

SenTix[®] ML ORP

ORP combination electrode

General information

The ORP combination electrode has a low maintenance gel electrolyte and a large-area ground glass ring junction. It is especially suitable for application in water treatment and drinking water. The rounded platinum end increases mechanical stability and reduces flow dependency.

Appropriate cable: AK-S7/1, coaxial cable 1 m long with twistable S7 plug-in connector, without instrument plug.

Storage

To store the combination electrode mount the protection cap, filled with 3 mol/L KCl solution. Short-term storage at 10 to 30 °C; never store at temperatures under -5 °C. During transport or storage, KCl solution can escape from the protection cap and form white, crystalline potassium chloride. This salt coating does not affect the ability to measure and can simply be rinsed off with water.

Aging

High temperatures, polarization, short-circuits or chemical influences can considerably shorten the lifetime of the electrodes. Electrodes with gel electrolyte are low maintenance (no refilling of the electrolyte required).

Cleaning

- Carefully rinse the rounded glass/platinum end and junction with water and dab them dry with a paper towel as necessary.
- After measuring in oily, organic or protein-containing test samples, rinse the pH glass electrode shortly with household washing-up liquid, ethyl alcohol or acetone solution. When using ethyl alcohol or acetone follow the safety instructions of the manufacturer.
- After cleaning, rinse the electrode thoroughly with water and store it in 3 mol/L KCl solution. Recalibrate prior to the next measurement.
- Keep the plug contacts clean and dry!

Conversion to the standard hydrogen electrode potential

$$U_H = U_{\text{Meas}} + U_{\text{Ref}}$$

where: U_H = ORP voltage, relative to the standard hydrogen electrode

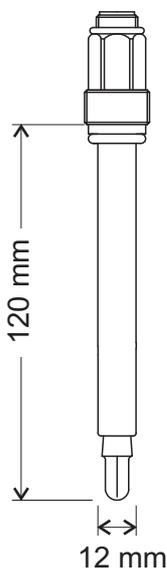
U_{Meas} = measured ORP voltage

U_{Ref} = voltage of the reference system relative to the standard hydrogen electrode

For the reference system of the SenTix® ML ORP (Ag/AgCl + approx. 3 mol/l KCl) the values for U_{Ref} can be taken from the following table (DIN 38404-6):

T (°C)	U_{Ref} [mV]
0	+224
5	+221
10	+217
15	+214
20	+211
25	+207
30	+203
35	+200
40	+196
45	+192
50	+188

Technical data



Temperature range	0 ... 80 °C	
Shunt conduction system	Ag/AgCl	
Electrolyte	Gel filling, approx. 3 mol/L KCl	
Junction	Ground glass ring junction	
Pressure	max. 6 bar	
Electrical connection	S7 industrial screw plug connection	
Process connection	Screw-in connection PG 13.5 on the plug head connector for installation	
Installation position	Vertical or tilted against the plumb line by max 30 °	
Materials	Shaft	Glass membrane
	Metal electrode:	Platinum rounded end Ø 6 mm
	Connection head:	Plastic (ABS)
	Sealing:	Silicone