



smart
PIMS[®]

Permanently Installed Monitoring System

*Non-Intrusive UT Sensors
for Corrosion/Erosion Monitoring*

Multi-Point Wall Thickness Monitoring Systems For Offshore Applications

Monitoring the integrity of offshore assets is crucial for safety and operational efficiency. Monitoring critical assets' wall thickness is a proven method to reduce the risk of asset failure, which could cause product loss, environmental damage, and, most importantly, the loss of life. Whether the facility is manned or unmanned, the smartPIMS 2.0 offers flexibility for use in various configuration scenarios.

Modbus

The smartPIMS 2.0 Modbus system is a non-intrusive ultrasonic corrosion/erosion monitoring system designed to provide wall thickness data for periodic or automated wall thickness monitoring. The system can be used independently using a tablet/laptop with Sensor Networks special dataPIMS software to acquire and upload data to webPIMS for analysis. CSV files stored on the tablet/laptop can be viewed in Excel for user analysis and manipulation into customized reports.

Alternatively, the smartPIMS 2.0 Modbus can be wired into a SCADA/DCS system for automatic system polling of wall thickness data and tunneling the data into the facility system for immediate asset wall thickness status.



Datalogger

The smartPIMS 2.0 Datalogger is a standalone, non-intrusive ultrasonic monitoring system designed for monitoring corrosion/erosion in manned or unmanned facilities. It is particularly useful for locations where access is limited or only available during brief periods of time.

Utilizing onboard standard batteries, the smartPIMS 2.0 takes thickness measurements at user-defined intervals and stores the data (up to 3,000 readings) in the onboard memory.

Connect to Sensor Networks' dataPIMS software on a tablet/PC to download, store, and evaluate data. Upload to webPIMS for database analysis or view CSV files in Excel for customized reports.

■ **UL/CSA C1D2, ATEX / IECEx Zone 2 and Japanese hazardous-area certified.**

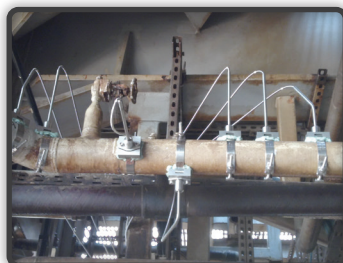
■ **Rugged design for outdoor use and installation in harsh industrial environments.**

■ **Optional single thermocouple connection for measuring surface temperatures and post-calculation temperature-compensated thickness readings.**

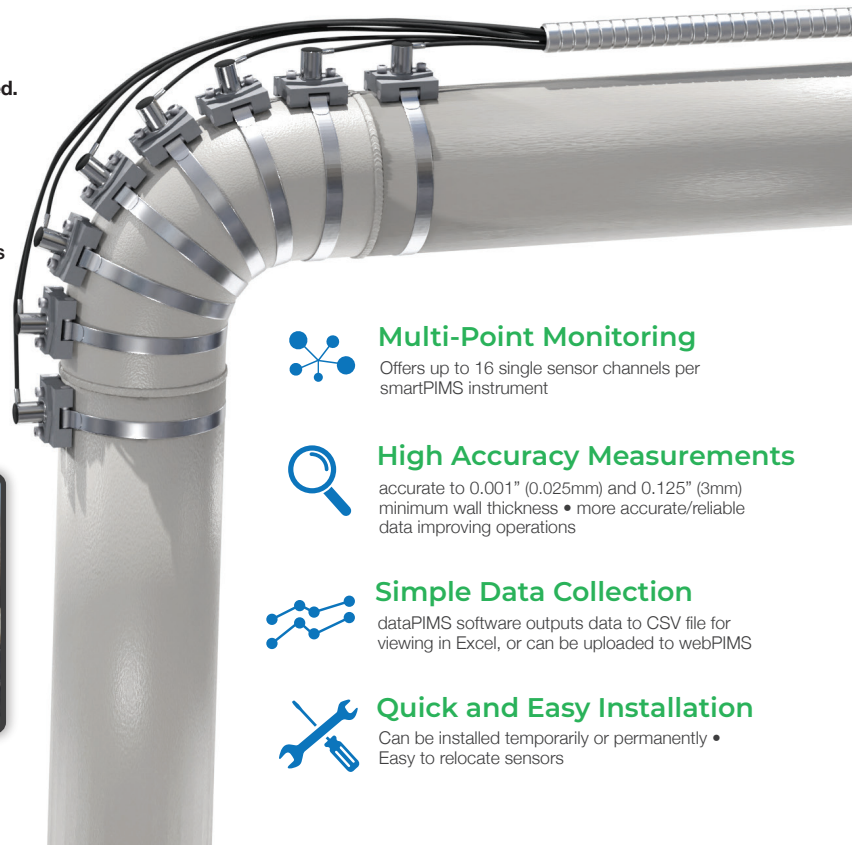
■ **Highly stable readings as sensors do not move and thickness measurements made at same exact location time and time again.**



