



# LFS 155 Conductivity Sensor

## For various conductivity measurement applications



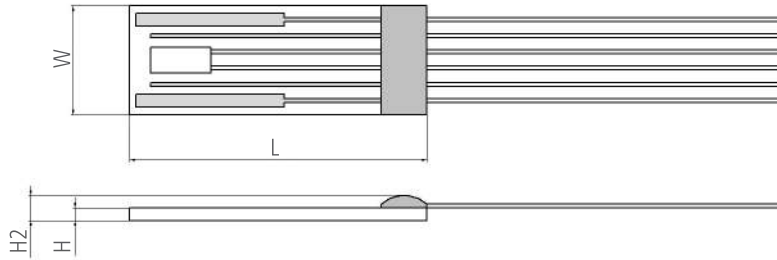
INNOVATIVE SENSOR TECHNOLOGY

### Benefits & Characteristics

- Wide conductivity and temperature range
- Fast response time
- Optimal accuracy
- Resistance to various chemicals<sup>1)</sup>
- Excellent long-term stability
- Integrated temperature measurement
- 2 or 4 electrode measurement
- Customer specific sensor available upon request

1) Aggressive media can influence the long-term stability

### Illustration<sup>2)</sup>



2) For actual size, see dimensions

### Technical Data

Operating temperature range:	-50 °C to +150 °C
Conductivity range:*	0.1 mS/cm to 200 mS/cm
Cell constant:*	typical 0.66 1/cm at 1.4 mS/cm
Maximum supply voltage (electrodes):	< 0.7 V <sub>pp</sub> (Electrolysis of the analyte has to be avoided)
Measurement frequency range:	100 Hz to 3 kHz
Temperature sensor:*	Pt1000
Characteristics curve:	3850 ppm/K
Measuring current <sup>3)</sup> :	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	



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Temperature dependence of resistivity:

according to DIN EN 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 Ohm at  $T = 0\text{ °C}$

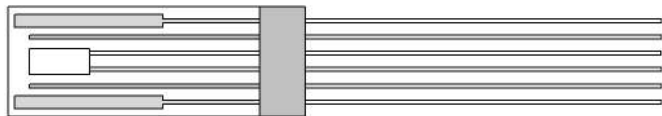
$T$  = temperature in accordance with ITS90

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			
155	14.9 x 5.5 x 0.65 / 1.2	LFS1K0.155.6W.B.010	LFS1K0.155.6W.C.010
Order code		390.00030	390.00039



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