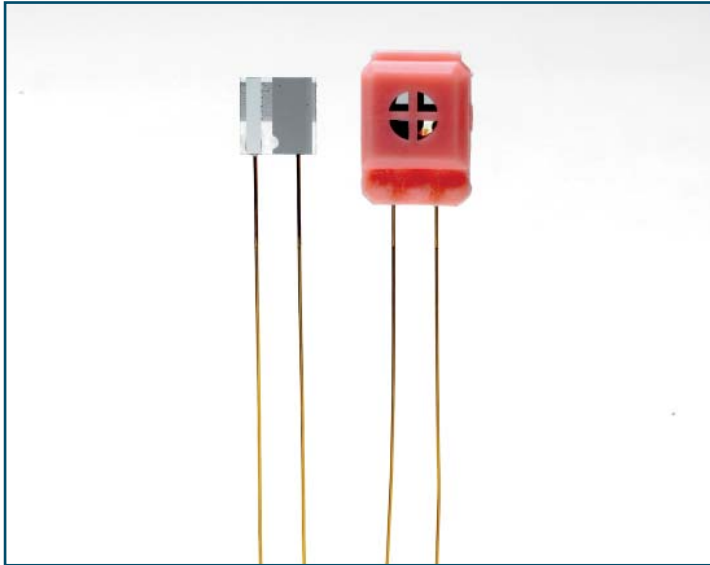


# H5000 & 5100

## Relative Humidity Sensor



The operating principle of these capacitive relative humidity sensors is based on the hygroscopic properties of a polymer coating, which changes capacitance in response to local RH. The polymer reaches equilibrium with the ambient RH quickly and reversibly, and changes its capacitance value depending on the humidity level.

### Highlights

- Capacitive thin film sensor
- Measuring range: RH 0–100%, Temp: -25 to +390°F / -30 to +200°C
- Mixing ratio: 250g/Kg of dry air
- Low hysteresis
- Response time: 4 seconds

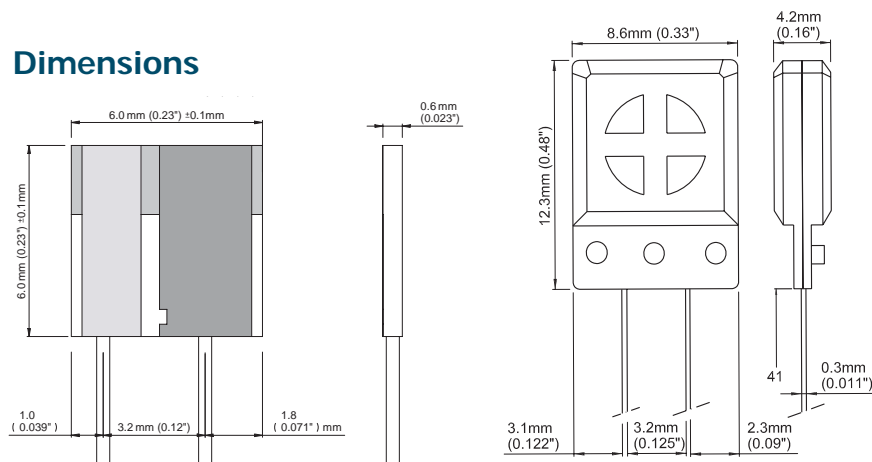
### Technical Specifications

	H5000	H5100
<b>Response time</b> 90% of scale for a step change from 11% to 75% RH	4 sec	4 sec
<b>Operating range</b>		
Humidity	0–100% RH	0–100% RH
Temperature	-30 to +200°C	-30 to +100°C
Pressure	/ -22 to +392°F	/ -22 to +212°F
	0.04–30 bar /	0.04–30 bar /
	0.6–400 psi	0.6–400 psi
<b>Mixing ratio</b>	250g water/Kg dry air	
<b>Nominal capacitance</b> 75% RH @ 23°C / 73°F	500 pF ± 10%	
<b>Sensitivity</b> 11–75% RH @ 23°C / 73°F	0.86 pF/% RH	
<b>Linearity</b> 11–90% RH @ 23°C / 73°F	± 2.5% RH	
<b>Long term stability</b> (12 months) control @ 11% RH	< 1% at 23°C / 73°F	
<b>Maximum air speed</b> (without protection)	< 20m/sec	
<b>Hysteresis</b>	Typical value = 0.5% RH	
<b>D Factor</b> loss tangent @10 KHz 75% RH @ 23°C / 73°F	Typical value = 0.007	
<b>Supply voltage</b> Peak-to-peak	2.5 VAC DC component < 0.2 V	
<b>Operating frequency range</b>	5–300 KHz	
<b>Protection Cap Weight</b>	No 0.1g / 0.0004oz	Yes 1g / 0.035oz

### Order Codes

H5000	<b>Minimum order 50 pieces</b>
H5100 (with protective cap)	<b>Minimum order 50 pieces</b>

### Dimensions



Please note: Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice. Please contact us for latest version. Ref: H3000-H5000\_1001US\_P



Process Measurement & Controls, Inc. Email: sales@pmc1.com  
 Michell Instruments RH Web: www.michell.com/us/rh  
 11 Old Sugar Hollow Road Tel: 203-792-8686  
 Danbury, CT 06810 USA Fax: 203-743-2051

Represented by: