Innovative Sensor Technology

physical. chemical. biological.

LFS1K0.1710.6W.B.010-6

Conductivity Sensor

For various conductivity measurement applications

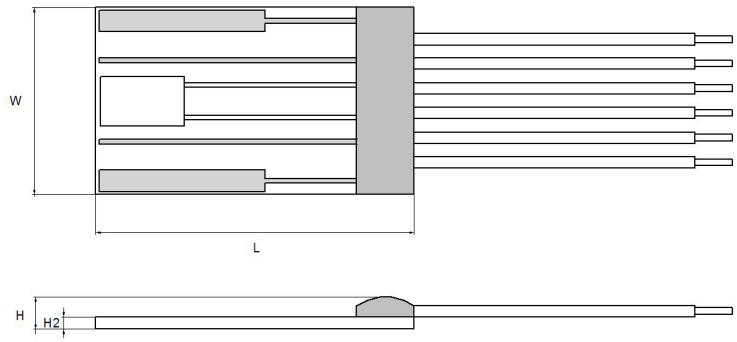
Benefits & Characteristics

- Wide conductivity and temperature range
- Fast response time
- Optimal accuracy
- Resistance to various chemicals[1)]
- Excellent long-term stability
- Integrated RTD for temperature measurement and / or compensation
- 4 electrodes measurement[2)]

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

2) 2 electrode configuration available upon request

Illustration[3)]



3) For actual size, see dimensions

Technical Data

Conductivity range:	0.2 mS/cm to 200 mS/cm	
Cell constant[4)]:	typical 0.44 cm^{-1}	
Nominal resistance:	1000 Ω at 0 °C	
Measurement frequency range:	50 Hz to 3 kHz	
Maximum excitation voltage (between pin 1 and pin 6):	< 0.7 Vpp (Electrolysis of the analyte has to be avoided)	
Operating temperature range:	-30 °C to +100 °C	
Temperature sensor:	Pt1000	
Temperature coefficient (Pt1000):	3850 ppm/K	
Measuring current (Pt1000)[5)]:	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)	16.9 ±0.3 x 9.9 ±0.3 x 0.65 ±0.1 / 1.2 ±0.3	
Connection:	Pt/Ni-wires, Ø 0.2 mm	

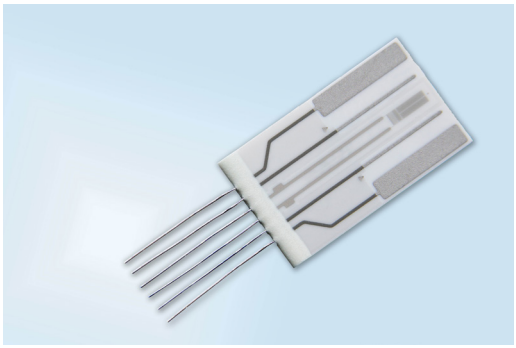
The LFS1710 supersedes the LFS117 which is no longer in production

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 $R(T) = R_0 \times (1 + A \times T + B \times T^2)$
	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 Ω at T = 0 °C
	T = temperature in accordance with ITS90
Storage temperature:	-20 °C to +100 °C

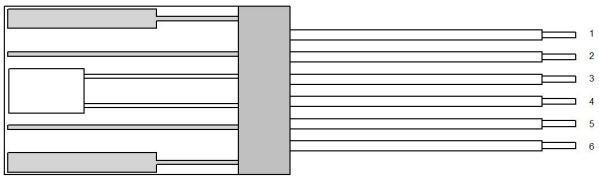
4) Cell constant is strongly affected by external objects coming close to the front surface of the sensor.

5) Selfheating must be considered

Product Photo



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

Description:	Item number:	Former main reference:
LFS1K0.1710.6W.B.010-6	103852	090.00074

The LFS1710 supersedes the LFS117 which is no longer in production

RoHS

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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Innovative Sensor Technology:

LFS1K0.1710.6W.B.010-6