

T H E R M O M E T R I C S
A C O M M I T M E N T T O E X C E L L E N C E

HS12SP

Thermometrics Relative Humidity Sensor



Thermometrics HS12SP model is a non-refresh type of polymer based relative humidity sensor.

Features

- Good, long-term reliability
- Cost-effective performance
- Quick response

Applications

- Humidity Monitors
- Humidity Controllers
- Air Conditioners
- Humidifiers
- Dehumidifiers
- Automatic Ventilation

Amphenol
Advanced Sensors

Specifications

Storage Temperature Range

0~50 °C

Storage Humidity Range

20~90 %RH, Without condensation

Operating Humidity Range

30~90 %RH

Operating Temperature Range

0~50°C

Rated Working Voltage

AC 1 V (50Hz~1KHz)

Rated Power

0.3 mW

Nominal Impedance Value

60 k Ω (25°C, 50%RH)

Tolerance on Impedance Value

60 \pm 30 k Ω

Reliability (Impedance value change as relative humidity at 25°C, 50%RH)

Dry Heat Storage

< \pm 5 %RH (85°C, 1000 hr.)

Cold Storage

< \pm 5 %RH (-40°C, 1000 hr.)

Damp Heat Storage

< \pm 5 %RH (40°C, 90 %RH, 1000 hr.)

Low Humidity Storage

< \pm 5 %RH (25°C 20 %RH, 1000 hr.)

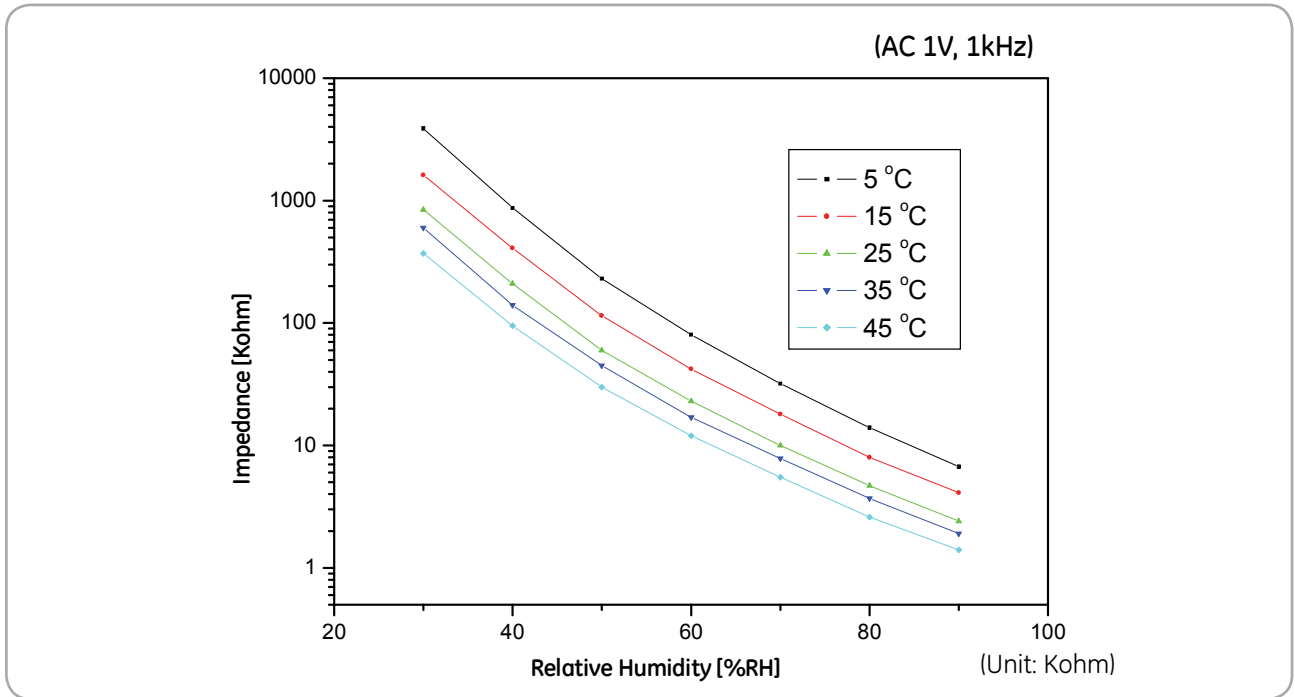
Heat Cycle Test

< \pm 5 %RH (-40°C ~ +85 °C, 100 cycles)

