



## HUMIDITY SENSOR STANDARD (HMDSS)

**...continuous  
Monitoring  
of the  
content of water**



### **Continuous Online Measurement of the degree of oil saturation with water**

Excessive amounts of water in hydraulic fluids and lubricants can constitute a substantial threat to normal functioning of the engine components, e.g. causing the decreased operating performance of the auxiliary diesel.

In this respect, continuous monitoring of the content of water in oil enables efficient tracking of any occurring changes in the real time mode. Additionally to laboratory analyses, that are aimed to determine the absolute content of water measured in ppm (parts per million), the HUMIDITY SENSOR STANDARD is intended to define the relative humidity value, i.e. to detect the presence of free or dissolved water in oil.

**You can monitor the following fluids with sensors:**

- MINERAL OILS ● SYNTHETIC ESTER ● BIODEGRADABLE OILS

### **Easy Installation -immediately monitoring - reduce repair and downtime**

As soon as the HUMIDITY SENSOR STANDARD is installed, it starts measuring the degree of oil saturation with water on a continuous basis. The obtained humidity value is processed to the special display unit DATALOGGER\* or to the interfaces with additional AMS systems. The concentration of water is calculated in % ranging from 0 % (no water detected) to 100 % (complete saturation/ existence of free water).

With regard to unsaturated ester oils the use of the HUMIDITY SENSOR STANDARD is considered essential. As the measuring method of portable test devices implies the use of a reagent, it is not suitable for unsaturated esters due to the occurring reaction.

When measuring relative humidity, current temperature of oil affects the dissolving capability. So, for example, warm oil can dissolve more water than cold one and, consequently, in case of no further water supply its relative humidity increases. On the other hand, hot, relatively dry oil may suddenly contain free water if the ambient temperature cools down.

Irrespective of oil type and temperature, the HUMIDITY SENSOR STANDARD enables accurate real time measurement of humidity value providing immediate information whether the parameter is within the normal ranges or not. The sensor is ideal to use for small diameter

**Your reliable partner for marine measuring instruments and service**



TX Marine Messsysteme GmbH

Sandkamp 18

D-25368 Kiebitzreihe

Tel.: +49 (0) 4121 / 491 6890 E-Mail: [sales@txmarine.com](mailto:sales@txmarine.com)

Fax: +49 (0) 4121 / 463 48 74 Internet: [www.txmarine.com](http://www.txmarine.com)



## HUMIDITY SENSOR STANDARD (HMDSS)

### Technical data

Power Supply:	9...33V (max. 60mA)
Ambient Temperature:	-20...+85°C
max. operation pressure:	50bar
rel. Humidity:	0...100% r.H. (non-condensing)
protection class:	IP67
Output:	2x power output: 4...20mA outputs Out1 and Out2 are freely configurable accuracy power output: ± 2%
Interface:	RS232
threaded connection:	G <sup>3</sup> / <sub>4</sub> Zoll/inch
electrical connection:	M12x1, 8-pole
<b>measuring range</b>	
rel. humidity:	0 ... 100%
fluid temperature:	-40 ... +105°C
<b>measuring accuracy</b>	
rel. humidity:	1% r.H.
temperature:	0,1K
<b>measuring accuracy</b>	
rel. humidity (10 ... 90%):	±3% r.H.
rel. humidity (<10 %, >90 %):	±5% r.H.
temperature:	±2K
response time humidity :	<1 min
(0 auf 100 %)	

### Option DATALOGGER



The DATALOGGER is a special display and storage unit used for continuous information processing from different sensors, e.g. Humidity Sensor in order to keep the collected data over a longer period of time.

#### Technical Features:

- Internal Memory with 1000 records
- LED Display
- Voltage: 9-33 VDC
- Interface: RS-232, analogue 4-20mA
- SD card up to 4 GB

**Your reliable partner for marine measuring instruments and service**



TX Marine Messsysteme GmbH

Sandkamp 18

D-25368 Kiebitzreihe

Tel.: +49 (0) 4121 / 491 6890 E-Mail: [sales@txmarine.com](mailto:sales@txmarine.com)

Fax: +49 (0) 4121 / 463 48 74 Internet: [www.txmarine.com](http://www.txmarine.com)