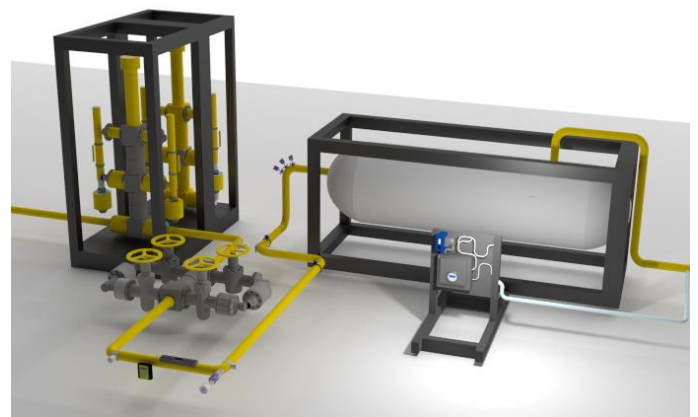
- No requirement for offshore manual operations

### Real-Time Erosion / Corrosion Measurement

- Informs real-time decision making, risk assessment allowing increased reliability and safe operations

### Remote Monitoring

- Save on manpower and offshore bed space



Sense



Understand



Perform

# Real Time UT Wall Thickness Monitoring

## Specifications

### Transmitter

**Model no** ..... -PIMS 100 Modbus  
**Protocol** ..... Modbus  
**Communication** ..... RS-485, 2-wire, max. 1000'  
**Power** ..... 10-20 VDC

### Ultrasonic System;

channels ..... 16 ultrasonic, 1 temperature  
 pulser voltage..... ±5V bipolar square wave  
 receiver ..... 1–10 MHz (-3dB)  
 gain ..... -10dB to +70dB  
 digitizer frequency ..... 40 Msps  
 certification..... Class 1, Div. 1, ATEX Zone 2

### Enclosure

type..... instrumentation housing  
 material ..... aluminium  
 rating..... Class 1, Div. 1, Group BCD, NEMA 4X, IP66  
 dimensions/weight ..... 5" × 5¼" × 4¼" / 4 lbs.

## Tablet Datalogger

### Performance

processor ..... Intel i5-4200U 1.6GHz w/ 3MB L3 cache dual-core)  
 memory..... 8 GB RAM  
 storage..... M2-SATA SSD, 64 GB  
 operating system ..... Windows 10  
 connections..... network power, data via RS-485-to-USB adapter physical  
 drop/shock resistance ..... MIL-STD-810G  
 environmental ..... IP65, 14–131°F (-10 to +55 °C)  
 dimensions/weight..... 11.4" × 7.48" × 0.78" / 2.73 lbs

## Transducer Cable

**Type** ..... armoured, ¾" dia.  
**Maximum length to transducer** ..... standard 10' (3.0m), custom to 25' (7.6m)

## Transducers

	single-element contact	dual-line contact	dual-element	angle-beam or shear-wave
<b>model</b>	XD-101	XD-201	XD-301	custom
<b>application</b>	general purpose	ultra-high temp	severe pitting	cracking
<b>frequency</b>	5 MHz	7 MHz	5 MHz	2.25-10 MHz
<b>active area (dia.)</b>	0.25"/6.35mm	0.375"/10mm	0.375"/10mm	custom
<b>overall (dia. x h)</b>	1.0 × 1.0" 25.4 × 25.4 mm	0.8 × 2.25" 20.3 × 57.2 mm	0.75 × 0.75" 19 × 19 mm	custom
<b>no. transducers</b>	1-16	1-16	1-8	2-8 (TT), 1-16 (PE)
<b>resolution</b>	0.001"/0.025mm	0.001"/0.025mm	0.001"/0.025mm	custom
<b>thickness range</b>	application-dependent	0.125-1.0" 3.0-25.0mm	0.040-6.0" 1.0-150.0mm	custom
<b>temp range</b>	application-dependent	-5 to +932 °F -20 to +500 °C	-5 to +300 °F -20 to +150 °C	custom
<b>attachment</b>	magnet/adhesive	mechanical clamp	magnet/adhesive	custom

TT = through-transmission, PE = pulse-echo

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