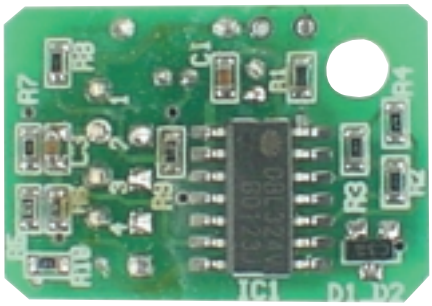
CAPTEUR D'HYGROMETRIE
SY-230

Référence : 4391-2



PRODUCT	**HUMIDITY MODULE**	**SYHITECH.COM R & D DEPT.**	**ISSUED**	**2001.04.16**
			REV.1	
			REV.2	
MODEL. NO	**SY-HS 230B SERIES**	APPROVED BY :	REV.3	
		CHECKED BY :	REV.4	
		DRAWN BY :	REV.5	

<1. Scope of application

This specification is applied to the humility sensor module type SY-HS-230B series.

2. Configuration

	Model No.	Connector Type	Thermistor	Drawing
1	SY-HS-230B	Wafer (SMAW250-03)	non	Fig.1
2	SY-HS-230BT	Wafer (SMAW250-04)	Option	Fig.1

3. Electrical characteristics

3 - 1. Sensing Element (Humidity) : Humidity Sensor (SYH-2)
3 - 2. Supply Voltage (Vin) : 5VDC ±5%
3 - 3. Current Consumption : 3mA max.
3 - 4. Operating Temperature Range : 0 ~ 60°C
3 - 5. Operating Humidity Range : 95%RH or less
3 - 6. Storage Temperature Range : -30 ~ 85°C
3 - 7. Storage Humidity Range : Less than 95%RH
3 - 8. Humidity Transmitting Range : 10 ~ 95%RH
3 - 9. Typical output characteristics (Reference) at 25°C, Vin = DC 5.0V

Humidity (%RH)	10	20	30	40	50	60	70	80	90	95
Output Voltage (V)	0.70	0.92	1.31	1.70	2.05	2.38	2.71	2.97	3.18	3.30

Standard Characteristics : See attached Fig. 2

3 - 10. Accuracy (humidity) : ± 5%RH (at 25°C, 60%RH, Vin = 5.30VDC)
Voltage Range : 2.215V to 2.545VDC

3 - 11. Temperature Dependence (Reference) : ± 5%RH (Vin = 5.0VDC, 30%RH to 80%RH
Temp. Range 10 to 40°C (based on 25°C)

3 - 12. Voltage Dependence (Reference) : ± 5%RH (Vin = 5.0VDC, 30%RH to 80%RH
Voltage Range 4.75 to 5.25 VDC (based on 25°C)

4. Standard instrument for condition

4 - 1. Test condition : Ambient temp. 25°C, Voltage 5.0VDC
To leave modules under 60%RH circumstances for 30 min, and another 15min under 60%RH

4 - 2. Measurement instrument : Constant Humidity & Temperature Chamber, Voltage meter

5. Reliability Test

NO	ITEM	METHOD	REQUIREMENT
1	Impact test	To drop module 3 times at random on to a hard wooden plate from 1 meter above high	No breakage, nor crack. Should be electrically normal
2	Vibration test	Vibration test in X-Y-Z axis for 30min. under 10 - 55Hz frequency, 1.5mm (10-55-10Hz) amplitude	Within ±5%RH
3	Heat resistance	To leave module in an ambient of 55°C and 30%RH max. for 48hours	Within ±5%RH
4	Cool resistance	To leave module in an ambient of -10°C and 30%RH max. for 48hours	Within ±5%RH
5	Humidity resistance	To leave module in an ambient of 40°C and 95%RH max. for 48hours	Within ±5%RH
6	Temperature cycle test	5cycles. 1cycle stands for leaving module under -10°C for next 1hour. Then, leave it another 1hour, and lower temp. to -10°C for next 1hour.	Within ±5%RH

Remark : 1) All standard figures are based on humidity variation under 60%RH (at 25°C)

2) Upon completion of all test, module will be left over under nominal environment and humidity for 24hours

6. Inspection Method

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

6 - 2. Inspection Items :

6 - 2-1. Appearance Inspection

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

6 - 2 -2. Characteristics Inspection

1) Inspection method : To check both output voltage of module in an ambient of 60%RH and 25°C

2) Standard specification : Monitored output voltage of module should stay within the specified humidity, ±5%RH at 60%RH, 25°C (standard : 1.870V to 2.195VDC

3) Inspection data : The measured voltage values are marked in inspection data.

