SPS-EC Conductivity Water Quality Sensor Datasheet

Product overview

The SPS-EC conductivity sensors operate with an alternating voltage applied between the measuring electrodes, which will generate a corresponding current in the medium. The magnitude of the current is positively correlated with the conductivity of the medium, thus measuring the conductivity of the medium. To compensate for measurement errors caused by polarization, the SPS-EC has a reference electrode, making the measurement results more accurate. The SPS-EC sensor has a built-in five-point interpolation algorithm that allows the user to calculate TDS and salinity from conductivity.

The SPS-EC series conductivity sensor uses RS485 communication interface and Modbus RTU protocol communication, which is widely used and easy to use. It is widely used in tap water, surface water, groundwater, domestic sewage and other scenarios to provide customers with stable and reliable water quality monitoring data.

Application

- Municipal Pipe Network
- Waterworks
- Secondary water supply
- Surface water or groundwater

Features

- Easy to install
- Low maintenance costs
- Multiple shapes for different installation conditions

Specifications

Principle	Conductivity: Coaxial 4 graphite electrodes Total dissolved solids (TDS): Coaxial 4 graphite electrodes Salinity: Coaxial 4 graphite electrodes Temperature: PT1000
Range	Conductivity: 0.001-200 000 μS/cm TDS: 0.01-100 000 mg/L Salinity:0.01-120 000 mg/L Temperature: 0-50 °C
Resolution	Conductivity: 0.1%, (Min. 0.001 μS/cm) TDS: 0.1%, (Min. 0.01 mg/L) Salinity: 0.1%, (Min. 0.01 mg/L) Temperature: 0.1 °C
Accuracy	Conductivity: ±5% TDS: ±5% Salinity: ±5% Temperature: ±1 °C
Dimension	φ25×231 mm (φ0.984×9.094 in) Slightly different sizes for different interfaces
Weight	0.615 kg
Material	PVC-U (shell)
Power	DC +12 - +24 V
Installation	Flow-through, Submerged
Operating temperature	2-50 °C (35.6-122 °F)
Storage temperature	2-50 °C (35.6-122 °F)
Sensor cable length	Cable extending directly: 6 m (19.69 ft.), 5 pole aviation plugs: 2 m (6.56 ft.) Please contact us for other sizes
Communication method	Modbus RS485
Sampling requirements	Temperature: 2-50 °C (35.6-122 °F) Flow rate: 250-500 mL/min; Pressure: no more than 1bar, in water flow at 2-50 °C (35.6-122 °F)
Warranty period	One year

Product selection

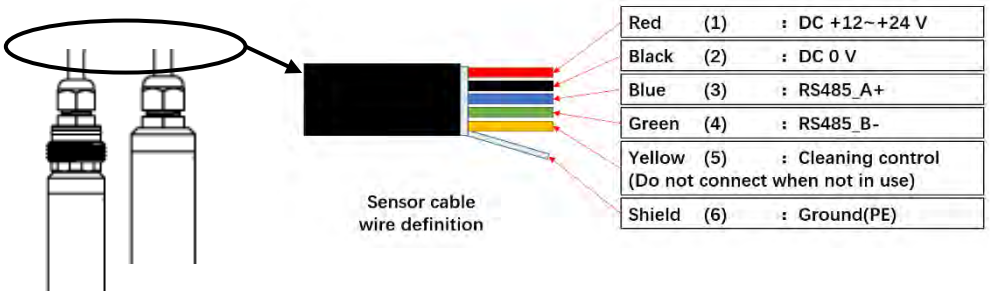
The sensors are available with different tail connections so that customers can choose according to their needs.

