



P-14

Capacitive Humidity Sensor



Product

The P-14 humidity sensor was specially developed to satisfy the wide range of applications in the heating-ventilation and airconditioning sector. By the consistent use of state of the art production technologies and our extensive know-how in the field of high performance polymers, we have succeeded in producing a high quality sensor with an almost linear characteristic. The possibility for selecting the electrical connections provides users with ideal opportunities for implementing their own sensor design without limitation.

Advantages

- Applicable in white goods, tests and measurement, HVAC technology, industrial
- Excellent long term stability
- Dewing resistant – fast recovering time after dewing, also at very high dewpoint temperatures
- High resistance to various chemicals
- Wide temperature operating range
- Various wired solutions available
- RoHs conform

Technical Data

| | Wired | SMD |
|--|---|---|
| |  |  |
| Humidity Operating Range: | 0 ... 100% relative humidity | 0 ... 100% relative humidity |
| Operating Temperature Range: | -50 ... +150°C | -50 ... +150°C |
| Capacitance (at 23°C and 30% RH): | 150 pF ± 50 pF | 180 pF ± 50 pF |
| Sensitivity (15 ... 90% RH): | 0,25 pF / % RH | 0,30 pF / % RH |
| Loss Factor (at 23°C, at 10kHz, at 90%RH.): | < 0.01 | < 0.01 |
| Linearityerror (15 ... 90% RH at 23°C, after one point calibration): | < 1,5% RH | < 1,5% RH |
| Hysteresis: 1h, 20% RH at 23°C → 1h, 85% RH at 70°C → 1h, 20% RH at 23°C | < 1,5% RH | < 1,5% RH |
| Response Time T ₆₃ : | < 5 s (50% RH → 0% RH) at 23°C | < 5 s (50% RH → 0% RH) at 23°C |
| Frequency Range: | 1 ... 100 kHz (recommend 10 kHz) | 1 ... 100 kHz (recommend 10 kHz) |
| Maximum Operating Voltage: | < 12 Vpp AC | < 12 Vpp AC |
| Signal Form: | alternating signal without DC bias | alternating signal without DC bias |
| Connectors: | Wires or customer specific | SMD |



