

Model RHT-3 Temperature and Humidity Sensor



Model List	Typical Humidity Accuracy	Output Signal
RHT-30-01	± 3 %	0 V to 1 V DC
RHT-30-02R5		0 V to 2.5 V DC

Application

- Temperature and humidity control in food processing facilities
- Temperature and humidity control in greenhouses/fermentation chambers
- Temperature and humidity control in air-conditioning equipment
- Temperature and humidity control in pharmaceutical factories
- Temperature and humidity control in clean rooms
- Temperature and humidity control in museums, sample chambers, warehouses
- Temperature and humidity control for musical instruments
- Temperature and humidity control in plant factories

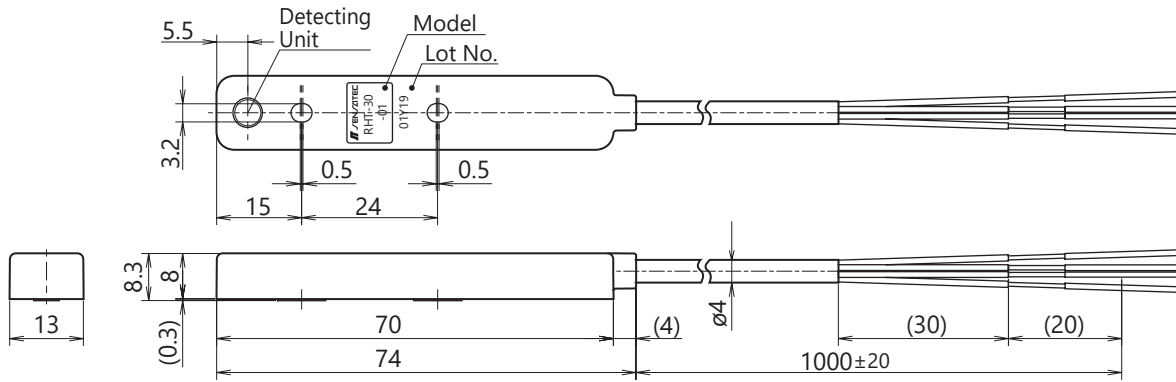
Features

- Small-sized high precision sensor.
- Can be used in a wide range of power supply voltage from 5 V DC to 24 V DC.
- Rigid protective structure assures safe use in environments exposed to dust particles or moisture.
- Easy to install using three M3 screws.
- Parallel Outputs of temperature and relative humidity measurements from each wiring.

Rating / Performance

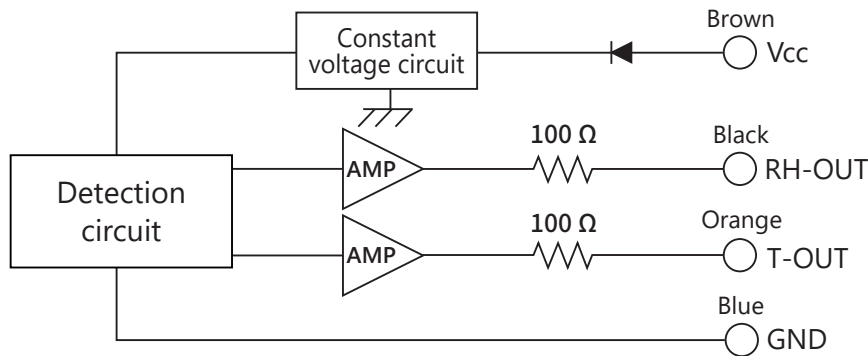
Model	RHT-30-01	RHT-30-02R5
Detection Sensor	Humidity · Temperature	
Measurable Humidity Range	0 to 100 % RH (Without dew condensation)	
Typical Humidity Accuracy	± 3 % RH at 25 °C : 10 to 90 % RH	
Humidity Response Time	30 sec	
Measured Temperature Range	-30 °C to 80 °C (Without dew condensation or freezing)	
Typical Temperature Accuracy	± 0.5 °C (At 25 °C)	
Power Voltage	5 V to 24 V DC (Operating voltage range : 4.5 V to 30 V DC)	
Current Consumption	3 mA DC or less	
Output Signal	0 V to 1 V DC	0 V to 2.5 V DC
Output Impedance	100Ω	
Load Resistance	100 kΩ or more	
Storage Temperature	-30 to 80 °C (Without dew condensation or freezing)	
Storage Humidity	95 % RH or less (Without dew condensation)	
Breakdown Voltage	500 V AC, 50/60 Hz for 1 min (Between live parts and the case)	
Insulation Resistance	50 MΩ or more, at 500 V DC megger (Between live parts and the case)	
Vibration Resistance	Durability : 10 to 55 Hz, Double amplitude : 1.5 mm in X-, Y-, and Z-direction, each 2 hours (Device not powered)	
Shock Resistance	Durability : 500 m/s ² (Approx. 50 G) in X-, Y-, and Z-direction, each 3 times (Device not powered)	
Ingress Protection	IP64	
Case Material	PC	
Cable	ø4, 4-core round cord of 0.3 mm ² and insulation 1.35 mm and 1 m in length (Oil and heat resistant)	
Weight	Approx. 33 g	

