

HMZ-333BH Humidity module specifications

1. Application range :

The HMZ-333BH 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.

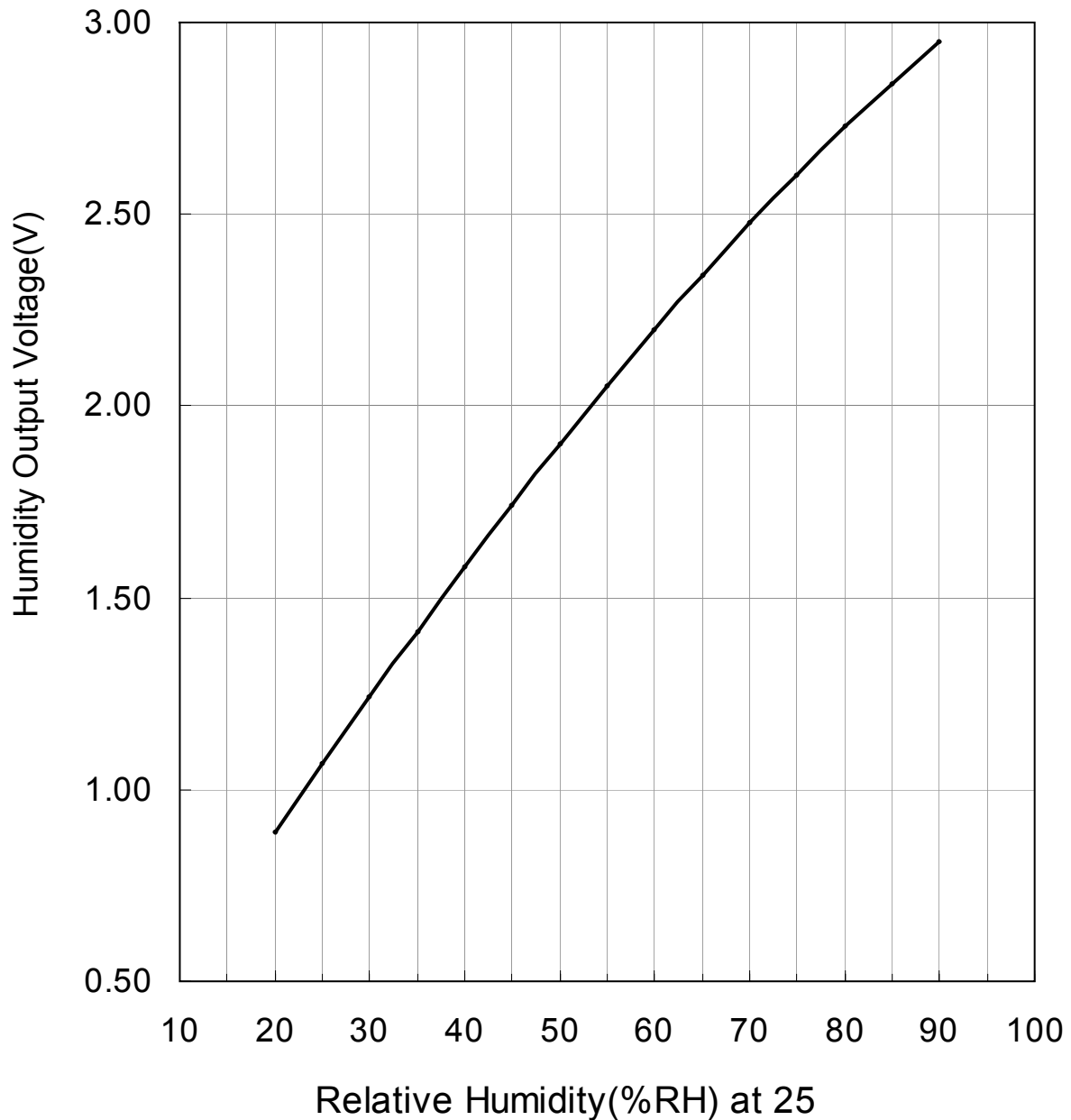
2. Electrical characteristics :

