HCD Sensor Transducer

Overview

The HCD sensor transducer is designed to detect the presence of liquid and gaseous hydrocarbons (C_3 and heavier) as well as temperature and acceleration/vibration. The HCD sensor transducer is used with the Syscor Tracker™ WirelessHART Field Transmitter.

The HCD sensor transducer uses polymer absorption (PA) sensor technology. Three proven, patent-pending sensor formulations are available:

- Vapour Sensor: Best at detecting gaseous hydrocarbons in dry or humid air
- Water Immersion Sensor: Best at detecting liquid or gaseous hydrocarbons when fully submerged in water or encased in ice for extended periods of time
- Interface Sensor: Best at detecting liquid or gaseous hydrocarbons when sensor will be in air or temporarily submerged in water

The sensor transducer can be configured to contain up to three separate PA sensors of any formulation. The formulations used are determined by the application.

Accessories: Perforated stainless steel protective tubing, available in 2 ft. sections, allows rapid deployment of sensors in leak detection applications both underground and in water bodies. The addition of a waterproof, oleophilic polymeric fabric sleeve supports the sensor's hydrocarbon detection accuracy in applications where sensors will be submerged in water or encased in ice.

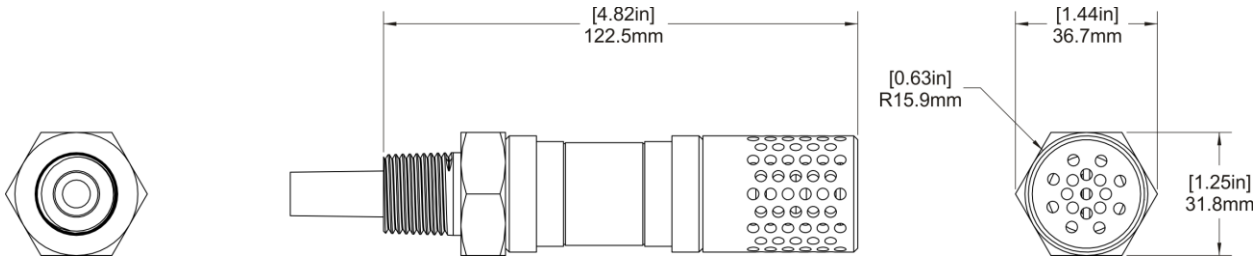
Related Solution Packages

Both the HC-Tracker™ and FR-Tracker™ Solution Packages may use the HCD sensor transducer.

- HC-Tracker™ - Hydrocarbon leak detection in facilities, underground and in water bodies
- FR-Tracker™ - Floating roof monitoring for aboveground storage tanks

Key Features

- Extensively tested and independently qualified device
- Intrinsically safe design for Zone 0 deployment
- Stainless steel (SS316) construction
- Self-contained units are easily installed and removed in the field
- Units can be connected directly to the Syscor Tracker™ Field Transmitter PCU or mounted remotely and connected via cable
- Three different sensor formulations may be used within one unit if required for the application
- Syscor's polymer absorption sensor formulations provide accurate, reliable and rapid detection of liquid and gaseous hydrocarbons (C_3 and heavier) in air, water, ice and underground
- Water Immersion sensor formulation is unaffected by freezing temperatures and extended periods under water and encased in ice
- Accessories are available to support rapid deployment of sensors in water bodies or underground



Specifications

Functional Specifications	
Power Usage	Typical <0.1 W (system = PCU + sensors)
Sensor Options	Temperature, Accelerometer, Vapour, Interface, Water Immersion
Physical Specifications	
Power Supply	Syscor Tracker™ Field Transmitter power and communication unit (PCU)
Communication	Proprietary protocol to PCU
Enclosure	Housing: Stainless steel SS316 Rating: IP68
Wiring	4x1 conductor (red, black, white, green) 20 AWG tinned copper
Weight	400g [14.1 oz.]
Mounting	Connect directly to PCU via ½ in. NPT port or via cable extension (up to 266.7 m/875 ft. maximum total cable for all sensors used)
Related Accessories	
SS Tubing	Perforated stainless steel tubing, 2 ft. sections
SS End Cap	Optional stainless steel end cap for tubing
Fabric Sleeve	Waterproof oleophilic polymeric fabric
Performance Specifications	
Acceleration Sensor	MEMS digital output motion sensor; ultra-low-power, 3-axis "pico" accelerometer for both acceleration and velocity detection Dynamically selectable range: ±2g/±4g/±8g/±16g 1 Hz to 5 kHz sampling frequency
Temp. Sensor	± 1°C [1.8°F] resolution
Operating Temp.	-40°C to 60°C [-40°F to 140°F]
Vapour Sensor (PA)	Detects gaseous hydrocarbons in air in dry or humid conditions; lower detection limit starting at 1000 ppm; calibrated to hexanes; 0.1% v/v of atmosphere or 10% of the Lower Explosive Limit
Interface Sensor (PA)	Detects both gaseous (C_3 and heavier) and liquid hydrocarbons and operates in environments where some temporary submersion in water is expected (air/water interface)
Water Immersion Sensor (PA)	Detects both gaseous (C_3 and heavier) and liquid hydrocarbons in fully submerged conditions (including hot water and ice) for up to five years

Product Certifications Note: Certifications apply to the complete system (PCU + sensors)	
USA	Intrinsic Safety: [CSA] 4792360 FCC: 2AAZE-000697
Canada	Intrinsic Safety: [CSA] 4792360 IC: 11413A-000697
Product Markings	North America: CL 1 DV 1 GP C&D T4 Europe: 11 1G Ex ia 11B T4

How to Purchase

Visit syscor.com for more information. Contact Syscor to discuss your specific site and application requirements.

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