HWR330B Oil Water Content Sensor

Outlined

HWR330B is an intelligent sensor especially designed for online measurement of oil water content, its unique measurement technology is extremely sensitive to changes in the moisture content of the oil, real-time continuous online monitoring of the water content of the oil indicators, the oil to provide 360 ° all-round real-time online monitoring for the reliable operation of your valuable equipment to provide a strong guarantee.
It provides 360° all-round real-time online monitoring of the oil, which provides a strong guarantee for the reliable operation of your valuable equipment.

Features

- Very sensitive to water contamination
- Simultaneous detection of dissolved, free and emulsified water in oils
- Up to 10-15 measurement basis for accurate measurements under harsh conditions.
- Extremely reliable and robust due to special earthing technology Easy to clean due to well designed probe construction
- Worldwide commercial and technical standard approvals
- 7*24 hours, 365 days a year, to keep track of the quality of your equipment's oil.
- Enables you to be proactive about maintenance, avoiding unnecessary waste of money and time Significant savings on oil changes and waste oil disposal costs
- Reduces carbon emissions and contributes to the environment whilst reducing wasteful use of oil.

Significance

There have been countless cases proving that the presence of moisture is extremely destructive to most fluids, for example:

For lubricants and hydraulic oils, moisture can cause deterioration of oil quality, additive failure, viscosity reduction, corrosion and rust, reduce lubrication and load-bearing capacity, aggravate wear and tear of parts and components, reduce the service life of the system, and even cause serious accidents.

For insulating oil, moisture will destroy the insulating properties of the oil, posing a threat to the safety of power equipment.

For fuel, moisture will reduce the combustion efficiency of the oil, and seriously cause the engine to stall, resulting in traffic accidents. Power transformers, turbine units, engines, hydraulic drive systems and other valuable industrial equipment, once the failure or damage, not only the economy suffers losses, but also

Once failure or damage occurs, not only the economy suffers losses, but also may cause major safety accidents. Therefore, it is of great significance to measure the moisture in oil in real time in industrial production.

Appliance

Oil field, oil refining

Wind power, hydropower, thermal power, nuclear power, power transmission Engineering machinery and vehicles

Aviation, navigation

Railway, road transport Iron and steel, metallurgy

Oil storage warehouses, petrol stations Industrial production lines

Applicable oils:

Lubricants

Hydraulic Oil

Gearbox oil

Motor Oil

Fuel oil

Insulating oils

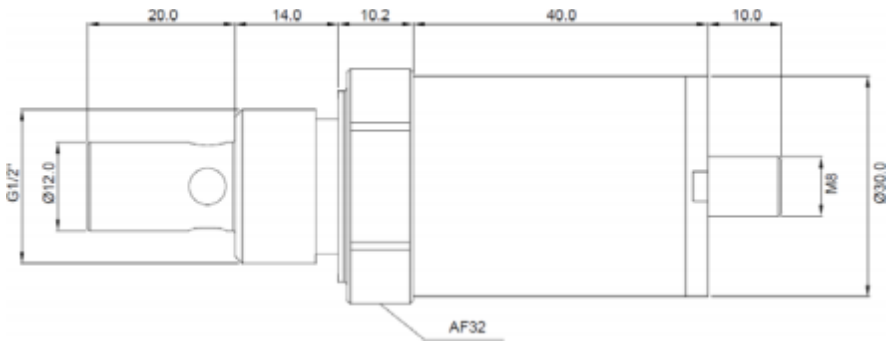
Turbine oil

Various types of light oils, heavy oils, etc.

