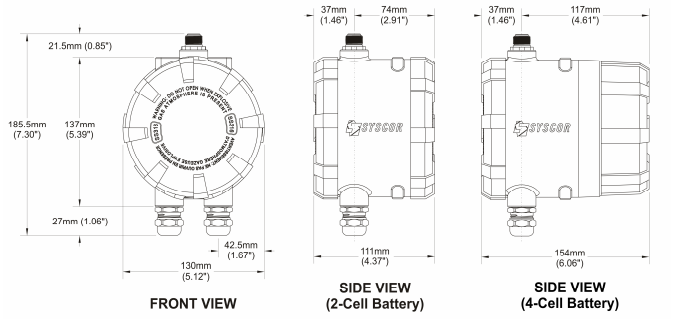
SYSCOR controls & automation inc

Please contact us for product questions or purchasing

201-60 Bastion Square, Victoria BC V8W 1J2, Canada
Toll Free Canada/USA:+1-833-361-1681
Tel: +1-250-361-1681 Fax: +1-250-361-1682
Email: contact@syscor.com Web site: syscor.com

WirelessHART

PCU-X11 Inclinometer



Description

Syscor's WirelessHART PCU-X11 Inclinometer was developed and qualified, in close cooperation with the petroleum industry, to detect and measure inclination and acceleration changes using a high reliability, MEMS sensor.

Applications

The solution targets tank floating roofs, ladders, and other stability applications. Deck hydrocarbon detection (butane and heavier) and water level measurement are optional.

Power

The Inclinometer is powered by Syscor's 841 and 902 Battery Packs that contain high energy density lithium thionyl chloride (Li-$SOCl_2$) cells. Low self-discharge provides up to 10 years of reliable and predictable power, depending on the update rate.

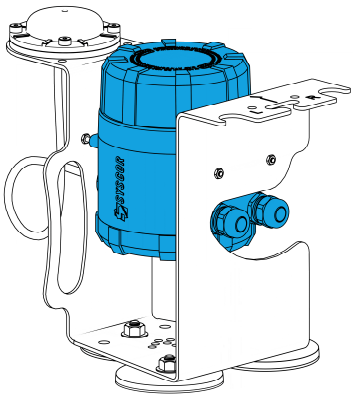
Installation

The Inclinometer can attach directly to equipment with Syscor's Universal or Floating Roof Mounting Brackets. No hot work is required. Optional bracket magnets can be used on flat steel surfaces, such as steel floating roofs.

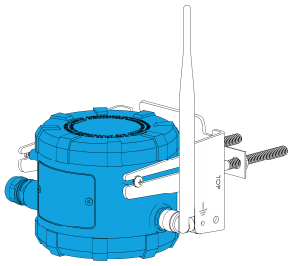
WirelessHART Communication

The Inclinometer utilizes the industry standard WirelessHART protocol, which accounts for roughly 30% of the industrial wireless sensing market.* Data is transmitted from the WirelessHART Gateway to the facility's DCS/SCADA using industry standard interfaces. WirelessHART (IEC 62591) is a secure, full mesh technology capable of self-forming, healing, and scaling.

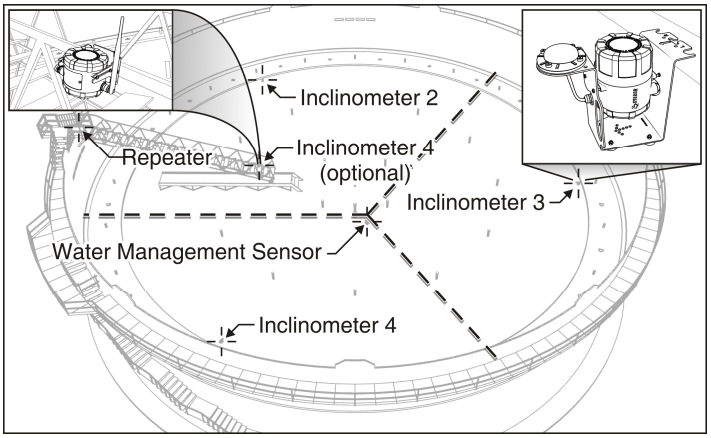
* https://www.controlglobal.com/articles/2019/arc-report-details-growth-of-fspan-stylefont-size-x-smalloundationspan-fieldbus-hart-and-emwirelessemhart/



