

physical. chemical. biological.





P14 2FW Thermo_5 Capacitive Humidity Sensor Optimal for dew point applications



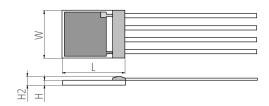






- Fast recovery time
- Temperature measurement on-chip
- Wide temperature range
- Condensation resistance
- High chemical resistance
- Heating of humidity sensor (humidity sensor and heater on one chip)
- Very low drift
- High humidity stability
- Customer-specific sensor available upon request

Illustration¹⁾



1) For actual size, see dimensions

Technical Data

Dimensions (L x W x H / H2 in mm):	5.0 x 3.8 x 0.4 / 0.8	
Operating humidity range:	0 % RH to 100 % RH (maximal dew point +85 °C)	
Operating temperature range:	-50 °C to +150 °C	
Heater/temperature sensor:*	Pt100	
Heater/temperature sensor accuracy:	IEC 60751 F0.3 (class B)	
Capacitance (C ₃₀):*	150 pF ±50 pF (at 30 % RH and +23 °C)	
Typical sensitivity (at $C_{30} = 150 \text{ pF}$):	0.25 pF/% RH (15 % RH to 90 % RH)	
Loss factor:	< 0.01 (at 23 °C, at 10 kHz, at 90 % RH)	
Linearity error:	< 1.5 % RH (15 % RH to 90 % RH at +23 °C after one point calibration)	
Hysteresis:	< 1.5 % RH	
Response time t ₆₃ :	< 6 s (50 % RH to 0 % RH at +23 °C)	
Temperature dependence (nominal):	Δ % RH = (B1 x % RH + B2) x T [°C] + (B3 x % RH + B4)	
	B1 = 0.0014 [1/°C]	B2 = 0.1325 [% RH/ °C]
	B3 = -0.0317	B4 = -3.0876 [% RH]
Measurement frequency range:	1 kHz to 100 kHz (recommended 10 kHz)	
Maximal supply voltage:	< 12 V _{pp} AC	
Signal form:	alternating signal without DC bias	
Connection:*	Ni/Au-flat wire	
Packaging:	packed in a blister of 5 pcs	



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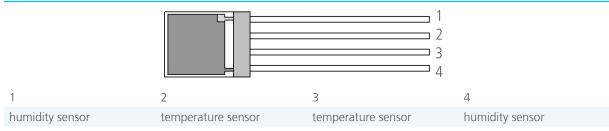




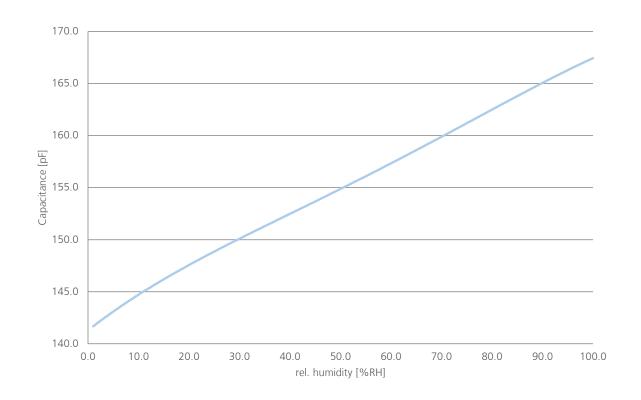
* Customer-specific alternatives available

The calibration of the sensor must be done 5 days after soldering at the earliest.

Pin Assignment



Characteristic Curve





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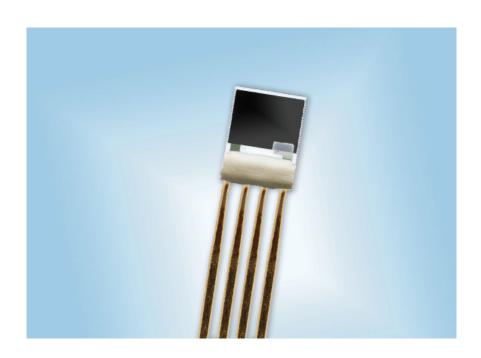


Product Photo









Order Information - Ni/Au-flat wire

Nominal resistance: 100 Ω at 0 °C

P14 2FW Thermo_5 (P0K1)

Order code

153419

Mouser Product number

916-153419



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