DC Series Wireless Corrosion Sensors

The DC series wireless corrosion sensors are industrial-grade sensors designed specifically for corrosion monitoring applications in industrial pipelines and containers. The sensors feature resistance to interference, high accuracy, ultra-low power consumption, and durability, making them suitable for long-term operation in harsh industrial environments.

Each sensor uses ultrasonic technology to accurately measure the time of the reflective ultrasonic waves. Additionally, the sensor is equipped with a temperature probe to measure the surface temperature of the pipe. By applying a temperature compensation algorithm, the sensor can accurately and reliably measure the pipe wall thickness at different temperatures.

DC110 is small in size, lightweight, and can be directly installed on the outer wall of the pipeline using epoxy. It is suitable for pipelines with a maximum temperature of 85°C. DC210 features a unique dual-waveguide-rod design and can be mounted to the outer wall of the pipe using clamp fixture or welding methods. It is suitable for applications at extreme high or low temperatures.

The sensor data is transmitted through a wireless sensor network to a remote monitoring platform. Users can remotely monitor the corrosion status of the equipment and receive timely alerts. This allows continuous tracking of the entire process of bolt loosening, ensuring safe equipment operation, preventing unplanned downtime, and reducing maintenance time and costs.

Features and Advantages

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Non-intrusive	⇨	No impact on the structure or strength of the pipe.
Accurate	⇨	Interference resistant and highly accurate with automatic temperature compensation.
Easy-to-install	⇨	Cable-less; installed using adhesive, clamps, or welding.
Wireless	⇨	2.4GHz wireless sensor network; capable of transmitting data reliably.
Low-powered	⇨	Built-in battery with 10 years of life for normal usage.
Ruggedized	⇨	Waterproof, dustproof, shockproof, corrosion-resistant and intrinsically safe; suitable for harsh industrial environment.
Accessible	⇨	Remotely accessible anytime, anywhere; automatic alarm; maintenance free.
Convenient	⇨	Bluetooth compatible and connected via mobile APP.

Normal Temperature
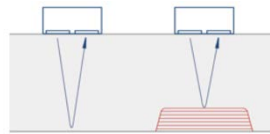
High or Low Temperature
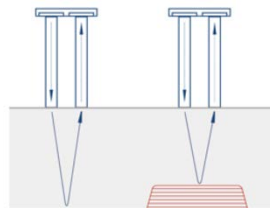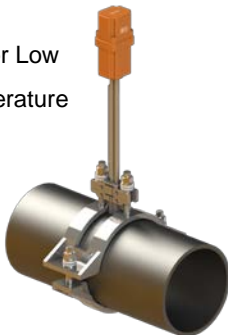
By employing non-intrusive ultrasonic sensors and advanced signal processing technology, the corrosion status of the pipe wall can be rapidly and accurately determined through measuring the pipe wall thickness. A specialized temperature compensation algorithm ensures precise measurements, even in environments with substantial temperature variations.

DC210 adopts a distinctive dual-waveguide-rod design, enabling the isolation of high or low-temperature zones. It is suitable for monitoring pipes with ultra-high temperatures (up to 600°C) or ultra-low temperatures (as low as -200°C).

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Specifications

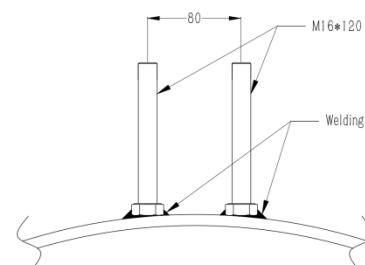| Product Model	DC110	DC210
Measured Pipe Temperature Range	-40~85°C	-200~600°C
Thickness Range	3-50mm	Type A: 5-25mm; Type B: 20-50mm
Thickness Precision	±0.02mm	±0.1mm
Temperature Range	-40~85°C	-200~600°C
Temperature Precision	±1°C	0.8%
Data Acquisition Period	1/2/5/10/15/20/30/60/120/240/360/480/720/1440 minutes	
Communication	2.4GHz Wireless Sensor Network (Bluetooth 5.0), line-of-sight range 300m	
Battery	3300mAh Li/SOCL2 ER14335 x 2; replaceable	19000mAh Li/SOCL2 ER34615; replaceable
Dimensions	40mm x 60mm (D x H)	76mm x 500mm (D x H)
Weight	110g	2080g
Operating Temperature	-40~85°C	
Operating Humidity	10%~90% RH	
Enclosure	Metal and polycarbonate	
Explosion Protection	EX ia IIC T4 Ga	
Ingress Protection	IP67	
Mounting	Industrial-grade epoxy, with auxiliary magnet	Clamp fixture or welding
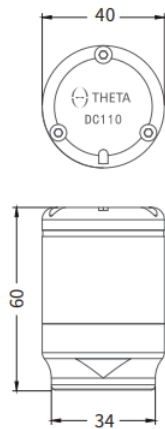
DC110
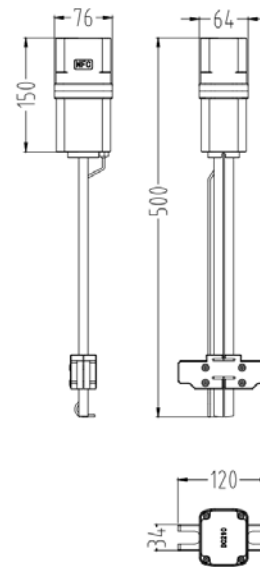
DC210

Mounting

DC110 Epoxy

DC210 Clamp Fixture

DC210 Welding