



**MHTR1D**  
**Resistance humidity sensor**  
**Humidity and temperature sensor module**  
**Data sheet**

Manufacturer: Ningbo Jiangbei Junrong Electron Technology Co., Ltd

Phone: 86-574-87386939, 87386839, 87386739

Web site: <http://www.humidjr.com>

Email: [jr@nbjrdz.com](mailto:jr@nbjrdz.com)

Address: no.7 nijaiyan road, jiangbei district, Ningbo China

Name	Humidity and temperature sensor module	Ningbo jiangbei junrong electron technology Co., ltd product developed department	Frame	2005.10.25
			Emend 1	2006.03.08
Emend 2	2006.06.18			
Emend 3	2007.02.28.			
Model	MHTR1D			

## 1. General

The MHTR1D humidity and temperature sensor module is designed by Ningbo Junrong Electron. This product with characteristics of stable, best price, good crossing-over and with temperature retrieves performance. It is also ideal to measure temperature and humidity in air-conditioning, dehumidifier ,humidifier.

## 2. Application

Air-conditioning, dehumidifier ,humidifier, Electron, pharmaceutical industry, food processing, warehouses, tobacco, textile, weather, libraries and museum.

## 3. Shape

Model	encapsulation	shape
MHTR1D	without shell	detail to the picture

## 4. Model

There are three models according to with or without Temperature and humidity sensor.

MHTR1D	humidity measuring module, without temperature element
MHTR1D1	temperature and humidity measuring module, with NTC heat sensitive resistance
MHTR1D2	temperature and humidity measuring module, with LM35 temperature sensor

## 5. Specification

- |  |   |
|--|---|
| (1) Power supply (vin)                         | DC 5V $\pm$ 5%                                    |
| (2) Electrical current                         | 1.6MA (max 3mA)                                   |
| (3) Temperature operating range                | 0 ~ 50°C  |
| (4) Humidity operating range                   | under 95%RH                                       |
| (5) Humidity measuring range                   | 30 ~ 90%RH  |
| (6) Temperature storing range                  | 0 ~ 70°C  |
| (7) Humidity storing range                     | lower 95%RH (non dew point)                       |
| (8) Humidity measuring Accuracy                | $\pm$ 5%RH ( at 25°C, 60%RH vin=5.0V 1.65`1.95V ) |
| (9) Typical humidity data responding to output |   |

Based as the power supplied by 5.0V, at 25°C

Humidity (%RH)	25	30	35	40	45	50	55
Voltage (V)	0.81	0.93	1.06	1.19	1.32	1.48	1.64
Humidity (%RH)	60	65	70	75	80	85	90
Voltage (V)	1.8	1.96	2.12	2.25	2.38	2.51	2.64

Remark: standard voltage output can adjust according to the customer desire.

- |   |                 |  |
|---|-----------------|--|
| (10) Temperature testing feature        | MHTR1D1         | $\pm$ 2% R (25°C) =10K $\Omega$ B=3950 $\pm$ 2%        |
|   | MHTR1D2         | 0.01V/°C accuracy: $\pm$ 1.5°C                         |
| (11) Temperature dependence (reference) |                 | $\pm$ 5%RH (5.00V DC, 40 - 80%RH, at 25°C, 0-50°C)     |
| (12) Voltage dependence (reference)     |                 | $\pm$ 5%RH (at 25°C, 40 - 80%RH, 5.00V DC, 4.75-5.25V) |
| (13) Measure:                           | 34.7x21.5x10 mm |  |

