

PetroSense® DHP

Digital Hydrocarbon Probe

for Direct Monitoring of Hydrocarbons

in Water & Vapor

The detection and measurement of petroleum hydrocarbons was historically achieved by sampling followed by field or lab analysis

With the advent of **PetroSense® DHP** probes, the world's first patented fiber optic chemical sensor built into a smart probe, it is now possible to measure ppm levels of petroleum hydrocarbons *in situ*. That is to say, real time in groundwater via a sampling well or directly in surface waters.

DHP probes combine patented fiber optic chemical sensor (FOCS®) technology with digital electronics and an advanced microprocessor that makes these products unique in the marketplace. **FOCS®** technology is based on modulation of the transmitted light intensity when the sensor is exposed to hydrocarbons dissolved in water. The **FOCS®** sensor is designed with a proprietary chemical coating which responds reversibly to increasing or decreasing levels of hydrocarbons.

The **FOCS®** probe is available as SDI-12 or RS485 compatible, making it capable of being interfaced with most commercial data loggers, PLCs and samplers.



➤ **Features**

- Detects Hydrocarbons Directly in Water and Vapor
- Detects Floating Liquid Product Instantaneously
- Fast Response
- Wide Dynamic Range
- 3rd Party Certified Equivalent to EPA Method 8020
- Intrinsically Safe – UL, CUL, KEMA ia
- Easy to Calibrate
- Stable
- Reliable

➤ **Applications**

- Remediation Monitoring
- Hydrocarbon Breakthrough
- Wastewater
- Leak Detection
- Process Fluids
- Stormwater Monitoring

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PERFORMANCE SPECIFICATIONS

| | VAPOR | WATER |
|--------------------------------|-----------------------------------------------|--------------------------------------------|
| Operating Range | 0-20,000 ppm a TPH | 0-2,000 ppm a TPH |
| Lower Limit of Detection | <10 ppm as xylene | 0.1 ppm as xylene |
| Hydrocarbons Detected | C6 and higher MW Petroleum hydrocarbons | C6 and higher MW Petroleum hydrocarbons |
| Accuracy/Precision | ±15% of reading | ±10% of reading |
| Response Time (initial) | 12 seconds | 12 seconds |
| Response Time to 95%) | <1 minute | <1 minute |
| Operating Temperature | 0° to 50°C | 0° to 50°C |
| Trend Correlation with GC Data | 95% | 98%vs. EPA method 8020 |

HARDWARE SPECIFICATIONS

| | |
|-------------------------------------|------------------------------------------------------------------------|
| Supply Voltage | 9-12 VDC |
| Data Input/Output** | SDI-12 or RS485 |
| Baud Rate | 1200 |
| Idle State Current Consumption | 700 µA typical, 1.5 mA maximum |
| Active State Current Consumption | 6 mA typical, 15 mA maximum |
| Cable (with weatherproof connector) | Teflon jacketed, shielded |
| Cable Pull Strength | 125 pounds |
| Cable Length | 125 feet (38 meters), standard |
| Probe Length | 10 inches (25 cm) |
| Probe Diameter | 0.75 inch (19 mm) |
| Probe Weight | 9 oz. (253 gms) |
| Options | Wireless Data Transfer Internet Data Access Solar Powered System |

**SDI-12 Interface Standard: Serial Digital standard communication protocol developed to support USGS requirements for microprocessors based on hydrological and environmental sensors.

Patent Numbers: 4,824,206; 4,913,519; 4,846,548; 4,929,049; 5,026,139; 5,094,958; 5,109,422; 5,165,005;
other Patents Pending

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