- 2.1 Sensing element (Humidity) : HMZ-333BH Humidity sensor “ GHITRON HCZ sensor“
- 2.2 Supply Voltage(Vin) : 5VDC±5%
- 2.3 Current Consumption : 5mA max:(2mA avg.)
- 2.4 Operating Range
 Temperature : 0 to 60°C
 Humidity : 95%RH or less
- 2.5 Storage
 Temperature : -20 to 65°C
 Humidity : 95%RH or less
- 2.6 Humidity transmitting
 Range : 20 to 90%RH
- 2.7 Accuracy :
 Humidity : ±5%RH (at 25°C , 60%RH, Vin=5.00VDC)
- 2.8 Humidity Output 0~3.3V
 Signal(Reference) : (Output Impedance approx:5KΩ)

Humidity(%RH)	20	30	40	50	60	70	80	90
Output Voltage(V)	0.89	1.24	1.58	1.90	2.20	2.48	2.73	2.95

2.9 Humidity Output 0~3.3V characteristics :

HMZ-333BH Humidity Output 0~3.3V characteristics

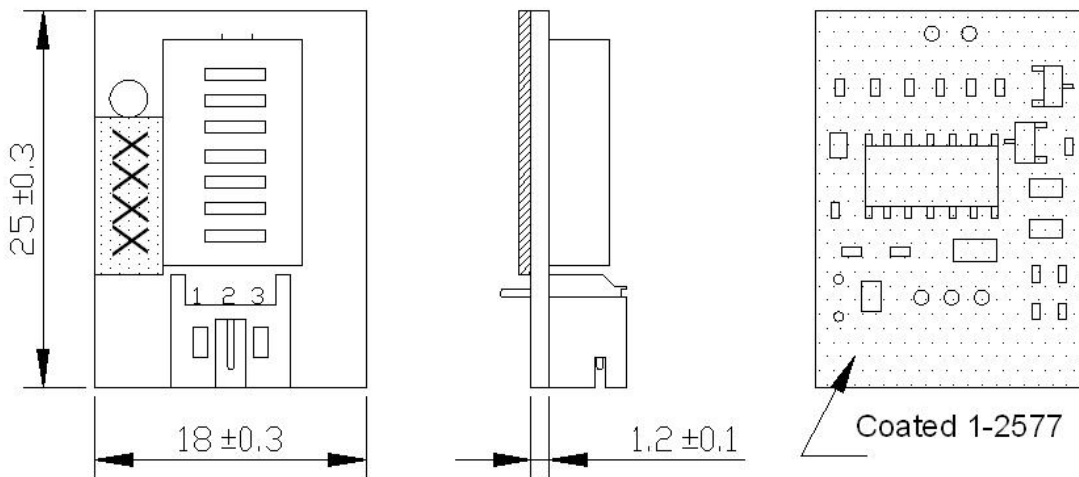


2.10 HMZ module Humidity Output 0~3.3V v.s Temperature characteristics :

	10	15	20	25	30	35	40
20%RH	0.98	0.95	0.92	0.89	0.85	0.82	0.78
25%RH	1.13	1.10	1.08	1.07	1.03	1.00	0.96
30%RH	1.28	1.25	1.25	1.24	1.21	1.18	1.15
35%RH	1.43	1.41	1.41	1.41	1.39	1.36	1.33
40%RH	1.58	1.56	1.57	1.58	1.56	1.54	1.51
45%RH	1.74	1.72	1.73	1.74	1.73	1.72	1.69
50%RH	1.89	1.88	1.89	1.90	1.89	1.88	1.86
55%RH	2.04	2.04	2.05	2.05	2.05	2.05	2.03
60%RH	2.19	2.19	2.20	2.20	2.20	2.20	2.18
65%RH	2.33	2.33	2.34	2.34	2.34	2.35	2.33
70%RH	2.47	2.47	2.48	2.48	2.48	2.48	2.47
75%RH	2.60	2.61	2.60	2.60	2.60	2.61	2.59
80%RH	2.73	2.73	2.72	2.73	2.72	2.72	2.70
85%RH	2.85	2.84	2.83	2.84	2.83	2.82	2.80
90%RH	2.95	2.94	2.92	2.95	2.92	2.90	2.88

Remark : Remark: Accuracy : $\pm 5\%$ RH(at 25 , 60%RH , Vin=5.00VDC)

