MK33
Capacitive Humidity Sensor

RoHS

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

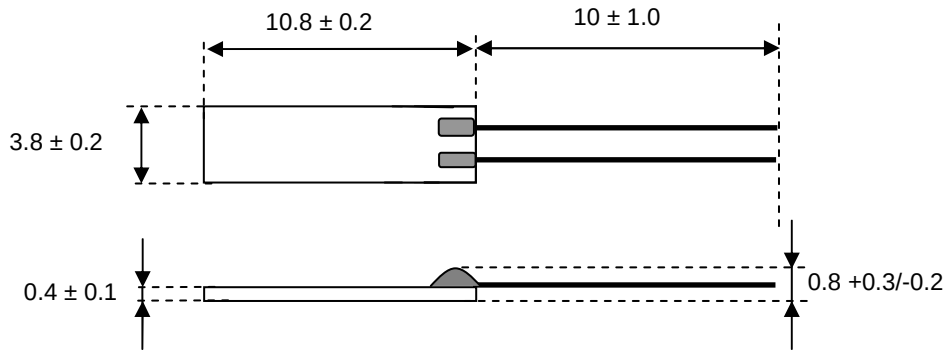
- Use in extreme environment conditions, such as hot oil
- High chemical resistance
- Wide temperature operating range (up to +190 °C)
- Condensation resistant – fast recovery time after dewing, and at high dew point temperatures as well
- High humidity stability
- Very low drift

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



INNOVATIVE SENSOR TECHNOLOGY

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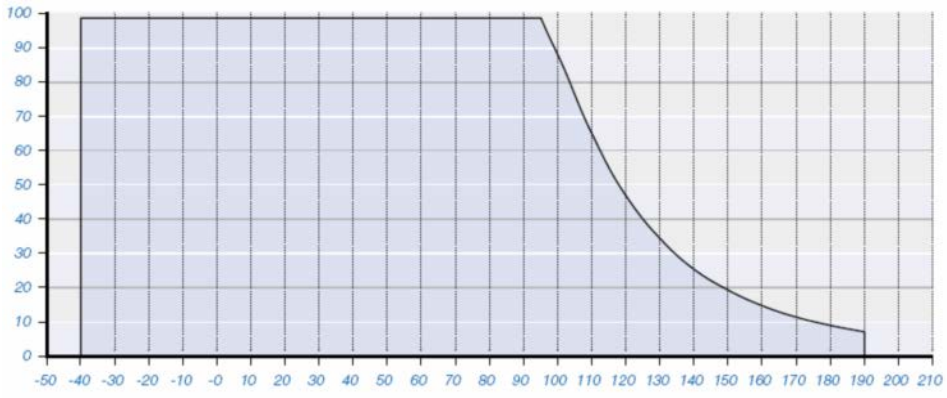
Allowed Humidity-Temperature Range, operating conditions at atmospheric pressure (1 bar)

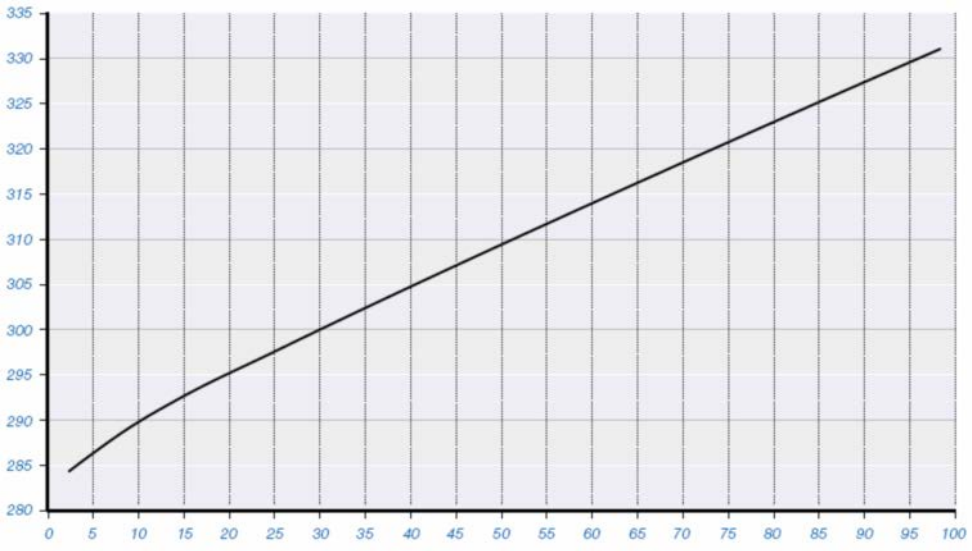
Relative Humidity [%]



Temperature [°C]

Sensor Characteristic

Capacitance [pF]



Relative Humidity [%]

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