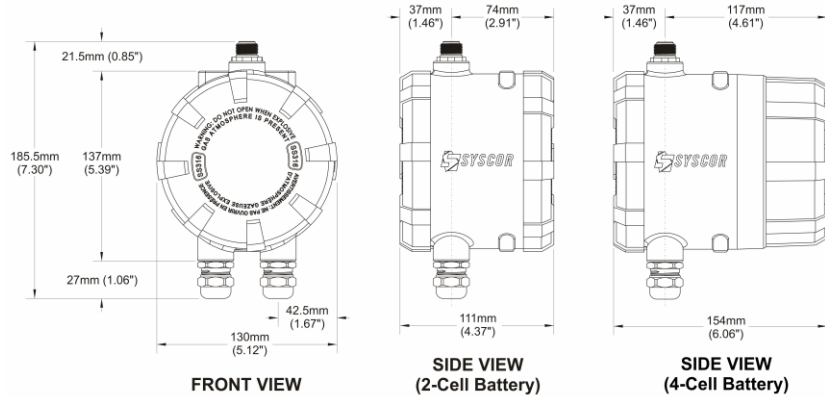


# PCU-X00 Repeater



## Description

Sycor's WirelessHART PCU-X00 Repeater was developed and qualified, in close cooperation with the petroleum industry, as a network bridge between WirelessHART devices. The Intrinsically Safe Repeater allows a WirelessHART network to expand its effective range, overcoming significant distance or obstruction challenges.

## Applications

The Repeater improves performance of the WirelessHART network by increasing density or range. In addition, Sycor's FR-Tracker 2.0 Sensor Units send data to the WirelessHART Gateway via Repeaters installed on the tank's platform railing or rim.

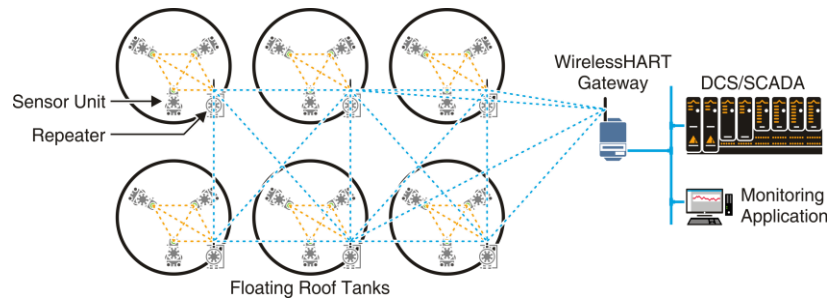


Figure 1: Repeater for FR-Tracker 2.0 safety system

## Power

The Repeater 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

Sycor's Universal Mounting Bracket can attach the Repeater to struts, tubing, or equipment. No hot work is required. Optional bracket magnets can be used on flat steel surfaces.

## WirelessHART Communication

The Repeater 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/>

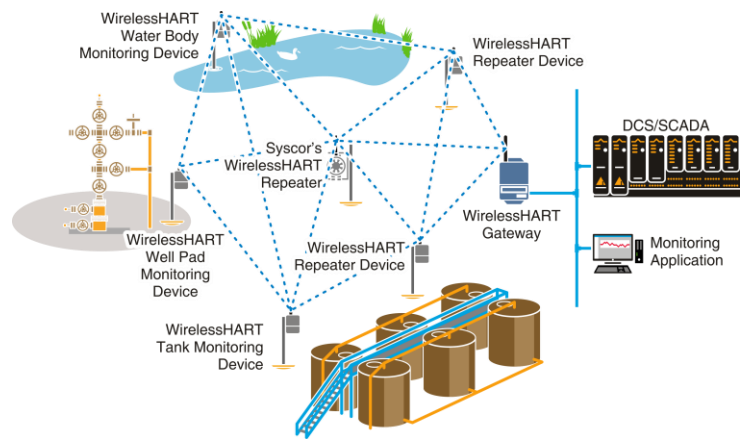


Figure 2: Repeater for WirelessHART field devices

## Specifications

### Functional Specifications

Internal Sensors	Temperature
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 (recommended for the PCU-X00)</li> <li>Model 902 Battery Pack: 4-cell, 7.2V 38.0Ah 273.6Wh</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>Omni-directional, 6dBi, Syscor 001086, 350mm (13.8in.), N-type male, straight</li> <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	Universal Mounting Bracket with 2" or 5" U-bolt

### Performance Specifications

Electromagnetic Compatibility	Meets all relevant requirements of EN 62479:2010 and EN-61326-1:2013
Temp. Sensor	8 bit resolution; worst case accuracy $\pm 2^{\circ}\text{C}$ [3.6°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>2813</sub></p>
IECEX	<p>Intrinsic Safety: IECEX CSA 18.0031X Ex ia IIB T4 Ga</p>

## Learn More

Field Transmitter Battery Packs	<a href="http://www.syscor.com/downloads/BATTERY01DDS_FT_Batteries.pdf">http://www.syscor.com/downloads/BATTERY01DDS_FT_Batteries.pdf</a>
Universal Mounting Bracket	<a href="http://www.syscor.com/downloads/BRACKET02DDS_UniversalMountingBracket.pdf">http://www.syscor.com/downloads/BRACKET02DDS_UniversalMountingBracket.pdf</a>
Antennas	<a href="https://www.syscor.com/products/antennas">https://www.syscor.com/products/antennas</a>
Stackable Monitoring Well	<a href="http://www.syscor.com/downloads/TUBING01DDS_SM_onitoringWell.pdf">http://www.syscor.com/downloads/TUBING01DDS_SM_onitoringWell.pdf</a>
Monitoring Software	<a href="https://www.syscor.com/products/software">https://www.syscor.com/products/software</a>
PCU-X00 Repeater	<a href="http://www.syscor.com/downloads/PCU01DDS_WIHART-Repeater.pdf">http://www.syscor.com/downloads/PCU01DDS_WIHART-Repeater.pdf</a>