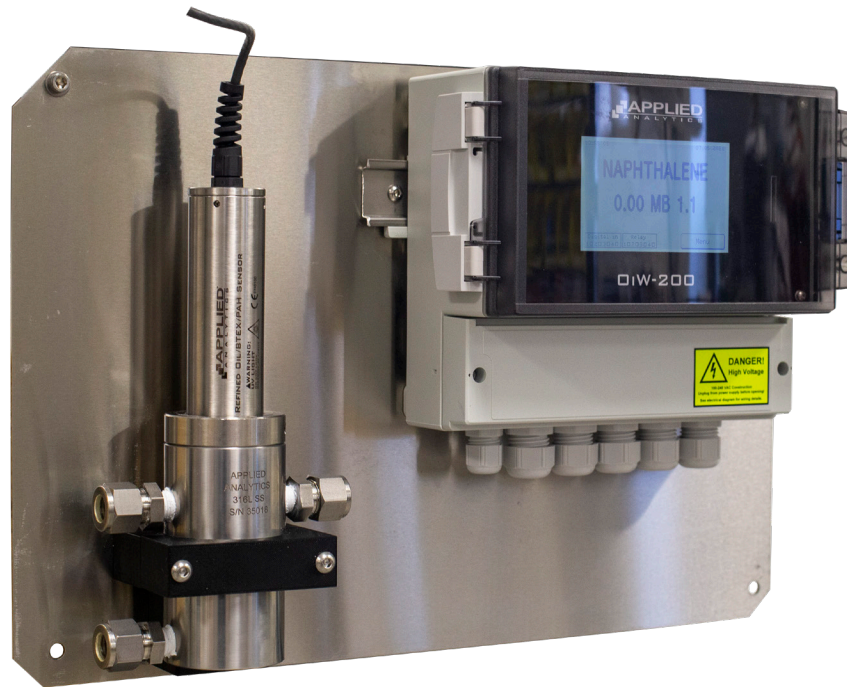


OiW-200 Oil-in-Water Analyzer

Applied Analytics Data Sheet No. DS-006B — Revised July 12, 2021



Features

- » Easy calibration procedure
- » Adjustable measuring range
- » Insensitive to ambient light
- » High pressure resistance
- » Low power demand
- » Real-time online monitoring
- » Modbus RTU interface
- » Available in stainless steel or titanium for harsh environments
- » No need for complex pretreatment system
- » No need for consumables such as reagents

OiW-200 Oil-in-Water Analyzer

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OiW-200 Sensor

The OiW-200 Oil in Water Analyzer is a compact UV fluorescence sensor and transducer for the purpose of measuring BTEX, PAHs, and oil in water. This sensor features a robust design allowing for it to be used in corrosive and high-pressure environments.

The sensor can be applied to various applications, including wastewater treatment, environmental monitoring, process monitoring, and more. The sensor can be directly suspended in a medium or installed in an AAI flow cell apparatus.

The transducer is a compact device with the purpose of receiving signals from the oil in water sensor. The transducer uses this information to produce and display measurement values. The transducer can also transduce these measurement values into analog current values (4-20 mA) or communicate them via RS232, RS485, or Profibus. The measurement data can be stored to an internal SD memory card on a set schedule. This device also features two relays. One of these may be used with corresponding concentration alarms, and the other relay may be used to switch on a set schedule. The entire transducer is controlled by an easy-to-use touchscreen display.

Applications

- » Environmental
- » WWTP
- » Desalination Plant
- » Wastewater
- » Process measurement and control
- » Environmental monitoring

