SODIUM COMBINATION ELECTRODE ERNa-11

The combination glass sodium electrode **ERNa-11** is designed for direct measurements of activity or concentration of the sodium ions in aqueous solutions and in many water-organic mixtures. The measurements may be done both in laboratory and in industrial conditions. In laboratory they may be done by direct measurement or using any of the techniques based on the growth of sodium ion concentration in the sample.

The electrode has a glass body and a round glass ion selective membrane.

Using 3, easy accessible, ceramic diafragms (electrolytic junctions) ensures a good contact between the reference half cell and the measured solution, what stabilizes the readouts and increases the reliability of the electrode work. In the upper part of the electrode body there is a hole, it enables refilling the reference electrolyte.
As the reference electrolyte a mixture of ammonium nitrate and ammonium chloride is used.
To eliminate additional interferences a low noise cable is used. The typical applications of the sodium electrode are measurements in boiler water, distilled water, sea water, industrial sewage, all kinds of water in biologic samples (ex. blood) food products and soil samples etc

Technical data

Measuring range for stationary measurements	10^{-6} ÷ 1 mol/l Na^+
	0.023 ÷ 23000 ppm Na^+
Measuring range for measurements in flow	10^{-7}1 mol/l Na^+
	$2 \cdot 10^{-3}$ ÷ 23000 ppm Na^+
Temperature range	0 ÷ 80ºC
pH acceptable range	8 ÷ 12 pH
Characteristic slope	57 ±2 mV/pNa^+
Response time	30 to 60 s
Membrane resistance (in 20ºC)	100 ÷ 300 MΩ
Selectivity coefficient	Ag^+ = 100
	H^+ 30
	$K^+ = 10^{-2}$
	$NH_4^+ = 10^{-4}$
Reference halfcell	Ag/AgCl
Reference solution (SE-03)	0.1M NH_4Cl + 4.0M NH_4NO_3
Membrane shape	Round bulb
Electrolytic junction	3 x ceramic
Body diameter	12.0 ± 0.5 mm
Body length (without cable cap)	120 ± 5 m
Minimal immersion depth	30 mm
Maximal immersion depth	105 mm
Cable length	about 1 m
Connector	BNC-50

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