ORSOTA

Redox electrode for applications in laboratory and environmental technology

Technical Information

Application

For general laboratory and field use
•Potable water
•Swimming pools
•Aquariums
•Fish farming
•Disinfection

Your benefits

- Platinum or gold redox element
- Non-fouling PTFE Liquid Junction
- Optional Double Junction Reference Cell
- Removable Protective Guard to facilitate Cleaning
- Plug-in head or fixed cable

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Input

Measured variable

mV Value

Measuring ranges

Electrode version AUA (single chamber reference)

mV:	-1,500 to 1,500
Temperature:	0 to 80 °C (32 to 176 °F)

Electrode version AUD (double chamber reference)

mV:	-1,500 to 1,500
Temperature:	0 to 80 °C (32 to 176 °F)

Electrode version PTA (single chamber reference):

mV:	-1,500 to 1,500
Temperature:	0 to 100 °C (32 to 212 °F)

Electrode version PTD (double chamber reference)

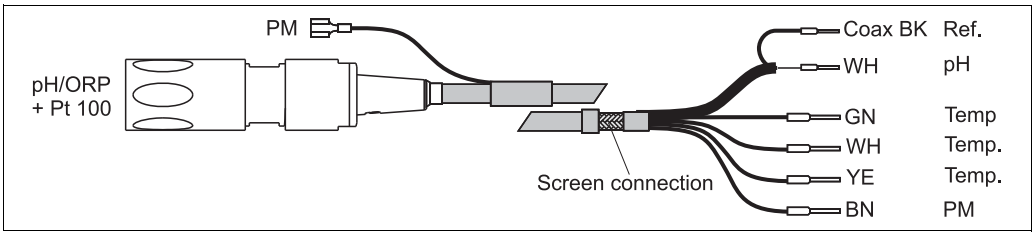
mV:	-1,500 to 1,500
Temperature:	0 to 100°C (32 to 212°F)

Please note the process operating conditions.

Wiring

Electrical connection

The electrical connection of the sensor to a suitable transmitter is either done with the BNC-connector for the fixed cable versions or a suitable sensor cable for the different type of plug-in heads.



ORSOTA with TOP68 plug-in head - OPK9 special measuring cable

Cable length

- F03 Fixed cable, 0,9 m (3 feet)
- F10 Fixed cable, 3,0 m (10 feet)
- F15 Fixed cable, 4,5 m (15 feet)
- F30 Fixed cable, 9,0 m (30 feet)

Cable connectors

Version F03/10/15/30	BNC-Connector
ESA	TOP68 plug-in head
GSA	GSA plug-in head
NSA	NSA plug-in head

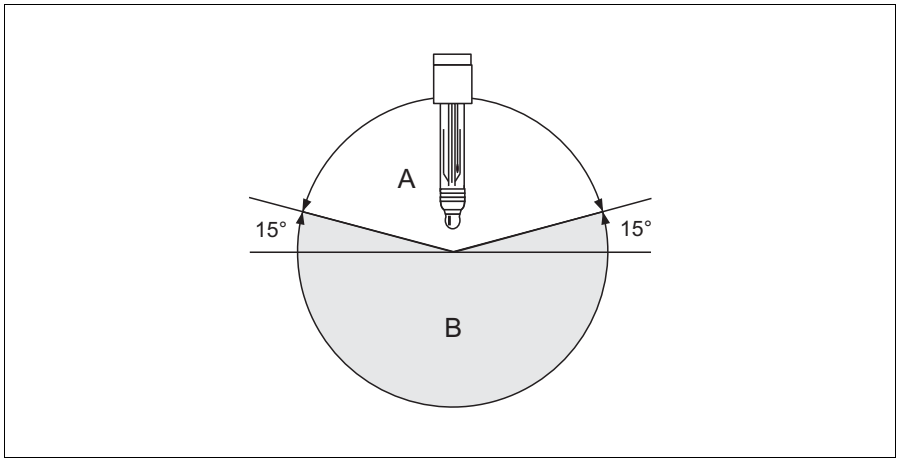
Installation

Installation instructions

Do not install the electrode upside down. The inclination angle must be at least 15° from horizontal. A smaller inclination angle is not permitted as such an inclination results in air pockets forming in the glass bulb. This might impair full wetting of the pH membrane with inner electrolyte.

