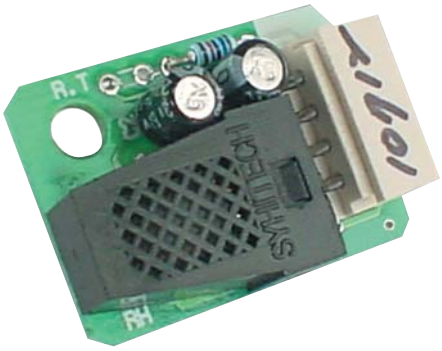
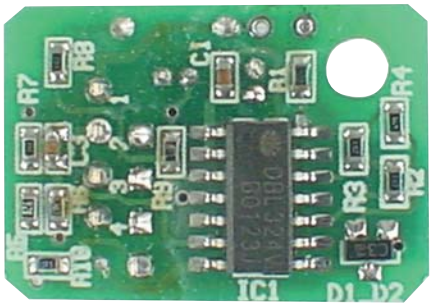
CAPTEUR D'HYGROMETRIE
SY-230

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.

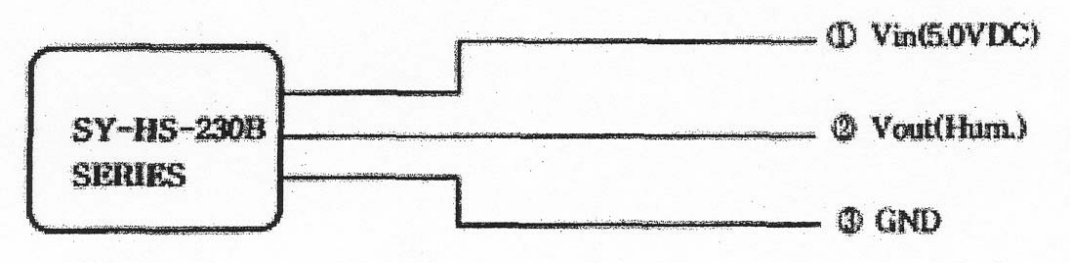
7.Packaging (prearrangement).

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

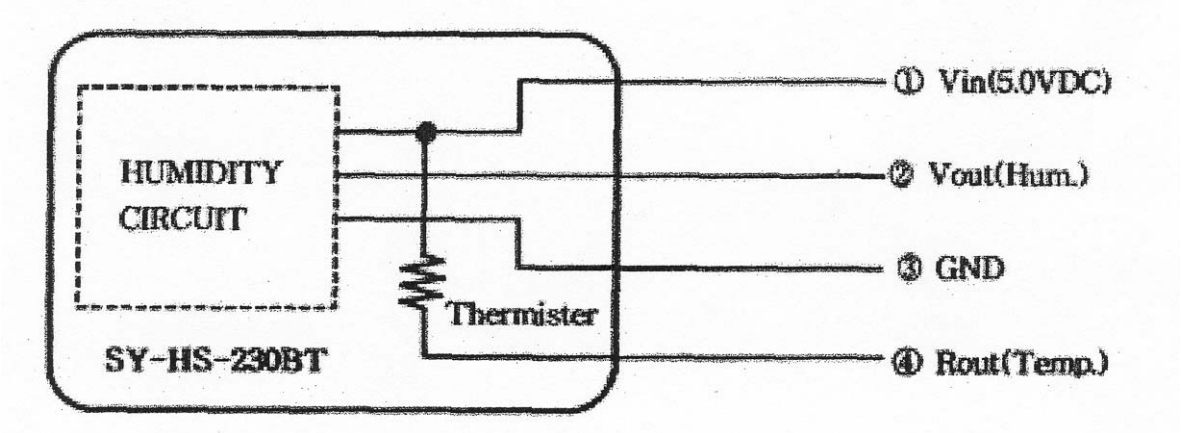
7 - 2. 20sheets or 30sheets to be packed in a shipping carton box (size : 300x240x260mm)

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.

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(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

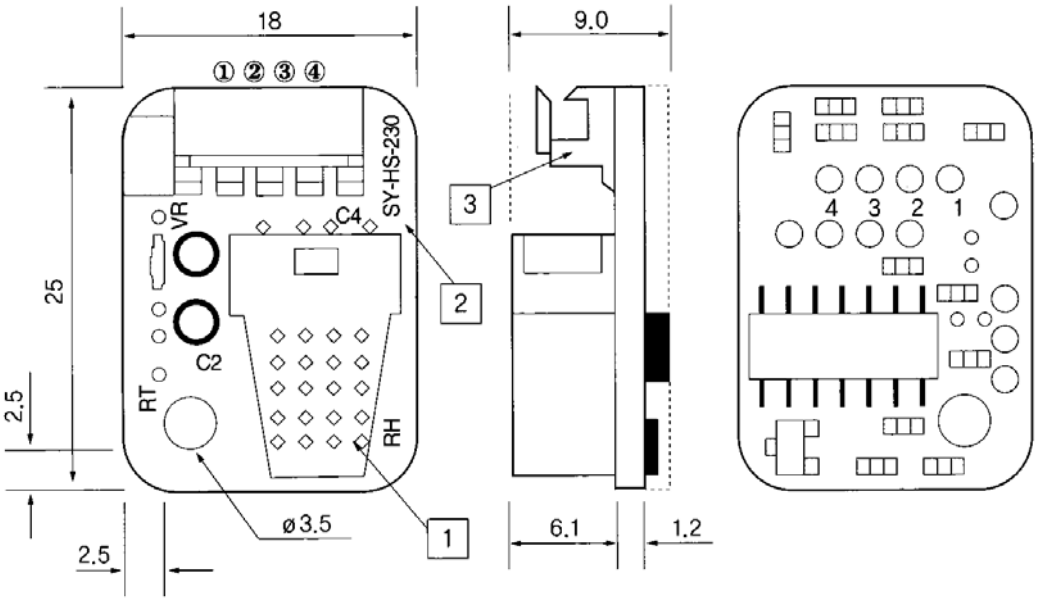
(b) Inorganic gases .... SOx, NOx, Ammonia, etc.

