

CONDITION MONITORING

Moisture Content Sensor

Water in hydraulic and lubrication fluids is one of the main causes for oxidation, additive depletion, loss of dielectric strength in insulating oils, corrosion and reduced lubricating film thickness. These expensive problems can be prevented by monitoring the water level of your fluid and taking actions at an early stage.



Overview & Specifications

The moisture content sensor (MCS) is suitable for most hydraulic and lubricating fluids. The high accuracy of the measurement and excellent long-term stability make the MCS ideal for online monitoring of moisture in transformer, lubricating and hydraulic fluid, as well as diesel fuel. The MCS is perfectly suitable for long term usage in moisture levels, higher than 90% RH. Making it the perfect solution for gearboxes, thrusters and other applications where free water is a threat. By combining the MCS with other RMF products like a Condition Monitoring Center and vacuum dehydration unit, we offer you the optimal solution for your water contamination problems.

The compact design and rugged stainless steel housing allow a space-saving installation in the most demanding applications. The MCS measures water activity and oil temperature. The measured values are available on two 4-20mA outputs and one digital output with MODBUS RTU interface.

TECHNICAL DATASHEET	
GENERAL	
Supply voltage	24 VDC
Power consumption at 24V DC	<40mA
Pressure rating	0...20 bar (0...290 psi)
Measurement range	0 -100% RH
Housing / protection rating	Stainless steel 1.4404 / IP65
Connection	G1/2" BSP
Electrical connection ¹⁾	M12 8-pin plug
Sensor protection	Stainless steel filter
Oil temperature	-40...100 °C (-40...212 °F)
Ambient temperature	-40...80 °C (-40...176 °F)
Storage temperature	-40...60 °C (-40...140 °F)
Electromagnetic compatibility	EN61326-1 EN61326-2-3
	Industrial environment
Fluid compatibility ²⁾	Petroleum based and synthetic fluids
OUTPUT	
2 x analogue output	4 - 20 mA (3-wire technology) <500 Ohm
Digital output	MODBUS RTU
ACCURACY AT 20° C ³⁾	
Humidity Sensor	± 2% 0 to 90% & ±3% 90 to 100%
Temperature in oil	±0.2 °C (0.36 °F)
Response time	< 10 min. in still oil

1) M12 8-pins connector is included. Contact RMF Systems for connection diagram

2) The MCS is not suitable for water based fluids or aerospace phosphate ester hydraulic fluids.

3) The accuracy statement includes the uncertainty of the factory calibration with an enhancement factor k=2 (2 x standard deviation). The accuracy was calculated in accordance with EA-4/02 and with regard to GUM (Guide to the Expression of Uncertainty in Measurement).

Typical applications

- ▶ Transformer oil
- ▶ Lubrication oil
- ▶ Hydraulic oil
- ▶ Engine oil
- ▶ Diesel fuel

Accessories

- ▶ 10 meter M12 8-pin female cable

Ordering Code

