



MK33

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Capacitive Humidity Sensor



Product

Our specially-developed capacitive humidity sensor features a base capacitance of 300 pF, enabling a large humidity-temperature range and making it suitable for many applications. The sensor is optionally available with flexible or rigid connecting wires, making it the first choice for installation in detecting probes.

Advantages

- Use in extreme environment conditions, such as hot oil
- High chemical resistance
- Wide temperature operating range (up to +190 °C)
- Condensation resistant – fast recovery time after dewing, and at high dew point temperatures as well
- High humidity stability
- Very low drift

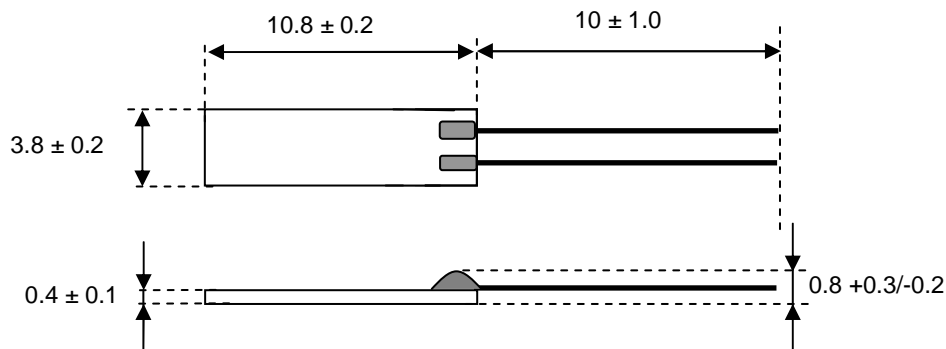


Technical Data

Humidity Operating Range:	0 ... 100% RH
Operating temperature range:	-40 ... +190 °C
Capacitance (C ₃₀)	300 pF ± 40 pF
(at 30% RH and 23 °C):	
Sensitivity (at C ₃₀ = 300 pF):	0.45 pF / % RH (20 ... 95% RH)
Loss Factor:	≤ 0.01 (at 23 °C, at 10 kHz, at 90% RH)
Linearity Error:	< 2.0% RH (15 ... 90% RH at 23 °C, after one-point calibration)
Hysteresis: 1 h, 20% RH at 23 °C	< 2.0% RH
→ 1 h, 85% RH at 70 °C	
→ 1 h, 20% RH at 23 °C	
Response Time t ₆₃ :	< 6 s (50% RH → 0% RH) at 23 °C
Frequency Range:	1 ... 100 kHz (recommended 10 kHz)
Maximum Operating Voltage:	< 12 V _{pp} AC
Signal Form:	alternating signal without DC bias
Connectors:	Wires or customer specific

Construction Sizes

Dimension in mm



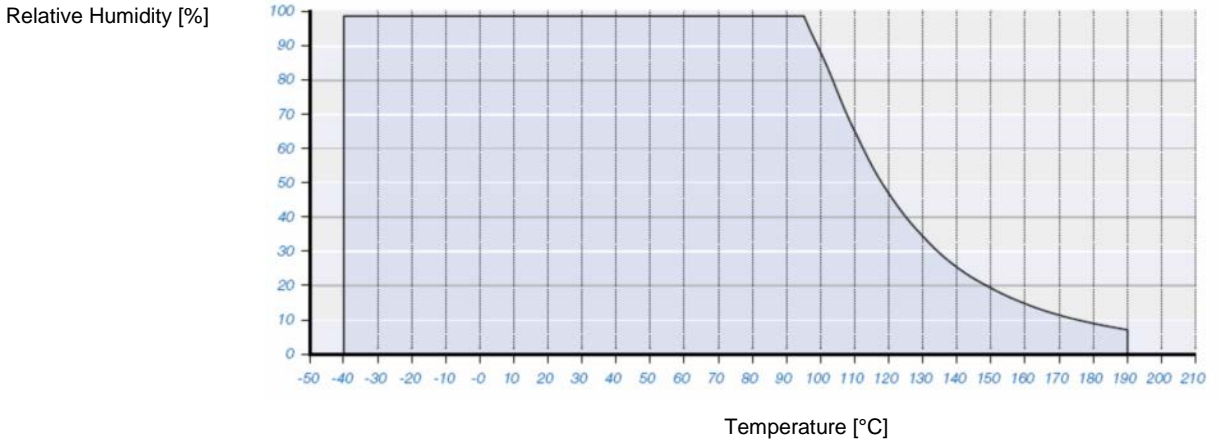
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Capacitive Humidity Sensor

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



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 purpose 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. All rights reserved.



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