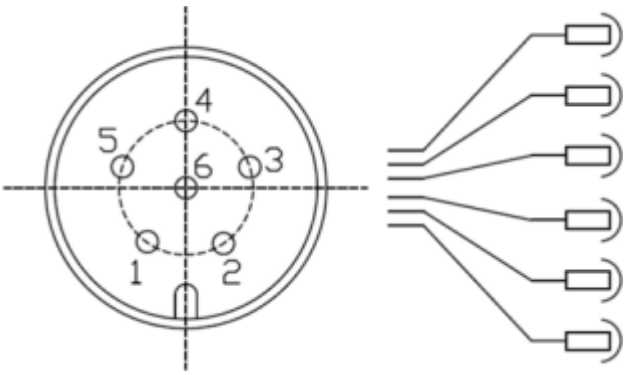
Parameters

Measurement range	
moisture content	0-5% 0-10% 0-20%(customisable)
accuracy	0.3%(Typical)0.5%(maximum)
resolution	0.1%
temp	-40-120℃
accuracy	0.3℃(Typical)0.5℃(maximum)
resolution	0.1℃
Other parameters	
exports	RS485 digital output
Operating power	DC9V-28V
Operating current	<6mA+ Load current
Allowance for work stress	<100bar
operating temperature	-40-85℃
Oil temperature	-40-120℃
mechanical interface	G1/2" BSP
electrical interface	M8*1 6 pole
connection cable	6-pole 2 metre UL20866 6*22AWG
Electromagnetic compatibility standards	EN 61000-6-4:2007 EN 61000-6-2:2005
Shell material	316 stainless steels
protection class	IP66
weight	250 g

Size



Wiring (M8 male)



1— red +24VDC

2 — white RS485-A

3— black 24VGND

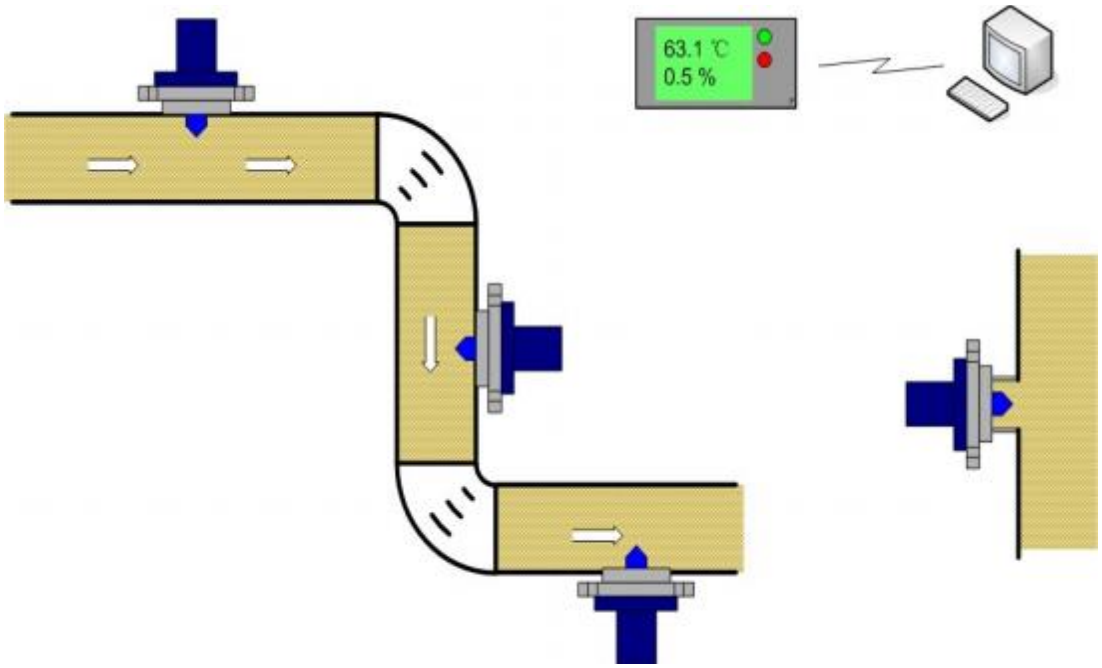
4— green RS485-B

5—yellow 4-20mA CH1

6— pink 4-20mA CH2

Installation Schematic

Due to the small size of the HWR330B, it can be easily mounted on pipework or tank walls by means of a standard butt flange with a G1/2’ female thread. The water content signal can be displayed locally via a customised display, or connected to a remote monitoring device via an RS485 serial communication cable, 4-20mA analogue output signal, or a switching alarm output to achieve real-time on-line detection of the water content and temperature of the oil product.