3. Configuration & Dimensions (Units :mm) : Model No. HMZ-333BH Drawing



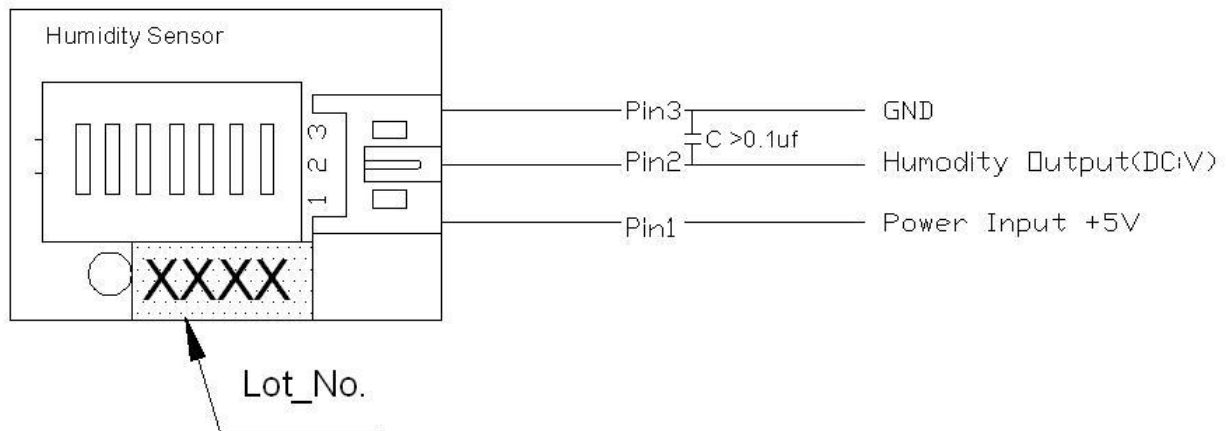
Terminal Connection :

Terminal	Content. (3Pin Pitch : 2.0mm)
Pin1	Power Source 5V DC.
Pin 2	Humidity Output.
Pin 3	GND.

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

4. Typical Applications :

4.1 Pin2 Humidity output (DC:V)



4.2 Lot No definition : XXXX(Total = 4 codes)

4.2 .1 First Code : Year code.

H	2007	Q	2013
J	2008	R	2014
K	2009	S	2015
M	2010	T	2016
N	2011	W	2017
P	2012	X	2018

4.2.2 Second Code : Month code (1~9 、 X、 Y、 Z)。

4.2.3 Third code 、 fourth code : Series code(01~99)。

5. Order From :

HMZ-333BH is the module with 2417RJ-03 3 pins(pitch = 2.0 mm) of terminal Connector of voltage output for humidity 。

HMZ-333BH Configure of definition.	
Input Voltage	5V
Humidity Output Voltage	0~3.3V
Terminal Connector	3 pins(2417RJ-03,Pitch = 2.0mm).
Accuracy	±5%RH
Sensing element (Humidity) :	Humidity sensor “ GHITRON HCZ sensor“
Output scale(B type)	20~90%RH

6. Reliability test :

No.	ITEM	METHOD	REQUIREMENT
6.1	Impact test	To drop Module 3time at random on to a hard	No breakage, nor cracks.

This document is the exclusive property of Ghitron and shall not be reproduced or copied or transformed to any other format without prior permission of Ghitron. 本資料為積創專有之財產，非經許可，不得複製、翻印或轉變成其他形式使用。	Page 4 of 4	
	Rev.	EC#076007

		wooden plate from 1meter above high.	Should be electrically normal. Within ±5%RH
6.2	Vibration test	Vibration test in X-Y-Z axis for 30min. under 10-55Hz frequency, 1.5mm(10-55-10Hz)amplitude.	No breakage, nor cracks. Should be electrically normal Within ±5%RH
6.3	Heat resistance	To leave module in an ambient of 55°C and 30%RH max. for 48hours.	Within ±5%RH
6.4	Cool resistance	To leave module in an ambient of -10°C and 30%RH max. for 48hours.	Within ±5%RH
6.5	Humidity resistance	To leave module in an ambient of 40°C and 95%RH for 48hours.	Within ±5%RH
6-6	Temperature cycle test	5 cycles. 1cycle stands for leaving module under -10°C for 1hour,and raise ambient temp. up to 55°C for next 1hour.Then,leave it another 1hour,and lower temp. to -10°C for next 1hour.	Within ±5%RH

Remarks :

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

- 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 60 ambient, due to some occasion of degradation on sensor housing case.

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

This document is the exclusive property of Ghitron and shall not be reproduced or copied or transformed to any other format without prior permission of Ghitron. 本資料為積創專有之財產，非經許可，不得複製、翻印或轉變成其他形式使用。	Page 5 of 5	
	Rev.	EC#076007