



MHTC3A
 Capacitive humidity
 Humidity and temperature transmitter module
 Data sheet

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Name	Humidity and temperature transmitter module	Ningbo jiangbei junrong electron technology Co., ltd product developed department	Frame	2005.10.18
			Emend 1	2006.06.06
Emend 2	2007.02.28			
Emend 3				
Model	MHTC3A			

1. General

MHTC3A humidity and temperature transmitter module is designed base capacitive humidity and temperature sensor by Ningbo Junrong Electron. This product utilizes humidity sensor capacitor (HS1101, France Humirel) and temperature sensor (LM35, America), with characteristics of stable and wide power supply, excellent anti-jamming, high accuracy and protecting power and it also use craftwork of SMD, so own extremely small body, stable and reliably performance. Each product inspected and 48 hours aging test before sells. The quality guarantee time is 12 months.

Can supply defined data each products desired by customer.

2. Application

Electron , pharmaceutical industry, food processing, warehouses, tobacco, textile, weather, office building, warm air-conditioning, libraries and museum.

3. Shape

Model	encapsulation	shape
MHTC3A	with shell	detail to the picture

4. Specification

- | | |
|--------------------------------------|--|
| (1) Power supply (vin) | DC 15-30V |
| (2) Electrical current | 6MA (max 8mA) |
| (3) Temperature operating range | 0 ~ 80℃ |
| (4) Humidity operating range | 0 ~ 100%RH (dew point) |
| (5) Humidity measuring range | 2 ~ 99%RH |
| (6) Temperature storing range | -20 ~ 85℃ |
| (7) Humidity storing range | under 95%RH (no dew point) |
| (8) Humidity measuring Accuracy | MHTC3A-I ±4%RH (at 25℃, 60%RH)
MHTC3A-H ±3%RH (at 25℃, 60%RH) |
| (9) Standard humidity output voltage | |

Based on the power supplied by 24.0V and the environment at 25℃

Humidity (%RH)	0	10	20	30	40	50	60	70	80	90	100
Voltage (V)	0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0

- | | |
|---|--|
| (10) Temperature testing feature | ±1.5℃ (LM35 temperature sensor) |
| (11) Temperature dependence (reference) | ±2%RH (24.00V DC, 0 - 100%RH, at 25℃, 0-50℃) |
| (12) Voltage dependence (reference) | ±1%RH(15-30V DC) |

5. Testing condition

At atmosphere 25℃, power supply 24.0V

Put the humiture sensor module in dry air at 25℃/20%RH environment 5 minutes before testing, then put it into testing container keeping the Humidity 60%RH, 5 minutes later, measure the voltage.

6. Stable testing

No.	item	Testing Method	Specification
1	Impact-resistance	Drop from 1 meter into hardwood floor, repeat 3 times	No damage, no element break off, normal electric feature
2	Aseismatic	10~55Hz, swing 1.5mm(10~55Hz~10Hz)along X-Y-Z direction 2 hours	No damage, no element break off, normal electric feature
3	Heat-resistant	Place it below 80℃, 30%RH environment 1000 hours	Within $\pm 4\%$ RH
4	Cold-resistant	Place it below 10℃, 70%RH environment 1000 hours	Within $\pm 4\%$ RH
5	Humidity-resistant	Place it at 40℃, 90%RH environment 1000 hours	Within $\pm 4\%$ RH
6	Temperature loop	Place at below 0℃ environment 30 minutes, than put it at 50℃ environment 30 minutes, and last place again at below 0℃ environment 30 minutes, and repeat above 5 times.	Within $\pm 4\%$ RH
7	Acid-resistant	At Normal temperature Ethanol gas: 30 minutes Acetone gas: 30 minutes	Within $\pm 4\%$ RH

Remark: 1. Specification based on 60%RH humidity change quantity

2. Place the product at normal temperature and humidity 4 hours after all testing is over, then measure the humidity.

7. Opearating note

- 1):.The supply voltage strictly prohibits surpassing the stipulation scope, surpass the fixed scope to create the product performance to drop or the permanent damage.Storage condition .
- 2.): Strictly prohibits short-circuits the humidity output and the temperature out-port and the power source, if short-circuit creates the product performance to drop or the permanent damage
- 3): This product is in the room the operational type
- 4): Recommendation preservation condition

Temperature range 10 ~ 50℃

Humidity range 80%RH

8. Product picture



MHTC3A



MHTC3A inside

Chart 1 electric connecting

Electric tie-in	Content
1	Power supply DC 15-30V
2	Humidity output
3	GND
4	Temperature output

Chart 2. Connection example.

