

Macromolecule Humidity Sensor (Model: MS-Z2)

Manual

Zhengzhou Winsen Electronics Technology Co., Ltd

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MS-Z2 Macromolecule Humidity Sensor

Overview

In wet conditions, water molecules are adsorbed by polar group on the surface of martial. And as the humidity increases, the quantity of water molecules will be changed accordingly. The adsorbed water is gradually condensing and coming into be liquid, which is electrolyte solution with current channel quality.

With the humidity increasing, macromolecule will swell, interior free volume will be bigger, carrier will be increased and the activated energy of macromolecule polyelectrolyte counter-ions will decrease, drift mobility will increase and impedance will decrease. And then when humidity decreases, water molecules are released from ion polymer and the resistor of material will increase. The environment humidity can be monitored through testing the impedance.

Features

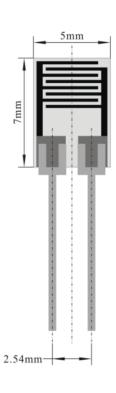
Wide humidity detected rang Fast response Small Humidity hysteresis error Simple manufacture Easy integration

Application

Humidity sensor, as an important chemical sensor, which is widely used in fields of warehousing, industry production, and process control, environmental monitoring, home appliances and meteorology etc.

Technical specification Basic testing circuit

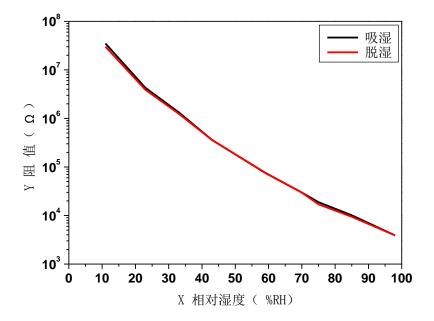
| | Temperature | Humidity |
|----------------------------------|----------------------------|--------------------------|
| Working range | 0~60°C | 10~90%RH |
| Storage range | -25~70°C | ≤95%RH(non condensation) |
| Detection range | | 10~90%RH(0~60°C) |
| Rated voltage | 1.5V AC(MAX, sine wave) | |
| Rated power | 0.2mW(MAX, Rated voltage) | |
| Working frequency | 500Hz~2kHz | |
| Nominal value ⦥ | 31 (21∼50) KΩ(60%RH, 25°C) | |
| | 23(15~35)KΩ(60%RH, 25°C) | |
| Temperature Character ≤0.5%RH/°C | | |
| Hysteresis | ±2%RH | |
| Response time | Moisture absorption: ≤20s | |
| | Dehumidification: ≤40s | |
| Stability | 2%RH/year | |
| Accuracy | 3%RH | |



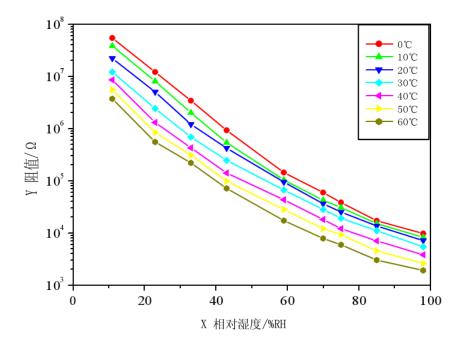
Tel: 86-371-67169097/67169670 Fax: 86-371-60932988 Email: sales@winsensor.com

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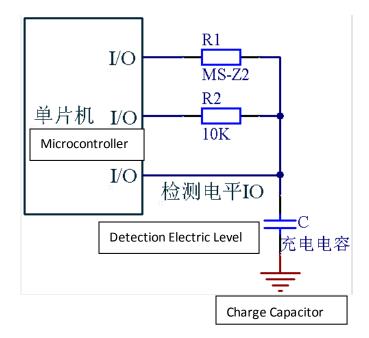
Sensitivity & Humidity Hysteresis Error Curve



Temperature & Humidity Characteristic



Application Circuit



Note

- To avoid Polarization, the voltage or current driving the sensor should be AC
- Please using LCR AC bridge to measure, and multi-meter is prohibited.
- Avoid Water coagulation
- Putting the sensor under the High causticity place is prohibited
- Recommend storage conditions:

Temperature: 10°C~ 40°C Humidity: under 60%RH

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