Dimensions

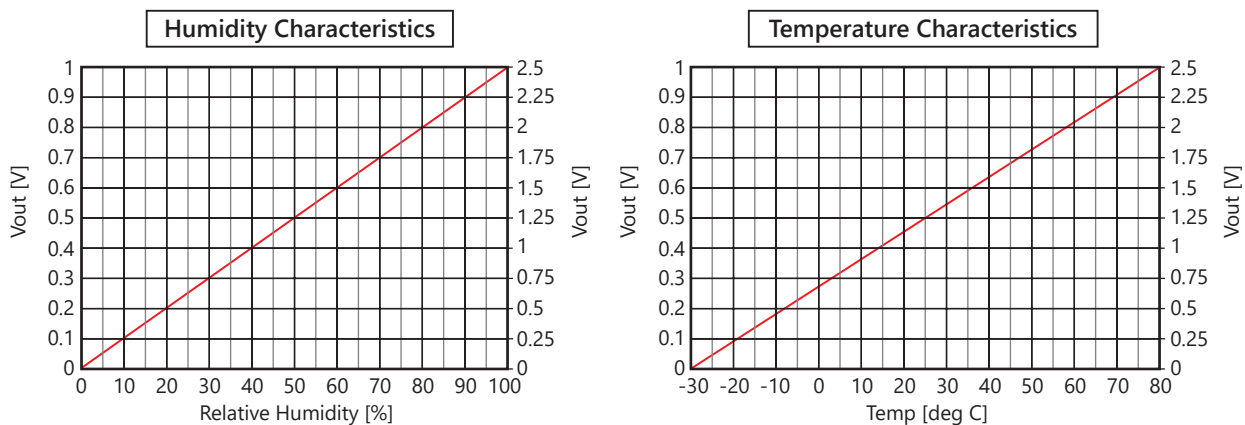


Wire Color	Signal Name	Function
Brown	Vcc	Power Supply Voltage
Black	RH-OUT	Humidity output signal
Orange	T-OUT	Temperature output signal
Blue	GND	GND

Output Circuit



Characteristics Graph (Typical Example)



Precautions During Use

- To maintain accuracy of the sensor, recommended storage is as follows:
 Temperature Range : 10 °C to 50 °C
 Humidity Range : 20 % to 60 % RH
 Do not use antistatic polyethylene bags (light blue, pink or rose pink color).
- The value of relative humidity depends strongly on temperature.
 When measuring ambient temperature/humidity, be sure that there are no components generating heat at or near to the sensor mountings.
- When turning on the power, start reading after 100 ms or more as the output signal stabilization wait time.
- Use M3 pan head screws for mounting. Be sure to use a plain washer, and ensure that the tightening torque is 0.32 N·m or less.
- Be sure not to bend the sensor cables in the vicinity of the sensor.
- For other precautions, refer to "General Precautions" for temperature/humidity sensors.

*For other detailed specifications, refer to the specification sheet of the corresponding model.