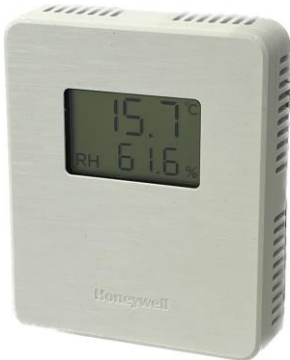


HSH-R series

Room Temp. & Relative Humidity Sensors

Honeywell HSH-R series room temperature & relative humidity sensors are applied to measure the room air temperature and relative humidity of HVAC system.

The HSH-R series room temperature & relative humidity sensors have a variety of control signal outputs and can be compatible with a variety of automatic control systems.



Basic Parameters

Measuring Temp. Range		-10°C to 60 °C
Working Environment		-15°C to 60°C, 0 to 95%RH (Non condensation)
Humidity Accuracy @ 25°C and 24VDC	2%	20% to 80%: ±2%, 0 to 20% and 80% to 95% : ±3%
	3%	20% to 80%: ±3%, 0 to 20% and 80% to 95% : ±5%
	5%	20% to 80%: ±5%, 0 to 20% and 80% to 95% : ±9%
Power Supply	0-10V	24 VDC/24VAC±20%
	4-20mA	24 VDC ±20%
Output Load		0-10V output: ≥ 10K Ohms 4-20mA output: ≤500 Ohms
Current Consumption		≤70 mA
Response Time		Temperature: ≤ 7 Minutes Humidity: ≤ 45 Seconds
Humidity Stability		±1%RH / Year
IP Rated		IP30
Storage Environment		-30°C to 70 °C, 0 to 95%RH (Non condensation)
Housing Material		PC+ABS (Fire rating: UL94-V0)
Electromagnetic Compatibility (Applications)		EN IEC 61326-1:2021: For use in residential, commercial and light-industrial environments.
Certification		EN IEC 61326-1:2021

Order information and Technical Specification

SKU	RH Output	RH Accuracy	Temp. Output	Temp Sensor Element Type	Temp. Accuracy*	LCD Option
HSH-RM2A	4-20mA	2%	Resistance Value	10K NTC	0.3K @ 25°C	NO
HSH-RM2B	4-20mA	2%	Resistance Value	20K NTC	0.3K @ 25°C	NO
HSH-RM2P	4-20mA	2%	Resistance Value	PT1000	0.2K @ 0°C	NO
HSH-RM2M-P	4-20mA	2%	4-20mA	PT1000	0.3K @ 25°C	NO
HSH-RM2M-E	4-20mA	2%	4-20mA	Digital**	0.3K @ 25°C	NO
HSH-RM2ML-P	4-20mA	2%	4-20mA	PT1000	0.3K @ 25°C	YES
HSH-RM2ML-E	4-20mA	2%	4-20mA	Digital	0.3K @ 25°C	YES
HSH-RM3A	4-20mA	3%	Resistance Value	10K NTC	0.3K @ 25°C	NO
HSH-RM3B	4-20mA	3%	Resistance Value	20K NTC	0.3K @ 25°C	NO
HSH-RM3P	4-20mA	3%	Resistance Value	PT1000	0.2K @ 0°C	NO
HSH-RM3M-P	4-20mA	3%	4-20mA	PT1000	0.3K @ 25°C	NO
HSH-RM3M-E	4-20mA	3%	4-20mA	Digital	0.3K @ 25°C	NO
HSH-RM3ML-P	4-20mA	3%	4-20mA	PT1000	0.3K @ 25°C	YES
HSH-RM3ML-E	4-20mA	3%	4-20mA	Digital	0.3K @ 25°C	YES
HSH-RM5A	4-20mA	5%	Resistance Value	10K NTC	0.3K @ 25°C	NO
HSH-RM5B	4-20mA	5%	Resistance Value	20K NTC	0.3K @ 25°C	NO
HSH-RM5P	4-20mA	5%	Resistance Value	PT1000	0.2K @ 0°C	NO
HSH-RM5M-P	4-20mA	5%	4-20mA	PT1000	0.3K @ 25°C	NO
HSH-RM5M-E	4-20mA	5%	4-20mA	Digital	0.3K @ 25°C	NO
HSH-RM5ML-P	4-20mA	5%	4-20mA	PT1000	0.3K @ 25°C	YES
HSH-RM5ML-E	4-20mA	5%	4-20mA	Digital	0.3K @ 25°C	YES

* 1. For the passive output type sensors, the temperature accuracy is the sensing element temperature accuracy. For the current and voltage signal output type sensors, the temperature accuracy is the transmitter accuracy when the power supply is 24VDC.

* 2. The temperature accuracy in the table above is the accuracy of the specified temperature point.

** Temperature sensor element type is **Digital** refers to the sensor type is PN junction type digital temperature sensing element, **Digital** is for short.

