

DIGISENS RANGE

PHEHT: pH, Redox & Temperature

Digitally optimised measurement technology

- Combination pH, redox & temperature sensor
- Smart sensor stores configuration settings and calibration history
- Digital sensor: Modbus RS-485
- Field replaceable pH/ORP sensor cartridge
- Robust and watertight

Range

- pH: 0 to 14
- Redox: -1000mV to +1000mV
- Temperature: -10°C to +50°C



Applications

The PHEHT sensor has been designed to perform under hard conditions, from pure mountain water with conductivity as low as 20 $\mu\text{S}/\text{cm}$, lakes and rivers (100 – 2000 $\mu\text{S}/\text{cm}$), seawater with conductivities of 50 mS/cm, to waste water with conductivity higher than 200 mS/cm.

Cartridge

The pH/ORP cartridge is designed to last for an extended time with Plastogel technology meaning recalibration and replacement is infrequent. The sensor has been designed for the most difficult situations for a pH/ORP sensor in terms of sensor resistance, quick response time, minimal flow dependence and low power consumption.

Digital Technology

The smart digital PHEHT sensor stores calibration history data within the sensor. This allows a 'plug and play' system without re-calibration.

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PHEHT: pH, Redox & Temperature

pH

Measurement principle	Combined electrode (pH/ref) : special glass, Ag/AgCl ref. Gelled
Range	0 - 14 pH
Resolution	0,01 pH
Accuracy	+/- 0.1 pH

Redox

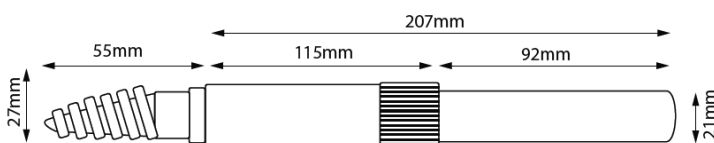
Measurement principle	Combined electrode (Redox/reference) : Platinum tip, Ag/AgCl AgAgCl. Gelled
Range	- 1000 to + 1000 mV
Resolution	0.1 mV
Accuracy	± 2 mV

Temperature

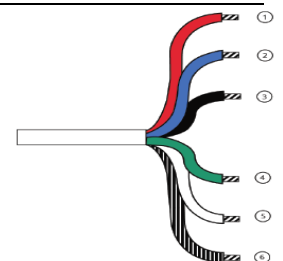
Technology	CTN
Range	0,00 °C to + 50,00°C
Resolution	0,01 °C
Accuracy	± 0,5 °C
Response time	< 5 s
Operating temperature	0°C to + 60°C
Protection	IP 68
Interface	Modbus RS-485 / SDI-12 (option)
Power supply	5 to 12 volts
Power consumption	Standby : 25µA, Average RS485 (1 measure/second) : 3,9 mA, Average SDI12

Sensor

Dimensions	Diameter : 27 / 21 mm ; Length : 207 mm
Weight	350 g (sensor + 3 m cable)
Material	PVC, special pH glass, platinum
Pressure	5 bars
Cable	Coaxial armoured, Polyurethane, bare wire or Fisher connector
Protection	IP68 up to gland



1 | V+
 2 | SDI-12
 3 | V-
 4 | B « RS-485 »
 5 | A « RS-485 »
 6 | Cable shield



Digitally optimised measurement technology

- 4 electrode conductivity sensor (2 graphite & 2 platinum)
- Smart sensor stores configuration settings and calibration history
- Range 0-200 mS/cm
- Digital sensor - Modbus RS-485
- Robust and watertight

Applications

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



Sensor electrode technology:

The sensor works with 4 electrodes: An alternating current of constant voltage is established between a primary pair of electrodes in graphite. The secondary electrodes in platinum regulate the voltage imposed to the primary electrodes to reflect the fouling. The voltage measured between the primary electrodes is the function of the resistance and therefore a measurement of the conductivity.

Digital Technology:

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

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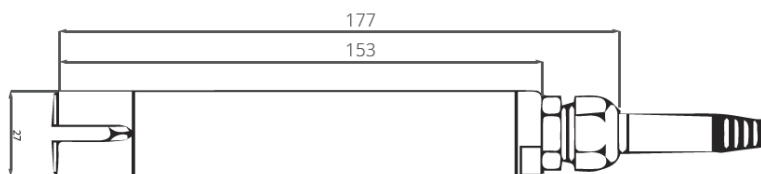
C4E: Conductivity/Salinity & Temperature

Measurement

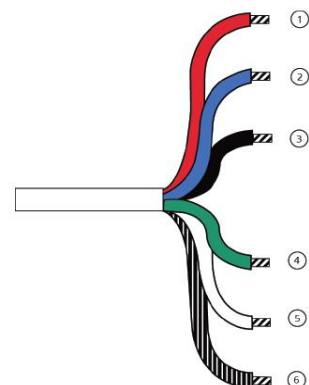
Measurement principle	Conductivity sensor with 4 electrodes (2 graphite, 2 platinum)
Measured conductivity ranges	0-200.0 μ S/cm
Resolution	0.01 to 1 according the range
Accuracy	+/- 1 % of the full range
Measured salinity range	5-60 g/Kg
Measured TDS -KCl range	0-133 000 ppm
Response time	< 5 s
Working temperature	0°C to 50°C
Temperature compensation	CTN
Operating 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 μ A

Sensor

Dimensions	Dimensions Diameter : 27 mm ; Length : 177 mm
Weight	350g (sensor + 3 metres cable)
Material	PVC, stainless steel
Maximum pressure	5 bars
Connection	9 armoured connectors, polyurethane jacket, bare-wires or waterproof
Degree of protection	IP68 up to gland
Protection	IP68



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Digitally optimised measurement technology

- IR optical sensor with optical fibre
- Range: 0-4000 NTU or 0-4500 mg/L
- Digital sensor: Modbus RS-485
- ISO 7027 compliant
- Robust and waterproof

Applications

- Industrial effluent treatment
- Urban waste water treatment
- Surface water monitoring
- Drinking water
- Sanitation network



Optical technology:

The measure principle is based on IR nephelometry / 880 nm (ISO 7027). The sensor can be calibrated with a formazine standard solution.