Model	Description	IP rating	Application
SPS-EC-S01	5 pole aviation plug with waterproof connection thread	IP65	
SPS-EC-S11	Cable extending directly with waterproof connection thread	IP68	
SPS-EC-P01	5 pole aviation plug	IP65	
SPS-EC-P11	Cable extending directly	IP68	

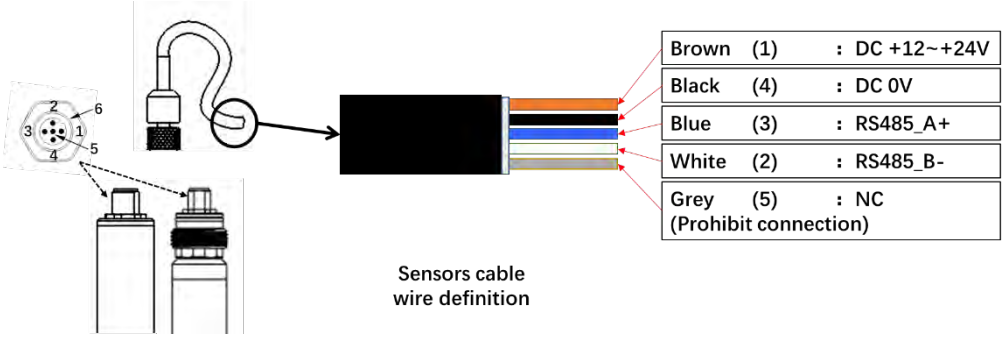
Interface definition

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

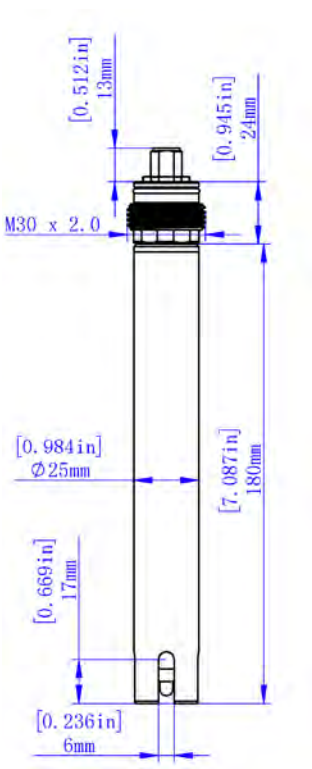
Cable extending directly



Five pole aviation plugs



Dimensions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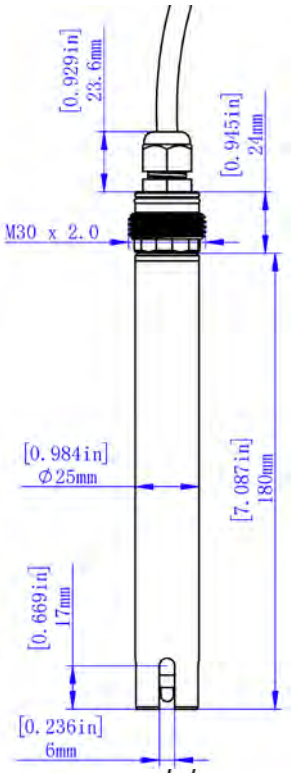
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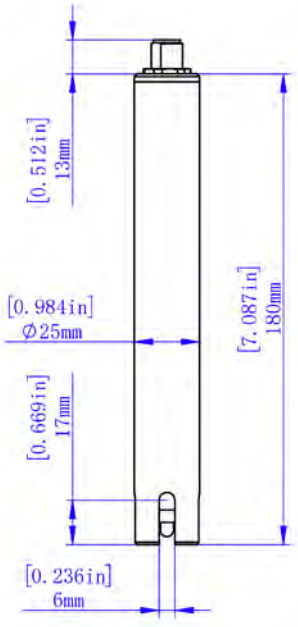
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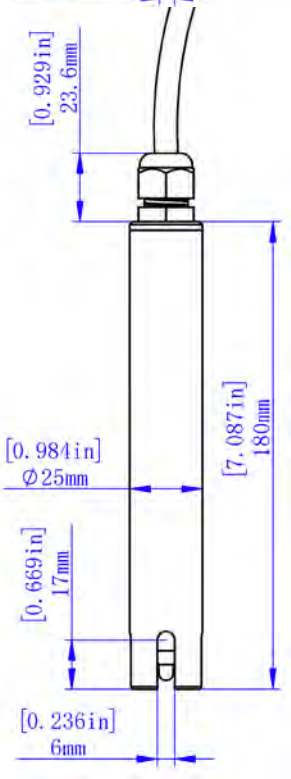
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