

TEMPERATURE & HUMIDITY TRANSMITTER MODULE (DC Voltage & Resistance output type) RHU-207

This module has a linear DC voltage output signal of Temperature and Humidity suitable for Home appliances, such as Air Conditioner, Room Humidifier, Room Dehumidifier, Ventilator, etc.

1. COMMODITY : Humidity & Temperature Transmitter Module

2. MODEL NO. : RHU-207-()()()

3. SENSORS :

Humidity :

" SHINYEI HUMENT HPR-MQ "

Temperature :

Thermistor(NTC)

4. SPECIFICATIONS :

(1) Supply Voltage(Vin) : 5VDC $\pm 5\%$

(2) Consumption : 5mA Less (approx. 2mA)

(3) Temperature Output Signal:

Resistance output,

$R(25^{\circ}\text{C})=50\text{K}\Omega \pm 3\%$, $B(100/0^{\circ}\text{C})=3970 \pm 2\%$

(4) Humidity Output Signal :

① 0-1VDC (Output impedance : approx. 1.3K Ω)

② 0-3.3VDC (Output impedance : approx. 5K Ω)

* Output signal is linear and 0 to 100%RH Full scale

(5) Storage : -20 to +85 $^{\circ}\text{C}$, 95%RH Less

(6) Operating range : 0 to 60 $^{\circ}\text{C}$, 90%RH Less

(7) Measurement range :

Temperature : 0 to +60 $^{\circ}\text{C}$

Humidity : 30 to 90%RH

(8) Accuracy :

Temperature : $\pm 0.7^{\circ}\text{C}$ (at 25 $^{\circ}\text{C}$)

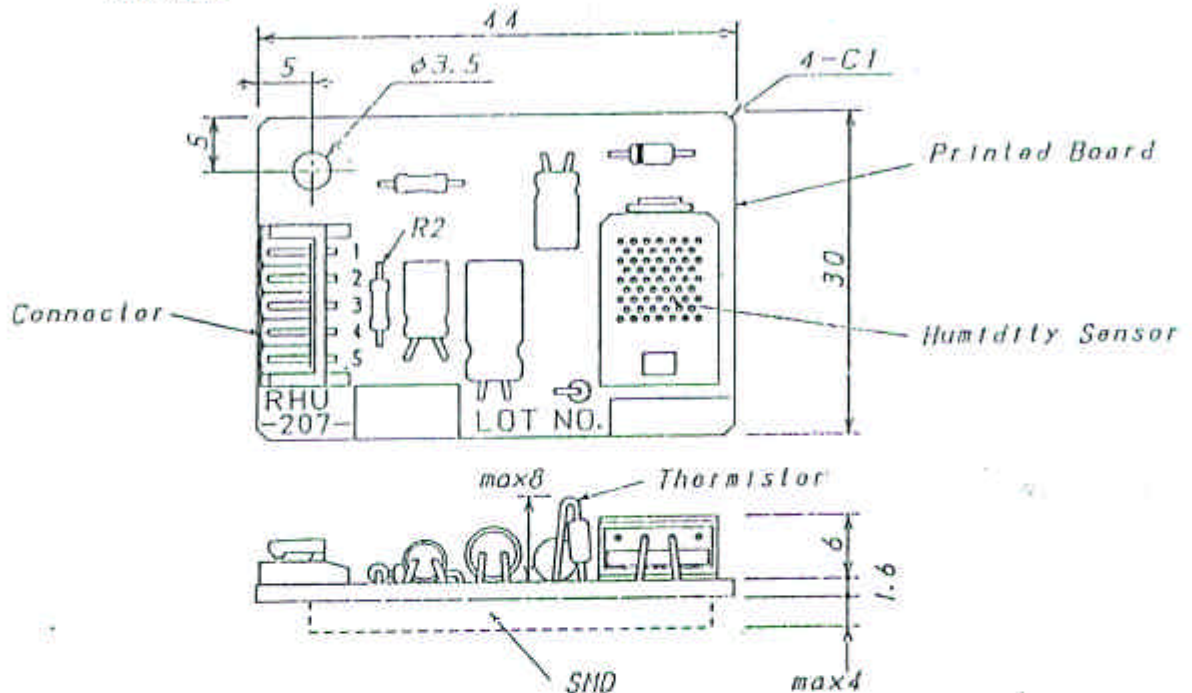
Humidity : $\pm 5\%$ RH (at 25 $^{\circ}\text{C}$, 60%RH, Vin=5.00VDC)

5. DIMENSIONS (Unit:mm)

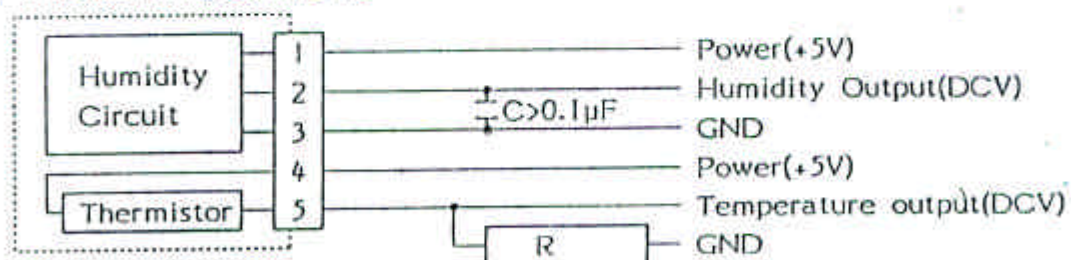
Note :

* RHU-207-5 : In case of Humidity output only, Thermistor(Temp. sensor) is not mounted and 3 pins instead of 5 pins connector is mounted.

