

# HUMIDITY MODULE

JSY-HC-2200  
SENSOR MODULE

## 1. Scope of application

This specification is applied to the humidity module JSY-HC-2200 series.

## 2. Type

2-1. JSY-HC-2200 : Voltage output humidity module.

2-2. JSY-HC-2201 : Voltage output humidity module built-in thermistor.

## 3. Configuration

The configuration of the humidity module is shown on the attached **Fig.-1**.

## 4. Electrical characteristics

- 4 - 1. Humidity Sensor : JSY-HC-1
- 4 - 2. Temperature sensor : Thermistor(JSY-HC-2201)
- 4 - 3. Supply voltage(Vin) : DC 5V
- 4 - 4. Current consumption : MAX 1.3mA
- 4 - 5. Temperature coefficient : -0.25%RH/°C
- 4 - 6. Operation temperature : -40 ~ 85°C
- 4 - 7. Operation humidity : 0 ~ 100%RH (non-condensing)
- 4 - 8. Voltage output : 0.26 ~ 3.52V (at 25°C, 5~95%RH Full scale)
- 4 - 9. Response time : 15 sec.
- 4 - 10. Humidity Accuracy : ±2%RH (at 25°C, from 20%RH to 80%RH)  
See attached **Fig.-2**.
- 4 - 11. Temperature output : Resistance output (JSY-HC-2201)
- 4 - 12. Temperature Accuracy : R(25°C) = 10kΩ±1% , B value(25/50) = 3450±1%  
(JSY-HC-2201)
- 4 - 13. Storage temperature range : -40 ~ 125°C
- 4 - 14. Storage humidity range : 0 ~ 100%RH
- 4 - 15. Humidity Transmitting Range : 5 ~ 95%RH
- 4 - 16. Typical output characteristics (Reference) at 25°C, Vin = DC 5.0V

Relative Humidity	10%RH	20%RH	30%RH	40%RH	50%RH	60%RH	70%RH	80%RH	90%RH	95%RH
Output Voltage(mV)	532	1016	1432	1793	2117	2418	2712	3014	3342	3519



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Fig -2. Relative Humidity Accuracy at 25°C

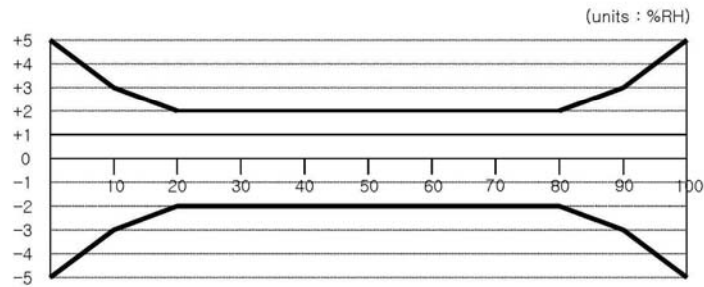
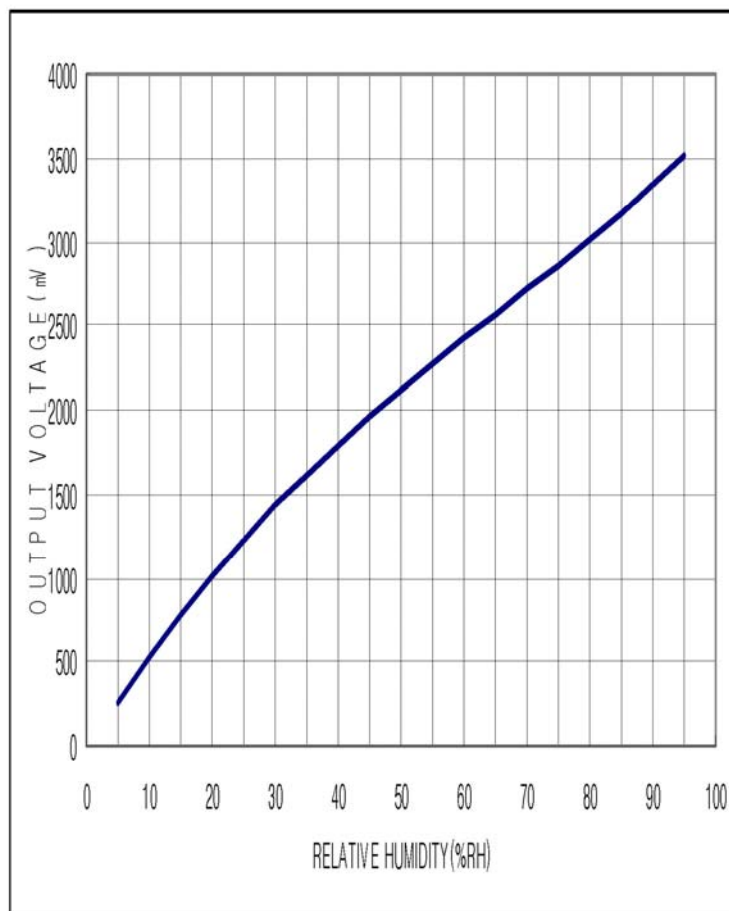