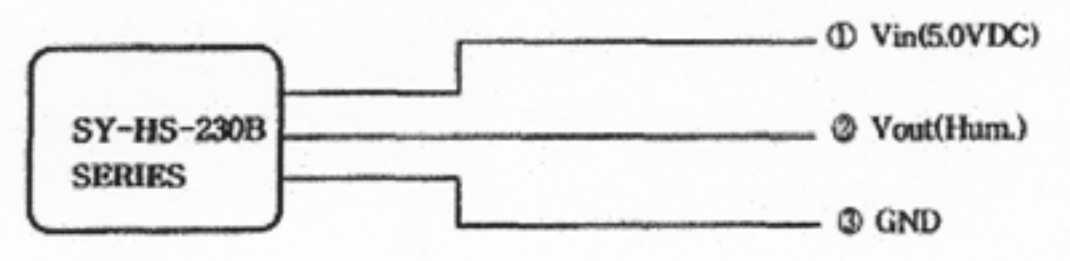
7.Packaging (prearrangement).

7 - 1. 50pcs of module to be packed in a tray

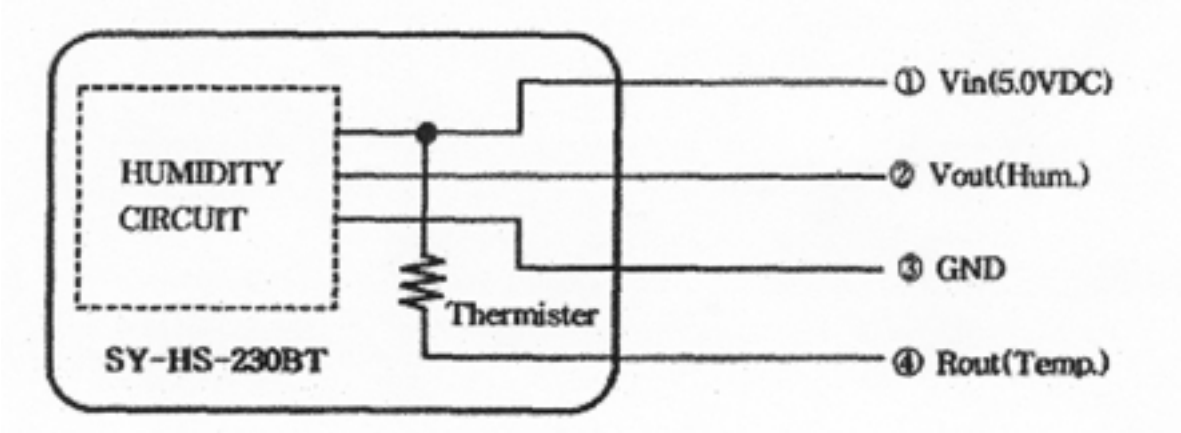
7 - 2. 20sheets or 30sheets to be packed in a shipping carton box (size : 300x240x260mm)

8. Remarks on using

(1) Application circuits of the module is shown in the following figure.



(2) Built-in thermistor circuit is shown in the following figure.



(3) Positively don't impress DC to the humility sensor.

(4) Positively don't impress DC to the humility sensor.

(5) Avoid condensation and drenching as much as possible.

(6) Using in relatively clean air.
Take full care of using in the atmosphere of the below gas.

(a) Salty air and/or nearby anionic ionizer

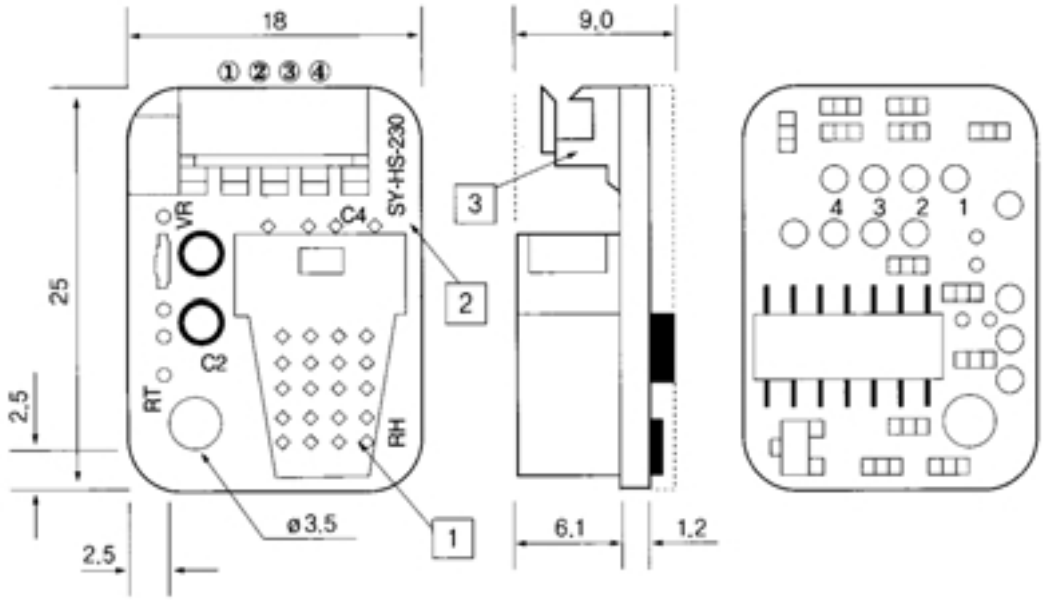
(b) Inorganic gases .... SOx, NOx, Ammonia, etc.

(c) Organic gases....Alcohols, Glycols, Aldehydes, etc.

