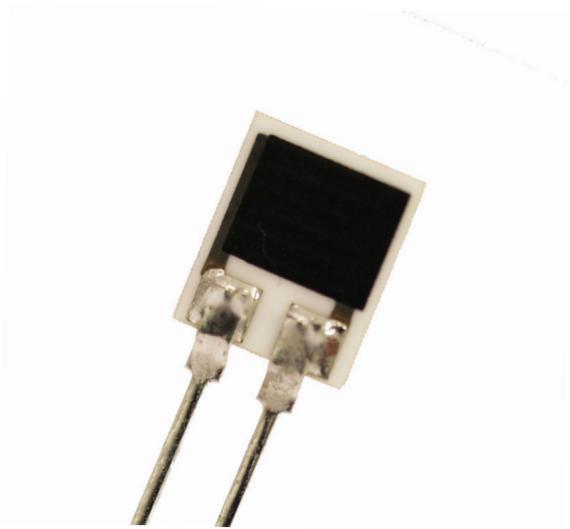


DATA SHEET



Dew Point Sensor SHS-A4L

Description



Features

The humidity sensor SHS A4L is a resistive dew formation sensor with miniaturised dimensions for detecting the onset of condensation. The exponentially rising resistive characteristics in the upper humidity region facilitates simple signal processing and a stable switching behaviour on dew formation threshold. The sensor is optimized for very reliable impedance curve with very low tolerance of resistance. The ceramic substrate can become a thermal contact on the reverse side to sense surface humidity. Through SIL-contacts, the component can be directly mounted on the printed circuit board.

Characteristic features

- Detection of high humidity, dew formation or condensation
- Very low tolerance of impedance curve
- Application range from 0 ... 100% rH
- Operating temperature range from 0 ... 60 °C
- Model with SIL-contacts for PCB

Areas of application

- Building instrumentation, cool ceiling controller, air-conditioning
- Moisture protection in switcher panels and electrical equipment
- Condensate detection in outside directed walls
- Ventilation control in sanitary rooms
- Leakage monitor for waterproof housings
- Brown goods, CAMCORDER und Cameras

Technical Data

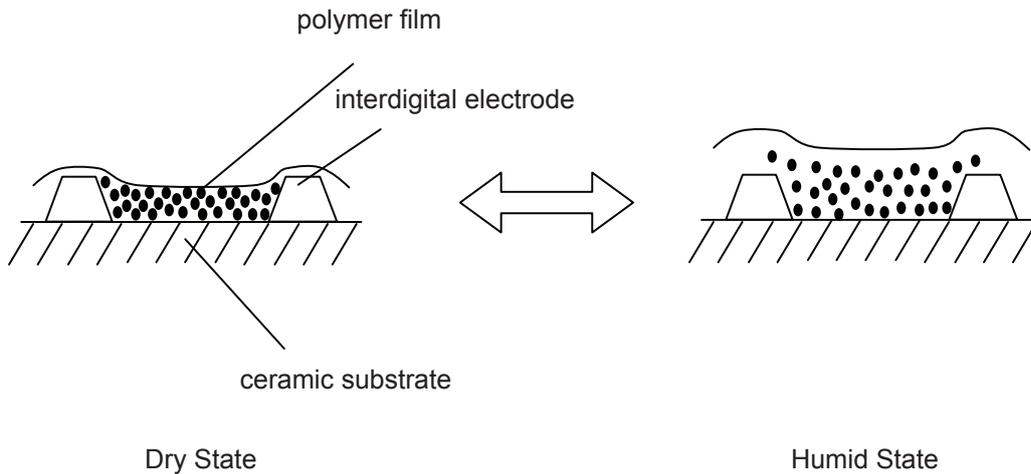
Resistive Dew point sensor SHS-A4L	
Measuring principle	resistive humidity sensor
Humidity range	0 ... 100% relative humidity
Operating Temperature	0 ... +60 °C
Storage Temperature	-20 ... +85 °C
Impedance	
RH 60% rH	0,73 kΩ
RH 80% rH	1,7 kΩ
RH 90% rH	6,8 kΩ
RH 94% rH	39,3 kΩ
RH 98% rH	819 kΩ
Max. evaluation voltage	< 0.8 Vpp ~/=
Support substrate	Ceramic 5.1 x 7.0 x 0.6 mm
Connention	2 SIL contacts, RM 2,54 mm x 10 mm
Ordering No.	SHS-A4L
Rights reserved for change in technical data for technological advancements !	

