TECHNICAL DATASHEET

DIGITAL SENSOR : REDOX ANNULAR

DIGISENS RANGE

Digital EHAN: redox potential & temperature

Digital technology for reliable measurements

- Combined sensor: Redox & Temperature
- Range of measure:
  ORP: - 1000 to + 1000 mV;
  T°C: 0.00 to + 50.00°C
- Cartridge changeable with plastogel
- Digital communication **Modbus** RS-485

Scope:

- Treatment of urban wastewater (entrance, aeration basin, exit).
- Industrial effluent treatment (process optimization nitrification / denitrification)
- Chains of deodorization

Physical and Chemical Technology*:*

The PONSEL sensor incorporates a reference electrode, used for ORP measurements, such as Ag / AgCl in saturated KCl electrolyte plasticized "PLASTOGEL" ®.

The electrolyte "PLASTOGEL" ® communicates directly with the external environment without interposition of capillary or porous. So there is no risk of clogging or defusing the reference.
The measuring electrode is in platinum (3,5mm2) presented in sealed ring on a glass rod and is for in-situ measurements continuously

Temperature: measures via CTN.

Digital communication / Integrated transmitter:

The PONSEL sensor connects to any type of recorder, transmitter, remote management system or PLC with a Modbus RS485 input. Thanks to indexing the sensor, over 200 sensors can be connected to a recorder.

Resistant to interferences: preamplification into the sensor and digital signal processing.

All data regarding the calibration, the historic and users are saved directly in the digital EHAN sensor.

Mechanics:

A handle in Delrin material ensures the mechanical strength of the sensor and the sealing of the cable.
Compact, robust and **lightweight**, the sensor can be used in portative or online version.

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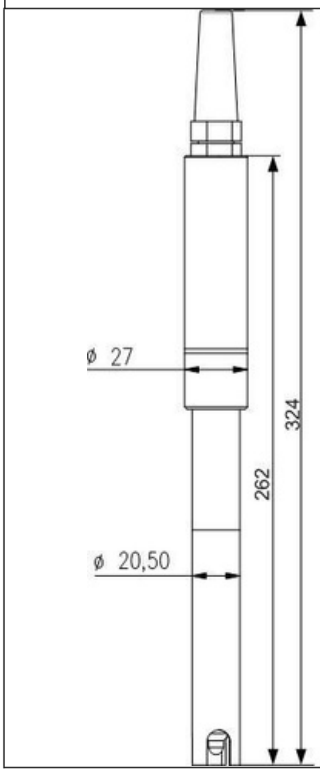
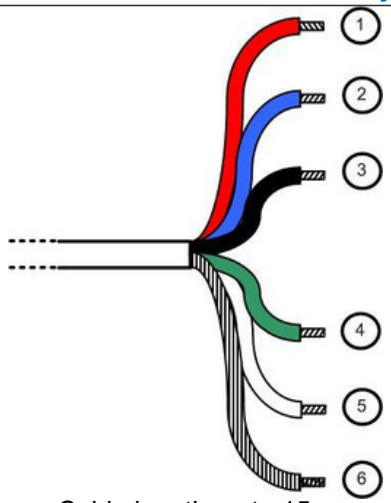
Technical data :

ORP Measure	
Principle of ORP measure	Combination Electrode (ORP/reference) platinium ring, Reference Ag/AgCl. Gelled electrolyte (KCl)
Range of measures	- 1000.0 to + 1000.0 mV
Resolution	+/- 0.1 mV
Precision	+/- 10 mV
Answer time	< 90 s
Temperature measurement	
Principle of measure T°C	CTN
Temperature	0,00 °C to + 50.00°C
Resolution	0.01 °C
Precision	+/- 0.5 °C
T90	< 300 s
Temperature of storage	0°C to + 60°C
Protection scale	IP 68
Interface signal	Modbus RS-485 standard and SDI-12
Refresh rate measurement	Maximum < 1 second
Sensor power	5 to 12 volts
Consumption	Standby : 25 µA Average RS485 (1 measure/second) : 20 mA Pulse current : 500 mA Heating time : 100 mS
Sensor	
Dimensions of sensor mounted	Mounted sensor length: gland (262 mm) not included ; Length with gland : 324 mm.
Weight	350 g (sensor + cable)
Material in contact with the environment	PVC, POM-C,platinium, Polyurethane
Maximum Pression	5 bars
Cable/ connection	9 armored connectors, polyurethane jacket, bare wires or waterproof metal Fischer connector

Dimensions



Electricity connection



Cable length up to 15m

1 - Red	Power, V+
2 - Blue	SDI-12
3 - Black	Power V-
4 - Green	B « RS-485 »
5 - White	A « RS-485 »
6 – Green/Yellow	Cable shield

Length 15 to 100 m cable

RED YELLOW ORANGE PURPLE PINK	Power, V+
2 - Blue	SDI-12
3 - Black	Power V-
4 - Green	B " RS-485 "
5 - White	A " RS-485 "
6 – Green/Yellow	Cable shield

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Note :

Never exceed a voltage of 10VDC (absolute maximum rating) on communication lines RS485, A or B, under penalty of irreversible destruction of the transceiver component RS 485.

SDI-12: respect the voltage value described in the associated standard (nominal: 5 VDC)

Always connect ground + shield first.

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