Order Wizard

Oil Water Content Sensor	HWR330B					
Measurement indicators	Moisture content + oil temperature	A				
signal output	RS485		1			
	4-20mA(Optional)		2			
	RS485+4-20mA(Optional)		3			
channel 1	temp -40 ... 120°C			B		
channel 2	moisture content 0-5%				C	
	moisture content 0-10%				D	
	moisture content 0-20%				E	
	other				F	
Connector specification	G 1/2" ISO					G
Cable length	2 m					4

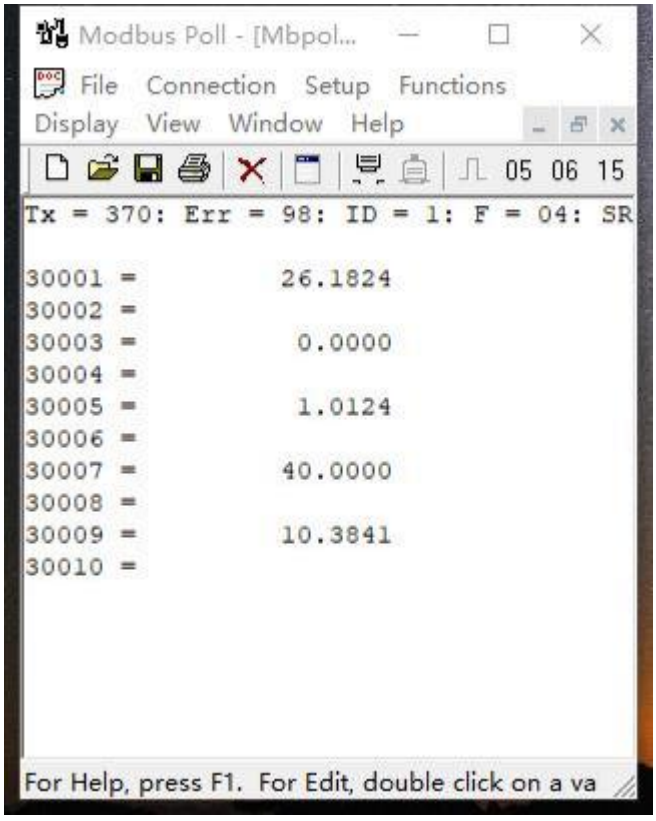
Order example. HWR330B-A3BCG4
Monitoring indicators: water content and oil temperature
Output mode: 4-20mA 2-way + RS485 1-way
Analogue output 1: Temperature -40 ... 120°C
Analogue output 2: Water content 0 ... 5 per cent
Valve connection: G1/2' ISO
Cable length: 2 metres

Options and Accessories

Name of annex	Order Number
USB to RS485 data debugging cable	LWUR001
sealing gasket	LWO001
Offline Measurement Module	LWOT001
Connection cable 2 metres, M8 threaded, 90° elbow	LWCB001
host computer software LWOV600	LWOV600
Display and control units, customised displays	LWDP001

