

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 $\Omega$  ( 25°C, 50%RH)

## Tolerance on Impedance Value

60  $\pm$ 30 k $\Omega$

## 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.)

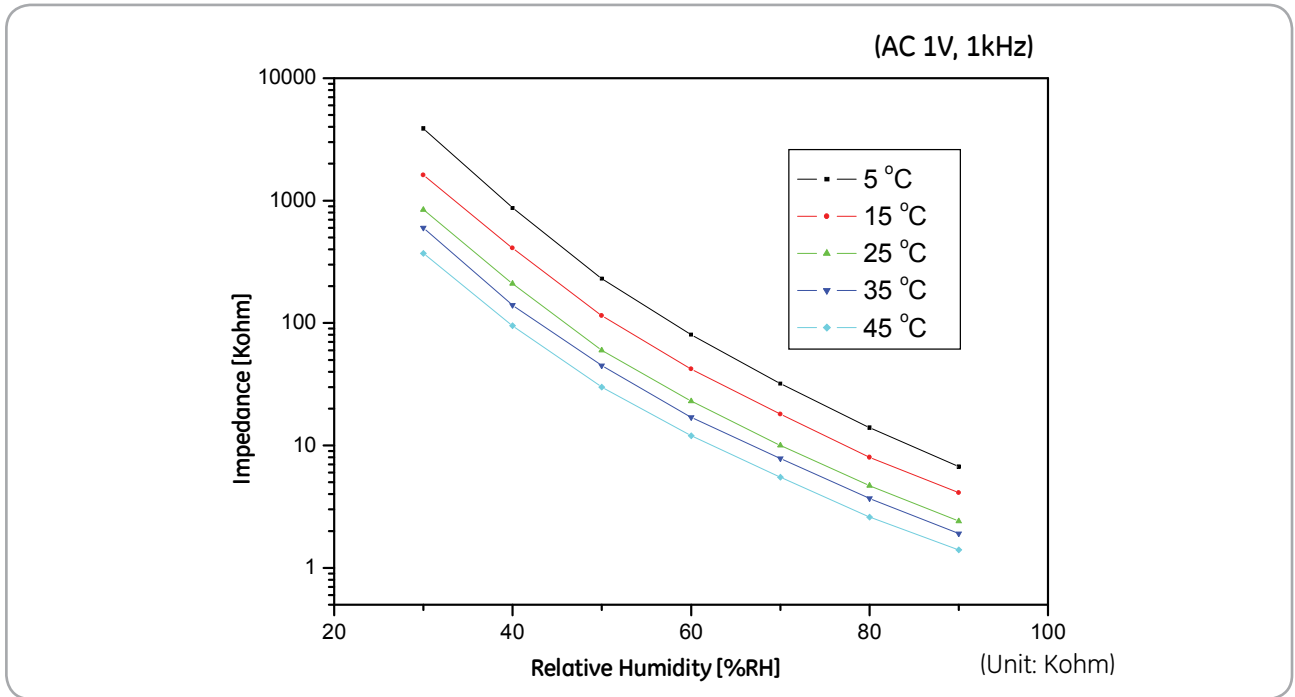
### Heat Cycle Test

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

## Notes

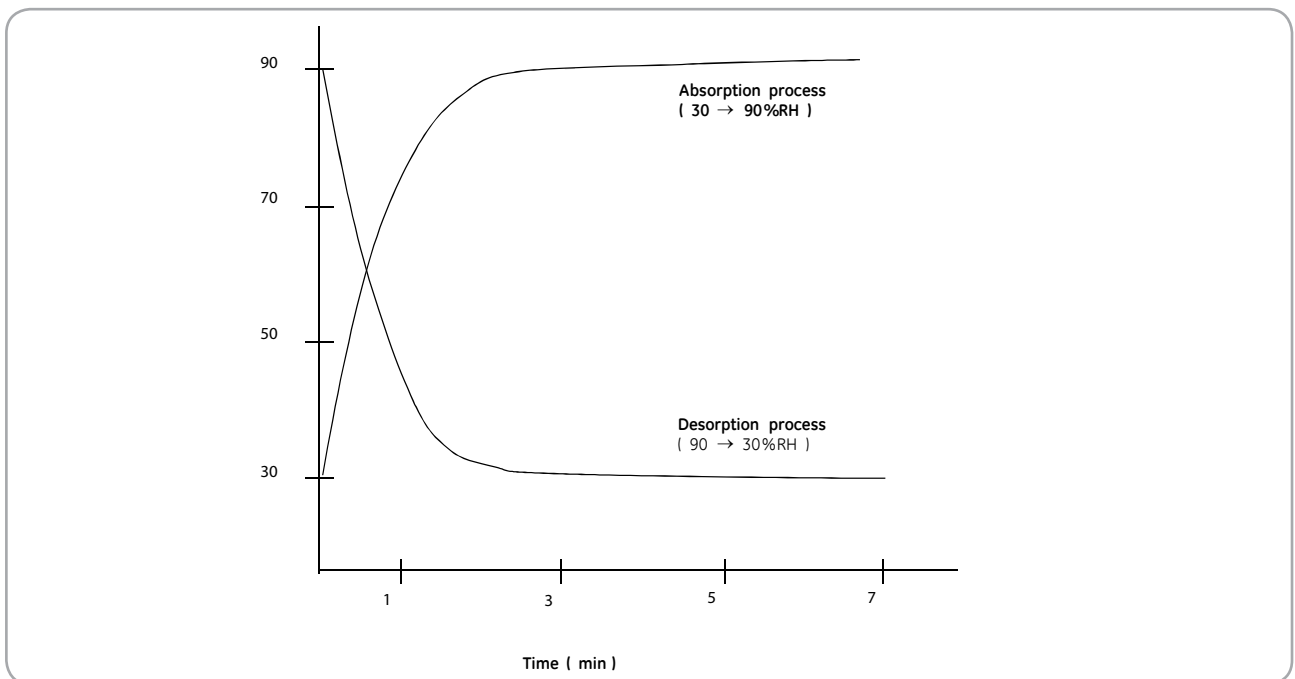
1. Don't apply any direct current to the sensor.
2. Don't touch the film and the surface of the sensor.
3. In use and stock, freezing, dust, mist, oil, alcohol, corrosive gases or any other dirty/anomalous ambient may cause degradation of the sensor's characteristics.
4. Protect the sensor film from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

