Datasheet (preliminary)

SMD foil sodium electrode Na01

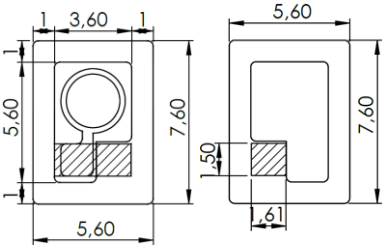
accensors

The SMD foil sodium electrode Na01 is designed for electrochemical, potentiometric determination of Na^+ in liquid or moist samples **when combined with a second, reference electrode**.

The readings are taken by measuring the open circuit potential/voltage between both electrodes via high resistivity voltage measurement electronics (see example circuit below). Potential (E) and Na^+ concentration have a linear relationship in the operating range of 100 µMol to 1 M. The sodium concentration of an unknown analyte solution can be calculated using the pre-determined slope and an offset E_0 value, which could be determined by measuring the potential in a calibration solution of known Na^+ concentration. Once used, the sensor must be kept hydrated for further application and not allowed to dry out.

Technical Data	
Dimensions	L x W in mm
Whole sensor foil	7.6 x 5.6
Connection pad	1.5 x 1.61
Potential response (at 20°C)	49.1 ± 4.0 mV / log(c[Na^+])
Set-up time (time till stable output)	< 1 min
Response time (t_{90})	< 30 sec
Lifetime (in use)	~ 3 days
Measuring environment	
Operating pH range	100 µMol – 1 Mol
Samples	Diverse*

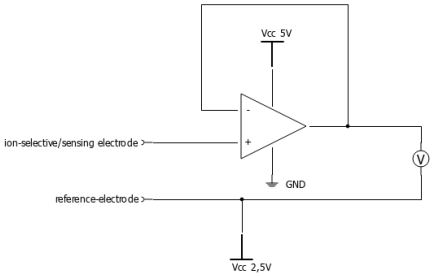
**must be sufficient moisture for contact to be maintained between both electrodes*



Front *Back*

TRL 7 *MRL 7*

All mechanical dimensions are valid at 25 °C ambient temperature, if not differently indicated. All data except the mechanical dimensions only have information purposes and are not to be understood as assured characteristics. Technical changes without previous announcement as well as mistakes reserved. Load with extreme values during a longer period can affect the reliability. Typing errors and mistakes reserved. Product specifications are subject to change without notice.



Schematic example for a measuring circuit including an operational amplifier as voltage follower

