

## TECHNICAL CHARACTERISTICS

- Response time: < 60 s
- Working Temperature: 5-50°C
- Minimum required volume : 0.5 mL
- ISAB: No needed\*
- Specifications:

	<b>K<sup>+</sup></b>
<b>Slope (mV/dec)</b>	54 ± 5
<b>Linear range ( mg/L)</b>	0,3 to 3900
<b>Linear range (mol/L)</b>	1x10 <sup>-5</sup> to 0,1
<b>pH range</b>	1 to 9
<b>Main interferences (log Kij)</b>	NH <sub>4</sub> <sup>+</sup> (-2.1)
	Li <sup>+</sup> (-4.3)
	Na <sup>+</sup> (-4.6)
	Ca <sup>2+</sup> (-3.9)

## ADDITIONAL EQUIPMENT

- NT ION METER or an equivalent meter: pH/mV-meter with resolution of 0.1mV.
- Reference electrode (Code: MRX11) or an equivalent.
- Flasks and pipettes.

## REAGENTS

- Deionized water, to prepare solutions and rinse the probe.
- Standard and conditioning solutions of the primary ion to be determined.

\*For highly accurate measurements, when the uncertainty required must be very low, we recommended the use of ISAB.

## PREPARATION AND USE OF CNT ISE SINGLE

*Before using the CNT ISE SINGLE, it is recommended to read the instructions of your meter.*

Condition the CNT ISE in a solution of the target ion of 1000ppm at least for 10 minutes<sup>1</sup> before use.

(1) If the electrode is new, has been prolonged time without use, or has been in contact with interference containing samples, condition time is recommended to be 8 hours or until stable potential reading.

If target concentration is lower than 100ppm, is recommended a second conditioning process in 100ppm solution at least for 10 minutes.

1. Plug the BNC terminal of the CNT ISE to the meter.
2. Remove the protection cap from the sensing area.
3. Calibrate the electrode.<sup>2,3</sup>

(2) Regarding the complexity of the sample matrix and some different factors, the analytical procedure could be direct calibration or different analytical techniques, such as the standard addition, etc.

3) To calibrate the electrode must have a reference electrode connected to the meter.

4. Rinse with DI water and dry the outer body with a clean tissue.
5. Measure the sample.
6. Rinse with DI water and dry the outer body of the probe between each sample measure.
7. Keep dry and clean with the protective cap.

- ✓ *Presence of solid particles in suspension and turbid solutions do not affect to the overall performance of the electrode.*

## RECOMENDATIONS

- ✓ Keep constant the same conditions of temperature, stirring, both in samples and standards.
- ✓ Follow the instructions for better conservation of the electrode.
- ✓ Great care has to be taken to do not damage the tip. The electrode can be irreversibly damaged if this part is hit or grated.

## GUARANTY

Electrodes are guaranteed of any manufacturing defect.

NT Sensors will replace without additional cost the Electrodes which, after being revised by its technical post-service have been considered as "defect from origin".

The Guaranty of the electrodes does not cover the defects caused by:

- inadequate use,
- the usual aging of the electrode,
- the logic premature aging caused by certain samples,
- the damaged caused by accident.

The guaranty is valid through a period of 6 months.

*For more information visit NT Sensors user guide on –line.*

**CNT\_ISE SINGLE:  
ION SELECTIVE ELECTRODE**



*BNC connector with cable*

*PVC body  
(L = 15cm,  $\phi$  = 12mm)*

*Sensing area*

**CNT\_ISE S039**

***Electrode to determine ions ( $K^+$ ) in  
aqueous solutions***

***Simply and fast***

***Minimum volume consumption of  
reagents and samples***

***Does not require any special  
maintenance***

**N** sensors

*Nanotechnology Sensors*

**Potassium Ions Electrode ( $K^+$ )**

**CNT\_ISE S039**

**MAINTENANCE AND STORAGE**

- ✓ The CNT ISE SINGLE does not require maintenance due to not contain internal liquid solutions.
- ✓ Place the protective cap when not use the electrode. Do not leave the sensing area in contact with air/atmosphere for longer time than necessary.
- ✓ Storage at temperatures below 50°C.
- ✓ Storage in a dry, cool place avoiding the direct contact with the sunlight.

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