

## DIGITAL SENSOR

### C4E : CONDUCTIVITY/SALINITY

Digital Technology for optimized measures

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



#### *Applications :*

- Urban wastewater treatment
- Industrial effluent treatment
- Surface water monitoring
- Sea water
- Drinking water

#### *Mounting at 4 electrodes:*

The electrode works with a technology in 4 electrodes: 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.

#### *Digital Technology :*

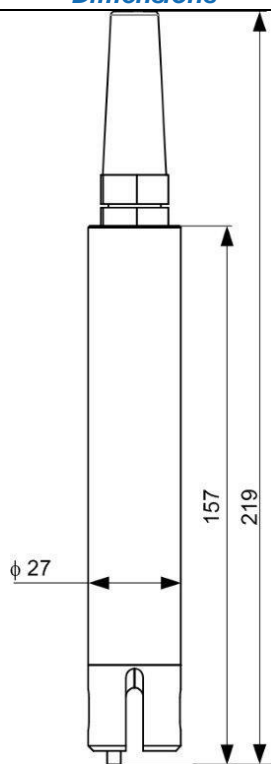
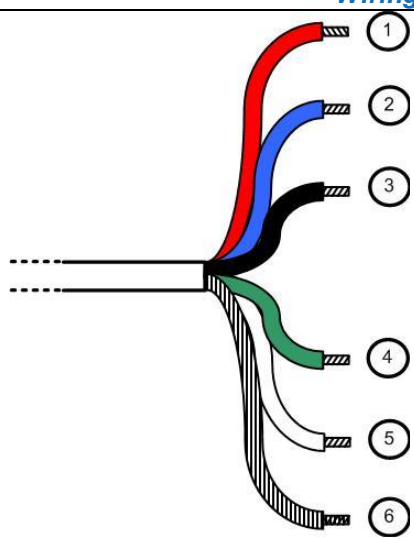
The "smart" Digital C4E sensor stores calibration and history data within the sensor. This allows you a "plug and play" system without re-calibration.

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

## C4E Specifications

Measures	
Measure principle	Conductivity sensor with 4 electrodes (2 graphic, 2 platinum).
Measure ranges conductivity	0-200,0 $\mu$ S/cm 0 –2000 $\mu$ S/cm 0,00 –20,00 mS/cm 0,0 –200,0 mS/cm
Resolution	0,01 to 1 according the range
Accuracy	+/- 1 % of the full range
Measure range salinity	0-78 g/Kg
Measure range TDS -KCl	0-133 000 ppm
Response time	< 5 s
Working temperature	0°C to 50°C
Temperature compensation	CTN
Stocking temperature	- 10°C to + 60°C
Signal interface	Modbus RS-485 ( option SDI-12)
Maximum refreshing time	Max < 1 s
Sensor power-supply	5 to 12 volts
Electric consumption	Standby : 25 $\mu$ A Average RS485 (1 measure/seconde) : 6,3 mA Average SDI12 (1 measure/seconde) : 9,2 mA Current pulse : 500 mA

Sensor	
Dimensions	Diameter : 27 mm ; Lenght : 177 mm
Weight	350g (sensor + 3 m cable)
Material	PVC, DELRIN, stainless steel
Maximum pressure	5 bars
Connection	9 armoured connectors, polyurethane jacket, bare-wires or waterproof Fisher connector
Protection	IP68

Dimensions	Wiring diagram																												
	 <p><b>Cable lenght up to 15m</b></p> <table border="1"> <tr><td>1- Red</td><td>Power supply V+</td></tr> <tr><td>2 - Blue</td><td>SDI-12</td></tr> <tr><td>3 - Black</td><td>Power supply V-</td></tr> <tr><td>4 - Green</td><td>B " RS-485 "</td></tr> <tr><td>5 - White</td><td>A " RS-485 "</td></tr> <tr><td>6 – Green/yellow</td><td>Cable shield</td></tr> </table> <p><b>Cable lenght 15 to 100 meters</b></p> <table border="1"> <tr><td>Red</td><td rowspan="5">Power supply V+</td></tr> <tr><td>Purple</td></tr> <tr><td>Yellow</td></tr> <tr><td>Orange</td></tr> <tr><td>pink</td></tr> <tr><td>2 - Blue</td><td>SDI-12</td></tr> <tr><td>3 - Black</td><td>Power supply V-</td></tr> <tr><td>4 - Green</td><td>B " RS-485 "</td></tr> <tr><td>5 - White</td><td>A " RS-485 "</td></tr> <tr><td>6 – Green/yellow</td><td>Cable shield</td></tr> </table>	1- Red	Power supply V+	2 - Blue	SDI-12	3 - Black	Power supply V-	4 - Green	B " RS-485 "	5 - White	A " RS-485 "	6 – Green/yellow	Cable shield	Red	Power supply V+	Purple	Yellow	Orange	pink	2 - Blue	SDI-12	3 - Black	Power supply V-	4 - Green	B " RS-485 "	5 - White	A " RS-485 "	6 – Green/yellow	Cable shield
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