DATA SHEET



Dew Point Sensor SHS-A4L

Actuation Principle of Dew Sensor

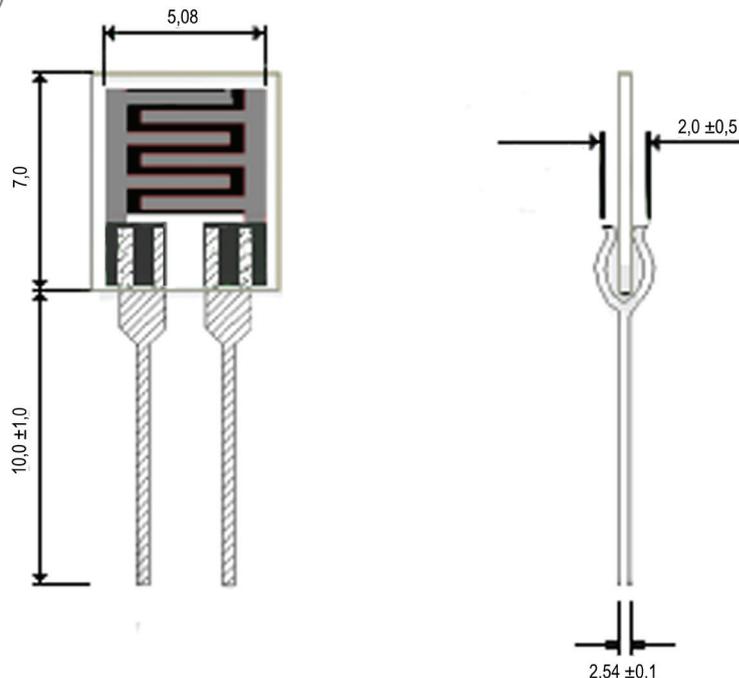


The dew sensitive polymer film in which conductive particles are dispersed in polymer which expands by water shows a low electric resistance by the contact of carbon under the conditions of dry atmosphere.

On the contrary, when the polymer film absorbs water, it shows a logarithmic increase of electric resistance in high humidity range, because the total contact area between the conductive particles decreases due to swelling of the polymer.

Such a resistance change of the dewdrops feeler film is recognized as a resistance change between the two electrical terminals through the interdigital electrodes.

Dimension (SHS A4L)



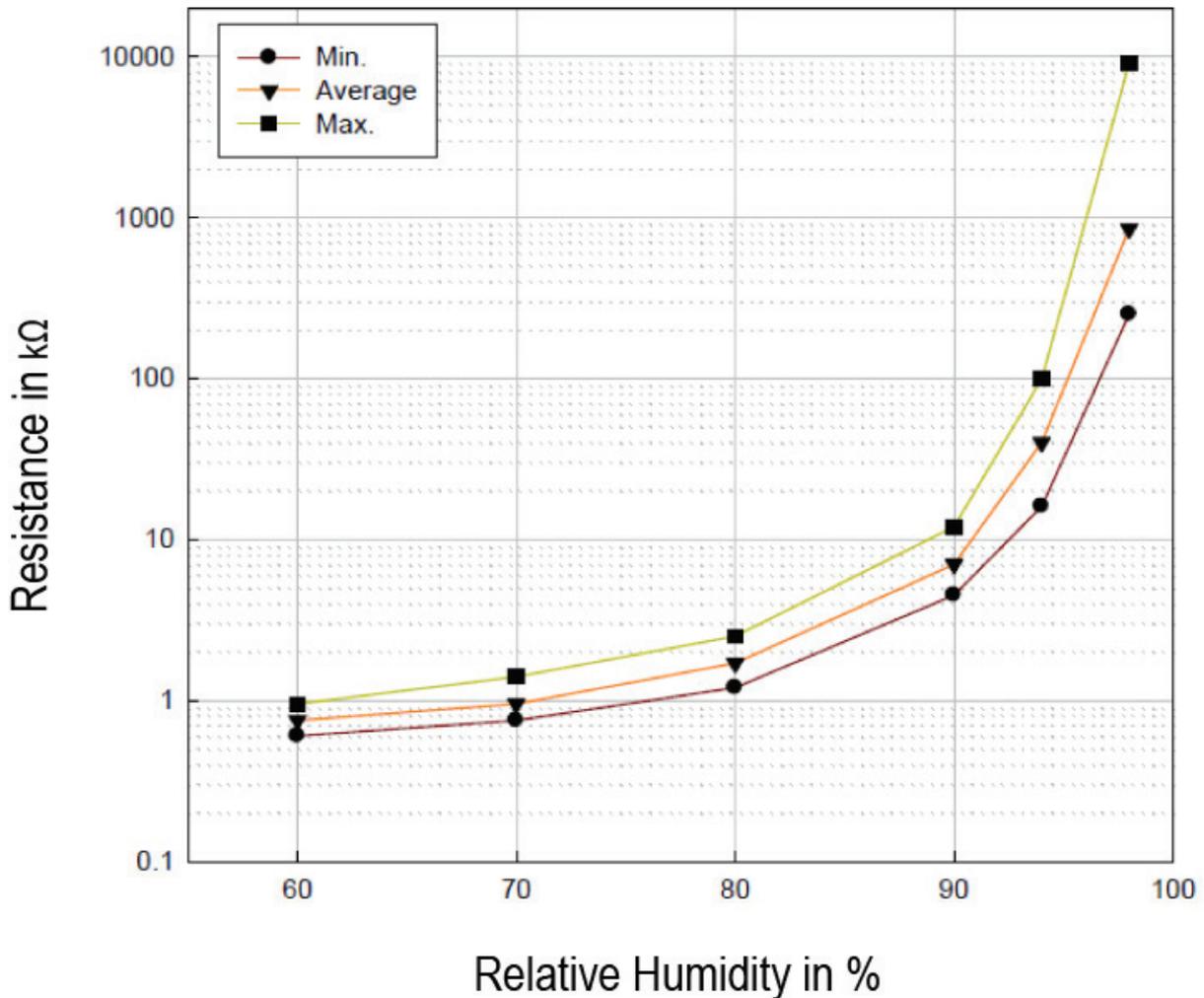
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Dew Point Sensor SHS-A4L



