



LFS1K0.1107.2I.B.070-6.S

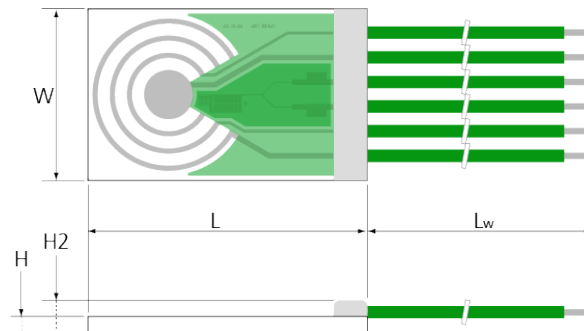
Conductivity Sensor

For various conductivity measurement applications

Benefits & Characteristics

- Very wide conductivity range
- Small size
- Integrated RTD for temperature measurement and/or compensation
- 4 electrode measurement
- Circular electrodes

Illustration¹⁾



1) For actual size, see dimensions

Technical Data

Conductivity range ²⁾ :	10 $\mu\text{S}/\text{cm}$ to 200 mS/cm
Cell constant ²⁾ :	typical 0.42 cm^{-1}
Nominal resistance:	1000 Ω at 0 $^{\circ}\text{C}$
Measurement frequency range:	100 Hz to 300 Hz
Maximum excitation voltage (between pin 2 and pin 6):	< 0.7 V _{pp} (Electrolysis of the analyte has to be avoided. Max. voltage depends on the solution)
Operating temperature range ³⁾ :	-30 $^{\circ}\text{C}$ to +100 $^{\circ}\text{C}$
Temperature sensor:	Pt1000
Temperature coefficient (Pt1000):	3850 ppm/K
Measuring current (Pt1000) ⁴⁾ :	0.3 mA
Temperature sensor accuracy (dependent on temperature range):	IEC 60751 F0.3 B (IST AG reference)
Dimensions (L x W x H / H2 in mm):	11.4 \pm 0.3 x 7 \pm 0.3 x 0.63 \pm 0.1 / 1.2 \pm 0.3
Connection:	Cu/Ag-wires, PTFE-insulated, AWG 30



Temperature dependence of resistivity:

-50 °C to 0 °C
0 °C to 150 °C

according to IEC 60751:

$$R(T) = R_0 \times (1 + A \times T + B \times T^2 + C \times (T-100) \times T^3)$$

$$R(T) = R_0 \times (1 + A \times T + B \times T^2)$$

$$A = 3.9083 \times 10^{-3} \text{ } ^\circ\text{C}^{-1}$$

$$B = -5.775 \times 10^{-7} \text{ } ^\circ\text{C}^{-2}$$

$$C = -4.183 \times 10^{-12} \text{ } ^\circ\text{C}^{-4}$$

R_0 = resistance value in Ω at $T = 0 \text{ } ^\circ\text{C}$

T = temperature in accordance with ITS90

Storage temperature:

-20 °C to +100 °C

2) Geometry of the containing chamber or vessel in the final application can affect the cell constant and measurement range. Please contact IST AG for more information.

3) Although operating temperature is under 100 °C, the device will temporarily withstand higher temperatures. Contact IST AG for more information.

4) Self-heating must be considered.

Note: Aggressive media can influence the long-term stability. Chemical resistance of the sensor in the end application must be tested by the customer.

Product Photo



Pin Assignment



1	2	3	4	5	6
V+	I+	T ₁	T ₂	V-	I-

I: applied current V: measured voltage T: temperature sensor



Order Information

Description:	Item number:	Former main reference:
LFS1K0.1107.2I.B.070-6.S	103866	090.00088



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