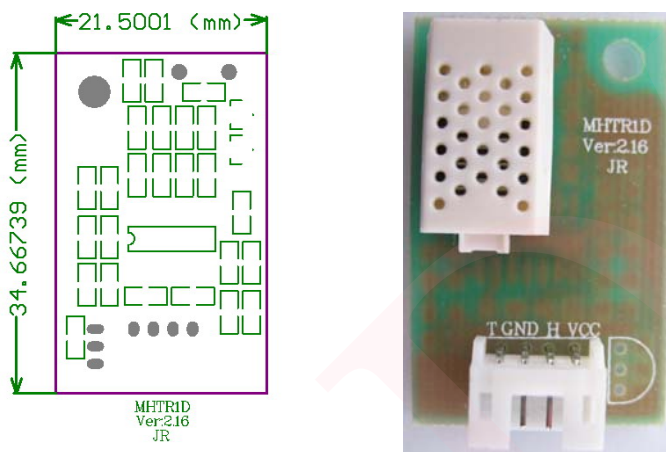
6. Note

- (1) Avoid using when dew point
- (2) Avoid putting the product in the erode atmosphere environment for long time
- (3) please be careful when connecting, no electrode protecting
- (4) Storage condition

Temperature range 10 ~ 40°C

Humidity range under 60%RH

Chart1. exterior picture (MHTR1D type) .



Electric connecting

Electric tie-in	Content
1	Power supply DC 5V
2	Humidity output
3	GND
4	Temperature output

Chart 2. Connection example

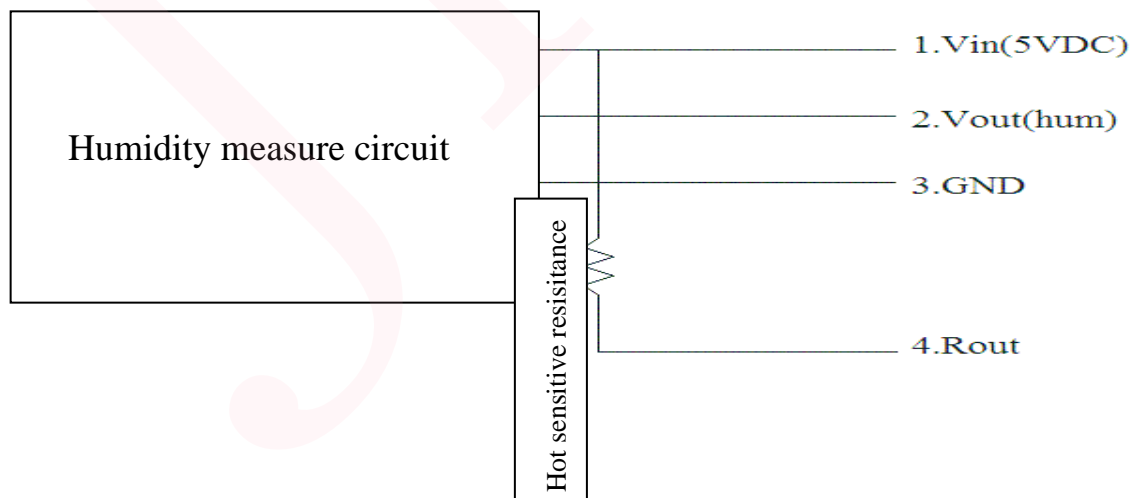


Chart 3. Electric connection.