1. Inclinometer for tank floating roof monitoring



2. Inclinometer for tank floating roof ladder monitoring



Specifications

Functional Specifications	
Internal Sensors	Temperature, vibration, inclinometer/accelerometer
Wireless Comm.	WirelessHART IEC 62591 2.4 GHz DSSS
Wireless Data Update Rate	User-selectable; 1 minute to 1 hour

Physical Specifications	
Power Supply	Field replaceable, intrinsically safe, Li-$SOCl_2$ battery pack; up to 10 yr. battery life depending on application and update rate 841 Battery Pack: 2-cell, 7.2V 19.0Ah 136.8Wh 902 Battery Pack: 4-cell, 7.2V 38.0Ah 273.6Wh Enclosure: Fully potted, ABS plastic
Communication	Maintenance Port for communication with HART field communicator
Enclosure	Housing: Stainless steel SS316
Antenna Options 2.4-2.5 GHz	• Omni-directional, 5dBi, Laird FG25005, 349.25mm (13-3/4in.), N-type female, straight • Omni-directional, 4.26dBi, Taoglas FW.24.NTY.M, 316mm (12.44in.), flexible whip monopole, N-type male, straight • Right Hand Circular Polarization (RHCP) antenna, 4.93dBi, Taoglas WTSP.2400.25.4.40, 25 mm (0.98in.) • Omni-directional, 8dBi, Taoglas OMB.242.08F21, 523mm (20.59"), N-type female connector, straight • Optional lightning arrestors are available
Antenna Port	N-Type female
Sensor Probe Ports	1/2in. NPT for Syscor's Hydrocarbon Detector (HCD) or Hydrocarbon Detector with Water Level (HCDW)
Sensor Wiring Connections	Screw terminals for 4x1 conductor 20 AWG tinned copper wire
Weight	3.75kg [8.3lbs.]
Mounting Options	• Universal Mounting Bracket with optional magnets • Floating Roof Mounting Bracket with magnets and optional swivel base (3M VHB adhesive can be used for aluminum or composite surfaces)

Performance Specifications	
Electromagnetic Compatibility	Meets all relevant requirements of EN 62479:2010 and EN-61326-1:2013
Vibration and Acceleration	Ultra-low-power, high performance, three-axis linear accelerometer; Dynamically selectable range from 0g to 16g; Acceleration and velocity detection
Inclinometer	High accuracy (0.1°), dual-axis digital inclinometer/accelerometer sensor Digital inclination data, 0.025° resolution Digital acceleration data, 0.244*mg* resolution ±1.7g accelerometer measurement range
Temp. Sensor	8 bit resolution; worst case accuracy ± 2°C [3.6°F]
Operating Temp.	-40°C to +60°C [-40°F to +140°F]

Product Certifications

Note: Certifications apply to the complete system (Field Transmitter (IP67, Type 4X) + sensor probes (IP68, Type 4X))

USA	*FCC: 2AAZE-000697* *Intrinsic Safety: [CSA] 70174889* *Class I, Division 1, Groups C and D, T4* *Class I, Zone 0 AEx ia IIB T4 Ga*
Canada	*IC: 11413A-000697* *Intrinsic Safety: [CSA] 70174889* *Class I, Division 1, Groups C and D, T4* *Ex ia IIB T4 Ga*
Europe	*Intrinsic Safety: [SIRA] 18ATEX2249X* *Ex ia IIB T4 Ga* *CE_{0518}*

Learn More

FR-Tracker 2.0	https://www.syscor.com/solutions/frtracker
Field Transmitter Battery Packs	https://www.syscor.com/downloads/BATTERY01DDS_FTBatteries_2.1.0.pdf
Universal Mounting Bracket	http://www.syscor.com/downloads/BRACKET02DDS_UniversalMountingBracket_2.1.0.pdf
Floating Roof Mounting Bracket	http://www.syscor.com/downloads/BRACKET01DDS_FRMountingBracket_2.1.0.pdf
Swivel Base	http://www.syscor.com/downloads/FRTRACK01DSS_ASTSwivelBase_2.1.0.pdf
Monitoring Software	https://www.syscor.com/products/software
Antennas	https://www.syscor.com/products/antennas
PCU-X11 Inclinometer	https://www.syscor.com/downloads/PCU01DDS_WiHART-Inclinometer_2.1.0.pdf