The NTU sensor integrates a low-cost optical technology, with a very few maintenance and no consumables.

Digital Technology:

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

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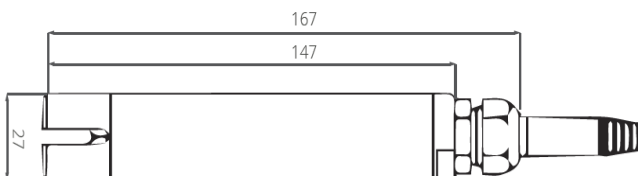
NTU: Nephelometric Turbidity & Temperature

Measurement

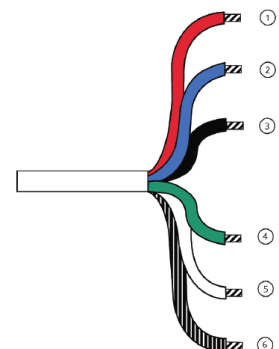
Measurement principle	Diffusion IR at 90°
Measured ranges	0 to 4000 NTU in 5 ranges: 0 – 50 NTU, 0 – 200 NTU, 0 – 1000 NTU, 0 – 4000 NTU 0 to 4500 mg/L. Calibration :Range 0-500 mg/L according to NF EN 872 Range >500 mg/L according to NF T 90 105 2 AUTOMATIC
Resolution	0,01 to 1 NTU - mg/L
Accuracy	< 5% of the reading
Temperature compensation	via CTN
Operating temperature	-10°C to + 60°C
Signal interface	Modbus RS-485 (standard) and SDI-12 (option)
Maximum refreshing time	< 1 second
Sensor power-supply	5 to 12 volts
Electric consumption	Standby : 40 µA, Average RS485 (1 measure/second) : 820 µA, Average SDI12 (1 measure/second) : 4.2 mA

Sensor

Dimensions	Diameter : 27 mm; length : 170 mm
Weight	300 g (sensor + cable 3 metres)
Material	PVC, Quartz, PMMA, Nickel-plated brass
Maximum pressure	5 bars
Connection	9 armoured connectors, polyurethane jacket, bare-wires or waterproof Fisher
Degree of protection	IP68 up to gland



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Digitally optimised measurement technology

- Optical luminescence technology requires minimal maintenance
- Digital sensor: Modbus RS-485
- No calibration required and therefore little to no drift occurs
- Robust and Watertight

Applications

- Industrial effluent treatment
- Urban waste water treatment
- Surface water monitoring
- Drinking water



Optical technology:

The OPTOD sensor is based on luminescent optical technology and is approved by the ASTM International Standard Method D888-05.

Without calibration requirements, and thanks to an ultra-low power technology, the OPTOD sensor is suitable for field work as well as long and short-term monitoring.

With no oxygen consumption, this technology gives an accurate measure in all situations, even in very low oxygen concentrations.

Digital technology:

The “smart” OPTOD sensor stores calibration and history data within the sensor. This allows you a “plug and play” system without re-calibration.

DIGISENS RANGE

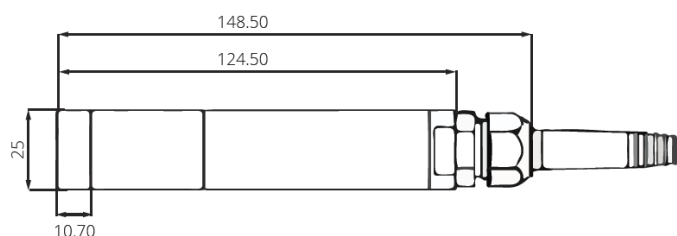
OPTOD : OPTICAL DISSOLVED OXYGEN

Measurement

Measurement principle	Optical measure by luminescence
Measurement ranges	0.00 to 20.00 mg/L
Resolution	0,01
Accuracy	+/- 0.1mg/L, +/- 0.1 ppm, +/- 1 %
Response time	90% of the value in less than 60 seconds
Flow	No flow necessary
Temperature compensation	Via CTN
Operating temperature	- 10°C to + 60°C
Signal interface	Modbus RS-485 (standard) and SDI-12 (option)
Maximum refreshing time	< 1 second
Sensor power-supply	5 to 12 volts
Consumption	Standby 25 µA, Average RS485 (1 measure/ second) : 4.4 mA Average SDI12 (1

Sensor

Dimensions	Diameter : 25 mm ; length : 146 mm
Weight	Weight 450g (sensor + cable 3 metres)
Material	Stainless steel 316L
Maximum pressure	5 bars
Connection	9 armoured connectors, polyurethane jacket, barewires or waterproof Fisher
Degree of protection	IP68 up to gland



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