**Please contact us for product questions or purchasing**

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# HCDW Sensor Probe

## Description

Syscor's Hydrocarbon Detector with Water Level (HCDW) sensor probe can detect hydrocarbons (butane and heavier) and measure water level, temperature, and acceleration/vibration. To operate, the probe can only be wired to Syscor's PCU-X01 Sensor Hub and PCU-X11 Inclinometer.

## Detection and Measurement Capabilities

**Hydrocarbon Detection:** Syscor has developed and qualified, in close cooperation with the petroleum industry, a new generation of hydrocarbon detection Polymer Absorption (PA) Sensors. The probe contains three redundant PA Sensors built with Syscor's proprietary chemistry. The chemistry has a high signal-to-noise ratio, methane immunity, moisture resistance, and is optimized for different applications. In addition, the probe has the following capabilities:

- Detects hydrocarbons upon contact in air, underground, or within water bodies;
- Functions even when fully immersed in hot or cold water for years (including ice);
- Survives over 30 freeze/thaw cycles.

**Water Level Measurement:** The resistive water level sensor works only with conductive liquids. Cathodic protection from galvanic corrosion is achieved through gold plating and deposition of "sacrificial metal" on the sensor anode. Additional cathodic protection is achieved by energizing the probe for only brief time periods (20 milliseconds or less).

**Temperature Measurement:** Syscor uses a high accuracy, integrated circuit by Texas Instruments (TMP108).

**Acceleration/Vibration Measurement:** Syscor uses MEMS sensors that are sealed, durable, and referenced to gravity.

The HCDW sensor probe is capable of self-calibration in the field.

## Learn More

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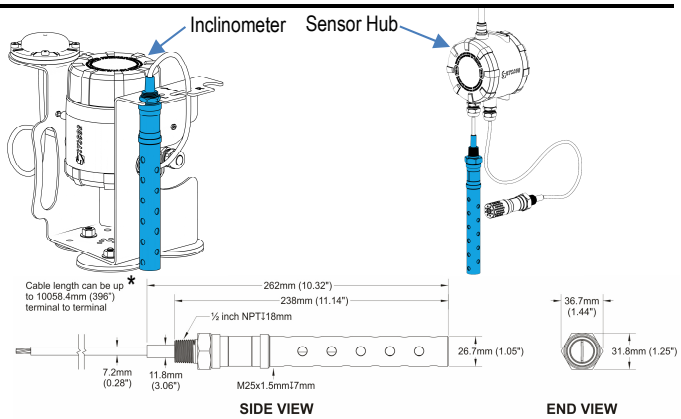
| PCU-X01 Sensor Hub | https://www.syscor.com/downloads/PCU01DDS_WiHART-Sensor_Hub.pdf |
| PCU-X11 Inclinometer | https://syscor.com/downloads/PCU01DDS_WiHART-Inclinometer.pdf |
| Polymer Absorption (PA) Sensors | https://www.syscor.com/technology/pas |
| Micro-Electro-Mechanical-System (MEMS) | https://www.syscor.com/technology/mems |
| Hydrocarbon Detector with Water Level (HCDW) Sensor Probe | https://www.syscor.com/downloads/HCDW01DDS_HDCW-Sensor.pdf |




## Specifications

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|---|---|
| **Functional Specifications** | |
| Power Usage | Typical <0.1 W (system = Field Transmitter + sensors) |
| Sensor Features | Hydrocarbon Detection (butane and heavier), Water Level, Temperature, Accelerometer (see Performance Specifications) |
| **Physical Specifications** | |
| Power Supply | Syscor's Sensor Hub and Inclinometer (Field Transmitters) |
| Communication | Proprietary protocol to Field Transmitters |
| Enclosure | Housing: Stainless steel SS316 |
| Wiring | 4x1 conductor (red, black, white, green)<br>20 AWG tinned copper |
| Weight | 500g [17.6oz.] |
| *Mounting and *Intrinsically Safe Operation* | Connect directly to the Sensor Hub or Inclinometer via 1/2in. NPT port or via cable extension. **Intrinsically Safe Operation:* If one sensor probe is used, total cable length for Intrinsically Safe operation cannot exceed 10.05m (33ft.). If two sensor probes are used, total combined cable length for Intrinsically Safe operation cannot exceed 10.05m (33ft.).* |
| **Performance Specifications** | |
| Polymer Absorption (PA) Sensors | Detects hydrocarbons (butane and heavier) in air and water; operates in environments where full submersion in water is expected (air/water) |
| Water Level Sensor | Up to 5in. (12.7cm) detection range; 1/2in. intervals (not in metric)<br>Operating temperature range: > 0°C [32°F] |
| Accelerometer | MEMS digital output motion sensor; ultra-low-power, 3-axis "pico" accelerometer for both acceleration and velocity detection; Dynamically selectable range from 0g to 16g |
| Temp. Sensor | 12 bit resolution; worst case accuracy ± 1°C [1.8°F] |
| Operating Temp. | -40°C to +60°C [-40°F to +140°F] |
| ***Product Certifications**<br>*Note: Certifications apply to the complete system (Field Transmitter (IP67, Type 4X) + sensor probes (IP68, Type 4X))* | |
| *USA* | *FCC: 2AAZE-000697*<br>*Intrinsic Safety: [CSA] 70174889*<br>*Class I, Division 1, Groups C and D, T4*<br>*Class I, Zone 0 AEx ia IIB T4 Ga* |
| *Canada* | *IC: 11413A-000697*<br>*Intrinsic Safety: [CSA] 70174889*<br>*Class I, Division 1, Groups C and D, T4*<br>*Ex ia IIB T4 Ga* |
| *Europe* | *Intrinsic Safety: [SIRA] 18ATEX2249X*<br>*Ex ia IIB T4 Ga*<br>*CE0518* |

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*Innovation driven by safety*