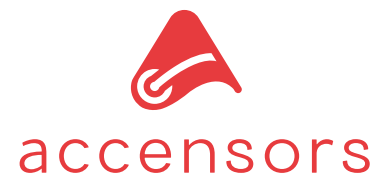


# Datasheet (preliminary)

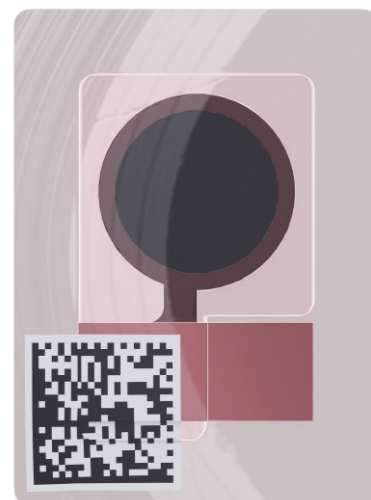
## SMD foil reference electrode RE01



The SMD foil reference electrode RE01 is designed for electrochemical, potentiometric measurements in liquid or moist samples **when combined with a second, ion-selective sensing electrode**.

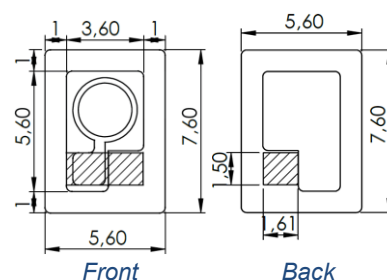
The readings are taken by measuring the open circuit potential/voltage between both electrodes via high resistivity voltage measurement electronics (see example circuit below).

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                    |
| Set-up time<br>(time till stable output) | < 10 min                      |
| Drift                                    | ~ 30 mV in first 24 hrs       |
| Lifetime (in use)                        | ~ 3 days                      |
| Measuring environment                    |                               |
| Operating range                          | 5 – 9 pH<br>100 µM – 1 M NaCl |
| Samples                                  | Diverse*                      |

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

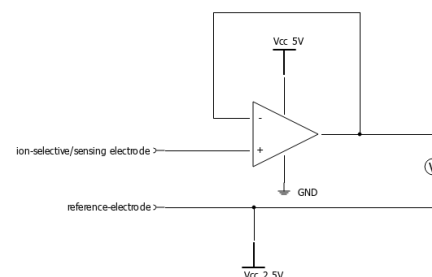


TRL 7



MRL 7

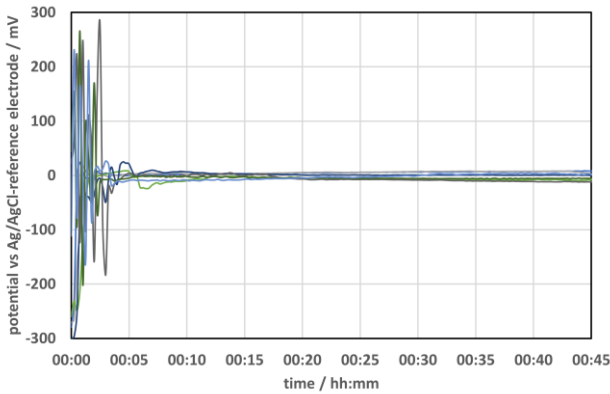
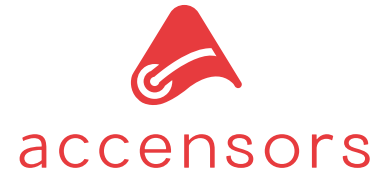
All mechanical dimensions are valid at 25 °C ambient temperature, if not differently indicated. All data except the mechanical dimensions only have information purposes and are not to be understood as assured characteristics. Technical changes without previous announcement as well as mistakes reserved. 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

# Datasheet (preliminary)

## SMD foil reference electrode RE01



Example output readings for the set-up time

| accensors Technology Readiness Level                    |   |   |  |   |   |   |   |  |   |   |
|---|---|---|--|---|---|---|---|--|---|---|
| TRL 0   | TRL 1   | TRL 2   | TRL 3  | TRL 4   | TRL 5   | TRL 6   | TRL 7   | TRL 8  | TRL 9   |   |
| Idea unproven concept<br>no testing has been performed. | Problem Solving<br>Core principles are explored and observed but no experimental proof available.   | Concept Generation<br>Concept & application have been explored. |  | Proof of concept Prototype<br>Testing done on core mechanisms and function  | Rough Working-Prototype<br>Tested in intended environment   | Prototype Field Trials<br>Tested in intended environment close to expected performance                          | Pre-Production Prototype<br>Operating in operational environment at precommercial scale.  | First Production Runs<br>Manufacturing issues solved.  | Full Commercial-Production<br>Technology available for consumers.   |   |
|   | <ul style="list-style-type: none"> <li>Concepts identified</li> <li>Research carried out and refined</li> <li>Technology development</li> <li>Identify material concerns</li> </ul>   |   |  | <ul style="list-style-type: none"> <li>Early indications of materials identified</li> <li>Manufacturing feasibility determined</li> <li>Manufacturing processes identified</li> </ul> | <ul style="list-style-type: none"> <li>Characteristics identified</li> <li>Early supply chain assessment</li> </ul> | <ul style="list-style-type: none"> <li>Initial trade studies</li> <li>Quality thresholds established</li> </ul> | <ul style="list-style-type: none"> <li>Assessed supply chain</li> <li>BOM in development</li> <li>Materials being tested</li> <li>Demonstrate supply chain BOM Draft</li> </ul> | <ul style="list-style-type: none"> <li>Establish multiple sources</li> <li>Pilot line builds validated</li> <li>Materials proven Quality characteristics validated</li> <li>BOM finalised</li> </ul> | <ul style="list-style-type: none"> <li>Continous process improvements</li> <li>Materials in control</li> <li>Quality validated with LRIP articles</li> <li>Make/buy supports</li> </ul> | <ul style="list-style-type: none"> <li>Monitor and manage all key characteristics at a Six Sigma level</li> </ul> |
| <b>LEVEL EXIT CRITERIA</b>                              |   |   |  |   |   |   |   |  |   |   |
|   | Prior Consultancy Knowledge<br>As a consultancy, having worked on successful solutions for many industries, the first 3 manufacturing readiness levels are tackled and kept in mind by our early sage product-development stages. |   | Small Scale Prototype<br>Crude prototypes to test technology | Refine Manufacturing Strategy<br>Identification of enabling technologies and components.  | Prototype Development<br>Manufacturing processes have been defined but requires design for manufacturing            | Design for Manufacturing<br>Manufacturing detailing is underway.  | Pilot Line Demonstration<br>Manufacturing processes are proved  | Manufacturing Production<br>Getting the quality, costs and performance on target.  | Manufacturing Management Applied<br>Six Sigma to the production   |   |
|   | MRL 1   | MRL 2   | MRL 3  | MRL 4   | MRL 5   | MRL 6   | MRL 7   | MRL 8  | MRL 9   | MRL 10  |
| <b>Manufacturing Readiness Level</b>                    |   |   |  |   |   |   |   |  |   |   |



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