SKU	RH Output	RH Accuracy	Temp. Output	Temp Sensor Element Type	Temp. Accuracy*	LCD Option
HSH-RV2A	0-10V	2%	Resistance Value	10K NTC	0.3K @ 25°C	NO
HSH-RV2B	0-10V	2%	Resistance Value	20K NTC	0.3K @ 25°C	NO
HSH-RV2P	0-10V	2%	Resistance Value	PT1000	0.2K @ 0°C	NO
HSH-RV2V-P	0-10V	2%	0-10V	PT1000	0.3K @ 25°C	NO
HSH-RV2V-E	0-10V	2%	0-10V	Digital**	0.3K @ 25°C	NO
HSH-RV2VL-P	0-10V	2%	0-10V	PT1000	0.3K @ 25°C	YES
HSH-RV2VL-E	0-10V	2%	0-10V	Digital	0.3K @ 25°C	YES
HSH-RV3A	0-10V	3%	Resistance Value	10K NTC	0.3K @ 25°C	NO
HSH-RV3B	0-10V	3%	Resistance Value	20K NTC	0.3K @ 25°C	NO
HSH-RV3P	0-10V	3%	Resistance Value	PT1000	0.2K @ 0°C	NO
HSH-RV3V-P	0-10V	3%	0-10V	PT1000	0.3K @ 25°C	NO
HSH-RV3V-E	0-10V	3%	0-10V	Digital	0.3K @ 25°C	NO
HSH-RV3VL-P	0-10V	3%	0-10V	PT1000	0.3K @ 25°C	YES
HSH-RV3VL-E	0-10V	3%	0-10V	Digital	0.3K @ 25°C	YES
HSH-RV5A	0-10V	5%	Resistance Value	10K NTC	0.3K @ 25°C	NO
HSH-RV5B	0-10V	5%	Resistance Value	20K NTC	0.3K @ 25°C	NO
HSH-RV5P	0-10V	5%	Resistance Value	PT1000	0.2K @ 0°C	NO
HSH-RV5V-P	0-10V	5%	0-10V	PT1000	0.3K @ 25°C	NO
HSH-RV5V-E	0-10V	5%	0-10V	Digital	0.3K @ 25°C	NO
HSH-RV5VL-P	0-10V	5%	0-10V	PT1000	0.3K @ 25°C	YES
HSH-RV5VL-E	0-10V	5%	0-10V	Digital	0.3K @ 25°C	YES

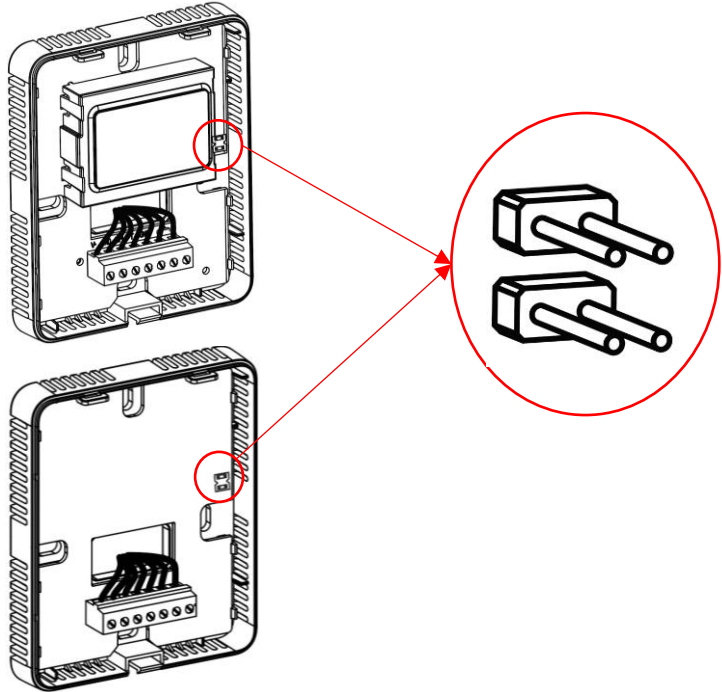
* 1. For the passive output type sensors, the temperature accuracy is the sensing element temperature accuracy. For the current and voltage signal output type sensors, the temperature accuracy is the transmitter accuracy when the power supply is 24VDC.

* 2. The temperature accuracy in the table above is the accuracy of the specified temperature point.

** Temperature sensor element type is **Digital** refers to the sensor type is PN junction type digital temperature sensing element, **Digital** is for short.

