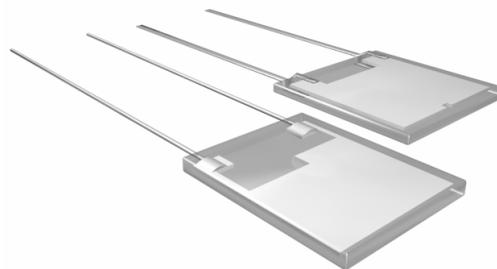


humidity probes

Thin-film Humidity Sensing Element SH

- ◆ Low cost
- ◆ Wide T/RH operating zone
- ◆ Operating temperature up to 200 °C
- ◆ Excellent sensibility
- ◆ Very good dynamic properties
- ◆ Short response time
- ◆ Long-term stability



The SH relative humidity sensing element consists of a system of electrodes on a glass-ceramic substrate, covered by a humidity-sensitive polymer coating and a water-vapor permeable metallic membrane. This coating system represents a humidity-dependent capacitor. Utilizing the principal of capacitive measurement, SH measures relative humidity in air or other non-aggressive gases and gas mixtures with good long-term stability and linearity, small hysteresis, and excellent dynamic response.

Technical specifications

Variant	1	2	3
Specifications			
Working zone			
Measurement range	0... 100 %RH		
Operating temperature	-60...200 °C; with protective cap (option) ⁽¹⁾ : -40...120 °C		
Temperature dependence	RH' = [RH + a*(T-25)]*(b ₀ +b ₁ *T+b ₂ *T ²), where: a = 0.04 for T ≥ 25 °C, 0 for T < 25 °C; b ₀ = 0.98; b ₁ = 6x10 ⁻⁴ ; b ₂ = 6x10 ⁻⁶		
Permissible voltage	max. 3 VAC (no DC voltage allowed!)		
Nominal capacitance	115 ± 15 pF at 20 °C	135 ± 10 pF at 20 °C	1050 ± 50 pF at 20 °C
Sensitivity	0.25 pF / %RH	0.35 pF / %RH	2.5 pF / %RH
Non-linearity	< 1.5% at 5...95 %RH	< 1.5% at 5...95 %RH	< 1.5% at 5...95 %RH
Hysteresis	< 1.5 %RH at 5...95 %RH	< 1.5 %RH at 5...95 %RH	< 1.5 %RH at 5...95 %RH
Long-term stability	< 1 %RH per year	< 1 %RH per year	< 1.5 %RH per year
Response time	< 10 s	< 10 s	< 10 s
Loss factor	< 0.03 at 10 kHz	< 0.03 at 10 kHz	< 0.03 at 10 kHz
Operating frequency	30...300 kHz	30...300 kHz	30...300 kHz
Application	climate control, handheld meters, humidifiers, dehumidifiers, HVAC and industrial applications, high-temperature applications		

⁽¹⁾ Available only for variant '2'

Ordering code SH* - #1

Code	Feature or option	Code values
*	Variant	1, 2, 3
#1	Protective cap ⁽¹⁾	X - none, P - plastic protective cap

COMECO reserves the right of changing specifications without prior notice!