Notes

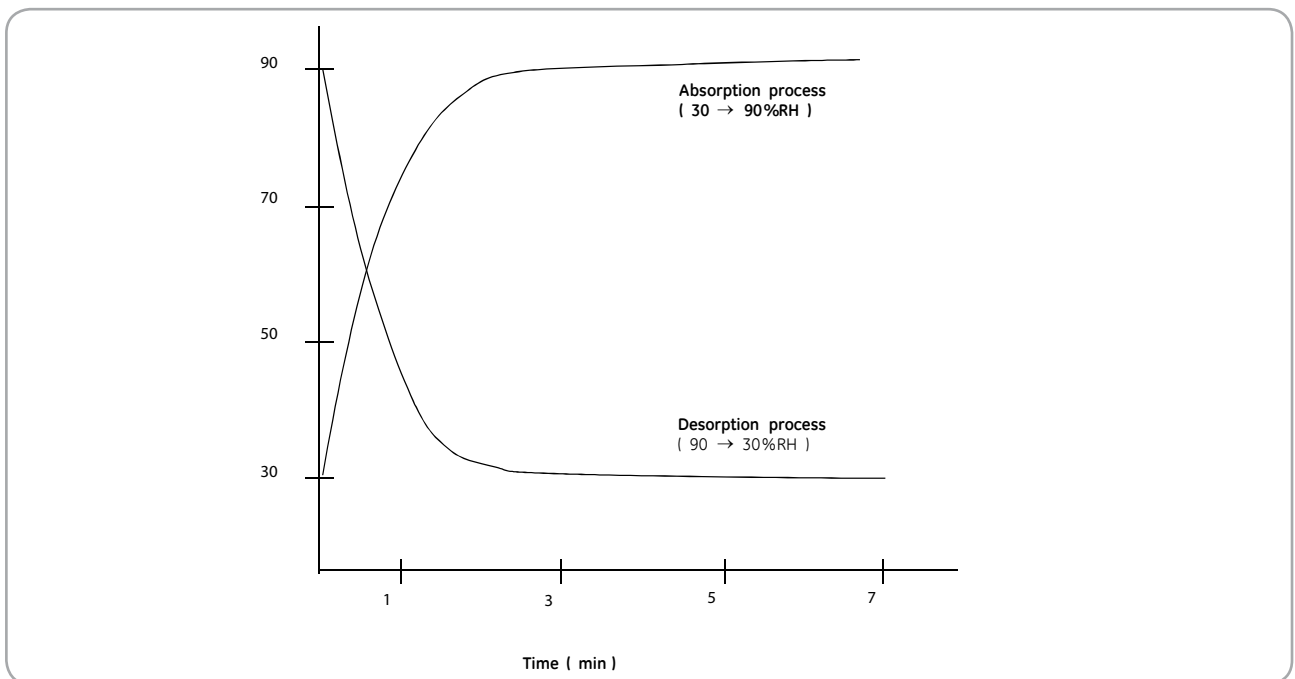
1. Don't apply any direct current to the sensor.
2. Don't touch the film and the surface of the sensor.
3. In use and stock, freezing, dust, mist, oil, alcohol, corrosive gases or any other dirty/anomalous ambient may cause degradation of the sensor's characteristics.
4. Protect the sensor film from flux/fume and high temperature during the soldering.
5. Don't put sensor in water.