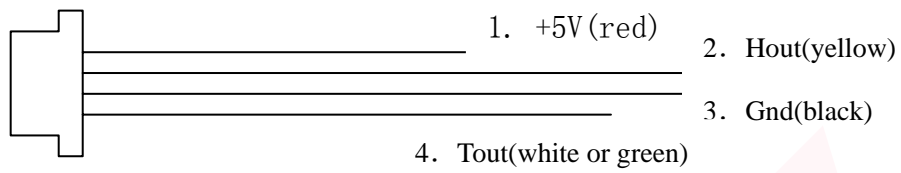
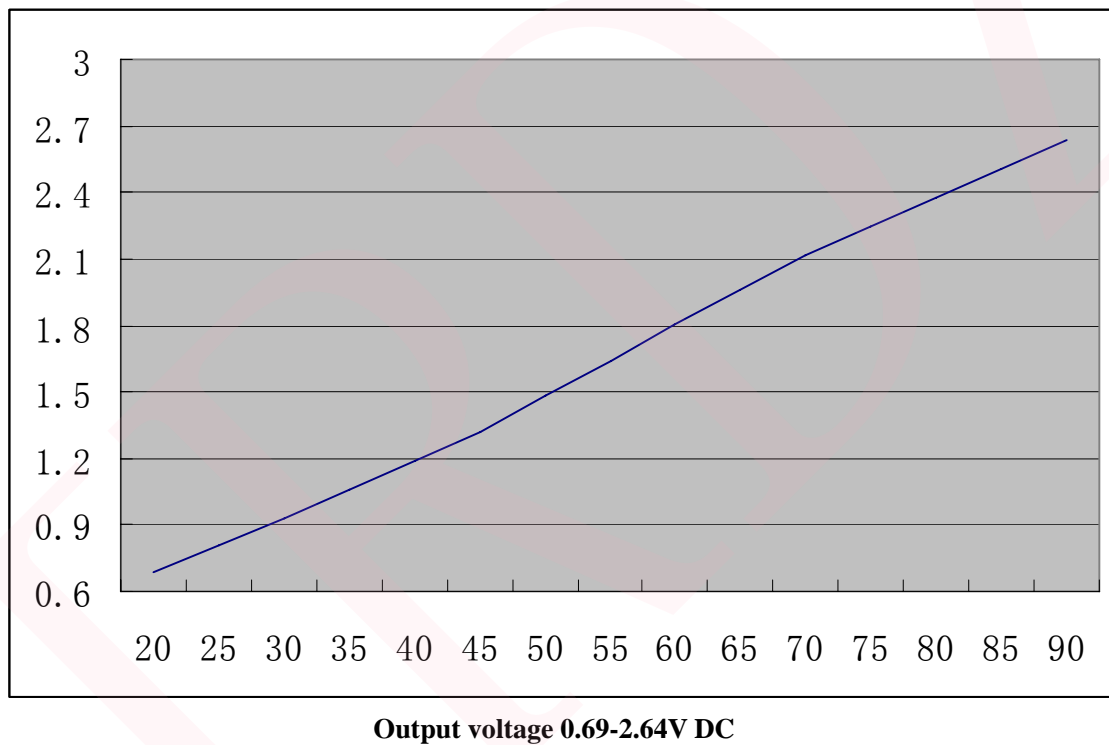


Chart 4. Standard characteristic picture



**Table2.Hot sensitive resistance standard data table**

::10K $\Omega$ 3950:: R-T Sub-degree table							
T	R	T	R	T	R	T	R
0	32.7421	20	12.5005	40	5.315	60	2.476
1	31.1138	21	11.9485	41	5.1053	61	2.388
2	29.5759	22	11.4239	42	4.905	62	2.304
3	28.1229	23	10.9252	43	4.7136	63	2.223
4	26.7496	24	10.451	44	4.5307	64	2.146
5	25.4513	25	10	45	4.3558	65	2.071
6	24.2234	26	9.5709	46	4.1887	66	2
7	23.0618	27	9.1626	47	4.0287	67	1.931
8	21.9625	28	8.7738	48	3.8758	68	1.865
9	20.9218	29	8.4037	49	3.7294	69	1.802
10	19.9364	30	8.0512	50	3.5893	70	1.741
11	19.0029	31	7.7154	51	3.4553	71	1.683
12	18.1184	32	7.3954	52	3.3269	72	1.626
13	17.28	33	7.0904	53	3.2039	73	1.572
14	16.4852	34	6.7996	54	3.0862	74	1.52
15	15.7313	35	6.5223	55	2.9733	75	1.47
16	15.0161	36	6.2577	56	2.8652	76	1.422
17	14.3375	37	6.0053	57	2.7616	77	1.376
18	13.6932	38	5.7645	58	2.6622	78	1.331
19	13.0815	39	5.5345	59	2.5669	79	1.288