SPS-DO Dissolved Oxygen Water Quality Sensor Datasheet

Product overview

SPS-DO sensor is based on the principle of fluorescence quenching. When green light shines on the fluorescent material, the fluorescent material will be excited and emit red light. Since oxygen molecules can take away energy, the time of excited red light is inversely proportional to the concentration of oxygen molecules. The concentration of dissolved oxygen can be calculated by measuring the duration of red light. SPS-DO sensor can meet all the requirements of field operation and long-term or short-term test. On the premise of not consuming oxygen, fluorescence technology can provide users with accurate measurement data for all measurement environments, especially those with low oxygen concentration.

Application

- Urban sewage
- Industrial wastewater
- Seawater, fishery, aquaculture
- Surface water
- Drinking water

Features

- Optical in-situ measurement, no actual pollution, environmentally friendly
- Fast measurement, the fastest measurement cycle is 10 second
- Long maintenance-free cycle, with its own cleaning brush for cleaning
- RS485 communication mode, can quickly connect the meter head, control the sensor
- IP68 protection grade, can be used in harsh environments
- Low power consumption, can be powered by battery, convenient for equipment deployment

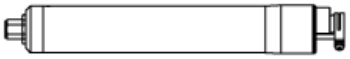
Specifications

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual. The manufacturer reserves the right to make changes in this manual and the products it describes at any time, without notice or obligation.

Principle	Fluorescence optical method
Dimensions	φ30×249 mm (Slightly different sizes for different interfaces)
Power requirements	DC+12 V - +24 V
Material	316L stainless steel
Protection class	IP68
Mounting	Submerged, flow-through
Operating temperature	0 °C - 50 °C (32 - 122 °F)
Storage temperature	0 °C - 50 °C (32 - 122 °F)
Humidity	5% to 95% relative humidity, non-condensing
Sensor cable length	Cable straight out: 6 m (19.69 ft.), 5 pole airline plugs: 2 m (6.56 ft.) Please contact us for other sizes
Measuring range	0 – 20 mg/L 0 - 20 ppm 0 - 200 %
Resolution	0.01 mg/L
Measurement period	Minimum 10 s of seconds, adjustable
Cleaning method	Cleaning brush
Pressure	5 bar (73 psi) maximum compared to air, 0 - 50 °C (32 - 122 °F)
Sample flow rate	<3 m/s
Signal interface	Modbus RS 485
Warranty period	One year

Product Selection

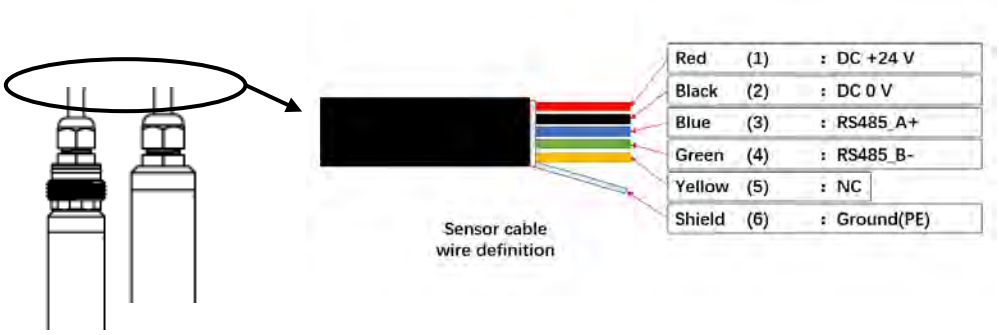
The sensors are available with different tail connections so that customers can choose according to their needs.

Model	Description	IP rating	Pictures
SPS-DO-S01	5 pole aviation plug with waterproof connection thread	IP65	
SPS-DO-S11	Cable straight out with waterproof connection thread	IP68	
SPS-DO-P01	5 pole aviation plug	IP65	
SPS-DO-P11	Cable straight out	IP68	

