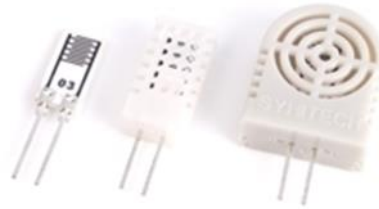


# SYH-2R

Resistive Humidity Sensor

## Features

- ◆ Wide range of applications
- ◆ Excellent Reliability
- ◆ Water proof
- ◆ RoHS Compliant
- ◆ Interchangeability



## Product Summary

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-2R widens the scope of applications to home appliances, HVAC, and automotive.

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

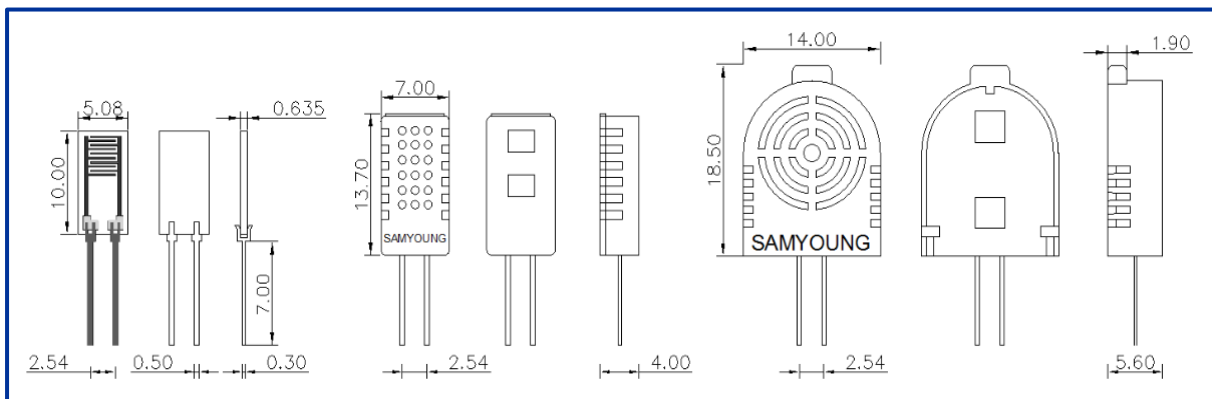
### Energy Saving HVAC Control

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



\* The tolerance is in compliance with control standard of supplier.

## 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 ( $^{\circ}C$ )	-20		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

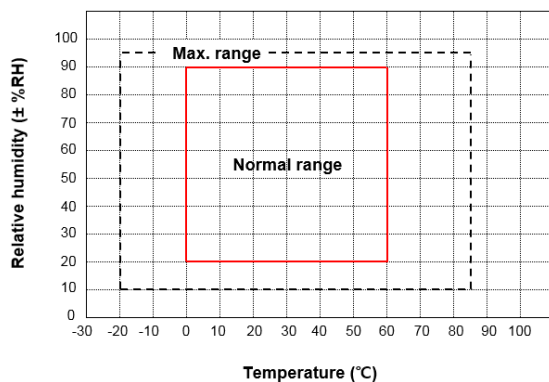
### Reliability

Test	Condition
HTS	85 $^{\circ}C$ , 1,000 hrs
LTS	-20 $^{\circ}C$ , 1,000 hrs
THB	85 $^{\circ}C$ , 85%RH, 1,000 hrs, Bias
HC	30 $\leftrightarrow$ 90%RH, 25 $^{\circ}C$ , 100 times
TC	-20 $\leftrightarrow$ 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.

