

RIVERTRACE

SMART WiO



Oil has the ability to hold a certain amount of dissolved water, this is known as the humidity of the oil.

The maximum amount of water that oil can hold is characterized by the "saturation point". Above this point free water precipitates, which can lead to corrosion inside an aggregate. The "saturation point" is influenced by temperature and other various factors such as the composition of the oil (mineral or synthetic) and the formulation of additives. Moreover, it changes during lifetime.

Leaving behind basic measuring technology of free water in oil or emulsion, our system senses the absolute content of absorbed water in oil. Based on a capacitive measuring principle, the SMART WIO (Water in Oil) Sensor physically detects the humidity in % with 100% being the saturation point.

The system provides very precise measurement results, compensating temperature and aging effects.

Basically, it provides an alert function containing pre-alarm at 50% and main alarm at 90% humidity. These values can be set differently depending on the needs of the application.

APPLICATIONS

Condition monitoring Lubrication oil including:

- 2 and 4 stroke engines
- Compressors
- Pumps
- Gear boxes
- Turbines

Condition monitoring for Hydraulic oil including:

- All machines using hydraulic oil up to 10bar

KEY FEATURES

- Measures the absolute water content in oil.
- Early warning by using pre alarm and alarm
- Takes the oil temperature into consideration in order to measure the saturation
- The sensor measures the saturation of the oil independent from the oil type and oil age
- No cleaning of the sensor is needed.

FLEXIBLE SOLUTIONS

- Can be used with our SMART HUB controller for data analysis



SMART WiO Controller

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SMART WiO

SPECIFICATION

Controller Specification

Power Supply	18...32 VDC
Current consumption	<60mA
Polarity Protection	Yes
Alarm Relays	Pre-Alarm relay (50% humidity) Main Alarm Relay (90% humidity)
Output Current	<300mA
Operating Temperature	-25...+85°C
Protection Degree	IP67
Analog Output Water in Oil	4-20 mA (0-100% Humidity Linear)
Analog Output Temperature	4-20 mA (0-100% Linear)
Dimensions (mm)	125x80x57
Local Indication	LED Indicators

Sensor Probe Specification

Wrong Polarity Protection	Yes
Operating Temperature	-25...+85°C
Protection Degree	IP67
Pressure Resistance Against Medium	10 Bar
Connection Type	G3/4" Male Thread
Material	Stainless Steel
Dimensions (mm)	30max x193 length
Cable length to controller	15 Meters

*SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE