

# Datasheet

## Potassium sensor S-601 PET 190 µm

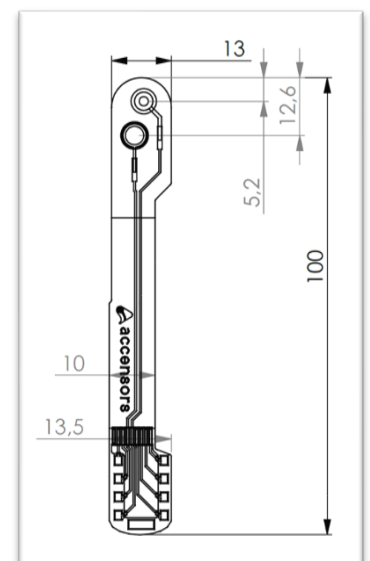


### Foil sensor for potassium monitoring

The S-601 is a foil sensor with electrodes for electrochemical determination of potassium concentrations of samples. The addSensors pH-sensor consists of two electrodes (a K<sup>+</sup>-sensitive and a non-sensitive Ag/AgCl reference electrode) on a transparent PET foil. The readings are taken by measuring the open circuit potential/voltage between both electrodes. Potential (E) and pH have a linear relationship (between the operating range of pH 1 µM and 0.1 M) so the potassium concentration of an unknown analyte can be calculated using the pre-determined slope and an offset E value (E<sub>0</sub> determined by measuring the potential in a calibration solution of known K<sup>+</sup> concentration). The reference electrode and overall sensor can be used in analytes with different chloride concentrations thanks to a solid-state electrolyte layer. Once used, the sensor must be kept hydrated for further application and not allowed to dry out.

The foil carrier is made of transparent PET material and the sensor is flexible, although care should be taken not bend the electrode spots. A connection between sensor and measurement electronics can be established via addSensors connect or ZiF-connector. Contact pads are covered with an oxidation protection. The data given refers to the use of the sensor in combination with the ACO addSensors D-301 measurement device and our addSensors iOS application. The measuring output will display the measured potential (in mV) or if the sensor is calibrated (one- point software calibration at 21 °C or two-point at other temperature) output can be given as concentration K<sup>+</sup>.

Technical Data	
Dimensions L x W x H in mm	100,0 x 13,0 x 0,2
Measurement range	1 µM and 0.1 M
Accuracy (in aqueous solutions)	+/- 4 mV
Potential response (at 21 °C)	58.2 mV per decade +/- 0.7
Set-up time (time till stable output)	30 min
Response time (t <sub>90</sub> )	< 20 sec
Sensor drift	8 mV in first 24 hrs then stable
Max lifetime (in use)	7 days
Lifetime (in storage)	3 months
Storage temperature	10 °C - 20 °C
Storage humidity	35 % RH - 50 % RH
Measuring environment	
Temperature	18 °C - 25 °C
Samples	Diverse*



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

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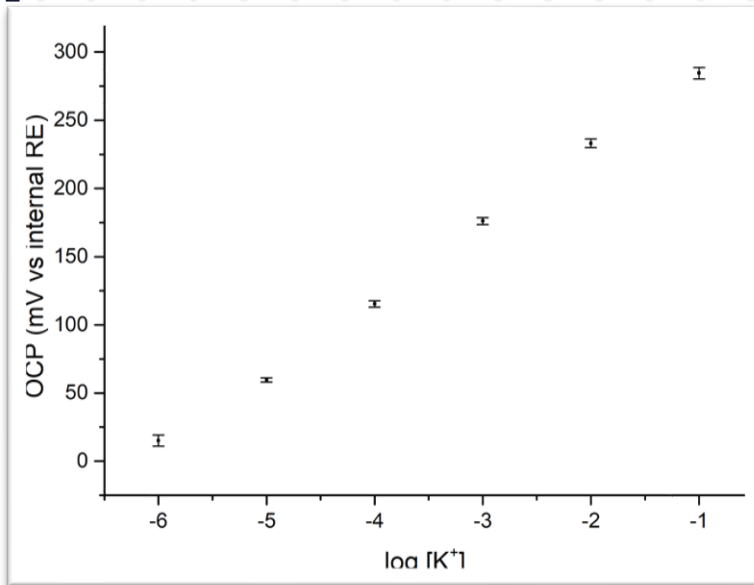


Fig.1 Output potential for sensors measured in different buffer solutions (no. sensors = 5)

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