

Model RHT-2 Temperature and Humidity Sensor



Model List	Typical Humidity Accuracy	Output Signal
RHT-20A	± 3 %	4 mA to 20 mA DC
RHT-20V		1 V to 5 V DC
RHT-21A	± 2 %	4 mA to 20 mA DC
RHT-21V		1 V to 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

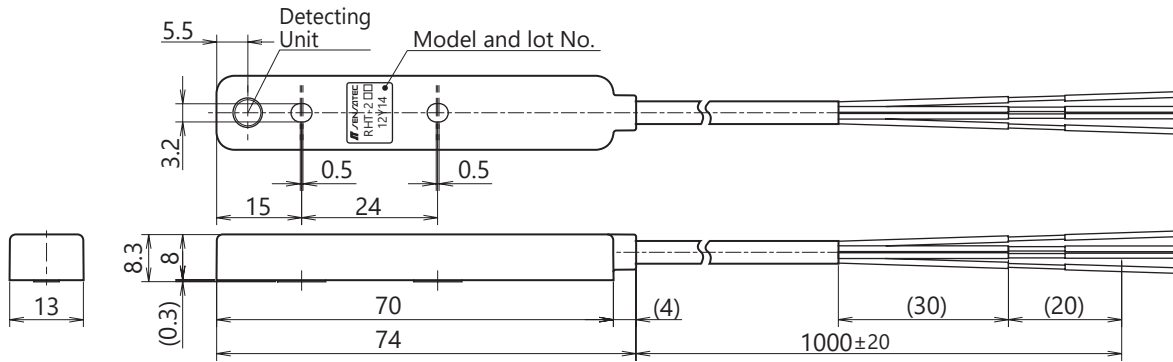
Features

- Small-sized high precision sensor
- Output of 4 mA to 20 mA DC and 1 V to 5 V DC are available for instrumentation.
- Rigid protective structure assures safe use in environments exposed to dust particles or moisture.
- Easy to install using three M3 screws.

Rating / Performance

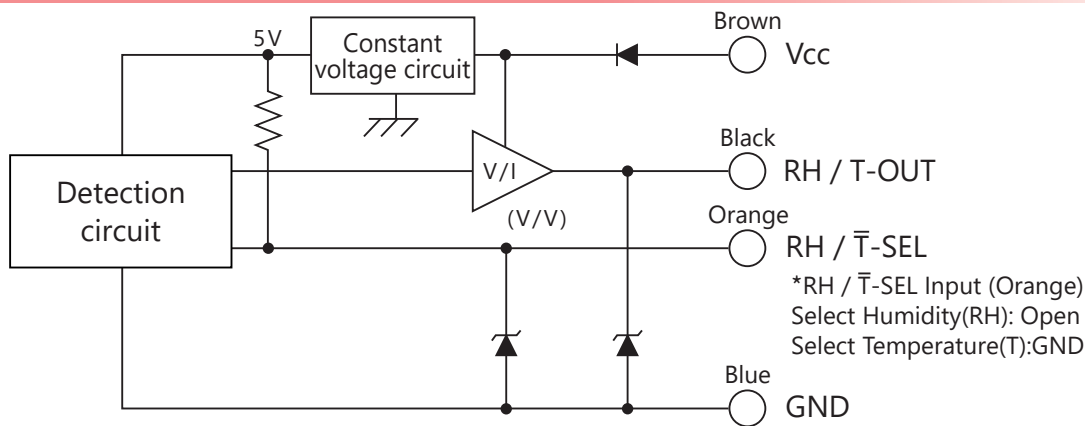
Model	RHT-20A	RHT-20V	RHT-21A	RHT-21V
Detection Sensor	Humidity / Temperature			
Measurable Humidity Range	0 to 100 % RH (Without dew condensation)			
Typical Humidity Accuracy	± 3 % RH at 25 °C : 20 to 80 % RH		± 2 % RH at 25 °C : 20 to 80 % RH	
Humidity Response Time	30 sec			
Measured Temperature Range	-30 °C to 80 °C (Without dew condensation or freezing)			
Typical Temperature Accuracy	± 0.5 °C (at 25 °C)			
Power Voltage	12 V to 24 V DC (Operating voltage range: 10 V to 30 V DC)			
Power Consumption	400 mW max		400 mW max	
Current Consumption		5 mA DC max		5 mA DC max
Output Signal	4 mA to 20 mA DC	1 V to 5 V DC	4 mA to 20 mA DC	1 V to 5 V DC
Load Resistance	300 Ω max	100 kΩ min	300 Ω max	100 kΩ min
Storage Temperature	-30 °C 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

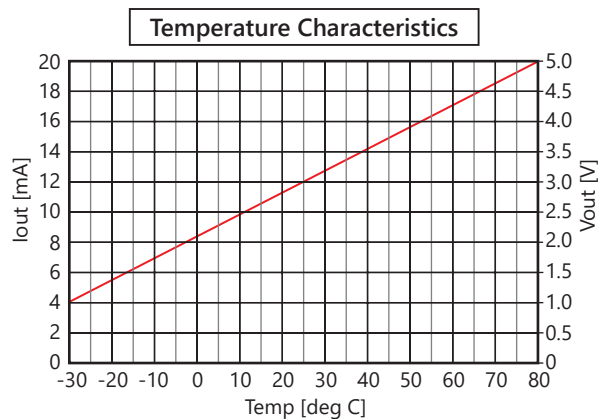
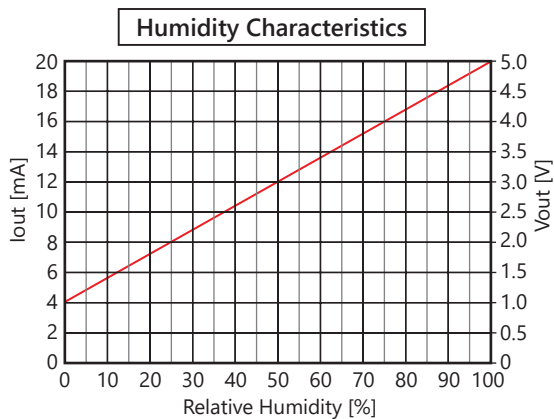


Wire Color	Signal Name	Function
Brown	Vcc	Power Supply Voltage
Black	RH/T-OUT	Output Signal
Orange	RH/ \bar{T} -SEL	RH/T Selective Input
Blue	GND	GND

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 and switching the RH/T selection input, start reading after 800 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.