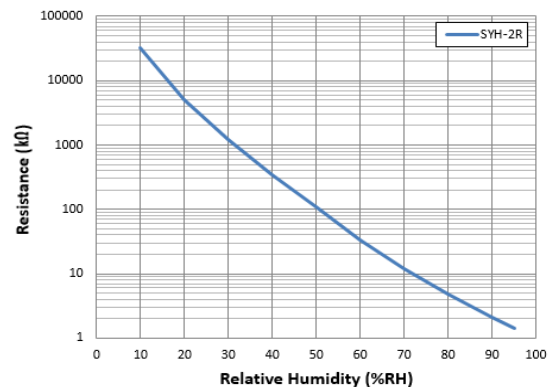
#### ※ Pass Criteria

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



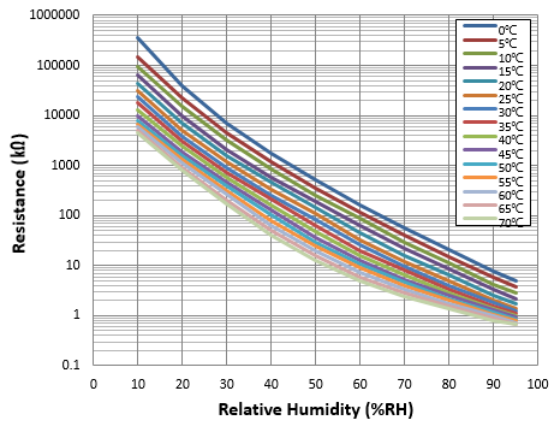
### Standard Characteristics



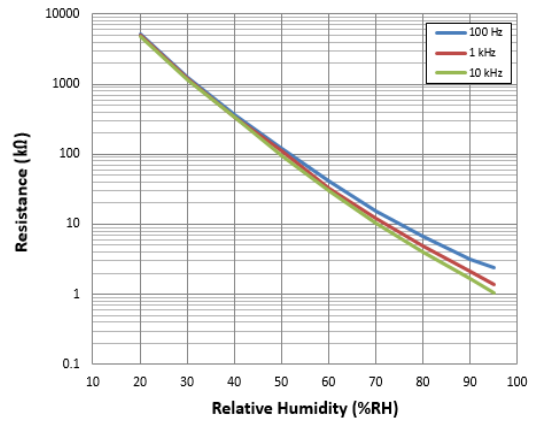
### Product Measuring System

LCR meter	HIOKI 3532-50
Chamber	PDR-3J
Hygrometer	DEW MASTER

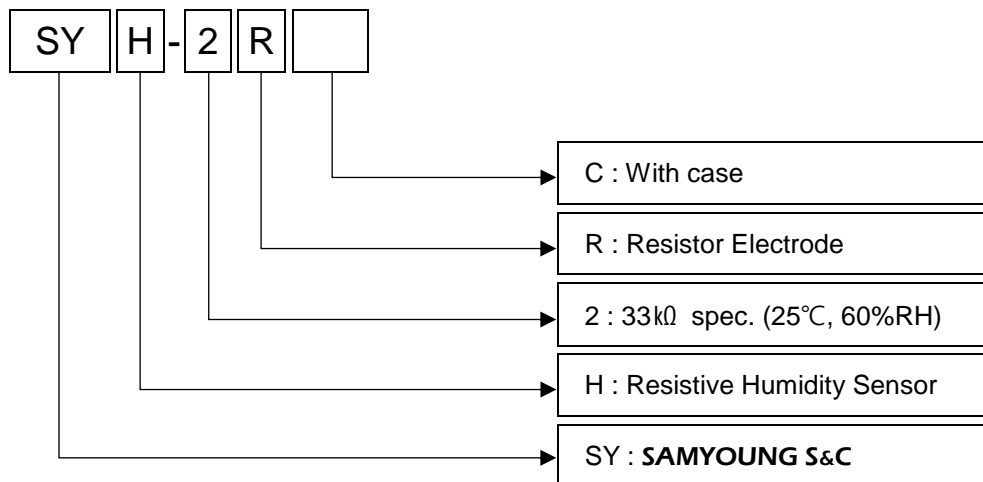
## Temperature Characteristics



## Frequency Characteristics



## Part Number



## Packaging

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

**Vinyl Pouch** : 100pcs / SYH-2R C

### Inlet Box

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

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

### Outlet Box (650×360×310mm)

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

SYH-2R C : 12 Inlet boxes / 14.5Kg (approx.)

## Revision History

Date	Version	Page(s)	Changes
	1.0		First Release
09 Sep 2016	2.0	ALL	Modified dimension, reliability chart, and P/N instruction
16 Dec 2016	2.1	1	Lead pin tolerance

## **Headquarters**

Transfer Multisort Elektronik Sp. z o.o.  
u. Ustronna 41  
93-350, Łódź, Polska  
dso@tme.pl  
+48 42 6455 444

## **Export:**

export@tme.pl  
+48 42 6455 555

## **Subsidiaries:**

United Kingdom, Birmingham, +44 167 579 00 26, office@tme-uk.eu  
Hungary, Budapest, +36 1 220 67 56, tme@tme.hu  
Slovakia, Žilina, +421 41 500 20 47, tme@tme.sk  
Czech Republic, Ostrava, +420 59 663 31 05, tme@tme.cz  
Romania, Timișoara, +40 35 646 74 01, tme@tme.ro  
Germany, Leipzig, +49 341 212 03 40, tme@tme-germany.de  
Spain, Madrid, +34 91 123 47 71, iberica@tme.eu  
Italy, Grassobbio (BG), +39 035 03 93 111, tme@tme-italia.it  
Netherlands, Eindhoven, +31 40 737 04 57, tme@tme-benelux.nl

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Board Mount Humidity Sensors](#) category:*

*Click to view products by [SAMYOUNG](#) manufacturer:*

Other Similar products are found below :

[HSHCAA114A](#) [SI7020-A10-IM](#) [SI7020-A20-IMR](#) [SI7023-A20-IM1R](#) [SI7021-A20-YM0](#) [SI7021-A20-IMR](#) [SI7013-A10-IM1](#) [SI7021-A20-IM1R](#) [SI7007-A20-IMR](#) [SI7021-A10-IM1](#) [LCSC-20S-B](#) [LCSC-30S-B](#) [LCSC-30S-MD](#) [LCSC-30S-ML](#) [LCSC-30S-HX](#) [LCSC-SHT30S-JCB](#) [LCSC-30S-HE](#) [LCSC-30S-HERS](#) [LCSC-30S-B-550-XDG](#) [TH30S-B](#) [CFSTM-UB3-U](#) [MGS-2-01](#) [HPP845E031R4](#) [HPP845E131R5](#) [MGS-3-01](#) [HTU21D](#) [CC2D35S-SIP](#) [CC2D33S-SIP](#) [CC2D33-SIP](#) [CC2D23S-SIP](#) [CC2D23-SIP](#) [251-10509](#) [HDC1050DMBR](#) [HIH6131-021-001](#) [HIH-4000-004](#) [HIH-4000-002](#) [HIH7120-021-001](#) [HIH6130-021-001](#) [SI2144-A20-GMR](#) [SI5332DC09118-GM1](#) [HIH-4031-001S](#) [SHT35-DIS-F2.5kS](#) [HIH-4020-003](#) [HIH-4031-003S](#) [SHT30-DIS-F2.5kS](#) [HDC2010YPAR](#) [HDC2010YPAT](#) [HIH-4030-003S](#) [HIH-4030-001S](#) [SI7006-A20-IMR](#)