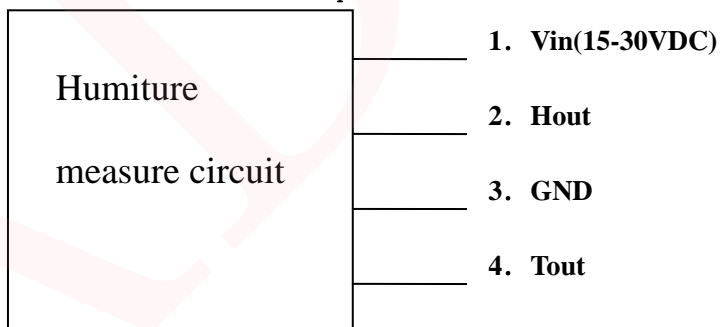


Chart 3. Electric connection.

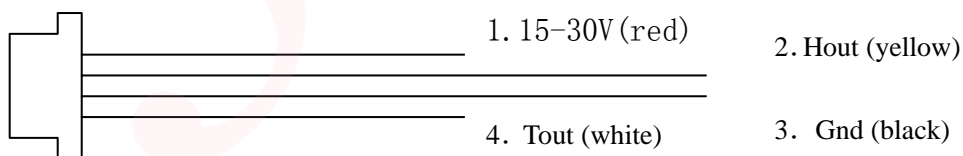
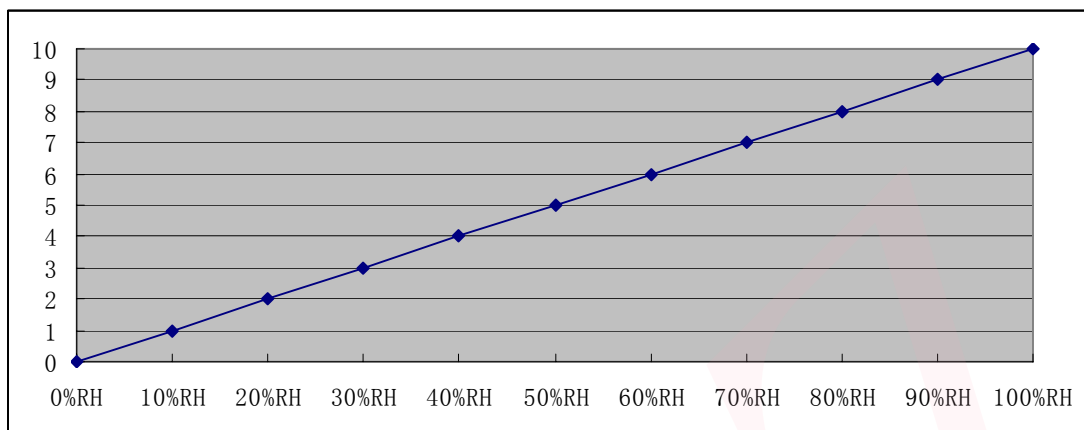
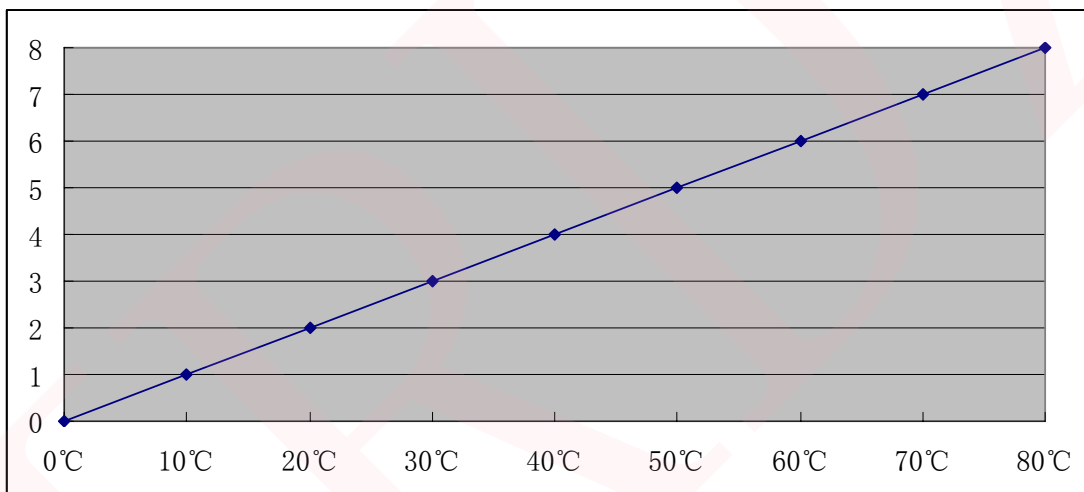


Chart 4. Humidity standard characteristic picture



Output voltage 0-10V DC

Chart 5. Temperature standard characteristic picture



Output voltage 0-10.0V DC