Typical Humidity Curve

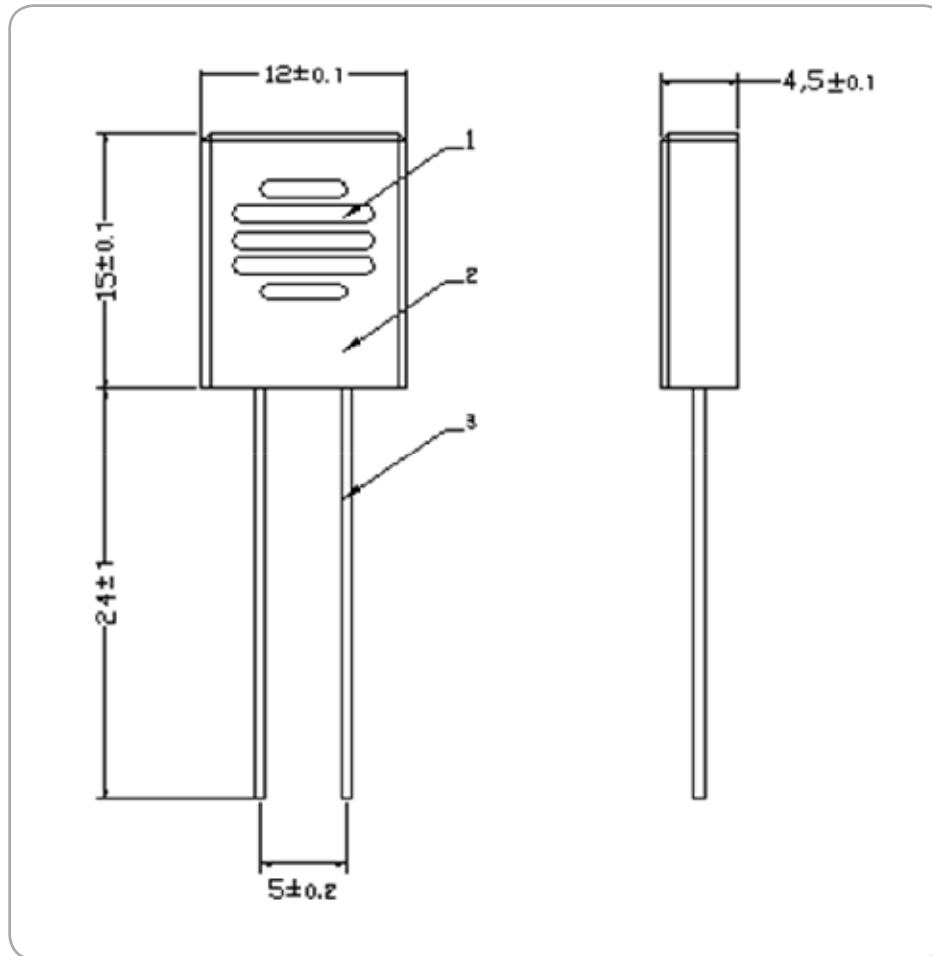


| °C | Relative Humidity (%RH) | | | | | | |
|----|-------------------------|-----|-----|----|-----|-----|-----|
| | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
| 5 | 3900 | 870 | 230 | 80 | 32 | 14 | 6.7 |
| 15 | 1610 | 410 | 115 | 42 | 18 | 8.0 | 4.1 |
| 25 | 840 | 210 | 60 | 23 | 10 | 4.7 | 2.4 |
| 35 | 600 | 140 | 45 | 17 | 7.8 | 3.7 | 1.9 |
| 45 | 370 | 95 | 30 | 12 | 5.5 | 2.6 | 1.4 |

Typical Response Characteristics



Dimension Drawings (unit:mm)



| No | Part Name | Material |
|----|-----------|-----------------------------------------------------|
| 1 | Filter | |
| 2 | Case | ABS (Color: Deep Blue) |
| 3 | Lead Wire | Sn Plated Cu wire, 0.6 mm (Cu: Sn = 99.97: 0.03) |