Temperature range setting and Wiring diagrams

1. Measure Temperature range setting (only for 0-10V and 4-20mA output)



Jumper	Temp. Range
	-10℃ to 60 ℃ (default)
	0℃ to 50 ℃
	0℃ to 40 ℃

2. Wiring Diagrams: Wiring according to the wiring diagram corresponding to the model.

SKU	SKU	SKU
HSH-RV2A	HSH-RV3A	HSH-RV5A
HSH-RV2B	HSH-RV3B	HSH-RV5B
HSH-RV2P	HSH-RV3P	HSH-RV5P

V+		24 V DC / AC
GND		电源 (-) / Power (-)
RH		相对湿度 / R.H. (0-10 V)
T		
GND		输出信号接地 Output Signal Ground
		NTC10K/NTC20K/PT1000电阻 NTC10K/NTC20K/PT1000 Resistor

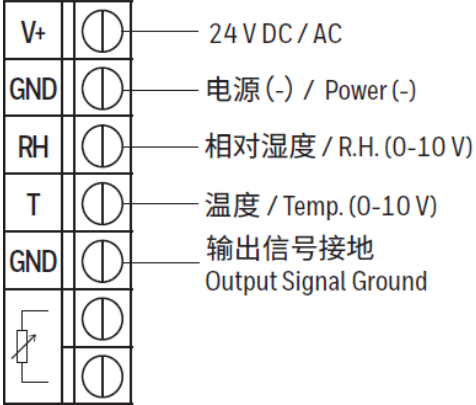
SKU	SKU	SKU
HSH-RM2A	HSH-RM3A	HSH-RM5A
HSH-RM2B	HSH-RM3B	HSH-RM5B
HSH-RM2P	HSH-RM3P	HSH-RM5P

V+		24 V DC
T		
RH		相对湿度 / R.H. (4-20 mA)
		NTC10K/NTC20K/PT1000 电阻 NTC10K/NTC20K/PT1000 Resistor

SKU	SKU
HSH-RM2M-X	HSH-RM2ML-X
HSH-RM3M-X	HSH-RM3ML-X
HSH-RM5M-X	HSH-RM5ML-X

V+		24 V DC
T		温度 / Temp. (4-20 mA)
RH		相对湿度 / R.H. (4-20 mA)

SKU	SKU
HSH-RV2V-X	HSH-RV2VL-X
HSH-RV3V-X	HSH-RV3VL-X
HSH-RV5V-X	HSH-RV5VL-X



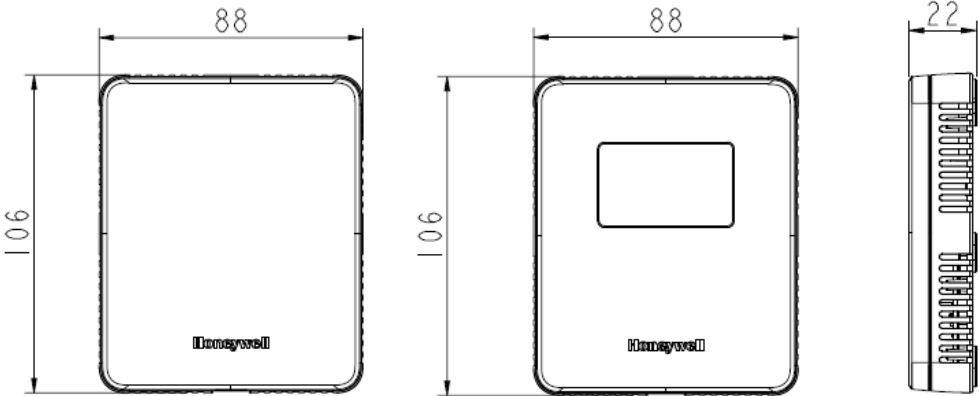
Tips:

1. Connection terminals are suitable for AWG15 to AWG22.
2. Due to the influence of wire resistance, the length of the cable between the sensor and the controller will cause the temperature drift. The details are as follows.

Wire gauge	permissible cable length	PT1000 Temp. drift every 10 meters cable	NTC10K / NTC20K Temperature shift
AWG 22	50m	0.272K	Negligible
AWG 20	150m	0.173K	
AWG 18	150m	0.109K	
AWG 17	150m	0.086K	
AWG 16	300m	0.069K	
AWG 15	300m	0.054K	

Dimension

Unit: mm



Installation and Application Instructions

1. The sensor should be installed on Inside wall (not on outside wall!) of the room to be air conditioned;; not in recesses, behind curtains, above or near heat sources, or on walls with chimneys.
2. The sensor must not be exposed to spotlights or direct solar radiation.
3. The sensor should be installed more than 1.5 meters above the ground and at least 50 cm from the next wall.
4. The humidity sensor is a very sensitive measuring device, and it is very important to choose the correct installation location and environment. It should be avoided that the sensor is installed in an environment containing volatile chemicals, strong acids, strong alkalis, detergents, etc. Certain chemicals substances and substance groups can cause contamination to the sensor, resulting in accuracy deviation, measurement value offset or permanent damage. Special attention should be paid to the following substances, but not limited to the following substances:
 - Volatile (polar) molecules, such as methanol, ethanol, acetone, isopropanol, etc.;
 - Glues, adhesives, plasticizers and other materials that may release volatile molecules