Handtighten the electrode!

Make sure to follow the installation instructions in the operating instructions of the used assembly.



Electrode installation; inclination angle min. 15° from horizontal

A Permitted inclination angle *B Non-permitted inclination angle*

Environment

Ambient temperature

Do not use the electrode at temperatures below -5°C (23° F).

Storage temperature

0 to 50°C (32 to 122°F)

Ingress protection

IP 67: GSA and NSA plug-in head (with closed plug-in connection)
IP 68: TOP68/ ESA plug-in head

Process

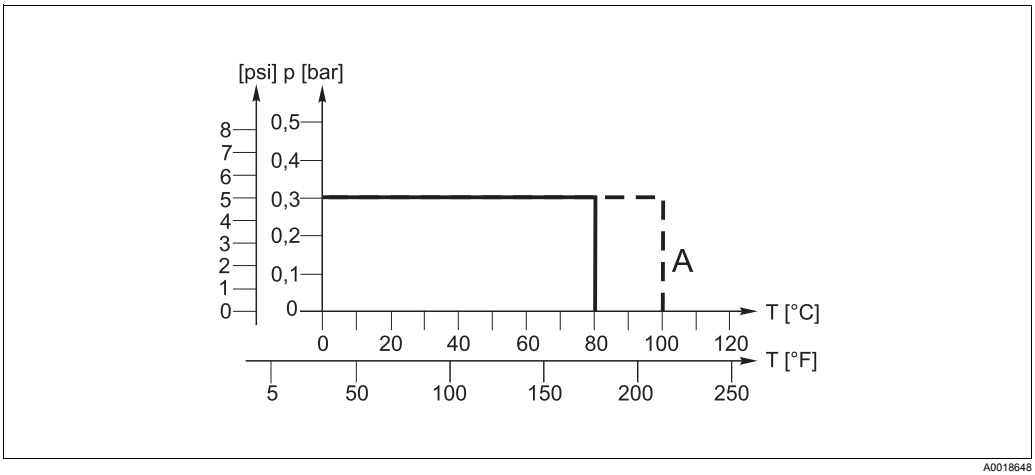
Process temperature

0 to 80°C (32 to 176°F)
0 to 100°C (32 to 212°F; optional)

Process pressure

0,3 bar (g) (0 to 5 psig)

Pressure temperature load curve



Pressure temperature load curve
A Optional

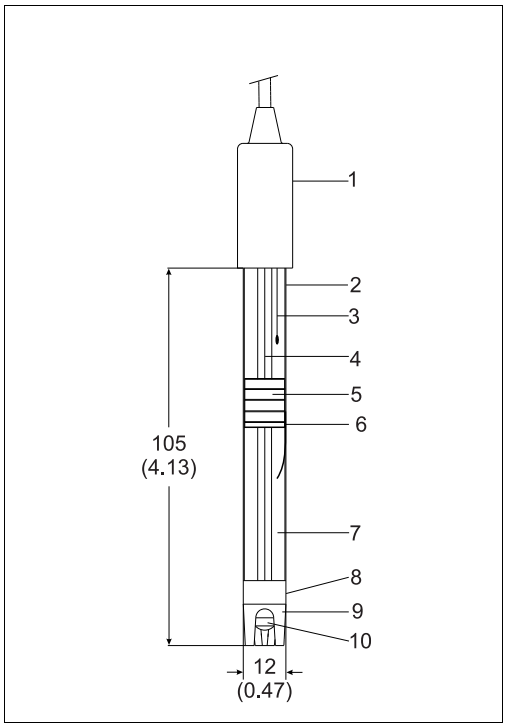
ORP range

-1,500 to 1,500 mV

Danger of electrode damage
Do not operate the electrodes in applications outside the given specifications!

