HMZ-333A1 Humidity module specifications

1. Application range：

The HMZ-333A1 module consist of an HCZ sensor and integrated circuit to provide a linear DC Voltage for 0-100%RH to enable easy user application of the HCZ sensor. They are specifically designed for use appliances and controllers.

Feature	Application
Wide humidity operation range	Air condition, humidifier, Dehumidifier.
Linear DC Output	Humidity controller, Humidity transmitter.
Easy operation	Hygrometer, Hygro-recorder.
Long-term stability	Copying machine.
Small and economical	Clock, Weather-forecast barometer.

2. Electrical characteristics：

   2.1 Sensing element (Humidity)： HMZ-333A1 Humidity sensor " GHITRON HCZ"

   2.2 Supply Voltage (Vin)：   5VDC±5%

   2.3 Current Consumption：   5mA max :(2mA avg.)

   2.4 Operating Range

        Temperature：   0 to 60℃

        Humidity：   95%RH or less

   2.5 Storage:

        Temperature：   -20 to 70℃

        Humidity：   95%RH or less

   2.6 Humidity transmitting

        Range：   20 to 90%RH

   2.7 Accuracy
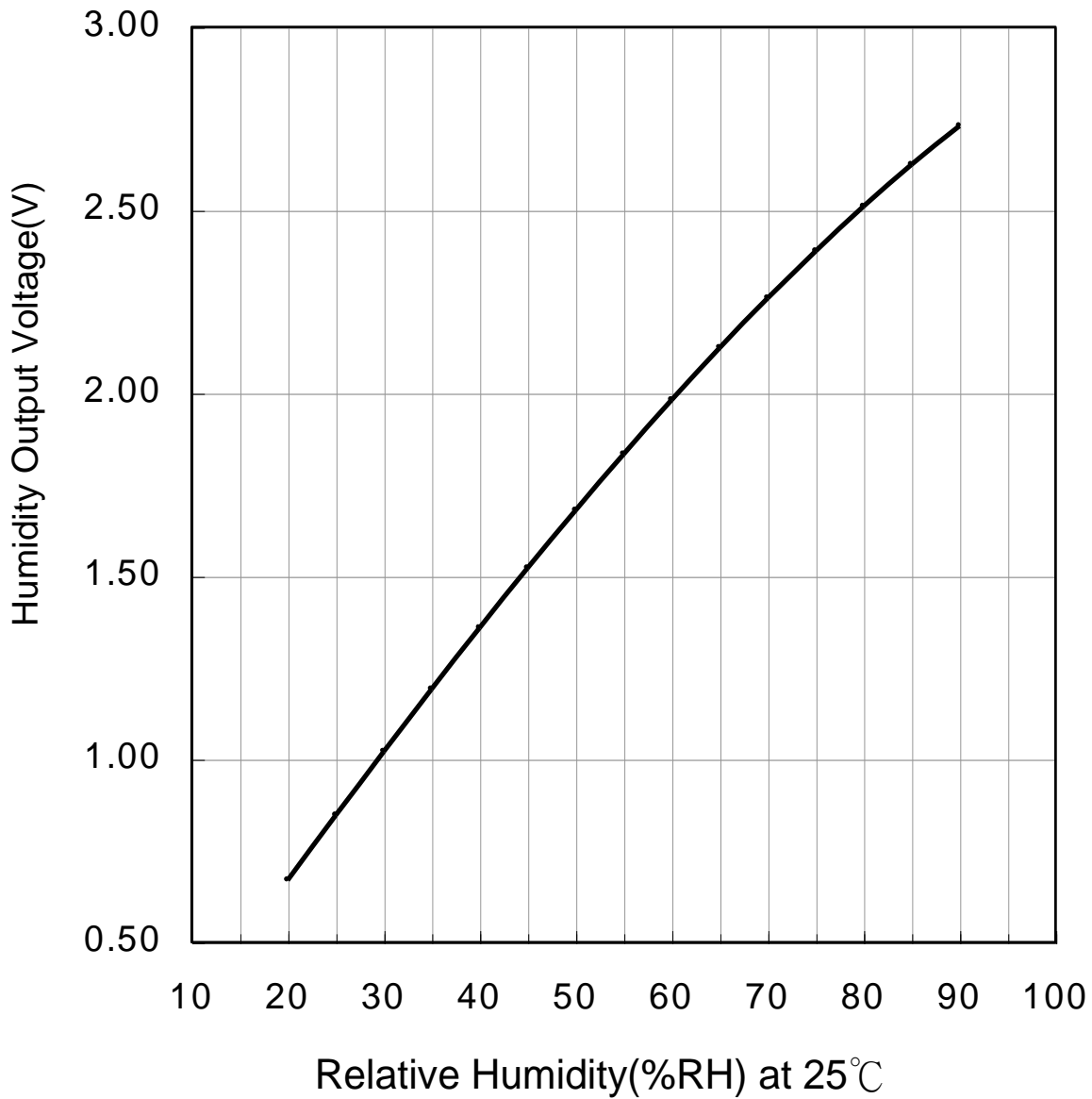