Test communication files

Modbus poll interface display



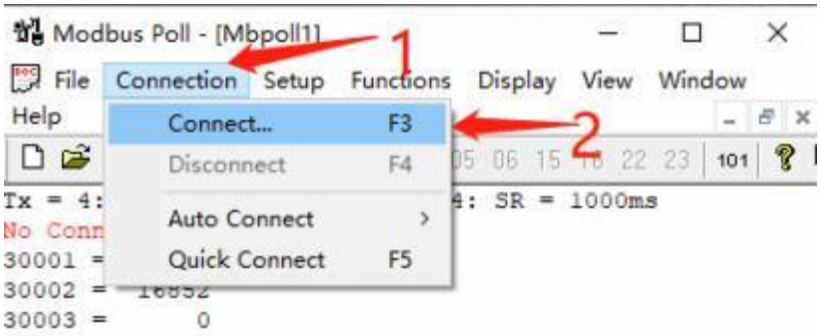
30001 temp

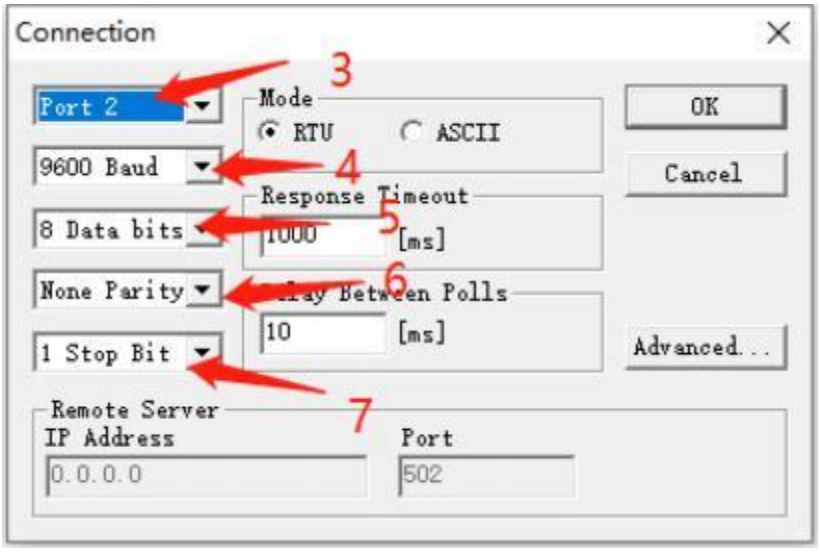
30003 moisture content

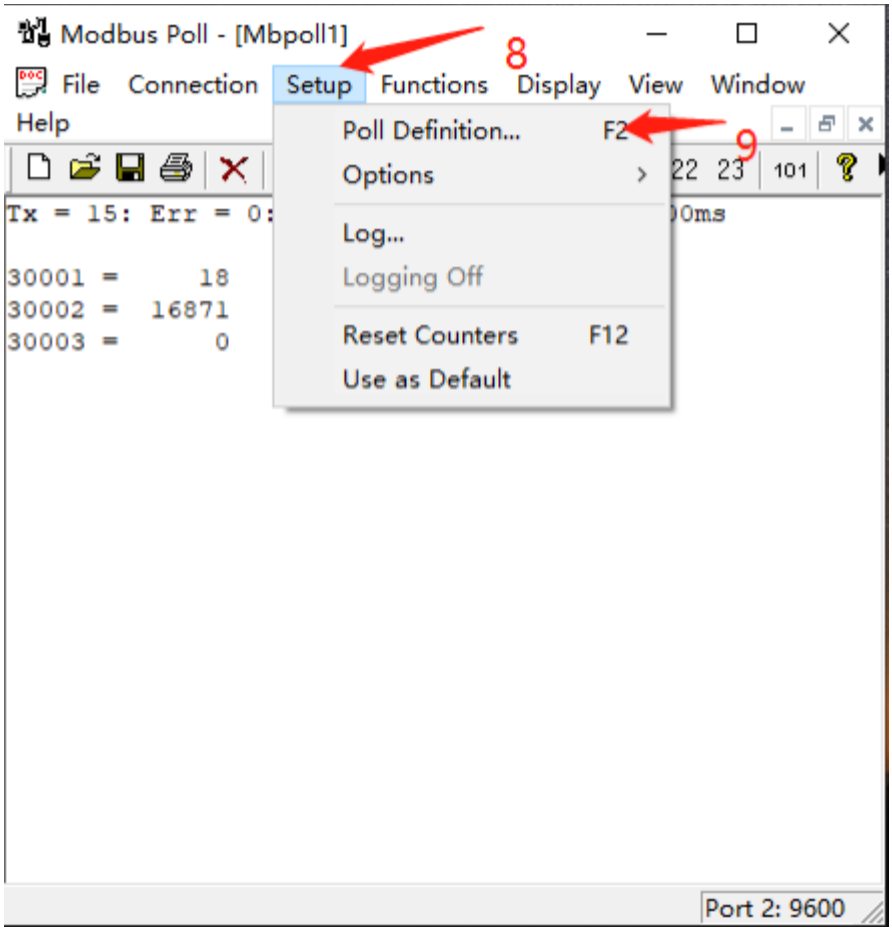
30005 dielectric constant

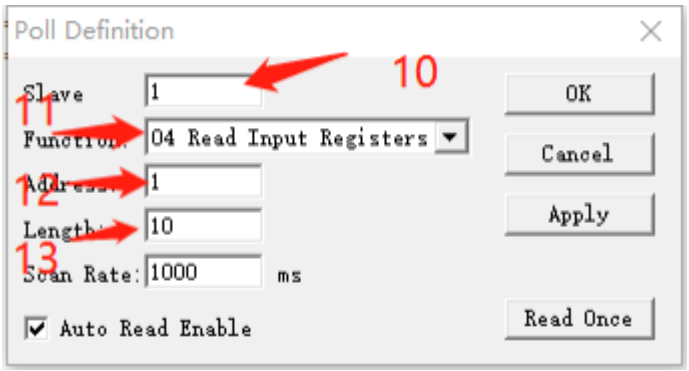
30007 Water content indicators for ships