(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 :

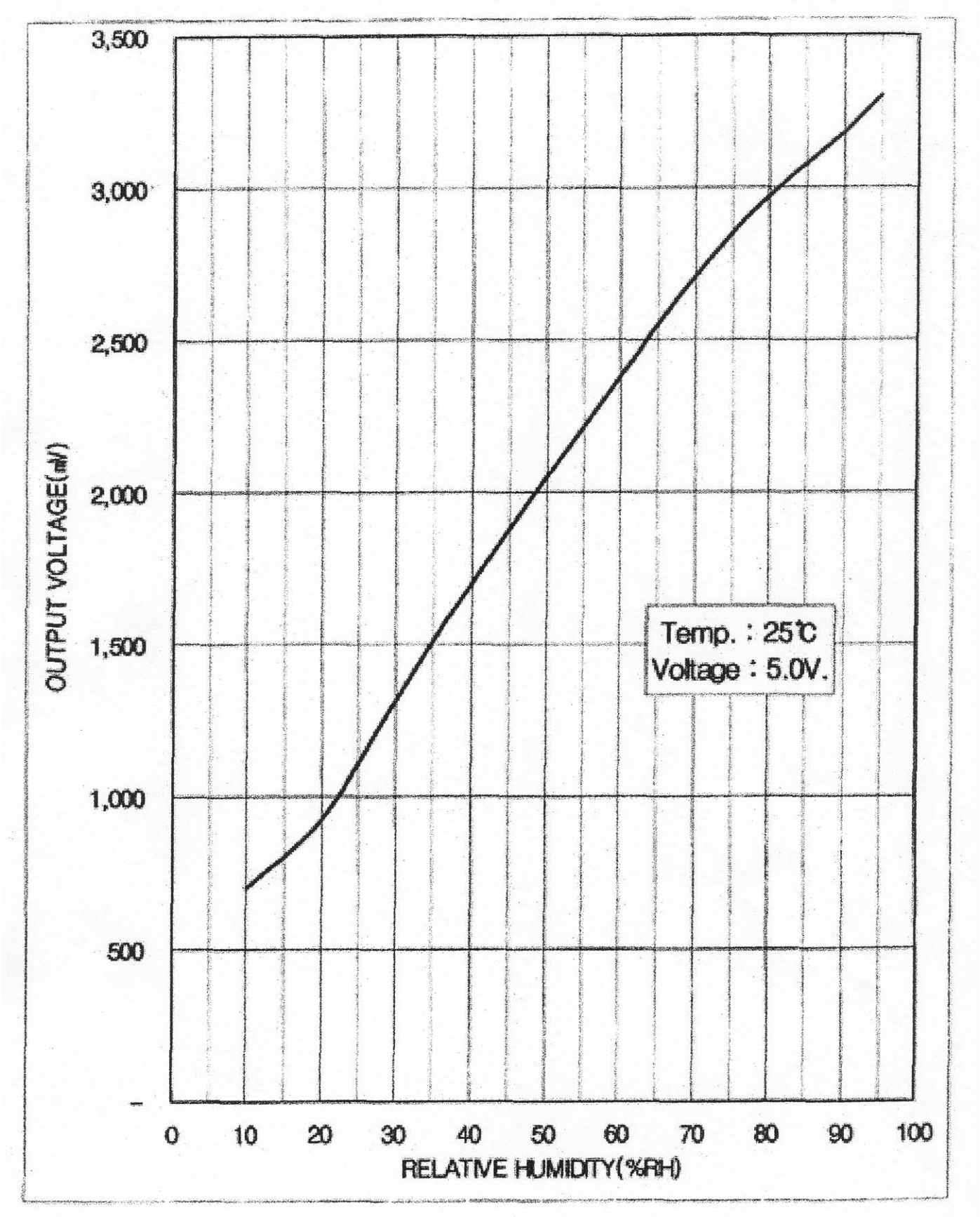
NO.	PARTS	REFERENCE
1	Humidity sensor SYH-2 Sensor case SYH-2T	Material : ABS
2	Printed board SY-HS-230	Material : Epoxy (t = 1.2mm)
3	Connector YMAW-025-03 or YMAW-025-04	YEONHO (KOREA)

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

01/2004/ZM

Produit importé et distribué par :

Selectronic

B.P 10050 - 59891 LILLE Cedex 9

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