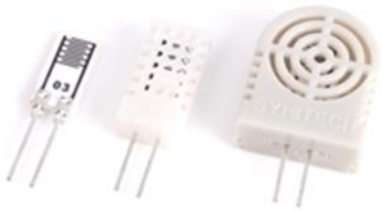
SYH-2R

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 µ-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

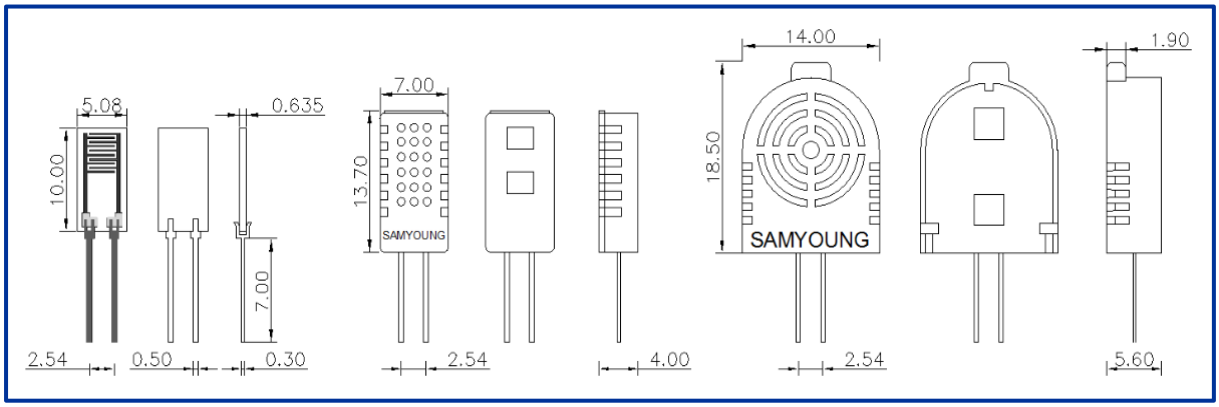
Energy Saving HVAC Control

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 (㎽)		0.26	
Standard characteristics (kΩ)		33	
Operating temperature (℃)	-20		85
Operating humidity (%RH)	10		95
Operating Frequency (kHz)	0.1		10
Storage temperature (℃)	-20		85
Storage humidity (%RH)			95
Accuracy (%RH) [1]	-3		3
Hysteresis (%RH)	-2		2
Response time (T_{80}, sec.) [2]			45
Temperature coefficient (%RH/℃)		-0.5	

1. Accuracies measured at 25℃, 60%RH, 1.0V_{RMS}, 1kHz
2. Measured at 25℃, 1m/sec airflow for achieving 80% of step from 30%RH to 90%RH

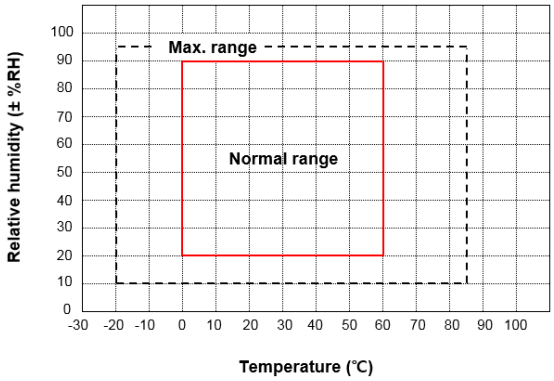
Reliability

Test	Condition
HTS	85℃, 1,000 hrs
LTS	-20℃, 1,000 hrs
THB	85℃, 85%RH,1,000 hrs, Bias
HC	30↔90%RH, 25℃, 100 times
TC	-20↔85℃, 100 times
Organic solvent	Benzene, Xylene, Toluene, 300hrs
M/C(drop)	100㎝ drop, 3 times
Vibration	X-Y-Z, 10~55Hz, 2hrs
Soldering heat	260±5℃, 3 sec.
Tensile	500g(4.9N), 10 sec.

