



LFS1498

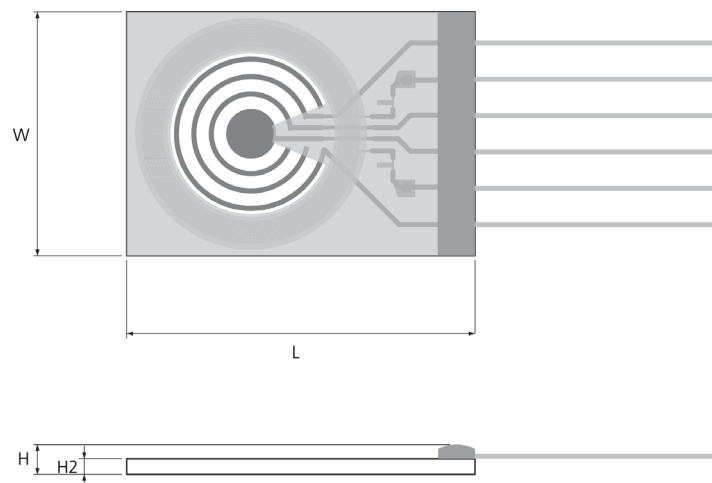
Conductivity Sensor

For various conductivity measurement applications

Benefits & Characteristics

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

Illustration¹⁾



1) For actual size, see dimensions

Technical Data

Conductivity range ²⁾ :	10 $\mu\text{S}/\text{cm}$ to 200mS/cm	
Cell constant ²⁾ :	typical 0.44 cm^{-1}	
Measurement frequency range:	100 Hz to 2 kHz	
Maximum excitation voltage (between pin 4 and pin 6):	< 0.7 Vpp (Electrolysis of the analyte has to be avoided)	
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	
	IEC 60751 F0.3	B
Connection:*	Pt/Ni-wires, \varnothing 0.2 mm	



Temperature dependence of resistivity:

according to IEC 60751:

$$-50\text{ °C to }0\text{ °C} \quad R(T) = R_0 \times (1 + A \times T + B \times T^2 + C \times (T - 100) \times T^3)$$

$$0\text{ °C to }150\text{ °C} \quad R(T) = R_0 \times (1 + A \times T + B \times T^2)$$

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

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

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

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

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 less than 100°C, device will temporarily withstand higher temperatures.

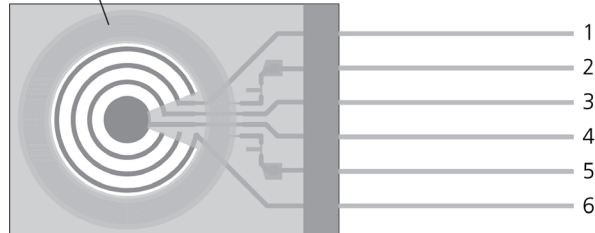
4) Self-heating must be considered.

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

temperature sensor



1	2	3	4	5	6
V+	T_1	V-	I-	T_2	I+

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

Product image





Order Information - 6W (Ni/Pt-wires, Ø 0.2 mm, 10 mm*)

Size Dimensions F0.3 (class B)
(L x W x H / H2 in mm)

Nominal resistance: 1000 Ω at 0 °C

1498	13.9 ±0.3 x 9.7 ±0.3 x 0.63 ±0.1 / 1.2 ±0.3	LFS1K0.1498.6W.B.010-6
Order code		105103
Former order code		390.00079

* Other wire lengths upon request



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

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 reserved • 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 • 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