



HUMIDITY



TEMPERATURE



FLOW



CONDUCTIVITY

P14 FemtoCap

Capacitive Humidity Sensor

Optimal for automotive and white good applications

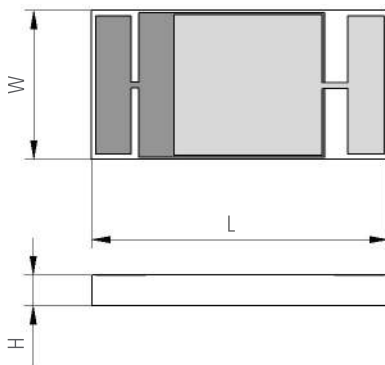


INNOVATIVE SENSOR TECHNOLOGY

Benefits & Characteristics

- High chemical resistance
- Wide temperature range
- Resistance to condensation
- Fast recovery time
- Very low drift
- Excellent price-performance ratio
- Solderable and bondable (fully automated assembly)
- Customer specific sensor available upon request

Illustration¹⁾



1) For actual size, see dimensions

Technical Data

Dimensions (L x W x H in mm):	4 x 2 x 0.4
Operating humidity range:	0 % RH to 100 % RH (maximal dew point +85 °C)
Operating temperature range:	-50 °C to +150 °C
Capacitance (C ₃₀):*	180 pF ±50 pF (at 30 % RH and +23 °C)
Sensitivity (at C ₃₀ = 180 pF):	0.3 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 :	< 3 s (50 % RH to 0 % RH at +23 °C)
Temperature dependence (typical):	$\Delta \% RH = (B1 \times \% RH + B2) \times T [^\circ C] + (B3 \times \% RH + B4)$ B1 = 0.0014 [1/°C] B2 = 0.1325 [% RH/°C] B3 = -0.0317 B4 = -3.0876 [% 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
Connections:	SMD, automatic assembly compatible

* Customer specific alternatives available

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



HUMIDITY



TEMPERATURE



FLOW



CONDUCTIVITY

P14 FemtoCap

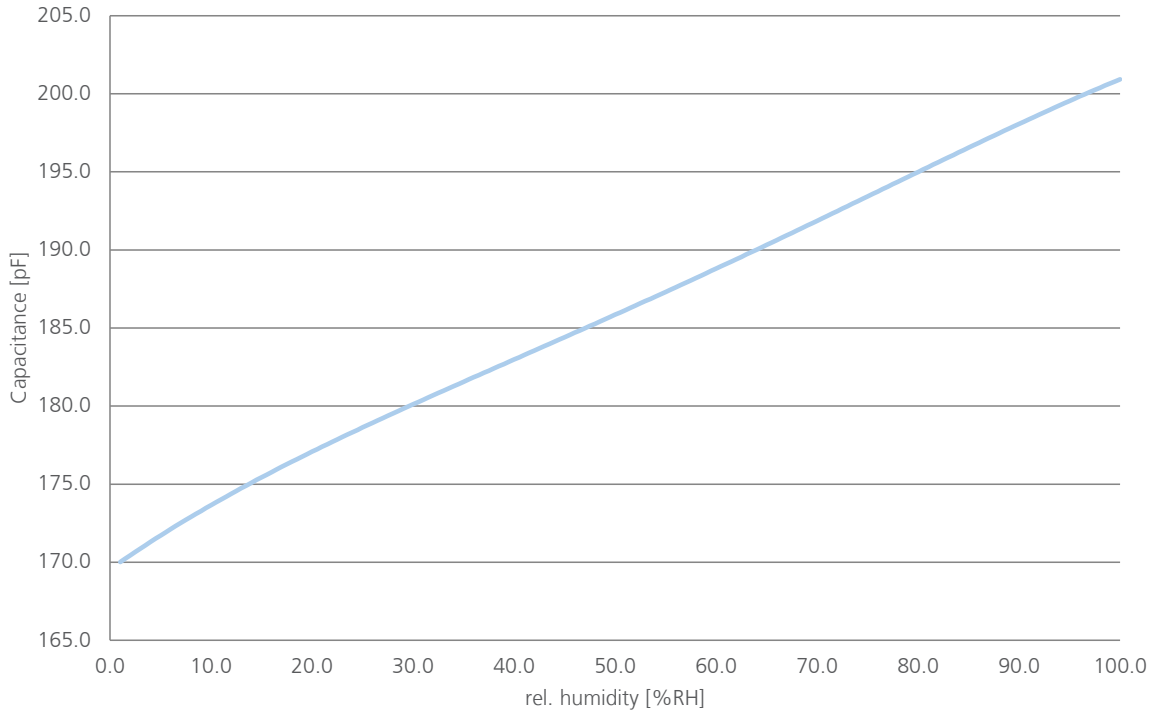
Capacitive Humidity Sensor



INNOVATIVE SENSOR TECHNOLOGY

Optimal for automotive and white good applications

Characteristic Curve



Order Information - SMD

Order code	P14 FemtoCap-G (180pF ±50pF) 040.00111
------------	---



INNOVATIVE SENSOR TECHNOLOGY

Innovative Sensor Technology IST AG, Stegrütistrasse 14, CH-9642 Ebnat-Kappel, Switzerland,
Phone: +41 (0) 71 992 01 00 | Fax: +41 (0) 71 992 01 99 | E-mail: info@ist-ag.com | Web: www.ist-ag.com



All mechanical dimensions are valid at 25 °C ambient temperature, if not differently indicated • All data except the mechanical dimensions only have information purposes and are not to be understood as assured characteristics • Technical changes without previous announcement as well as mistakes reserved • 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 • 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