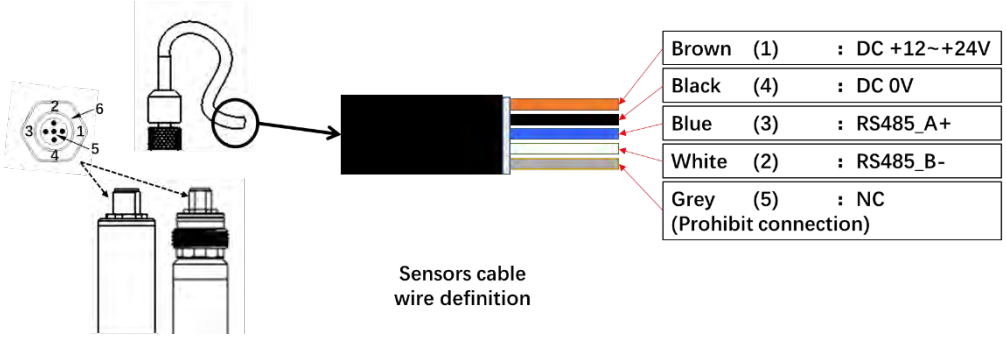
Interface definition

There are two types of wiring for the sensors, direct out and 5 pole airline plugs. The two use different cables and have different wiring definitions, see diagram below.

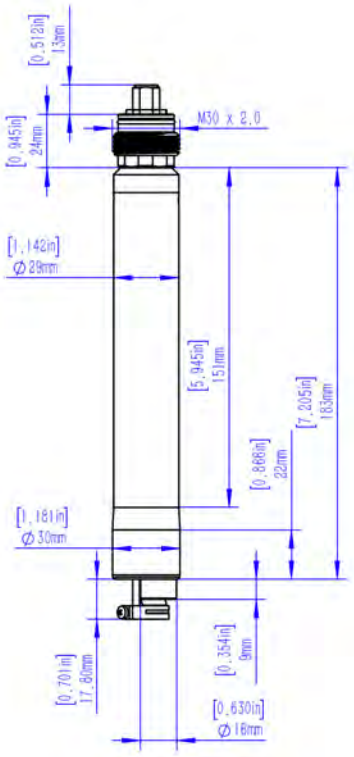
Cable straight out



5 pole airline plugs



Dimensions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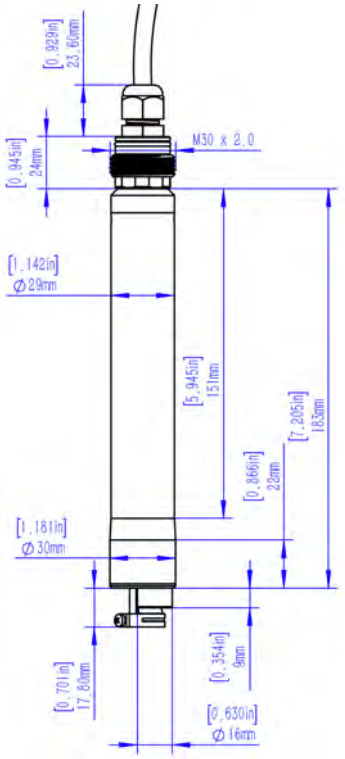
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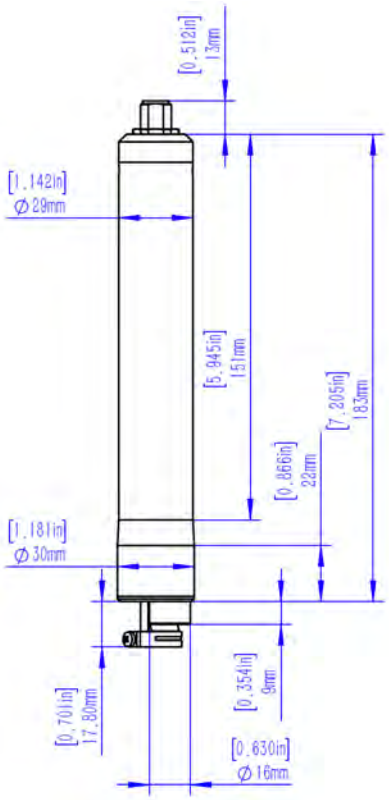
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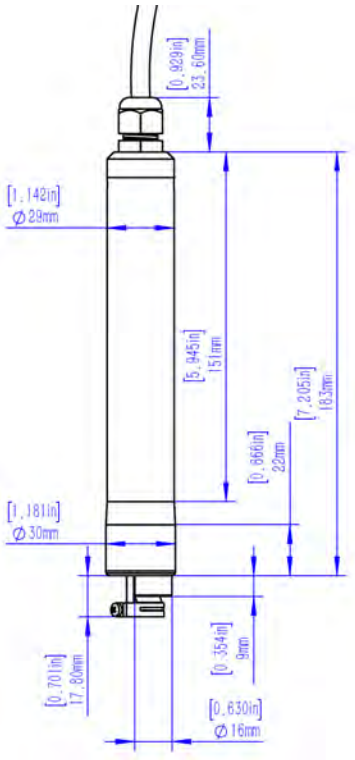
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