



# WIO200

## Water in oil sensor

Datasheet 111197-902 Rev. 1.06

Dato: 2011-10-03



## **Introduction**

This datasheet provides technical data regarding the WIO (water in oil) sensor system. The system consists of a WIO Sensor, terminal box and cables. The WIO Sensor is an in situ sensor which measures water content in lubrication oils on ship engine or similar. The Terminal box connects the sensor to power supply and to the ship's surveillance system. The supplied cables are for connection between the WIO Sensor and the Terminal box.

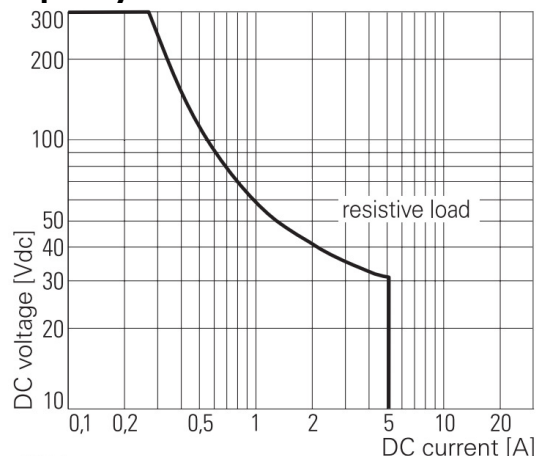




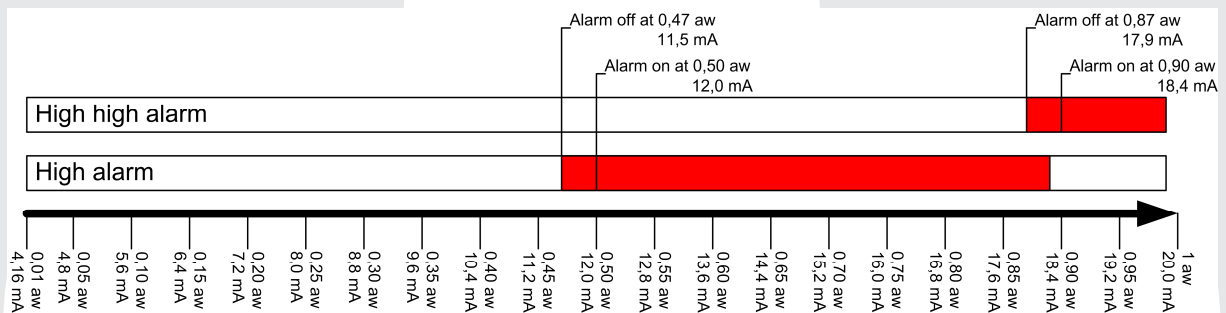
## Technical data

<b>Measuring range:</b>	0,01 to 1,00 a <sub>w</sub> water content.
<b>Accuracy:</b>	±0,03 a <sub>w</sub> for the range 0,01 to 1 a <sub>w</sub> water content.
<b>Resolution:</b>	< 0,004 a <sub>w</sub>
<b>Analogue output:</b>	4 to 20 mA (galvanic isolated) 0,01 to 1 a <sub>w</sub> water content.
<b>Max. Load (analogue outp.)</b>	< 500Ω
<b>Alarm indications.</b>	Alarm indication via 2 x Alarm relays (NC). Alarm values as specified by customer

### Relay Maximum DC Load breaking capacity:



The alarm indication has 0,03 a<sub>w</sub> water content hystereses as shown below. Alarms are specified by customer when ordering. Default values are 0,50 a<sub>w</sub> and 0.9 a<sub>w</sub>.

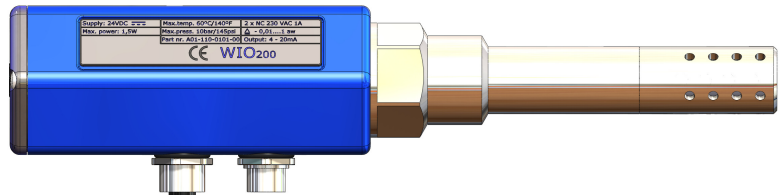




<b>Self test:</b>	On the WIO Sensor there is a button for testing the alarm functions. By pushing the button for 5 sec the high alarm relay turns on, and by pushing the button for 10 sec the high high alarm turns and the high turns off.  Five seconds after the button has been released the the active alarm will turn off.
<b>Protection class:</b>	IP66
<b>Cables:</b>	2 x Shielded cables with plugs on both ends, 2 meter long.
<b>Calibration:</b>	Calibration made by manufacturer. Default oil is Grade SAE 30/TBN 5-10  Re-calibration recommended with maximum 3 years interval.
<b>Power supply:</b>	Nominal supply 24 VDC $\pm$ 20%, max. ripple 10%.
<b>Media for measurement:</b>	Lubrication oil: Grade SAE 30/TBN 5-10
<b>Service temperature of media:</b>	10 to 80 °C.
<b>Pressure range:</b>	0 to 40 bar.
<b>Ambient temperature:</b>	0 to 85 °C
<b>Storage/transport ambient temperature:</b>	-20 to 85 °C
<b>Connection (mechanical):</b>	ISO 228-1 G $\frac{3}{4}$ male thread.