Fig. -3. Standard characteristics

TEST condition

- (1) Temperature : 25°C
- (2) Humidity : 10 ~ 95%RH



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## 5. Standard Test Condition

5 - 1. Test Condition : Voltage 5.0V DC.

Leave modules in environment under 60%RH for 30min,  
and place it in Temp/RH chamber for 15min (at 60%RH, 25℃)

5 - 2. Measurement Instrument : Humidity & Temperature Chamber, Voltage meter

## 6. Reliability

ITEM	METHOD	REQUIREMENT
Impact test	To drop module 3times at random on to a hard wooden plate from 1meter above high.	No brake, nor cracks. Should be electrically normal.
Vibration test	Vibration test in X-Y-Z axis for 20 min., 54 sweeps Under 100-200Hz frequency, 1.5mm(10-55-10Hz)	No brake, nor cracks. Should be electrically normal
High temperature exposure	To leave module in an ambient of 85℃ and 30%RH max. for 1000hours.	Within ±4%RH
High temperature operating	To leave module in an ambient of 75℃ and 30%RH max. for 75 hours	Within ±4%RH
Low temperature exposure	To leave module in an ambient of -40℃ and 30%RH max. for 72 hours	Within ±4%RH
Low temperature operating	To leave module in an ambient of -40℃ and 30%RH max. for 72 hours	Within ±4%RH
Power thermal cycle	To leave module in an ambient of -40℃( non-operating) ↔75℃(operating) for 30 cycles	Within ±4%RH
Thermal shock resistance(non-operating)	To leave module in an ambient of -40℃(1hrs)→25℃(5min)→85℃(1hrs)→25℃(5min), 6 cycles	Within ±4%RH
85/85 High-humidity/high-temperature(operating)	To leave module in an ambient of 85℃ and 85%RH for 1000 hours.	Within ±6%RH

Remark:

- 1) All standard figures are based on humidity variation under 60%RH (at 25℃)
- 2) Upon completion of all tests, module will be left over under ambient condition (22~24℃, 38~42%RH) for 240hrs.



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## 7. Inspection method

7- 1. Method: Sampling (Sampling size 10pcs/3000pcs max. per Lot)

7- 2. Inspection Items:

7-2-1. Appearance Inspection

Item	Method	Standard
Appearance	Visual	.Non rough dirt .Non sensor case attached properly .Non loose parts
Dimension	Slide calipers scales	Dimensional specification in Fig. 1

7-2-2. Characteristics Inspection

- ① Inspection method : To check voltage output of module in an ambient of 60%RH and 25℃.
- ② Standard specification : Monitored output voltage of the module should stay within the specified accuracy. Humidity : ±5%RH at 60%RH, 25℃
- ③ Inspection data: The measured voltage values are marked in inspection data.

## 8. Packaging:

8 -1. 50pcs of module are packed in a tray.

8 -2. 20sheets or 30sheets to be packed in a shipping carton box (size: 300×240×260mm)

## 9. Remarks on Using

9 - 1. Take extra caution for connection to terminals.

9 - 2. Avoid condensation and drenching.

9 - 3. Avoid application of the Humidity Sensor in the salt, inorganic gases and organic gases.

9 - 4. Do not store humidity sensor long period of time in high temperature condition.

(above 60℃)

9 - 5. Recommended storage condition

Temperature: 10 ~ 40℃ / Humidity: 60%RH MAX



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