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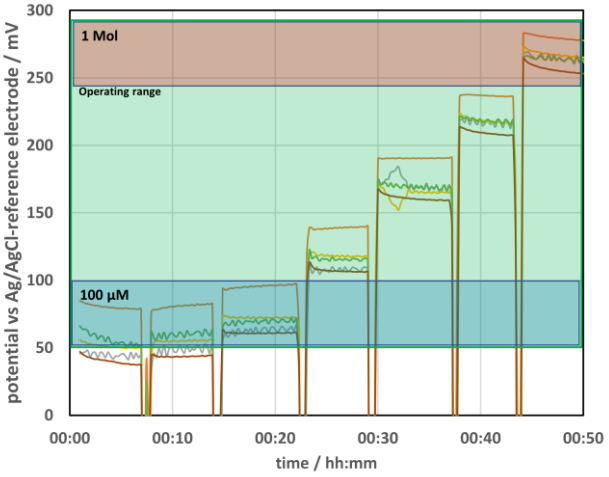
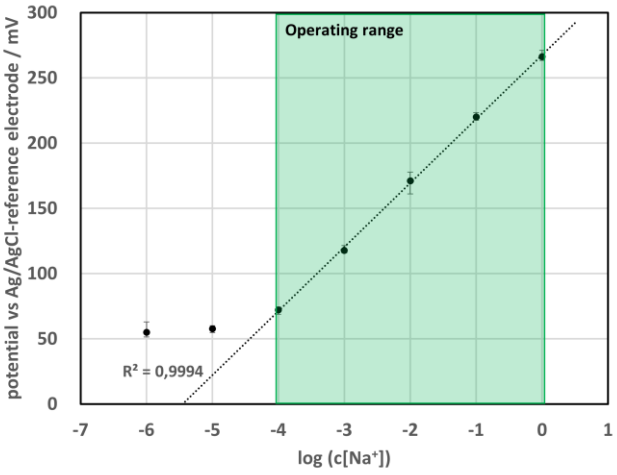
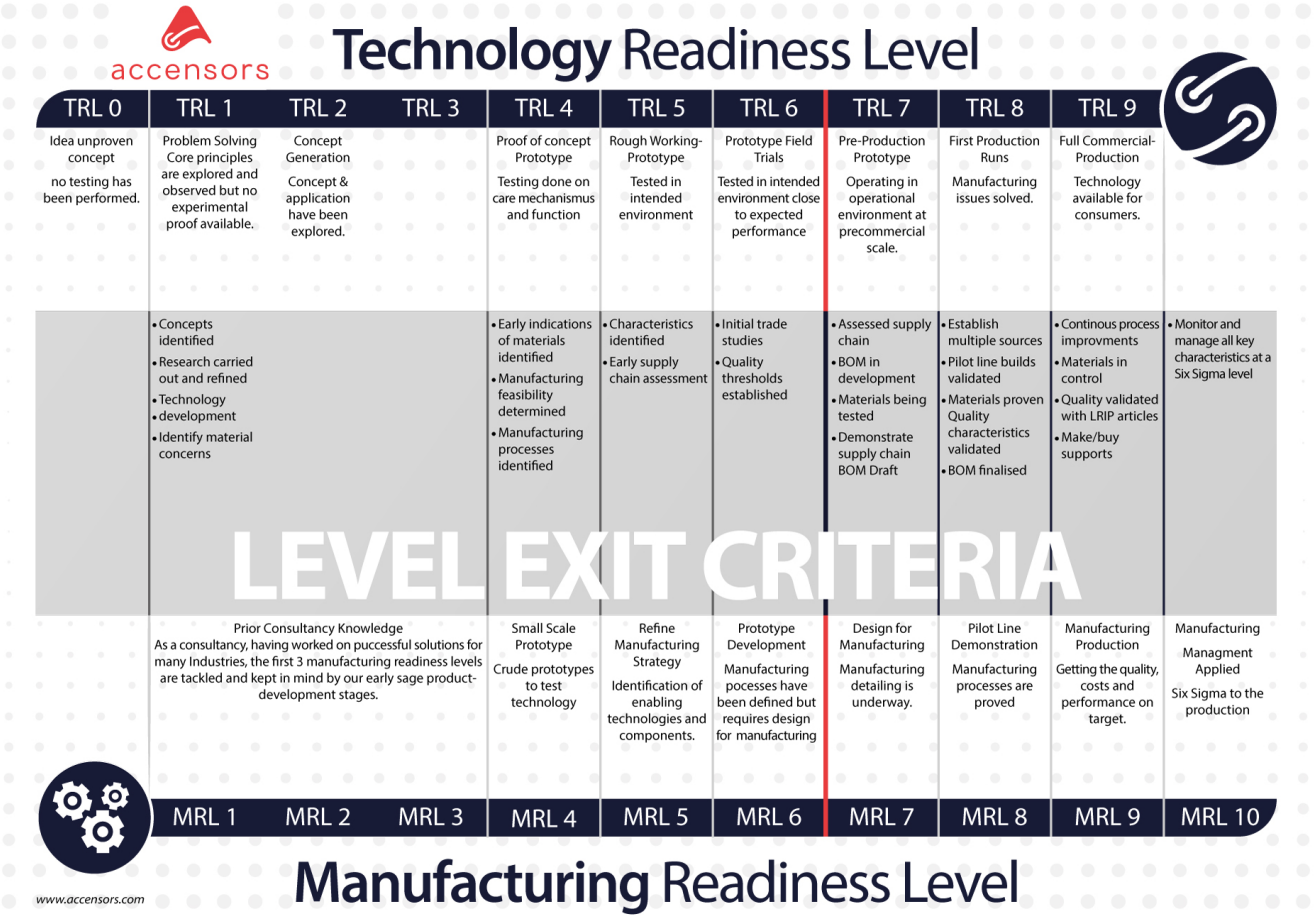


Example output readings for different NaCl solutions



Potential dependency for different Na+ concentrations and linear approximation in the range of 100 µM to 1 M



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