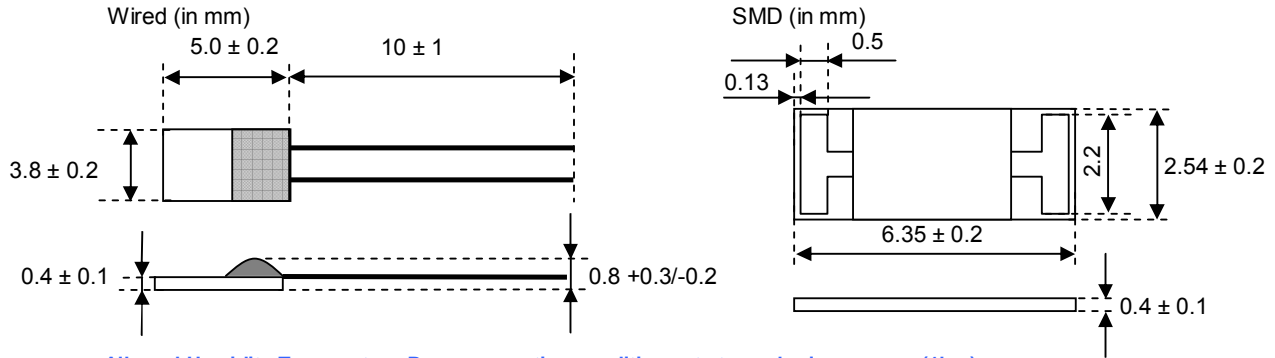
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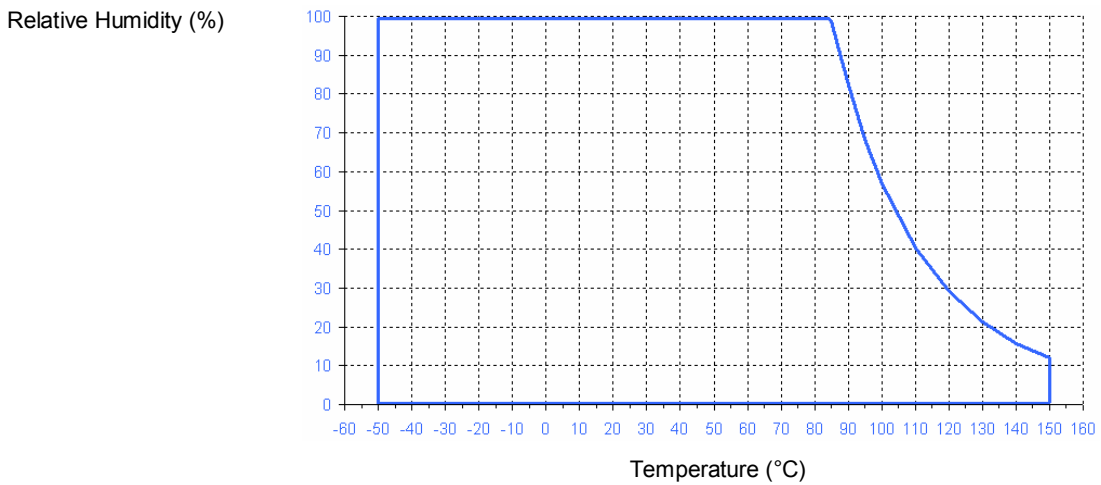
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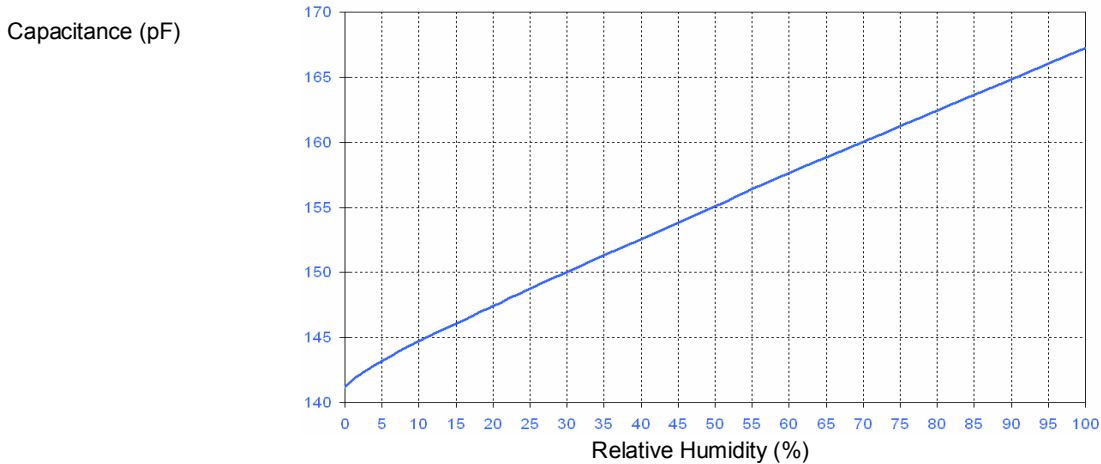
Construction Sizes



Allowed Humidity-Temperature-Range, operating conditions at atmospheric pressure (1bar)



Sensor Characteristic



All mechanical dimensions are valid at 25°C ambient temperature, if not differently indicated. ■ All data except the mechanical dimensions only have information purposes and are not to be understood as assured characteristics. ■ Technical changes without previous announcement as well as mistakes reserve. ■ The information on this data sheet was examined carefully and will be accepted as correct. No liability in case of mistakes. ■ Load with extreme values during a longer period can affect the reliability. All rights reserved. The material contained herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner. Typing errors and mistakes reserved. Product specifications are subject to change without notice.



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