Moisture in Oil RH/T Module

Digital Humidity and Temperature Module

Ideal for monitoring water contents in oils

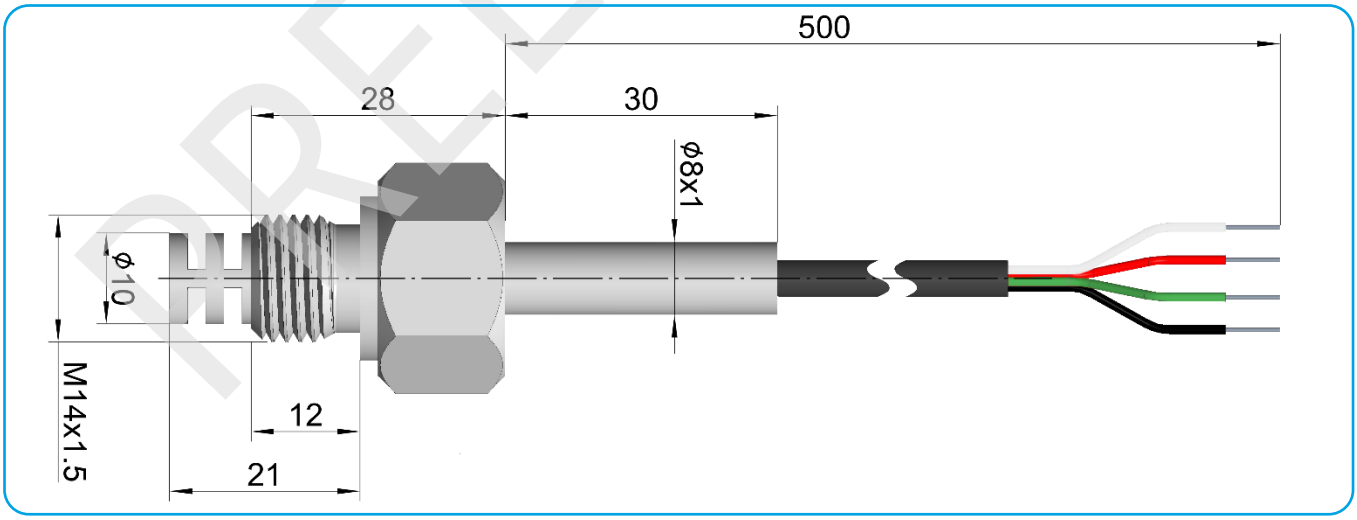
A compact and ready-to-use sensor for monitoring the water content of many different oils and fuels based on capacitive humidity measurement. The relative humidity output can give detailed information on condition and lifetime of different oils. Continuous and highly accurate measurement of relative humidity and temperature. System integration is made easy by a digital interface and screw-in housing. Stainless steel housing for robust integration in harsh environments.

PRELIMINARY

Benefits & characteristics

- Sensitive moisture analysis in different mineral and synthetic oils (incl. gear, transformer, hydraulics and lubricant applications)
- Fully calibrated and temperature compensated
- Interchangeable without adjustments
- Digital signal output I²C protocol
- Screw-in stainless steel housing (M14)
- Thermal and chemical robustness with MK33 capacitive humidity sensor

Mechanical dimensions



Pin assignment

Insulation color	White	Green	Black	Red
Assignment	SCL	SDA	GND	VDD

Information on signal transmission via I²C and on the pull-up resistors can be found in the Application Note.

Technical data

Operating temperature range:	-40 to + 120°C	
Operating humidity range:	0 % RH to 100 % RH	
	Humidity Sensor	**Temperature Sensor**
Accuracy:	±3 %RH at 23°C (0 to 90 %RH):	±0.2 °C (0 to 60 °C)
Reproducibility:	±0.2 % RH	±0.1 °C
Resolution:	0.03 % RH	+0.015 °C
Response time t_{63}:	< 4 s	< 5 s
Hysteresis:	< ±1 % RH at 23 °C	
Operating voltage:	2.7 V to 5.5 V	
Current consumption (nominal)	< 22 µA at 1 Hz measuring rate; 85 µA max.	
Current consumption (sleep):	< 1 µA	
Digital interface	I^2C, default address 0x28	
Operating voltage (limits):	-0.3 V to 6 V	
Storage conditions:	-10 to +50 °C Please refer to HYT application note for packaging recommendations	
Housing material:	Stainless steel 1.4571	
Process connector:	M14x1.5 mm	
Cable:	4 x AWG 26, 500mm, open ends	

PRELIMINARY

Order Information

Moisture in Oil RH/T Module	Product name	Order code:
	HPM.HYT.271.M.0.SK.SA.S	155958

Additional Documents

Application Note:	AHHYTM_E

Disclaimer

As additives may affect the long-term stability of the humidity measuring device, an evaluation of compatibility and measurement performance of the module in a particular oil under application relevant conditions is recommended.

PRELIMINARY

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