        Humidity：   ±5%RH at 25℃， 60%RH， Vin=5.00VDC

   2.8 Humidity Output 0~3.3V   At 25℃,Vin=5.00VDC

        Signal(Reference)：   (Output Impedance approx:5KΩ)

Humidity(%RH)	20	30	40	50	60	70	80	90
Output Voltage(V)	0.67	1.02	1.36	1.68	1.98	2.26	2.51	2.73

   2.9 Humidity Output 0~3.3V characteristics

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HMZ-333A1 Humidity Output 0~3.3V characteristics

2.10   HMZ module Humidity Output 0~3.3V v.s Temperature characteristics

Temp %RH	10℃	15℃	20℃	25℃	30℃	35℃	40℃

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20%RH	0.76	0.73	0.70	0.67	0.63	0.60	0.56
30%RH	1.06	1.03	1.03	1.02	0.99	0.96	0.93
40%RH	1.36	1.34	1.35	1.36	1.34	1.32	1.29
50%RH	1.67	1.66	1.67	1.68	1.67	1.66	1.64
60%RH	1.97	1.97	1.98	1.98	1.98	1.98	1.96
70%RH	2.25	2.25	2.26	2.26	2.26	2.26	2.25
80%RH	2.51	2.51	2.50	2.51	2.50	2.50	2.48
90%RH	2.73	2.72	2.70	2.73	2.70	2.68	2.66

Remark: Accuracy：±5%RH at (25℃, 60%RH, Vin=5.00VDC)

Output range：1.83~2.12 V

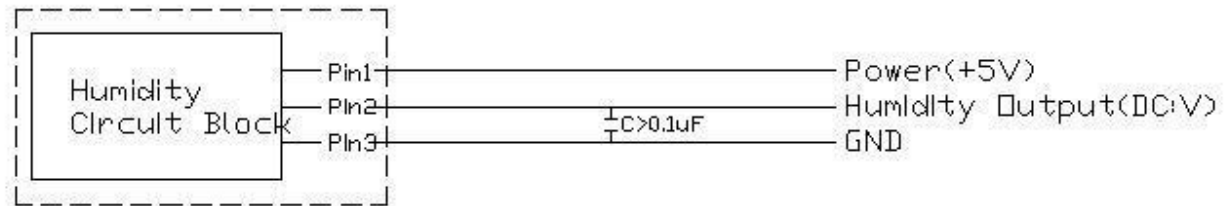3. Configuration & Dimensions (Units :mm) ：

