

## New: WS18DS Water in Oil Sensor

For measurement of water content in oil

The Pall WS18DS is designed to offer reliable measurement of water content in oils in demanding industrial applications. In addition to being able to measure both relative humidity and temperature to highly accurate and precise levels, the WS18DS is also capable of calculating the parts per million (PPM) content of dissolved water in oil.

### The Effect of Water in Oil

Water contamination in fluid can cause numerous problems such as additive depletion, oil oxidation, corrosion, reduction of dielectric strength. These costly problems can be averted with continuous monitoring of oil water content so that timely action can be implemented.

Hydraulic, lubrication and insulating fluids, and diesel fuels should be operated without the presence of free water and with dissolved water levels at 50% saturation or considerably of insulating oils.



Pall WS18DS Water Sensor

### Features

Measures the dissolved water content in oil and displays this measurement in either % saturation or PPM.



#### 3.5" TFT Colour Display

- Instrument data can be viewed from the 3.5" colour display and can also be downloaded to external computer for more in-depth data analysis.

#### Enclosure

- Electronics protected against mechanical damage
- Mounting accessible with closed cover
- IP65 / NEMA4 rated

#### Outputs

- 2 analogue outputs current / voltage
- Modbus RTU
- Configurable via display or software
- 2 switch outputs (optional)

#### USB interface

- Simple connection to external computer through micro-USB

#### Probe

- Suitable for temperatures up to 180 °C (356 °F)
- Suitable for pressures up to 20 bar (290 psi)

## Display

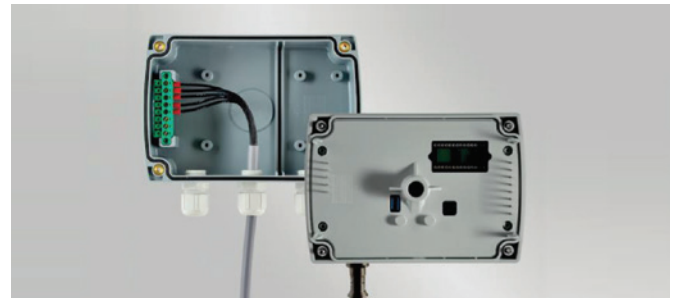


- Shows up to 4 measurands simultaneously
- Display alarms for customer specific limits
- Configure and scale outputs
- Configure Modbus settings
- All measured and calculated values logged continuously
- Logs up to 3 months depending on sampling rate
- Download data via integrated USB port and Pall software
- View all device relevant information in a matter of clicks

## Modular Housing

The upper part of the transmitter that encloses the electronics can be separated from the base unit for service or adjustments. The base remains mounted and the cabling intact, even when the unit is being serviced.

A polycarbonate plate on the inside of the housing prevents damage to the electronic board during installation or service.



## Ordering Information

Water Sensor P/N: **WS18DS**

**1 2 3 4**

**Table 1**

Code	Display options
Omit	No options
R	Relay Alarms
M	RS485 / Modbus
V	AC Power

**Table 2**

Code	Probe Fitting
B08	½" NPT thread
C08	½" ISO thread

**Table 3**

Code	Probe Length
Omit	100 mm (3.9 in)
L	200 mm (7.9 in)

**Table 4**

Code	Cable Length
Omit	2M (6.56 ft)
05	5M (16.4 ft)
10	10M (32.81 ft)

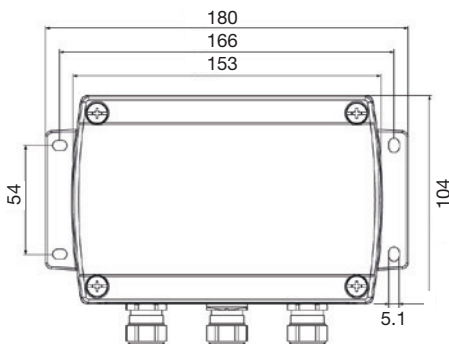
Please select only from the following list of standard Water Sensor options:

WS18DSB08	WS18DSC08	WS18DSRB08	WS18DSRC08
WS18DSB0805	WS18DSC0805	WS18DSRB08L	WS18DSMB08L
WS18DSB0810	WS18DSC0810	WS18DSMC08	WS18DSMB08
WS18DSB08L	WS18DSC08L	WS18DSMC08L	WS18DSRC08L
WS18DSB08L05	WS18DSC08L05	WS18DSVB08	WS18DSVC08
WS18DSB08L10	WS18DSC08L10	WS18DSVB08L	WS18DSVC08L

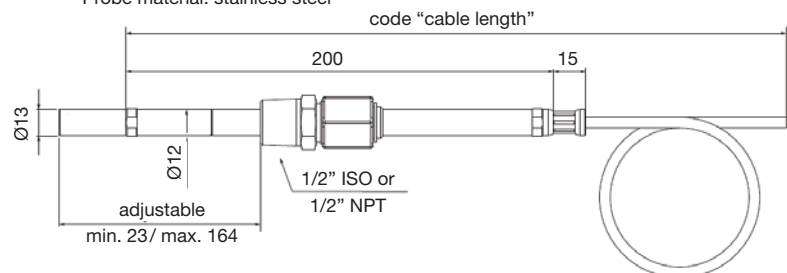
## Dimensions

All dimensions in mm

**Housing (polycarbonate housing):**



**Probe up to 20 bar (300 psi)**  
Probe material: stainless steel



## Technical Data

### Measured Values

#### Saturation

% saturation sensor	HC1000-400
Measuring range	0 - 100%
Accuracy incl. hysteresis and nonlinearity in air - Standard calibration	± 2% (0 - 90%S) ± 3% (90 - 100%S)

#### Temperature

Temperature sensor element	Pt1000 (Tolerance class A, DIN EN 60751)
Working range sensing probe	-40 - 180 °C (-40 - 356 °F)

#### Outputs

Two freely selectable scaleable analogue outputs	0 - 1 / 5 / 10V	-1mA < IL < 1mA
0...100% RH / xx...YY°C respectively	4 - 20mA	RL < 500 Ohm
	0 - 20mA	RL < 500 Ohm

#### General

Supply voltage:	8 - 35V DC) 12 - 30V AC (optional 100 - 240V AC, 50/60 Hz)
System requirements for software:	Windows 7 or later; serial interface
Serial interface for configuration:	RS232C
Housing / Protection class:	Polycarbonate / IP65; Nema 4
Cable gland:	M16 x 1.5 cable® 4.5 - 10mm (0.18 - 0.39")
Electrical connection:	Screw terminals up to max. 1.5mm <sup>2</sup> (AWG 16)
Electromagnetic compatibility	EN61326-1 EN61326-2-3 ICES-003 ClassB Industrial Environment FCC Part15 ClassB
Display:	Graphical LC display (128 x 32 pixels), with integrated pushbuttons for selecting parameters and MIN/MAX function
Switching parameters (freely selectable)	%S % saturation T Temperature X Water content

#### Options

Alarm outputs:	2 x 1 switch contact: 250V AC / 6A and 28V DC / 6A threshold + hysteresis can be adjusted with configuration software
Integrated Power Supply Module	allows the device to be powered with 100 - 240V AC (50/60Hz)
Digital Interface	RS485 with Modbus RTU, up to 32 devices in one bus



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