Standard characteristics

	60 %RH	70 %RH	80 %RH	90 %RH	94 %RH	98 %RH
min.	0,6 kΩ	0,7 kΩ	1,1 kΩ	4,2 kΩ	15,4 kΩ	230 kΩ
spec.	0,73 kΩ	1,0 kΩ	1,7 kΩ	6,8 kΩ	39,3 kΩ	819 kΩ
max.	1,0 kΩ	1,4 kΩ	2,5 kΩ	11,8 kΩ	100 kΩ	10000 kΩ

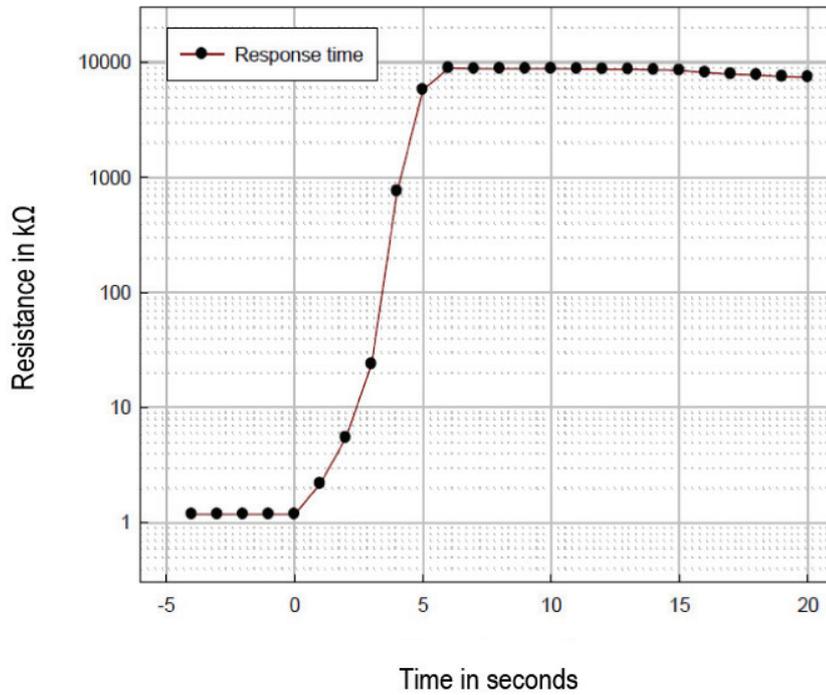


DATA SHEET



Dew Point Sensor SHS-A4L

Response characteristics (Test condition: 25 °C, 75 %RH → dew point)



Resistance characteristics at dipping water (Test condition: 25 °C Dew condition)

