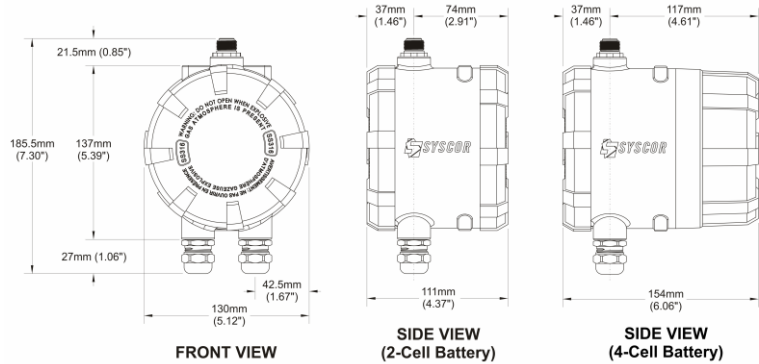


# PCU-X11 Inclinometer



## Description

Sycor'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 Sycor's 841 and 902 Battery Packs that contain high energy density lithium thionyl chloride (Li-SOCl<sub>2</sub>) cells. Low self-discharge provides 10+ years of reliable and predictable power, depending on the update rate.

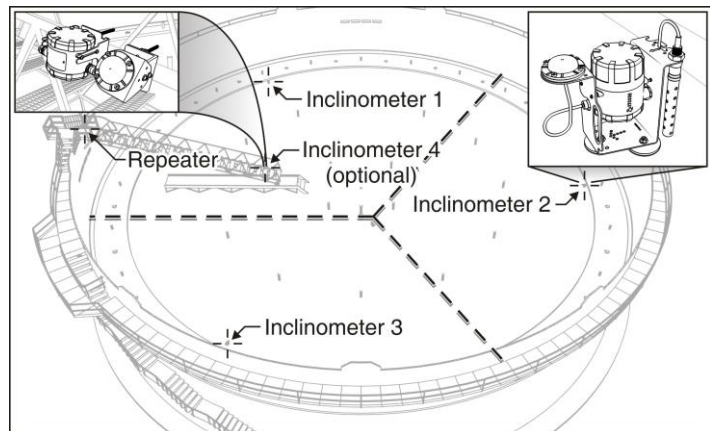
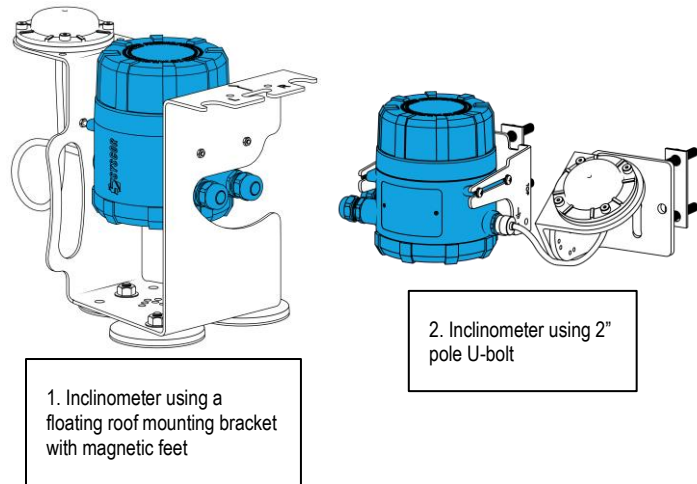
## Installation

The Inclinometer can attach directly to equipment with Sycor'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/>



## Specifications

### Functional Specifications

Internal Sensors	Electronics temperature, vibration/accelerometer, inclinometer
Wireless Comm.	WirelessHART IEC 62591 2.4 GHz DSSS
Wireless Data Update Rate	User-selectable; 5 seconds to 1 hour

### Physical Specifications

Power Supply (Battery Pack)	<p>Models available for use:</p> <ul style="list-style-type: none"> <li>Model 841 Battery Pack: 2-cell, 7.2V 19.0Ah 136.8Wh</li> <li>Model 902 Battery Pack: 4-cell, 7.2V 38.0Ah 273.6Wh (recommended for the PCU-X11)</li> </ul> <p>To preserve intrinsic safety, only Syscor battery packs may be used. Battery packs are Li-SOCl<sub>2</sub>, field replaceable, Intrinsically Safe, and have 10+ years of battery life depending on application and update rate.</p>
Communication	Maintenance Port for communication with HART field communicator
Enclosure	Stainless steel SS316
Antenna Options 2.4-2.5 GHz	<ul style="list-style-type: none"> <li>Right Hand Circular Polarization (RHCP) antenna, 4.93dBi, Taoglas WTSP.2400.25.4.40, 25 mm (0.98in.)</li> <li>Other antenna options here: <a href="https://www.syscor.com/products/antennas">syscor.com/products/antennas</a></li> </ul>
Antenna Port	N-Type female
Sensor Probe Ports	1/2in. NPT
Sensor Wiring Connections	Screw terminals
Weight	3.75kg [8.3lbs.]
Mounting Options	<ul style="list-style-type: none"> <li>Floating Roof Mounting Bracket with magnets (see Fig. 1)</li> <li>Universal Mounting Bracket with 2" or 5" U-bolt (see Fig. 2)</li> </ul>

### 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, 0.244mg resolution ±1.7g accelerometer measurement range
Electronics Temperature	Integrated circuit sensing elements embedded inside, provide up to +/- 1°C [1.8°F]
Operating Temp.	-40°C to +60°C [-40°F to +140°F]

### Product Certifications

USA	<p>FCC: 2AAZE-000697</p> <p>Intrinsic Safety: CSA 19CA70174889X Class I, Division 1, Groups C and D, T4 Class I, Zone 0 AEx ia IIB T4 Ga</p>
Canada	<p>IC: 11413A-000697</p> <p>Intrinsic Safety: CSA 19CA70174889X Class I, Division 1, Groups C and D, T4 Ex ia IIB T4 Ga</p>
Europe	<p>Intrinsic Safety: SIRA 18ATEX2249X Ex ia IIB T4 Ga CE<sub>2013</sub></p>
IECEX	<p>Intrinsic Safety: IECEX CSA 18.0031X Ex ia IIB T4 Ga</p>

## Learn More

FR-Tracker 2.0	<a href="https://www.syscor.com/solutions/frtracker">https://www.syscor.com/solutions/frtracker</a>
Field Transmitter Battery Packs	<a href="https://www.syscor.com/downloads/BATTERY01DDS_FTbatteries.pdf">https://www.syscor.com/downloads/BATTERY01DDS_FTbatteries.pdf</a>
Universal Mounting Bracket	<a href="http://www.syscor.com/downloads/BRACKET02DDS_UniversalMountingBracket.pdf">http://www.syscor.com/downloads/BRACKET02DDS_UniversalMountingBracket.pdf</a>
Floating Roof Mounting Bracket	<a href="http://www.syscor.com/downloads/BRACKET01DDS_FRMountingBracket.pdf">http://www.syscor.com/downloads/BRACKET01DDS_FRMountingBracket.pdf</a>
Monitoring Software	<a href="https://www.syscor.com/products/software">https://www.syscor.com/products/software</a>
Antennas	<a href="https://www.syscor.com/products/antennas">https://www.syscor.com/products/antennas</a>
PCU-X11 Inclinometer	<a href="https://www.syscor.com/downloads/PCU01DDS_WiHART-Inclinometer.pdf">https://www.syscor.com/downloads/PCU01DDS_WiHART-Inclinometer.pdf</a>