

TT005: Oil Contamination Sensor

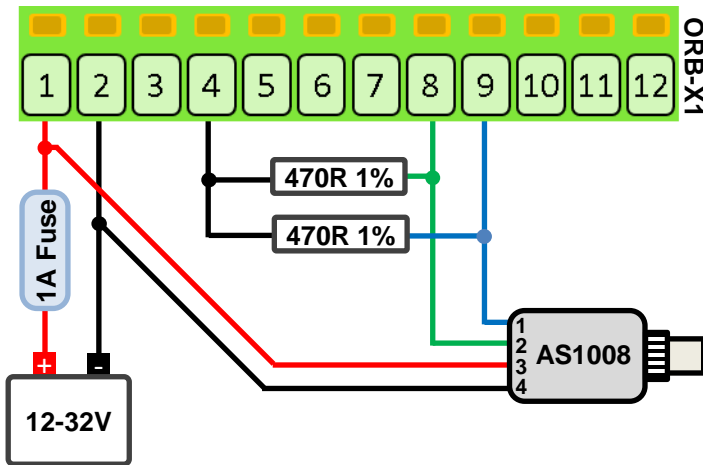
This technical tip shows how to connect a HYDAC water in oil contaminant sensor to the ORB-X1. The HYDAC AS1000 series measures the degree of saturation and the temperature of the fluid.

Sensor Parameters

Part Number	AS1008-C
Type	HYDAC Aquasensor AS1000
Supply	12-32V DC, 30mA
Output	2 x 4-20mA source (water + temperature)
Range	Water: 0-100%, Temperature: -25-100°C
Warm-up Time	3 minutes
Cable Length	1.5m
Supplied by	www.hydac.com.au



Oil contamination sensor



Notes:

- 1) The AS1000 sources current and so is not a typical 4-20mA device. The output of the AS1000 is turned into a voltage by dropping it across a 470R resistor. 4-20mA across a 470R resistor gives a range of 1.88V to 9.4V.
- 2) For water saturation, 0-100% is represented by 4-20mA or 1.88V to 9.4V.
- 3) For temperature, -25-100°C is represented by 4-20mA or 1.88V to 9.4V.

Setting (Input 1, Input 2)	Value	Comment
Name	Dozer 6	A meaningful name for the sensor data
Interval	1	1 means the sensor is sampled on every base interval
Mode	Analog	Measure the absolute value of a voltage
Start Time	180	The time between powering and measuring the sensor, 3min from the datasheet
Hysteresis	10	The amount by which the dust level needs to change to exit warning or alarm
Warning	Enabled	A warning will be issued if the level goes outside limits
Low Warning (Water / Temp)	0 / -5	No lower warning level required for water saturation, -5°C for temperature
High Warning	30 / 85	Issue a warning at 30% water saturation and 90°C
Alarm (Water / Temp)	Enabled	An alarm will be issued if the level goes outside limits
Low Alarm	0 / -15	No lower alarm level required for water saturation, -15°C for temperature
High Alarm	50 / 95	Issue an alarm at 50% water saturation and 95°C
Hysteresis (Water / Temp)	1 / 1	The amount by which the input needs to change to end a warning or alarm
Calibration Low In (Water / Temp)	1.88	1.88V is the lower measured value for both inputs (4mA x 470R)
Calibration High In (Water / Temp)	20	9.4V is the highest measured value for both inputs (20mA x 470R)
Calibration Low Out (Water / Temp)	0 / -25	1.88V represents 0% water and -25°C
Calibration High Out (Water / Temp)	100 / 100	9.4V represents 100% saturation and 100°C
Calibration Unit (Water / Temp)	% / °C	The unit of measure for the calibration; micrograms per cubic meter