CONDUCTIVITY

TEMPERATURE

FLOW

HUMIDITY

LFS 117

Conductivity Sensor

For various conductivity measurement applications

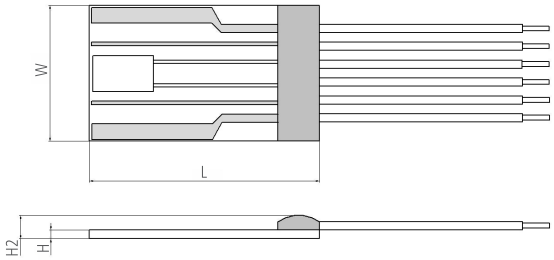
INNOVATIVE SENSOR TECHNOLOGY

Benefits & Characteristics

- Wide conductivity and temperature range
- Fast response time
- Optimal accuracy
- Resistance to various chemicals[1)]
- Excellent long-term stability
- Integrated temperature measurement
- 4 electrode measurement
- Customer specific sensor available upon request

1) Aggressive media can influence the long-term stability

Illustration[2)]



2) For actual size, see dimensions

Technical Data

Operating temperature range:	-50 °C to +150 °C	
Conductivity range:*	0.2 mS/cm to 200 mS/cm	
Cell constant:*	typical 0.435 1/cm at 1.4 mS/cm	
Temperature sensor:*	Pt1000	
Measurement frequency range:	100 Hz bis 3 kHz	
Maximum supply voltage (electrodes):	< 0.7 V_{pp} (Electrolysis of the analyte has to be avoided)	
Characteristics curve:	3850 ppm/K	
Measuring current[3)]:	0.3 mA	
3) Selfheating must be considered		
Temperature sensor accuracy (dependent on temperature range):*		IST AG reference
	DIN EN 60751 F0.3	B
	DIN EN 60751 F0.6	C
Connection:*	Pt/Ni wires, Ø 0.2 mm	
	Cu/Ag wires, PTFE insulated, AWG 30	

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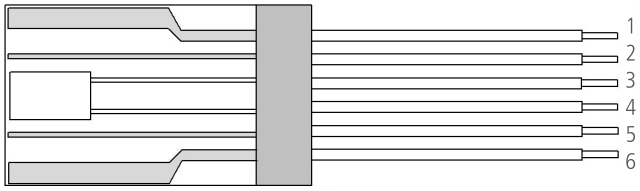
Temperature dependence of resistivity:	according to DIN EN 60751: -50 °C to 0 °C $R(T) = R_0 \times (1 + A \times T + B \times T^2 + C \times (T - 100) \times T^3)$ 0 °C to 150 °C $R(T) = R_0 \times (1 + A \times T + B \times T^2)$ A = $3.9083 \times 10^{-3} \times °C^{-1}$ B = $-5.775 \times 10^{-7} \times °C^{-2}$ C = $-4.183 \times 10^{-12} \times °C^{-4}$ R_0 = resistance value in Ohm at T = 0 °C T = temperature in accordance with ITS90
Storage temperature:	-20 °C to +150 °C
Alternative construction:*	Customized over-mold

* Customer specific alternatives available

Pin Assignment



1	2	3	4	5	6
I_2	V_2	T_2	T_1	V_1	I_1

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

Order Information - 6W (Ni/Pt wires, Ø 0.2 mm)

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			
117	16.9 x 9.9 x 0.65 / 1.2	LFS1K0.117.6W.B.010-6	LFS1K0.117.6W.C.010
Order code		390.00025	390.00027

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Order Information - 2I (Cu/Ag wires, PTFE insulated, AWG 30)

Size	Dimensions (L x W x H / H2 in mm)	F0.3 (class B)
Nominal resistance: 1000 Ω at 0 °C		
117	16.9 x 9.9 x 0.65 / 1.2	LFS1K0.117.2I.B.300-6
Order code		390.00057
117	16.9 x 9.9 x 0.65 / 1.2	LFS1K0.117.2I.B.070-6
Order code		390.00023

INNOVATIVE SENSOR TECHNOLOGY
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