**Connections (Electrical) :**

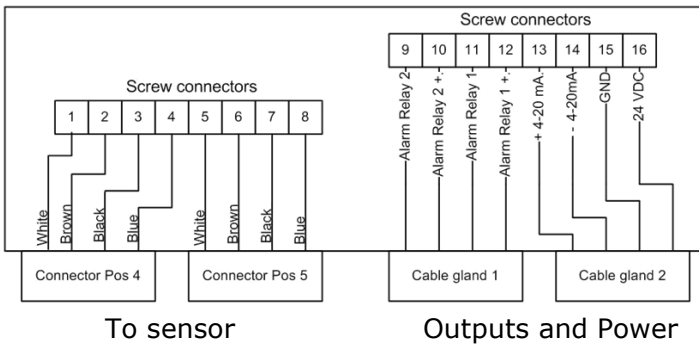


**Connectors on Terminal Box:**

2 x Connectors.  
2 x metal Cable gland for 4,5 – 10mm Cables.

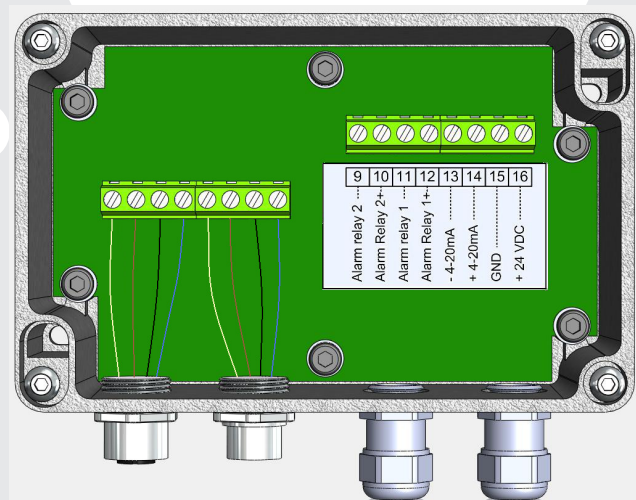
**Connectors on WIO Sensor:**

2 x Connectors



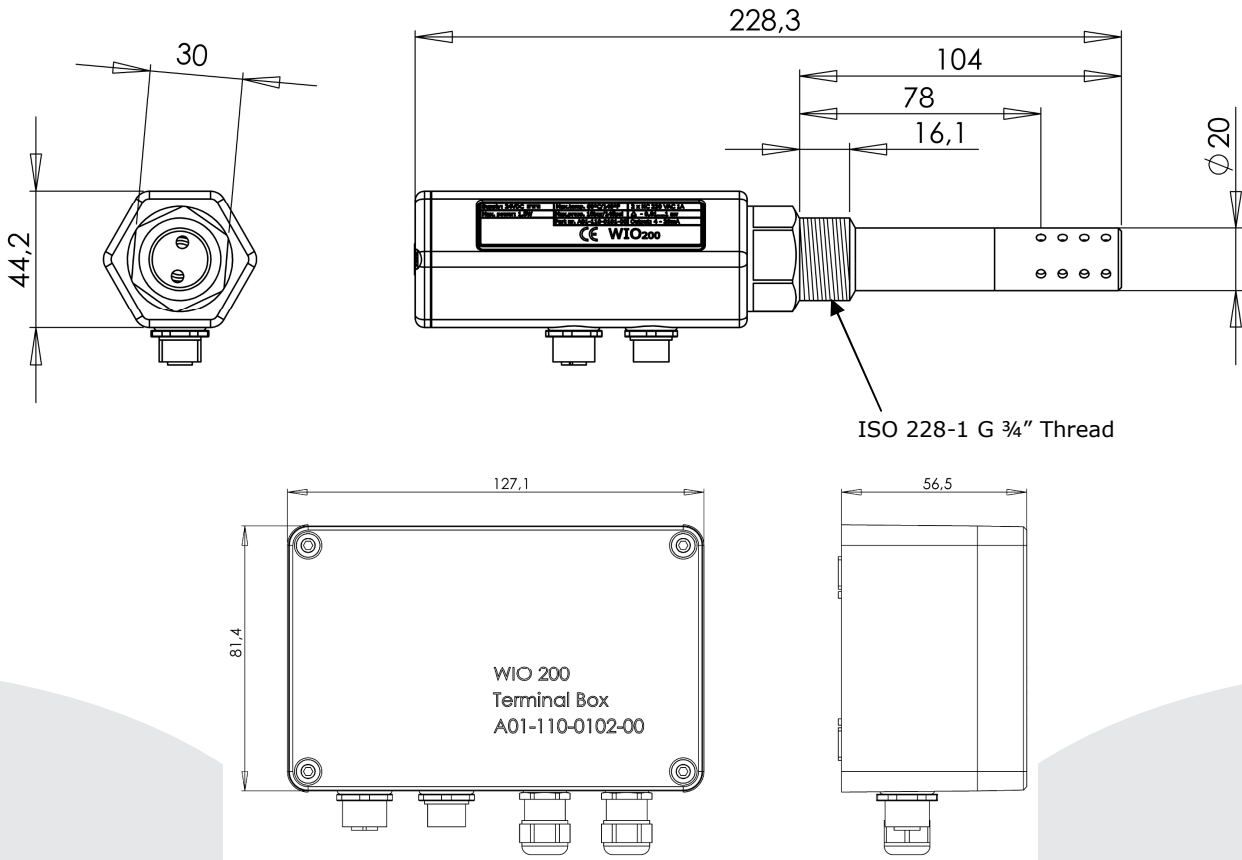
To Terminal Box

**Inside the terminal box:**





**Dimensions (in mm):**  
Drawing of outline dimensions.



**Label layout:**



**After installation:**

The sensor has to be fully covered in oil for more than 5 minutes, before secure measurement is achieved.

**Startup time:**

30 seconds.

**Warranty:**

2 years.

**Approvals:**

Germanischer Lloyd, cert. no 75 956 – 09 HH.