



Conductivity sensor with integrated temperature sensor

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General Information

The conductivity is a measurement of the ion concentration in a solution. It can be used to determine the quality, the amount of nutrients, salts or impurities in water or aqueous solutions. The temperature sensor on the device allows temperature measurement and compensation. It is placed directly in the measurement area to improve accuracy.

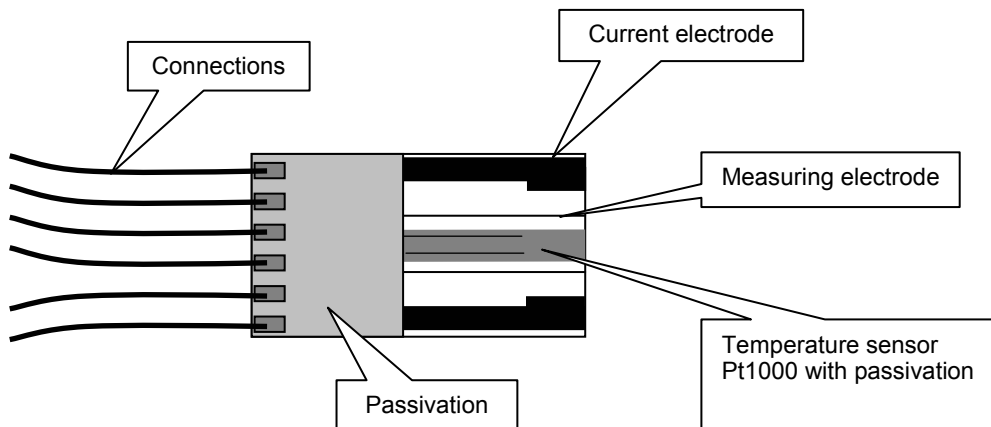
Construction

The conductivity sensor consists of a high-purity platinum layer patterned on a ceramic substrate. The integrated temperature sensor is coated with a glass passivation, which prevents it from mechanical damage. The current and measurement electrodes are available in thick film technology. The welded leadwires are covered with an additional fixation layer to offer best possible mechanical robustness.

Technical Data

Mechanical dimensions:	15 x 5.5 x 0.65 mm (LxWxH)
Substrate:	Al ₂ O ₃
Operating temperature:	0 °C ... +90 °C
Storage temperature:	-20 °C ... +80 °C
Conductivity range:	~5 µS/cm to ~50 mS/cm (depending on the type and size)
Cell constant:	typ. 0.41 cm ⁻¹ 0.2 to 0.7 cm ⁻¹ (depending on the type and size)
Temperature sensor:	Pt1000, DIN EN 60751, class F 0.3
Electrodes:	Platinum electrodes
Connection:	6x Ni/Pt wires 0.2 mm, 10 mm long
Measurement frequency:	300 to 3000 Hz
Maximum supply voltage to the current electrode:	1.6 V _{pp} (without DC bias)

Schematic Layout



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 reserve. • The information on this data sheet was examined carefully and will be accepted as correct. No liability in case of mistakes. • Load with extreme values during a longer period can affect the reliability. All rights reserved. The material contained herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner. Typing errors and mistakes reserved. Product specifications are subject to change without notice. All rights reserved.



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