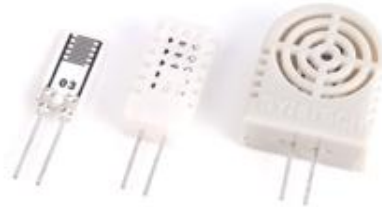


# SYH-2R

## Resistive Humidity Sensor

### Features

- ♦ Wide range of applications
- ♦ Excellent Reliability
- ♦ Water proof
- ♦ RoHS Compliant
- ♦ Interchangability



### Product Summary

Industrial grade resistance type humidity sensor: SYH-2R offers cost effective and convenient humidity measurement.

While maintaining the attractive features such as no-calibration requirement and high interchangeability of resistive type humidity sensor: SYH-1, SYH-2R widens the scope of applications to home appliances, HVAC, and automobiles.

Coated with patented polymer, SYH-2R can be used in

demanding environments (-20°C~85°C) with frequent condensing and chemical vapors.

SYH-2R can be directly connected to  $\mu$ -com with ADC or RFC converting resistance changes to either voltage or frequency. It can also be modularized to voltage output with oscillator.

SYH-2R is field proven for many years of application by world leading brands of smart appliances, air-conditioners, and refrigerators.

### Application

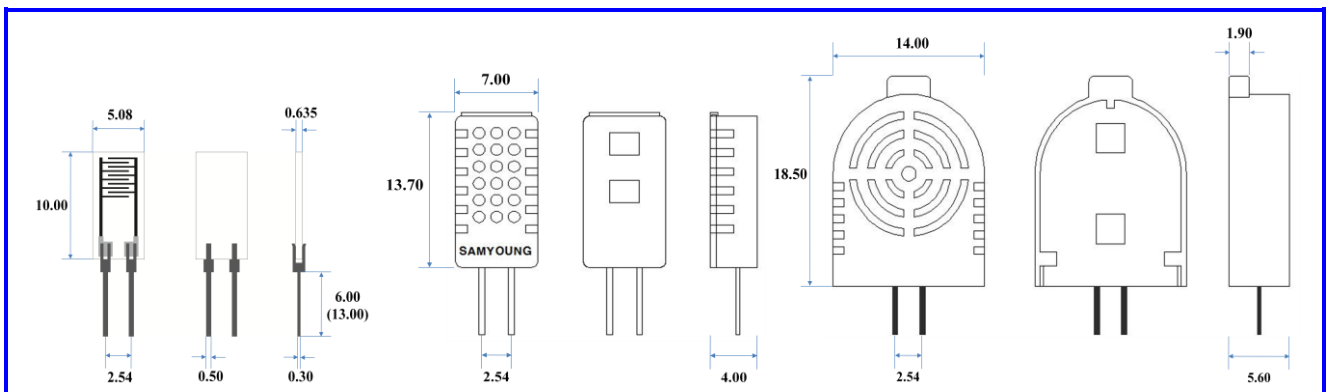
#### Energy Saving HVAC Control

Air Conditioning, Refrigeration, IAQ monitoring, Vent Fans, Home Appliances, Humi/Dehumidifiers

#### Process Control & Instrumentations

Medical Instruments, Handheld Devices, Weather Stations, Food Processing, Printers, RFID

### Dimensions



## Sensor Performance

### Electrical Characteristics

	Min	Spec	Max
Rated voltage ( $V_{RMS}$ )		1	5
Rated power (mW)		0.26	
Standard characteristics (k $\Omega$ )		33	
Operating temperature ( $^{\circ}C$ )	-20		85
Operating humidity (%RH)	10		95
Operating Frequency (kHz)	0.1		10
Storage temperature ( $^{\circ}C$ )	-40		85
Storage humidity (%RH)			95
Accuracy (%RH) <sup>1</sup>	-3		3
Hysteresis (%RH)	-2		2
Response time ( $T_{80}$ , sec.) <sup>2</sup>			45
Temperature coefficient (%RH/ $^{\circ}C$ )		-0.5	

1. Accuracies measured at 25 $^{\circ}C$ , 60%RH, 1.0V<sub>RMS</sub>, 1kHz
2. Measured at 25 $^{\circ}C$ , 1m/sec airflow for achieving 80% of step from 30%RH to 90%RH

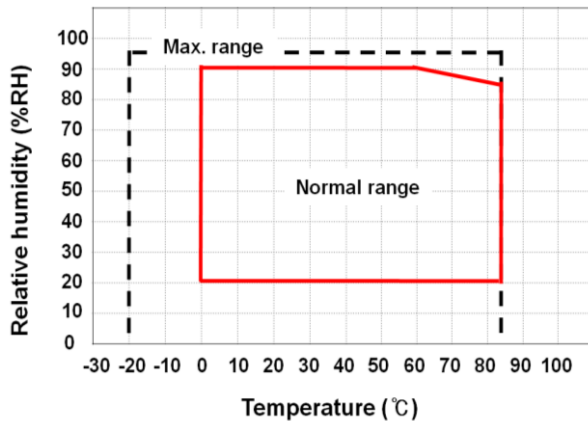
### Reliability

Test	Condition
HTS	85 $^{\circ}C$ , 1000hrs
LTS	-30 $^{\circ}C$ , 1000hrs
THB	85 $^{\circ}C$ , 85%RH, 1000hrs, Bias
HC	30 $\leftrightarrow$ 90%RH, 25 $^{\circ}C$ , 100 times
TC	-30 $\leftrightarrow$ 85 $^{\circ}C$ , 100 times
Organic solvent	Benzene, Xylene, Toluene, 300hrs
M/C(drop)	100cm drop, 3 times
Vibration	X-Y-Z, 10~55Hz, 2hrs
Soldering heat	260 $\pm$ 5 $^{\circ}C$ , 3 sec.
Tensile	500g(4.9N), 10 sec.

