AWQ-C4E: Water Quality Sensing Conductivity & Salinity

Measurement Technology

The AWQ-C4E uses 4 electrode technology, where an alternating current of constant-voltage is established between a primary's pair of electrodes in graphite. The secondary's electrodes in platinum allow of regulate the voltage imposed to primary's electrodes to reflect of the fouling. The voltage measured between the primary's electrodes is in function of the resistance of place and so, of the conductivity.

Applications

- □ Urban wastewater treatment
- □ Industrial effluent treatment
- □ Surface water monitoring
- □ Sea water
- □ Drinking water
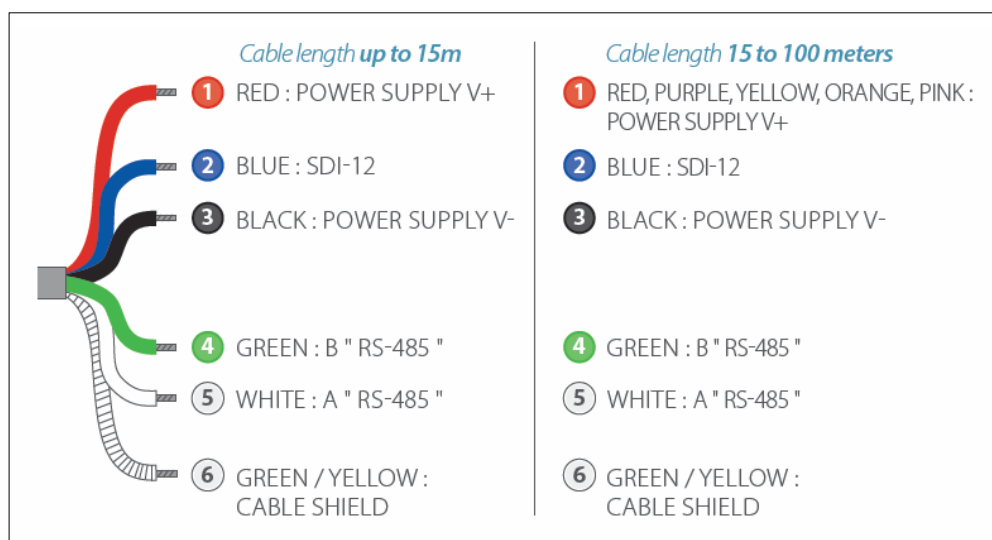
Digital Communication

The "smart" Digital C4E sensor stores calibration and history data within the sensor. This allows you a "plug and play" system without re-calibration.

Thanks to the Universal Modbus RS485 protocol, the AWQ-C4E can be connected to all devices commonly used (Datalogger, Controller, Automat, Remote System…).

Advantages

- □ 4 electrodes (2 graphic, 2 platinum)
- □ Range 0 to 200 mS/cm
- □ Digital sensor / Modbus RS-485
- □ Robust and Watertight

Wiring Diagram

Cable length up to 15m	Cable length 15 to 100 meters
1 RED : POWER SUPPLY V+	1 RED, PURPLE, YELLOW, ORANGE, PINK : POWER SUPPLY V+
2 BLUE : SDI-12	2 BLUE : SDI-12
3 BLACK : POWER SUPPLY V-	3 BLACK : POWER SUPPLY V-
4 GREEN : B " RS-485 "	4 GREEN : B " RS-485 "
5 WHITE : A " RS-485 "	5 WHITE : A " RS-485 "
6 GREEN / YELLOW : CABLE SHIELD	6 GREEN / YELLOW : CABLE SHIELD

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3. AWQ-C4E Specifications

Measurement Principle	Conductivity sensor with 4 electrodes (2 graphite, 2 platinum)
Measurement Range (Conductivity)	0-200 µS/cm; 0–2000 µS/cm; 0–20 mS/cm; 0–200 mS/cm
Resolution	0.01 to 1, depending on range
Accuracy	±1% of the full range
Measurement Range	5-60 g/Kg (Salinity); 0-133000 ppm (TDS-KCl)
Response Time	< 5s
Sensor Operating Range	**Operating Temperature:** 0°C to +50°C **Storage Temperature:** -10°C to +60°C **Maximum Pressure:** 5 bar
Temperature Compensation	NTC Thermistor
Sensor Interface	Modbus RS-485 (standard); SDI-12 (optional)
Maximum Refreshing Time	Max < 1 s
Power Requirements	5 to 12 volts DC (for Cable 0-15m); 7-12 volts (for Cable >15m); Max. 13.2 V
Current Draw (Consumption)	Standby: 25 µA Average RS485 (1 measurement/second): 6.3 mA Average SDI-12 (1 measurement/second): 9.2 mA Current pulse: 500 mA
Sensor Dimensions	**Sensor Size:** Diameter: 27 mm; Length: 177 mm **Sensor Weight (Including 3 Meter Cable):** Approx. 300gms **Sensor Material:** PVC, DELRIN, stainless steel **Sensor Protection:** IP68
Sensor Connection	9 armoured connectors, polyurethane jacket, bare-wires or waterproof Fisher connector

Sensor Dimensions As Outline