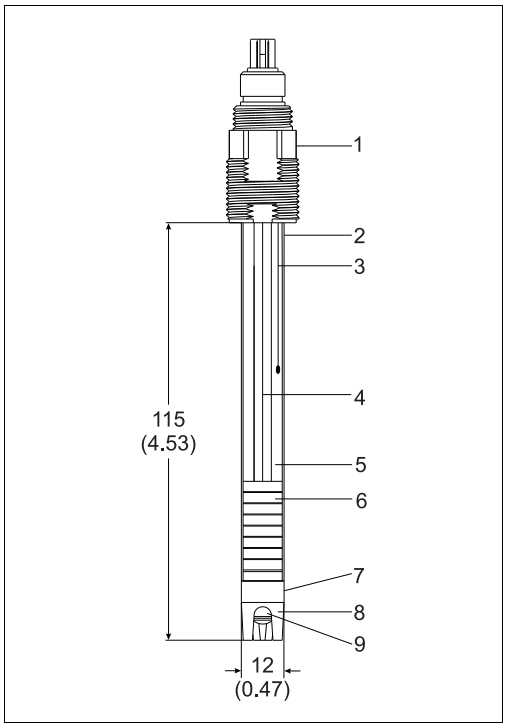
Mechanical construction

Design, dimensions



ORSOTA with fixcable and double junction

1	*End cap for fixed cable*
2	*Plastic body*
3	*Ag/AgCl metal lead - reference*
4	*Ag/AgCl metal lead - pH*
5	*Salt rings*
6	*Middle junction*
7	*"Advanced Gel" electrolyte*
8	*Porous teflon junction*
9	*Bulb guard*
10	*ORP glass stem*



ORSOTA with TOP68 single junction

1	*TOP68 plug-in head*
2	*Plastic body*
3	*Ag/AgCl metal lead - reference*
4	*Ag/AgCl metal lead - pH*
5	*"Advanced Gel" electrolyte*
6	*Salt rings*
7	*Porous teflon junction*
8	*Bulb guard*
9	*ORP glass stem*

Weight

approx. 0.1 kg (0.22 lbs)

Material

Electrode shaft	polymer body
Redox element	Platinum or Gold
Reference electrode	Ag/AgCl
Diaphragm	PTFE diaphragm

Process connection

Immersion type

Plug-in heads

ESA plug-in head	Pg 13.5, TOP68 for electrodes with or without temperature sensor
GSA plug-in head	Pg 13.5 for electrodes without temperature sensor
NSA plug-in head	for electrodes with or without temperature sensor

Reference system

Versions AUA, PTA	Ag/AgCl with gel, KCl saturated and KCl salt rings
Version AUD, PTD	Front Chamber KNO3 gel, Reference Chamber Ag/AgCl with gel, KCl salt rings

Ordering information

Product structure

ORSOTA

	Temperature Range
1	0-80°C
2	0-100°C
9	Special version, TSP-no. to be spec.

		Application Range
AUA		Gold, Single chamber-Reference
AUD		Gold, Double chamber-Reference
PTA		Platinum, Single chamber-Reference
PTD		Platinum, Double chamber-Reference
YYY		Special version, TSP-no. to be spec.

			Shaft Length
1			105 mm (4.13 inch) f. fixed cable/ 115 mm (4.53 inch) f. plug head
9			Special version, TSP-no. to be spec.

				Cable; Head
ESA				W/o; TOP68 plug-in head
F03				Fixed cable, 0,9 m (3 feet); BNC
F10				Fixed cable, 3,0 m (10 feet); BNC
F15				Fixed cable, 4,5 m (15 feet), BNC
F30				Fixed cable, 9,0 m (30 feet); BNC
GSA				W/o; GSA plug-in head
NSA				W/o; NSA plug-in head
YYY				Special version, TSP-no. to be spec.

ORSOTA-						Complete order code

Accessories

In the following sections you will find the accessories available at the time of issue of this documentation. For information on accessories that are not listed here, please contact your responsible service.

Assemblies

- OPA111

Plastic immersion and installation assembly for open and closed tanks

- OPA250

Flow assembly for pH/ORP electrodes

- OPA640

Process connection adapter and cable set for 120mm (4.72") pH/ORP electrodes

Cables

OPK1 special measuring cable

- For pH/ORP electrodes with GSA or NSA plug-in head

OPK9 measuring cable

- For pH/ORP electrodes with TOP68 plug-in head

Documentation

Transmitters

- OPM223/253

Transmitter for pH and ORP, field or panel mounted housing

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