3.1 Model No. HMZ-333A1 Drawing
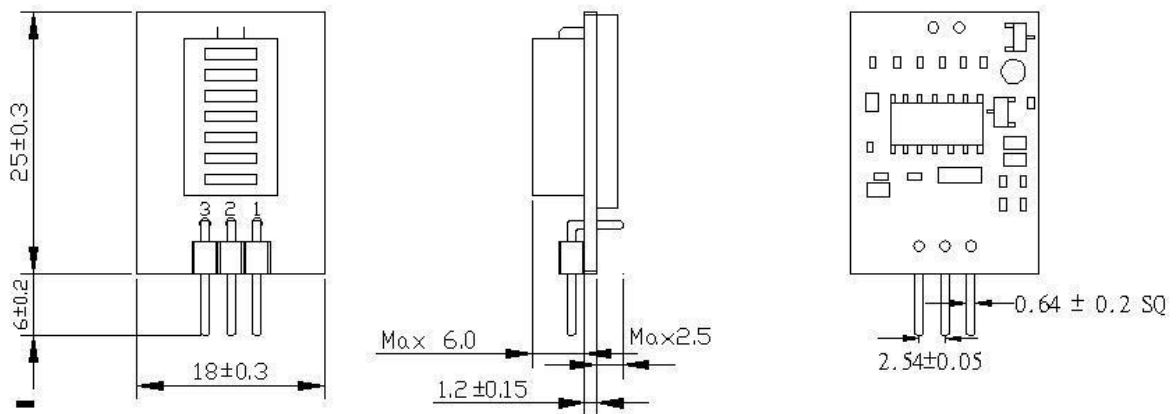
Terminal Connection：

Terminal	Content.
1	Power Source 5V DC.
2	Humidity Output.
3	GND.

Remark： Please pay attention to the power source and GND polarity position.

4. Typical Applications：

4.1 Pin2 Humidity output (DC:V)

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5.Order Form：

HMZ-333A1 is the module with the 0~3.3V voltage output for humidity。

HMZ-333A1 Configure of definition.	
Input Voltage	5V
Humidity Output Voltage	0~3.3V
Terminal Connector	333A1：2211R-03G-LP (3 pins, Pitch＝2.54mm).
Accuracy	±5%RH
Output Range	20%RH~90%RH

6. Reliability test：

No.	ITEM	METHOD	REQUIREMENT
6.1	Impact test	To drop Module 3time at random on to a hard wooden plate from 1meter above high.	No crack or damage。 △%RH < ±5%RH
6.2	Vibration test	Vibration test in X-Y-Z axis for 30min. under 10-55Hz，1.5mm(10-55-10Hz)amplitude.	No crack or damage。 △%RH < ±5%RH
6.3	Heat resistance	temperature：70℃，test time：1000 hours.	△%RH < ±5%RH
6.4	Cool resistance	temperature：-30℃，test time：1000 hours.	△%RH < ±5%RH
6.5	Humidity resistance	temperature：60℃，humidity：90%RH test time：1000 hours.	△%RH < ±5%RH
6-6	Temperature cycle test	temperature：85℃(30 min)←→，-30℃(30 min) cycle：100 times	△%RH < ±5%RH

Remarks：

(1) All standard figures are based on humidity variation under 60%RH(25℃)

(2) Upon completion of all tests. The module will be left over under nominal environment and humidity for 24hours.

7. Packing：

There are 50 pieces of modules to be packed in one tray.

8. Caution remarks on operation：

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8.1 To avoid direct application of DC voltage on humidity sensor.

8.2 To protect sensor from dewfall and drenching.

8.3 To avoid and operation of humidity sensors in the following environmental ambient.

    8.3.1 Salt

    8.3.2 Inorganic gas   Sulfide dioxide, Chlorine, Ammonium, etc.

    8.3.3 Organic gas   Alcoholic, Glycols, Aldehydes, etc.

8.4 Recommendable storage condition

   Temperature range   10~40℃

   Humidity Range   90%RH or Less.

8.5 Do not store humidity sensors long period of time in an 70℃ ambient, due to some occasion of degradation on sensor housing case.

Remark：We have the right to revise specification and product configurations without notice.