High-Temp UT Sensor



Ultra-High-Temp UT Sensors installed using a band clamp



Multi-Point Monitoring

Offers up to 16 single sensor channels per smartPIMS instrument



High Accuracy Measurements

accurate to 0.001" (0.025mm) and 0.125" (3mm) minimum wall thickness • more accurate/reliable data improving operations



Simple Data Collection

dataPIMS software outputs data to CSV file for viewing in Excel, or can be uploaded to webPIMS



Quick and Easy Installation

Can be installed temporarily or permanently • Easy to relocate sensors

Modbus

model no. smartPIMS® Modbus
protocol/communication Modbus / RS-485, 2-wire, max. 1000' (305m)
power Tablet/PC through DIU2 or 10-24 VDC

Instrument Housing

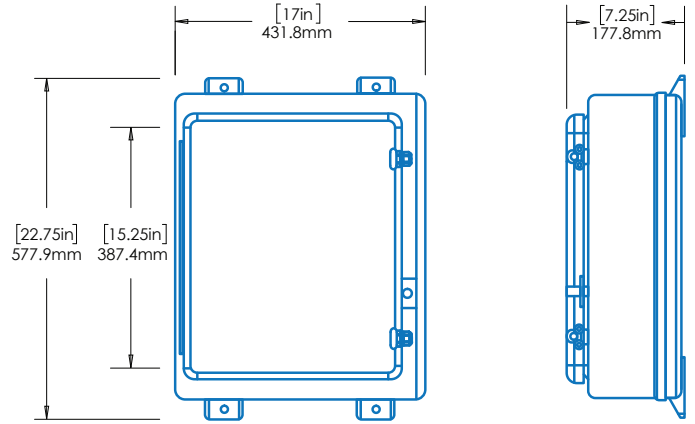
material cast aluminum
rating NEMA 4X, IP66
temperature range -40°F to +158°F (-40°C to +70°C)
dimensions 11.8" x 10.2" x 4.6" (300 x 260 x 116.8mm)
weight 5.5 lbs. (2.5 kg)

Enclosure

material fiberglass
dimensions 22.75" x 17" x 7.75" (577.9 x 431.8 x 196.9mm)
environmental rating IP66, NEMA 4X, NEMA 12, IK10
specifications met UL Listed, C-UL Listed, UL 746c f1, NFPA 101 Class A, UL 508A, UL 94 5V

Datalogger

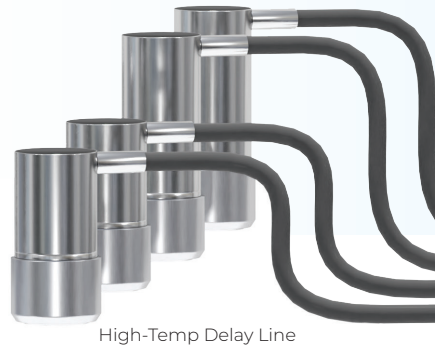
model no. smartPIMS® Datalogger
protocol/communication Modbus / RS-485, 2-wire, max. 1000' (305m)
battery type Li D-cell, 3.6 VDC, qty. 2
battery life 2 years (typical, based on 1 reading/day)
storage capacity 3000 readings (FIFO)



Transducers

	HT	HT extended thickness range	UHT	UHT-ER extended thickness range
model	XD-201-0S	XD-201-0S-ER	XD-201	XD-201-ER
application	high-temp	high-temp	ultra-high-temp	ultra-high-temp
frequency	7 MHz	7 MHz	7 MHz	7 MHz
active area (dia.)	0.375"/10mm	0.375"/10mm	0.375"/10mm	0.375"/10mm
overall (dia. x h)	1.22 x 2.45" 31 x 62.2 mm	1.22 x 2.45" 31 x 62.2 mm	1.22 x 2.45" 31 x 62.2 mm	1.22 x 2.45" 31 x 62.2 mm
# of transducers	1-16	1-16	1-16	1-16
resolution	0.001"/0.025mm	0.001"/0.025mm	0.001"/0.025mm	0.001"/0.025mm
thickness range†	0.125-1.0" 3.0-25.4mm	0.250-2.0" 6.35-50.8mm	0.125-1.0" 3.0-25.4mm	0.250-2.0" 6.35-50.8mm
temp range	-22 to +275°F -30 to +132°C	-22 to +275°F -30 to +132°C	-22 to +932°F -30 to +500°C	-22 to +932°F -30 to +500°C
attachment	mechanical clamp/ silver foil	mechanical clamp/ silver foil	mechanical clamp/ silver foil	mechanical clamp/ silver foil
material	all external metal 316 stainless steel	all external metal 316 stainless steel	all external metal 316 stainless steel	all external metal 316 stainless steel

†minimum resolutions stated as typical values, but will vary with pipe condition



Transducer Cable

type armor
maximum length to transducer standard 25' (7.6m) or 50' (15.2m)

PRELIMINARY VERSION: Specifications are subject to change without notice