HUMIDITY

TEMPERATURE

FLOW

CONDUCTIVITY

MK33-W

Capacitive Humidity Sensor

Optimal for oil measurement applications

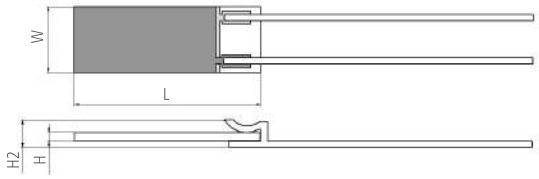
INNOVATIVE SENSOR TECHNOLOGY

Benefits & Characteristics

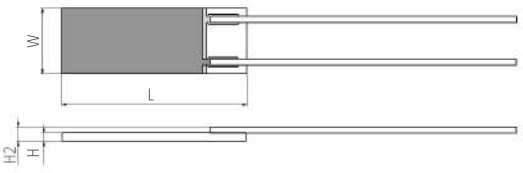
- High chemical resistance
- Wide temperature range
- Condensation resistant
- Fast recovery time
- Very low drift
- High humidity stability
- Suitable for extreme environments
- Customer specific sensor available upon request

Illustration[1)]

SIL



Au/Cu-wire



1) For actual size, see dimensions

Technical Data

Dimensions (L x W x H / H2 in mm):	SIL	10.8 x 3.81 x 0.4 / 1.2
	Au/Cu-wire	10.8 x 3.81 x 0.4 / 0.8
Operating humidity range:	0 % RH to 100 % RH (maximal dew point +95 °C)	
Operating temperature range:	-40 °C to +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 (15 % RH to 90 % RH)	
Loss factor:	< 0.01 (at 23 °C, at 10 kHz, at 90 % RH)	
Linearity error:	< 2 % RH (15 % RH to 90 % RH at +23 °C after one point calibration)	
Hysteresis:	< 2 % RH	
Response time t_{63}:	< 6 s (50 % RH to 0 % RH at +23 °C)	
Temperature dependence (typical):	Δ % RH = (B1 x % RH + B2) x T [°C] + (B3 x % RH + B4)	
	B1 = 0.0011 [1/ °C]	B2 = 0.0892 [% RH/ °C]
	B3 = -0.0268	B4 = -2.079 [% RH]
Measurement frequency:	1 kHz to 100 kHz (recommended 10 kHz)	
Maximal supply voltage:	< 12 V_{pp} AC	
Signal form:	alternating signal without DC bias	
Connection:*	CuP-SIL-wire post-plated with Sn, 10 mm or Au/Cu-wire, Ø 0.4 mm	

* Customer specific alternatives available

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

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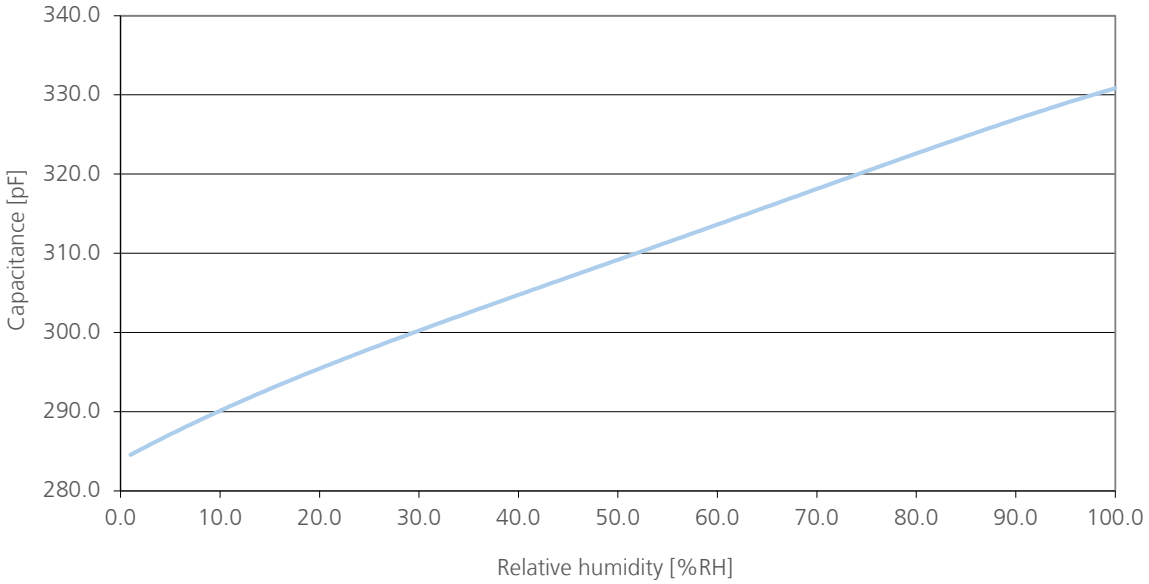
Characteristic Curve



Order Information - SIL (CuP-SIL-wire post-plated with Sn, 10 mm)

	MK33 (300pF ±40pF)
Order code	040.00192

Order Information - Au/Cu-wire, Ø 0.4 mm

	MK33-W (300pF ±40pF)
Order code	040.00180

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ISO 9001 RoHS