* RHU-207-5A : In case of output "A" (0~3.3V) a Resistor R2 is not mounted.



6. TYPICAL APPLICATIONS



7. ORDER FORM

RHU-207-5 is standard model with 0~1V output only for humidity.
In case that other condition is required, please add the following to the standard RHU-207-5

RHU- 207 - 5			
Output	Nil	: 0~1V w/o Thermistor(Standard)	
	T	: 0~1V w/ Thermistor	
	A	: 0~3.3V w/o Thermistor	
	AT	: 0~3.3V w/ Thermistor	
Accuracy	5	: $\pm 5\%RH$	

■ MODEL NO

RHU-207-5 : 0~1V OUTPUT

RHU-207-5A : 0~3.3V OUTPUT

Standard type of RHU-207 has no thermistor sensor as temperature detection, but it is available if necessary.

■ SPECIFICATIONS

- (1) Power Source: DC5V $\pm$ 5% MAX
- (2) Current Consumption: Approximately 2mA (MAX 5mA)
- (3) Operating Temperature Range: 0~60°C
- (4) Operating Humidity Range: Less than 90%RH
- (5) Humidity Measurement Range: 30~90%RH
- (6) Typical Output Characteristics (at 25°C, V_{in} =5.00V)

Humidity/Output Voltage	DC 0 ~ 1 V	DC 0 ~ 3.3 V
30 % RH	300 mV	0.99 V
40 % RH	400 mV	1.32 V
50 % RH	500 mV	1.65 V
60 % RH	600 mV	1.98 V
70 % RH	700 mV	2.31 V
80 % RH	800 mV	2.64 V
90 % RH	900 mV	2.97 V
Output Impedance	Less than 5 K Ω	

- (7) Accuracy $\pm$ 5%RH (at 25°C, 60%RH)

Output Range: 550~650mV (0~1V OUTPUT)

Output Range: 1.815~2.145V (0~3.3V OUTPUT)

■ REMARKS ON USING

- (1) Avoid dewfall and drenching as much as possible.
- (2) Use in relatively clean air. Take full care of using in the atmosphere of the below gas.
 - (a) Salt
 - (b) Nonorganic gas.....Sulfur dioxide, Chlorine, Ammonium.
 - (c) Organic gasAlcohols, Glycols, Aldehydes, etc..

参考値

RHU-207 標準出力特性

温度	出力	30%RH	40%RH	50%RH	60%RH	70%RH	80%RH	90%RH
0℃	0-1V	410	440	510	600	700	790	860
	0-3.3V	1.353	1.452	1.683	1.98	2.31	2.607	2.833
5℃	0-1V	390	430	510	600	700	790	870
	0-3.3V	1.287	1.419	1.689	1.98	2.31	2.607	2.871
10℃	0-1 V	370	420	510	600	700	790	880
	0-3.3V	1.221	1.386	1.683	1.98	2.31	2.607	2.904
15℃	0-1 V	350	410	505	600	700	795	890
	0-3.3V	1.155	1.353	1.607	1.98	2.31	2.624	2.937
20℃	0-1 V	330	405	500	600	700	800	900
	0-3.3V	1.089	1.327	1.65	1.98	2.31	2.64	2.97
25℃	0-1 V	310	400	500	600	700	800	910
	0-3.3V	1.023	1.32	1.65	1.98	2.31	2.64	3.003
30℃	0-1 V	290	395	500	600	700	800	915
	0-3.3V	0.957	1.304	1.65	1.98	2.31	2.64	3.020
35℃	0-1 V	270	390	500	600	700	805	920
	0-3.3V	0.891	1.287	1.65	1.98	2.31	2.657	3.036
40℃	0-1 V	250	385	500	600	700	810	925
	0-3.3V	0.825	1.271	1.65	1.98	2.31	2.673	3.053
45℃	0-1 V	230	380	495	600	700	810	930
	0-3.3V	0.759	1.254	1.634	1.98	2.31	2.673	3.069
50℃	0-1 V	210	375	490	600	700	815	935
	0-3.3V	0.693	1.233	1.617	1.98	2.31	2.690	3.086
55℃	0-1 V	190	370	490	600	700	820	940
	0-3.3V	0.627	1.221	1.617	1.98	2.31	2.706	3.102
60℃	0-1 V	170	365	490	600	700	820	945
	0-3.3V	0.561	1.205	1.617	1.98	2.31	2.706	3.119

(単位, 0-1V出力 : mv, 0-3.3V出力 : V)

変更甲	作成	図番
変更甲	校認	図面
変更乙	照査	名称