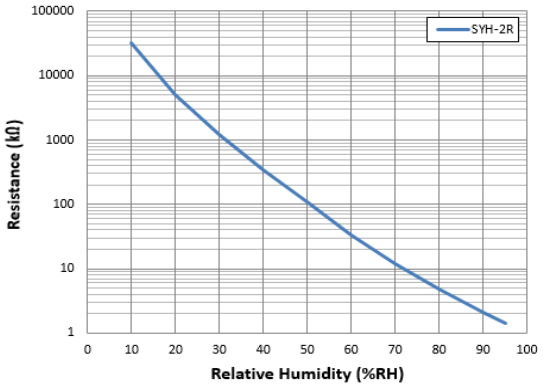
※ Pass Criteria

1. The Resistance Characteristics change from the initial value of each test sample should be less than ±5%RH at 25℃, 60%RH
2. No extraordinary changes of the sensor i.e. Electrode migration, polymer evaporation, color, breakdown, crack etc.

Operating Temperature-Humidity Range



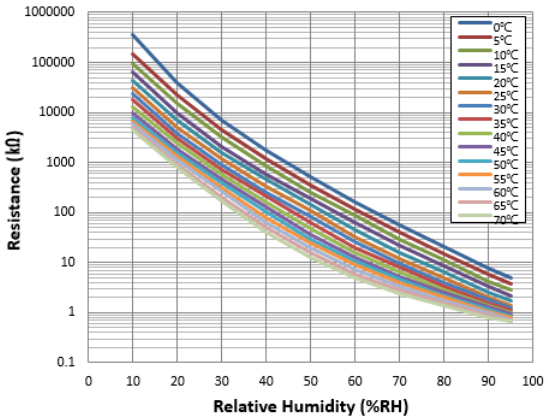
Standard Characteristics



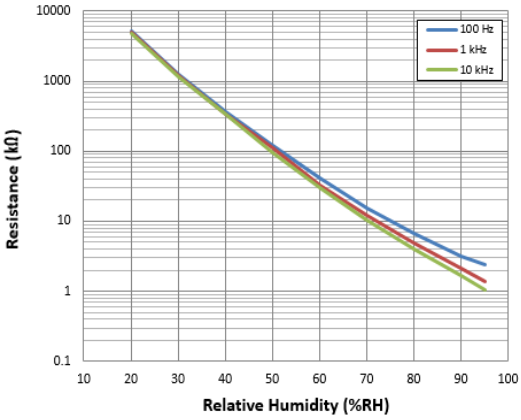
Product Measuring System

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

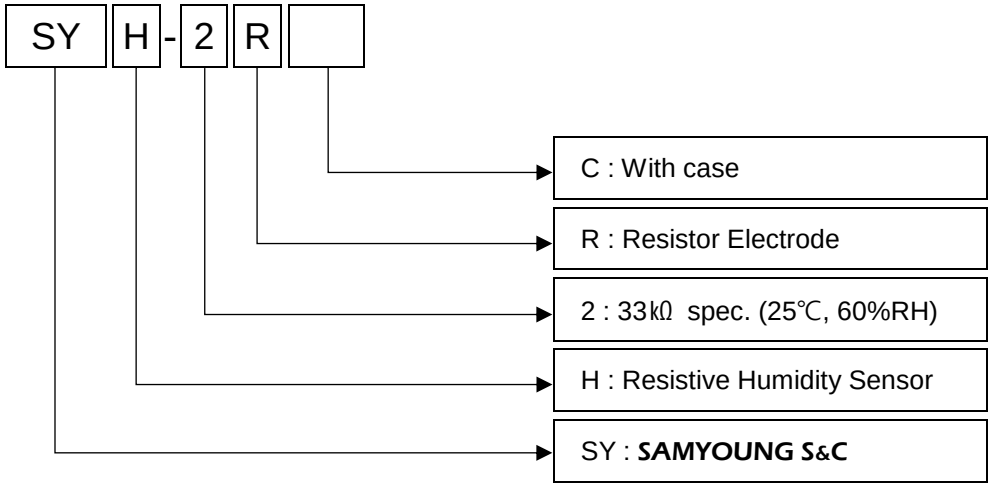
Temperature Characteristics



Frequency Characteristics



Part Number



Packaging

Tray	: 50pcs (PET, 190×140×6㎜)/ SYH-2R
Vinyl Pouch	: 100pcs / SYH-2R C
Inlet Box	
SYH-2R	: 200×145×75㎜ / 20 trays / 0.62Kg(approx.)
SYH-2R C	: 280×280×55㎜ / 10 pouches / 1.2Kg(approx.)
Outlet Box	(650×360×310㎜)
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

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