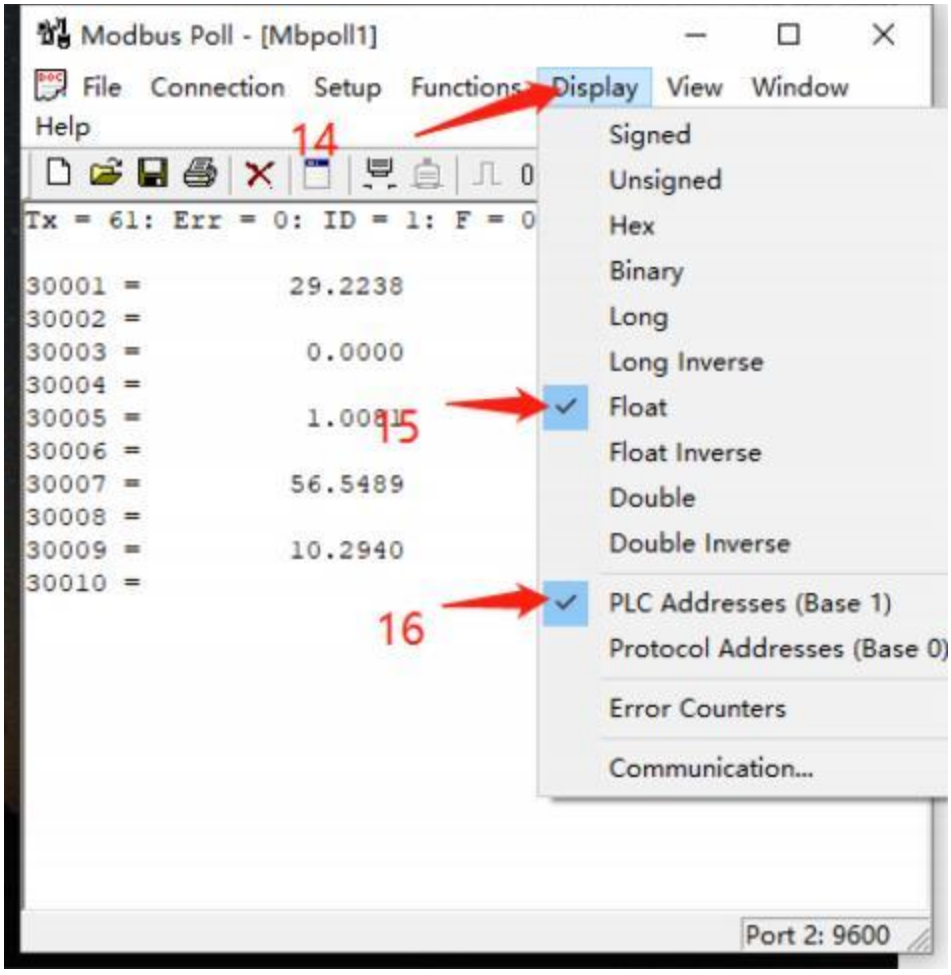
30009 capacitance value






Modbus Poll - [Mbpoll1]
File
Connection
Setup
Functions
Display
View
Window
Help
8
Poll Definition... F2
Options
Log...
Logging Off
Reset Counters F12
Use as Default
9
Tx = 15: Err = 0:
30001 = 18
30002 = 16871
30003 = 0
Port 2: 9600


Poll Definition
10
11
Slave 1
Function: 04 Read Input Registers
12
Address: 1
Length: 10
13
Scan Rate: 1000 ms
Auto Read Enable
OK
Cancel
Apply
Read Once



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