



# MK33 Mini



## Capacitive Humidity Sensor



### Optimal for oil measurement applications



#### Benefits & characteristics

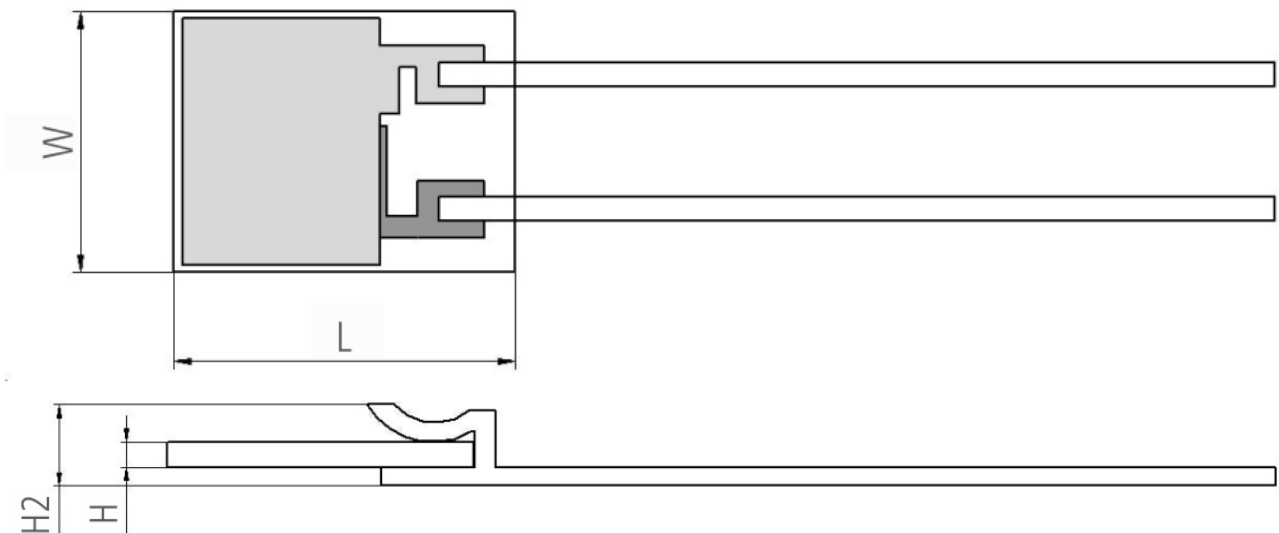


- High chemical resistance
- Wide temperature range (up to +190 °C)
- Condensation resistant
- Fast recovery time
- Very low drift
- Smaller dimensions than MK33-W
- High humidity stability
- Suitable for extreme environments



Customer-specific sensor available upon request

#### Illustration



For actual size see dimensions

L = length

W= width

H2= total height

H= substrate height



## Technical data



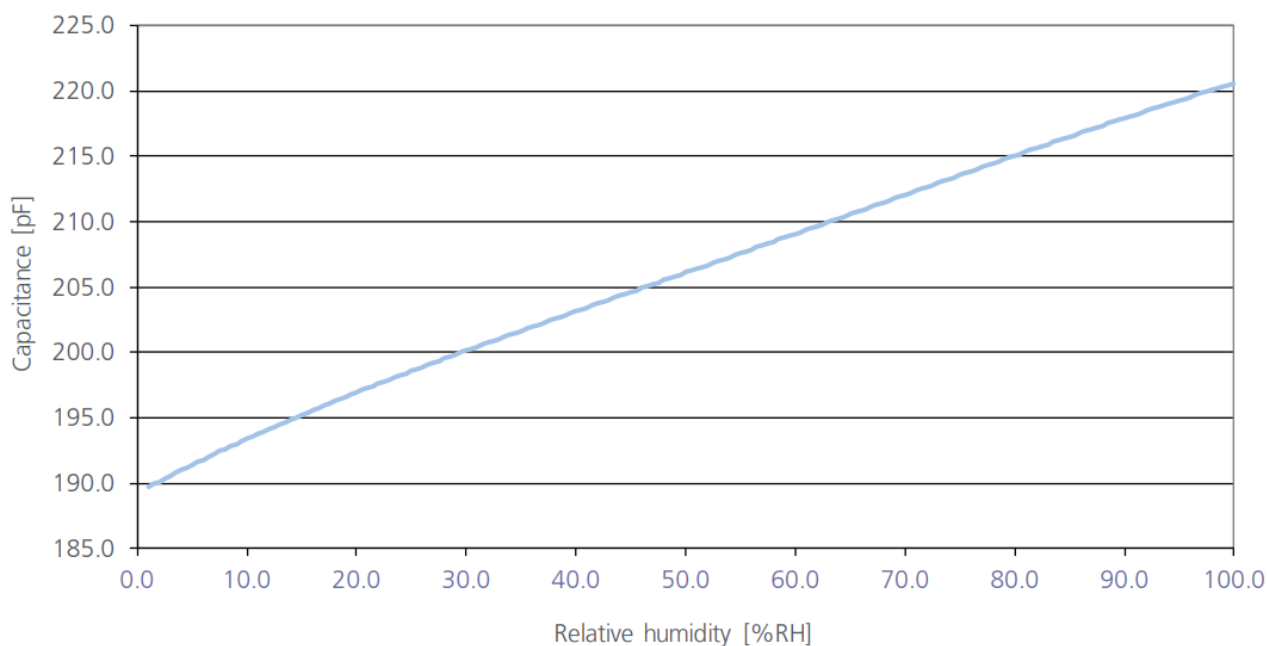
Dimensions (L x W x H/H2 in mm):	5.0 x 3.81 x 0.4 / 1.2
Operating humidity range	0 % RH to 100 % RH (maximal dew point +95 °C)
Operating temperature range:	-40 °C to +190 °C
Capacitance (C <sub>30</sub> ):*	200 pF ±40 pF (at 30 % RH and +23 °C)
Typical sensitivity (at C <sub>30</sub> = 300 pF):	0.3 pF/% RH (20 % 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 <sub>63</sub> :	< 6 s (50 % RH to 0 % RH at +23 °C)
Temperature dependence (nominal):	$\Delta \% RH = (B1 \times \% RH + B2) \times T [^\circ C] + (B3 \times \% RH + B4)$ $B1 = 0.0011 [1/^\circ C]$ $B2 = 0.0892 [\% RH/^\circ C]$ $B3 = -0.0268$ $B4 = -2.079 [\% RH]$
Measurement frequency range:	1 kHz to 100 kHz (recommended 10 kHz)
Maximal supply voltage:	< 12 V <sub>pp</sub> AC
Signal form:	alternating signal without DC bias
Connection: *	CuP-SiL-wire post-plated with Sn, 10 mm

\*Customer-specific alternatives available

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



## Characteristic Curve



## Order information

Order code	Product name (secondary reference)	
150138	MK33 Mini (200pF +/-40pF)	With CuP-SIL wire post-plated with Sn, 10 mm

## Related documents

Document	File name	
Application note Humidity sensors	AH_E	Available in Download-Section on <a href="http://www.ist-ag.com">www.ist-ag.com</a>



Innovative Sensor Technology IST AG • Stegrütistrasse 14 • 9642 Ebnat-Kappel • Switzerland  
 +41 71 992 01 00 • [info@ist-ag.com](mailto:info@ist-ag.com) • [www.ist-ag.com](http://www.ist-ag.com)

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