



LFS1107 Conductivity Sensor For various conductivity measurement applications

Benefits & Characteristics

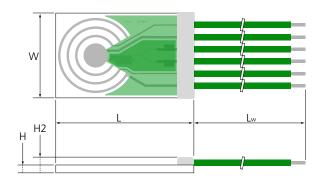
- Very wide conductivity range
- Integrated RTD for temperature measurement and/ or compensation
- Circular electrodes

Illustration¹⁾



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4 electrode measurement



1) For actual size, see dimensions

Technical Data

Conductivity range ² :*	10 µS/cm to 200 mS/cm	
Cell constant ² :*	typical 0.42 cm ⁻¹	
Measurement frequency range:	100 Hz to 300 Hz	
Maximum excitation voltage (between pin 2 and pin 6):	< 0.7 Vpp (Electrolysis of the analyte has to be avoided Max. voltage depends on the solution)	J.
Operating temperature range ³⁾ :	-30 °C to +100 °C	
Temperature sensor:*	Pt1000	
Temperature coefficient (Pt1000):	3850 ppm/K	
Measuring current (Pt1000) ⁴ :	0.3 mA	
Temperature sensor accuracy (dependent on temperature range):*	IST AG reference	e
	IEC 60751 F0.3 B	
	IEC 60751 F0.6 C	
Connection:*	Cu/Ag-wires, PTFE-insulated, AWG 30 Pt/Ni-wires, Ø 0.2 mm	

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physical. chemical. biological.



Temperature dependence of resistivity:	according to IEC 60751:
-50 °C to 0 °C	$R(T) = R_0 \times (1 + A \times T + B \times T^2 + C \times (T-100) \times T^3)$
0 °C to 150 °C	$\begin{split} R(T) &= R_{0} \; x \; (1 + A \; x \; T + B \; x \; T^{2}) \\ A &= 3.9083 \; x \; 10^{-3} \; ^{\circ}C^{-1} \\ B &= -5.775 \; x \; 10^{-7} \; ^{\circ}C^{-2} \\ C &= -4.183 \; x \; 10^{-12} \; ^{\circ}C^{-4} \\ R_{_{0}} &= \text{resistance value in } \Omega \; \text{at } T = 0 \; ^{\circ}C \\ T &= \text{temperature in accordance with ITS90} \end{split}$
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.

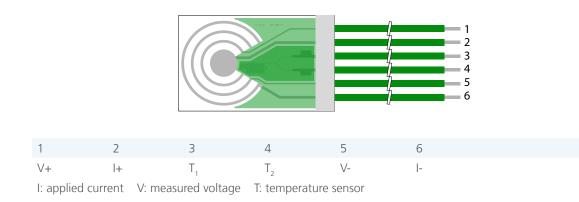
3) Although operating temperature is under 100 °C, the device will temporally withstand higher temperatures. Contact IST AG for more information.

4) Self-heating must be considered.

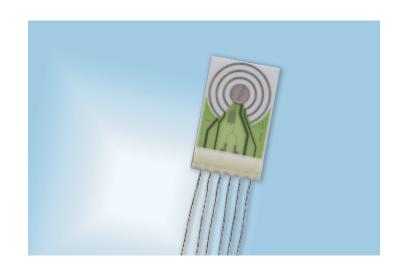
Note: Aggressive media can influence the long-term stability. Chemical resistance of the sensor in the end application must be tested by the customer.

* Customer-specific alternatives available

Pin Assignment:



Product Photo:



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Order lafermention	21/Culler Mires	DTFF inculated	AAAC 20	1 70 ma ma *)
Order Information	- ZI (CU/Ag-Wires,	PIFE-Insulated,	AVVG 30,	$L_{\rm W} = 70 \text{mm}^{\circ}$

Size	Dimensions (L x W x H / H2 in mm)	F0.3 (class B)	F0.6 (class C)
Nominal	resistance: 1000 Ω at 0 °C		
1107	11.4 ±0.3 x 7 ±0.3 x 0.63 ±0.1 / 1.2 ±0.3	LFS1K0.1107.2I.B.070-6.S	LFS1K0.1107.2I.C.070-6.S
Order cod	le	103866	103867
Former o	rder code	090.00088	090.00089
Order I	nformation - 6W (Pt/Ni-	wires, Ø 0.2 mm, L _w = 10	mm*)
Size	Dimensions (L x W x H / H2 in mm)	F0.3 (class B)	F0.6 (class C)
		F0.3 (class B)	F0.6 (class C)
Nominal	(L x W x H / H2 in mm)	F0.3 (class B) LFS1K0.1107.6W.B.010-6.S	F0.6 (class C) LFS1K0.1107.6W.C.010-6.S
Nominal	(L x W x H / H2 in mm) resistance: 1000 Ω at 0 °C 11.4 ±0.3 x 7 ±0.3 x 0.63 ±0.1 / 1.2 ±0.3		

* Customer-specific alternatives available



Innovative Sensor Technology IST AG, Stegrütistrasse 14, 9642 Ebnat-Kappel, Switzerland Phone: +41 71 992 01 00 | Fax: +41 71 992 01 99 | Email: info@ist-ag.com | www.ist-ag.com

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