(7) Recommendable storage condition
Temperature range : 10 ~ 40°C
Humidity range : 60%RH max.

(8) Do not store humidity sensor long period of time in an ambient 60°C due to some occasion of degradation on sensor housing case.

Fig. 1 Configuration & Parts **(UNIT : mm)**



Tolerence is ±0.5mm unless otherwise specified

MAIN PARTS :

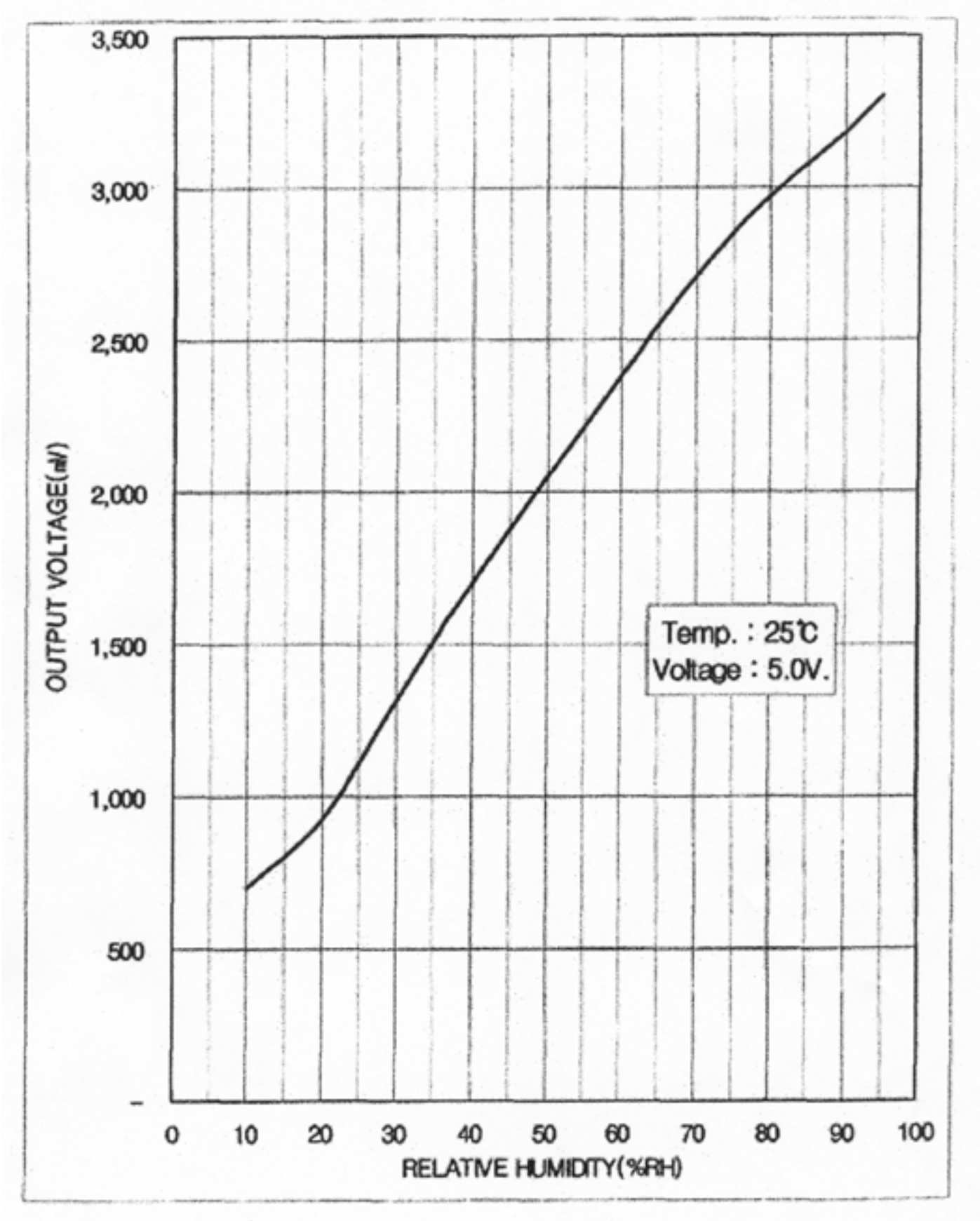
NO.	PARTS	REFERENCE
1	Humidity sensor SYH-2 Sensor case SYH-2T	Material : ABS
2	Printed board SY-HS-230	Material : Epoxy (t = 1.2mm)
3	Connector YMAW-025-03 or YMAW-025-04	YEONHO (KOREA)

Terminal Connection :

Terminal NO.	Content
1	Power source 5VDC
2	Humidity output (Voltage)
3	GND
4	Temperature output (Resistance)

Fig. 2 Relative humidity - Voltage characteristics

The relative humidity and voltage characteristics of SY-HS-230B series are shown in the following graph.



Notes

Produit importé et distribué par :

Selectronic
86 rue de CAMBRAI
59000 LILLE

TEL : 0 328 550 328 **Fax : 0 328 550 329**
SAV : 0 328 550 323 **www.selectronic.fr**

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