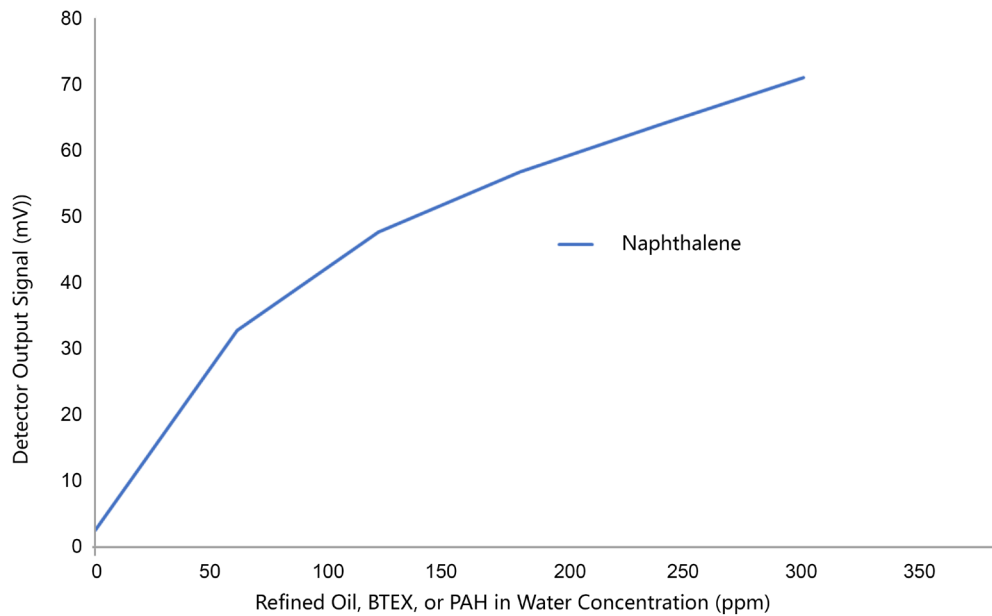
OiW-200 Oil-in-Water Analyzer

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Measuring Principle

When light of a particular wavelength hits particles of oil, the particles will absorb some of that light and re-emit light of a different wavelength. This is known as fluorescence. The OiW-200 analyzer measures the concentration of oil in water by monitoring the level of fluorescence.

A transmitter inside the OiW-200 emits light at about 280 nm. The oil particles in the sample absorb some of this energy and then emit light in a range between 300 and 400 nm. This light is detected by the sensor and the intensity is dependent on the concentration of the oil. Each fluorescence spectrum is unique to the specific composition of the oil mixture. The OiW-200 analyzer is suitable for the measurement of refined oils, BTEX, and PAHs in water.



OiW-200 Oil-in-Water Analyzer

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Installation Methods

The sensor can be directly suspended in a medium or installed in an AAI flow cell apparatus.



Being Directly Suspended in a Medium



Being Installed in an AAI Flow Cell Apparatus

Sensor Overview	
Light Source	LED < 300 nm Life time: 3 years
Detector	300 - 400 nm
Lens Materials	Fused silica Sapphire (optional)
Measuring Principle	UV fluorescence
Measurement Interval	Configurable - 1s minimum
Measuring Range (Adjustable)	Typical: 0-30 ppm 0-100 ppm 0-500 ppm
Accuracy	+/- 1% FS
Sensor Material	Stainless steel 1.4404 Titanium (optional)
Weight	0.8 kg
Dimensions	Length: 150 mm Diameter: 38 mm
Signal Output	4-20 mA
Power Consumption (typical)	0.5 W
Voltage Requirements	10 – 32 VDC
Interface	Modbus RTU
Maximum Pressure	6 bar
Temperature Range	0 – 55 °C
Area Classification	General purpose

OiW-200 Oil-in-Water Analyzer

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Transducer Overview	
Voltage Feed	230 VAC (90-260 VAC) Received power max: 15 W
Display	LCD Touch Panel: 240 X 128 Pixels
Operational Temperature Range	-10 to 45 °C
Weight	1.35 kg
Mounting	5 mm mounting hole and track for DIN-rail
Housing	Polycarbonate, 235 mm X 185 mm X 119 mm Protection code IP65
Input	1 analog input (sensor) 2 pulse inputs selectable to PNP or NPN (also statically usable), switching current 6 A 2 digital inputs (static), potential-free contacts, switching current 6 A
Outputs	2 current outputs, (4-20 mA), active 1 relay, 24 VDC / 0.5 A (resistive load) 1 relay, 230 VAC / 2A (resistive load) or 24 VDC / 6 A (resistive load)
Communication Interfaces	RS-232, RS-485, Profibus

Subject to modifications. Specified product characteristics and technical data do not serve as guarantee declarations.



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