# Typical Humidity Curve

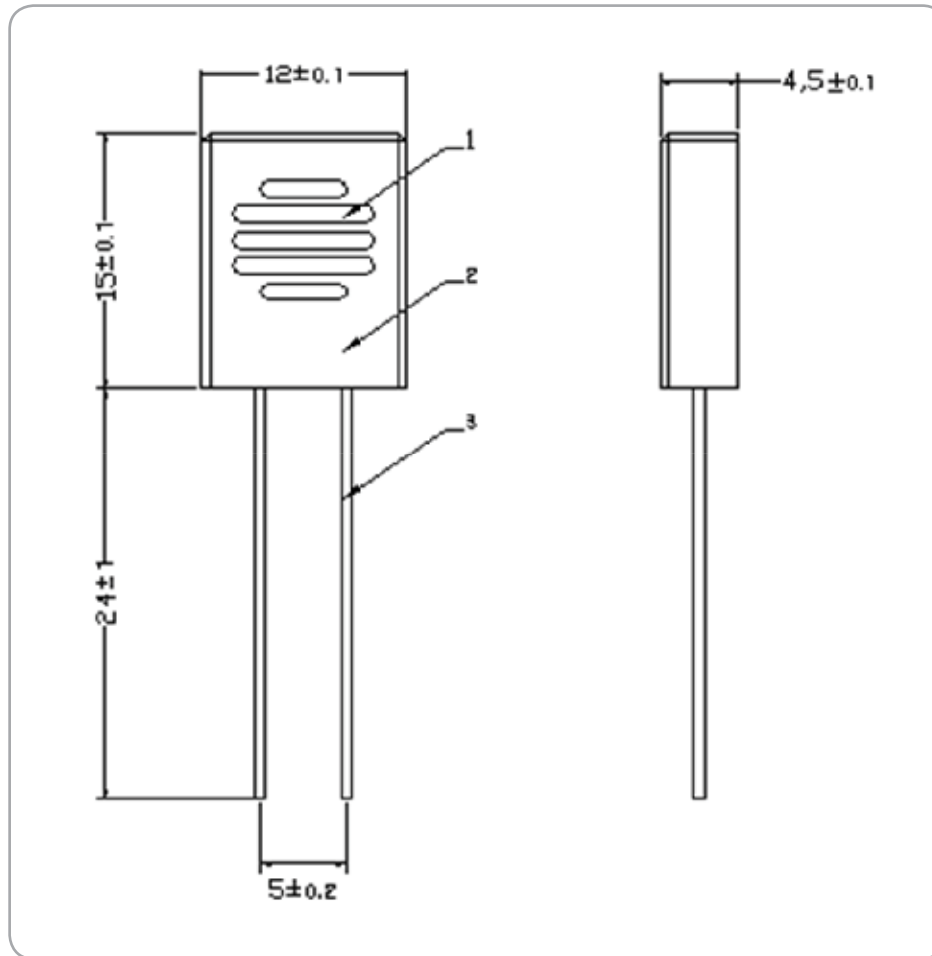


°C	Relative Humidity (%RH)						
	30	40	50	60	70	80	90
5	3900	870	230	80	32	14	6.7
15	1610	410	115	42	18	8.0	4.1
25	840	210	60	23	10	4.7	2.4
35	600	140	45	17	7.8	3.7	1.9
45	370	95	30	12	5.5	2.6	1.4

# 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)