#### ※ Pass Criteria

1. The Resistance Characteristics change from the initial value of each test sample should be less than  $\pm 5\%$  RH at 25 $^{\circ}C$ , 60%RH
2. No extraordinary changes of the sensor i.e. electrode migration, polymer evaporation, color, breakdown, crack etc.

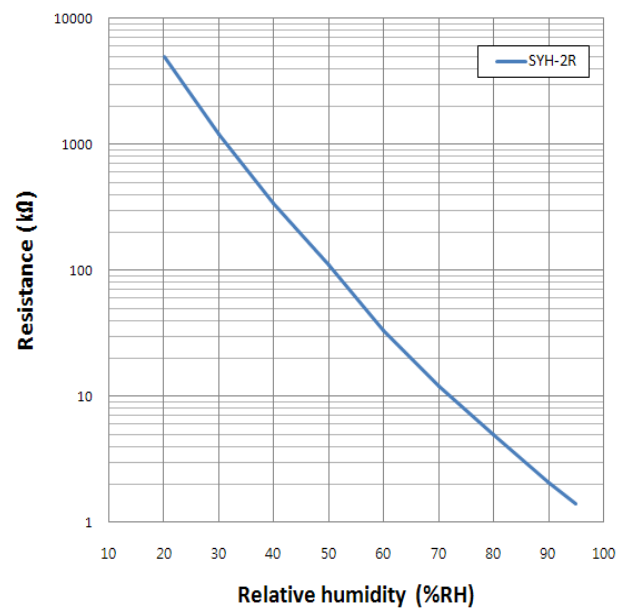
### Operating Temperature-Humidity Range



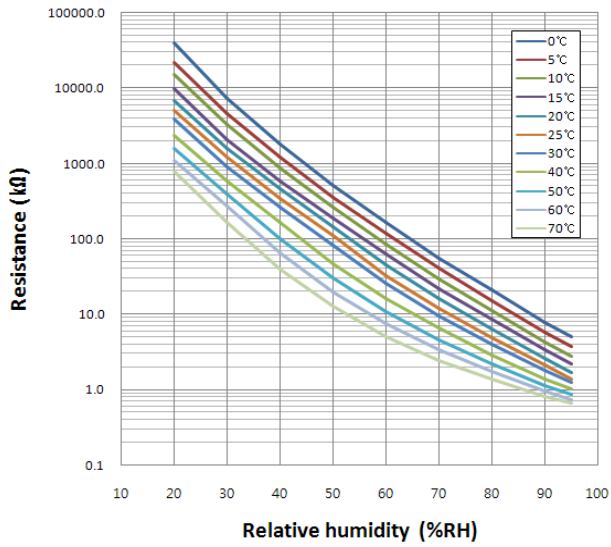
### Product Measuring System

LCR meter	HIOKI 3532-50
Chamber	TABAI ESPEC PDR-3KP
Hygrometer	E+E EE31

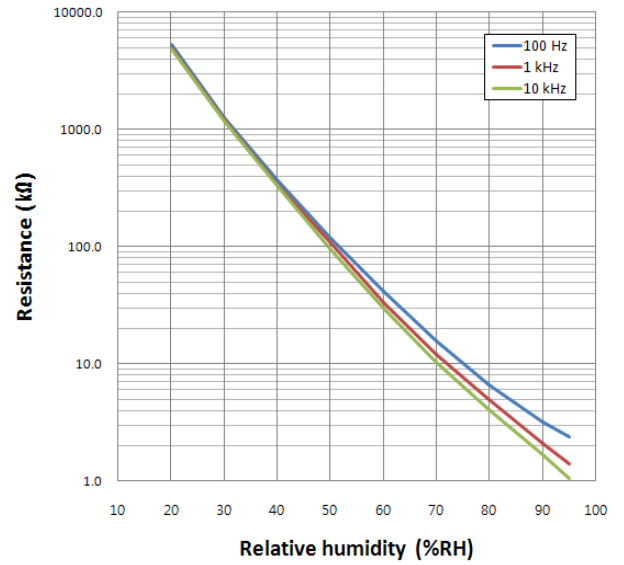
### Standard Characteristics



## Temperature Characteristics



## Frequency Characteristics



## Packaging

**Tray** : 50pcs (PET, 190×140×6 mm)/ SYH-2RNC

**Vinyl Pouch** : 100pcs / SYH-2RC

### Inlet Box:

SYH-2RNC : 200×145×75 mm/ 20 trays/ 0.62Kg(approx)

SYH-2RC : 280×280×55mm/ 10 pouches/ 1.2Kg(approx)

### Outlet Box (650×360×310 mm)

SYH-2RNC : 23 Inlet boxes / 14.5Kg (approx)

SYH-2RC : 12 Inlet boxes / 14.5Kg (approx)