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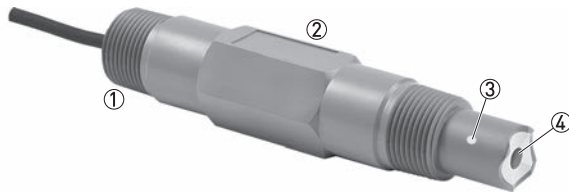
ДАТЧИКИ рН и ОВП OPTISENS ORP 8590



1.1 ORP sensor for water and wastewater applications

The OPTISENS ORP 8590 sensor is characterised by standardised design, easy handling and a long life cycle. In combination with the MAC 100 signal converter it is possible to create an extremely reliable and low-cost measurement system, which is suitable for a wide range of water and wastewater measurement tasks.

Designed as combined sensor with built-in reference electrode the OPTISENS ORP 8590 is equipped with ceramic diaphragm and integrated temperature sensor Pt100. The sensor can be easily adapted to various application requirements and it is extremely service friendly and durable.



- ① Attached cable or 4-pin connector
- ② CPVC body
- ③ Diaphragm
- ④ Platinum electrode

Highlights

- Pure platinum electrode and large ceramic diaphragm for long time and reliable ORP measurement.
- Double junction for extended lifetime and a wide application range.
- Robust design with CPVC body material
- Suitable for connection to the MAC 100 signal converter
- Available with 4-pin military connector or attached cable up to 10 m / 33 ft.
- With integrated Pt100 for temperature compensation.
- Various mounting assemblies for easy installation and reliable handling.

Industries

- Industrial wastewater
- Municipal wastewater
- Water

Applications

- Potable water / beverages
- Monitoring of surface and wastewater
- Process water monitoring

1.2 Design and options



The sensor type is equipped with a very pure platinum electrode, ceramic diaphragm and Pt1000.

It can be easily adapted to various application requirements and can be installed directly into a pipe or tank with the 3/4" NPT (male) process connection.

The OPTISENS ORP 8590 sensor is manufactured using a very pure platinum electrode which can be used in almost all standard water and wastewater applications due to its robust sensor design.

The sensor is suitable for connection to the MAC 100 signal converter.

MAC 100 signal converter for various analytical parameter



A complete measuring system consists of:

- MAC 100 signal converter
- 1 or 2 sensors
- Mounting assemblies

Up to 2 sensors (for identical or different parameters) can be connected to the signal converter.

The MAC 100 signal converter can be adapted perfectly for various requirements. Select between 1 or 2 signal inputs, 3 x outputs, relays, various operation language, power supply and further additional features.

The standardised user interface also speeds up commissioning of the device.

Made to Fit

Mounting assemblies SENSOFIT series

As a complete provider for water analysis, we naturally offer a complete range of assemblies, like retractable, immersion and flow-through assemblies in a wide range of materials. Special versions for special operating conditions are available on request.

For the OPTISENS ORP 8590 sensor type the following individual assemblies are available:

- SENSOFIT FLOW 1000 series - Flow-through assemblies
- SENSOFIT IMM 2000 series - Immersion assemblies

For further information please consider the technical datasheets.

1.3 ORP measurement

The oxidation reduction potential, ORP in short, is the measurement for the concentration of oxidising and reducing agents in water. Its value is influenced both by pH and temperature. ORP is a sum parameter that gives no information on the concentration of a single substance in a mixture.

ORP measurements are used to monitor chemical reactions involving electron transfer. In drinking water treatment it can be found in ozone treatment and the removal of iron, manganese and nitrate as well as in disinfection steps. In swimming pools the German DIN 19643 requires ORP measurements as a hygiene parameter and decrees maximum and minimum values for fresh water, pool water, and salt water. In wastewater treatment ORP is measured in the denitrification process and in detoxication of industrial wastewater.

The ORP sensor consists of a measuring electrode of platinum or gold and a reference of e.g. Ag/AgCl. The potential of the measuring electrode changes with the concentration of reducing and oxidising agents and is measured against the reference. The measured values can be recalculated to fit literature values based on NHE (normal hydrogen electrode) as reference.

2.1 Technical data

- *The following data is provided for general applications. If you require data that is more relevant to your specific application, please contact us or your local sales office.*
- *Additional information (certificates, special tools, software,...) and complete product documentation can be downloaded free of charge from the website (Downloadcenter).*

Design

Measuring principle	Potentiometric
Measuring range	-1500...+1500 mV
Shaft diameter	20 mm / 0.79"
Insertion length	23 mm / 0.91" or 44 mm / 1.73"
Temperature sensor	Pt100
Connector	4-pin military connector or attached cable (7.26 m / 25 ft or 10 m / 33 ft)

Operating conditions

Temperature range	-5...+80°C / +23...+176°F
Pressure range	Max. 5.9 bar at 25°C / 100 psi at 77°F
Conductivity	Min. 150 µS/cm

Installation conditions

Weight approx.	Approx. 193 g / 0.43 lb
Process connection	3/4" NPT (male)

Materials

Sensor shaft	CPVC
Measuring electrode	Platinum
Inner buffer	pH 7.0
Reference	KCl gel double junction
Diaphragm	Ceramic

2.2 Dimensions

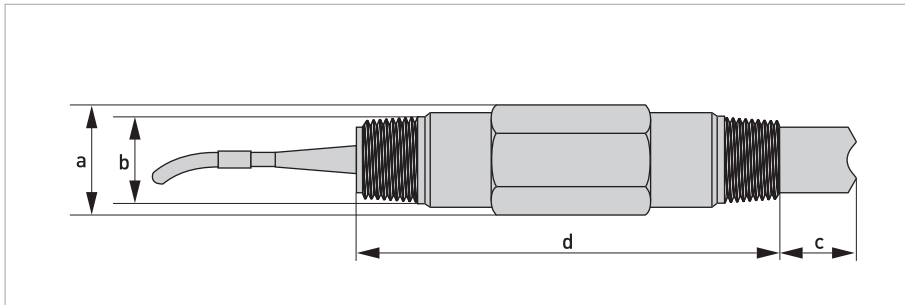


Figure 2-1: Dimensions OPTISENS ORP 8590

	Dimensions [mm]	Dimensions [inch]
a	Ø 33	Ø 1.3
b	3/4 NPT (male)	
c	23 / 44	0.91 / 1.73
d	128	5.04

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