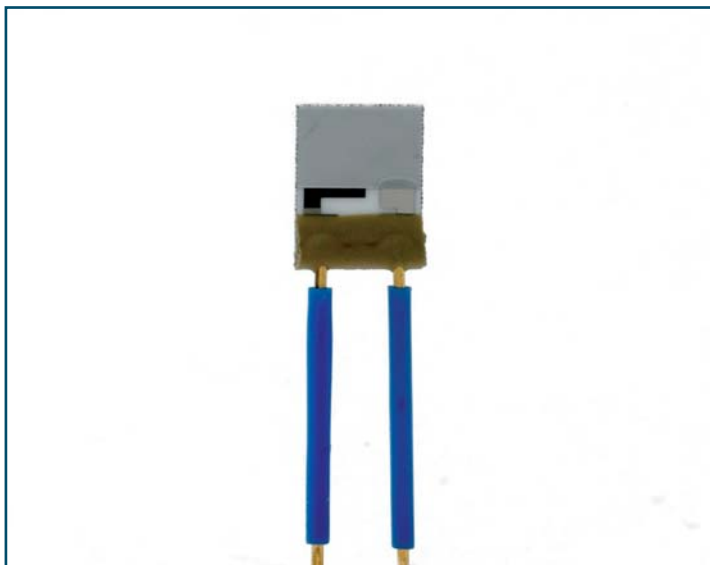


# H3000

## Capacitive Humidity Sensor



Technical Specifications	
Humidity operating range	5–90% RH
Operating temperature range	-22 to +265°F / -30 to +130°C
Capacitance 30% RH @ 23°C / 73°F	150 pF ± 50 pF
Sensitivity (15–90% RH)	0.25 pF/% RH
Loss Factor	< 0.01
Accuracy (15–90% RH @ 23°C / 73°F, after one point calibration)	< 1.5% RH
Hysteresis	< 1.5% RH
Response Time T <sub>63</sub>	< 5s (50% to 0% RH)
Frequency Range	1–100 KHz (recommend 10 KHz)
Maximum Operating Voltage	< 12 Vpp AC
Signal Form	alternating signal without DC bias

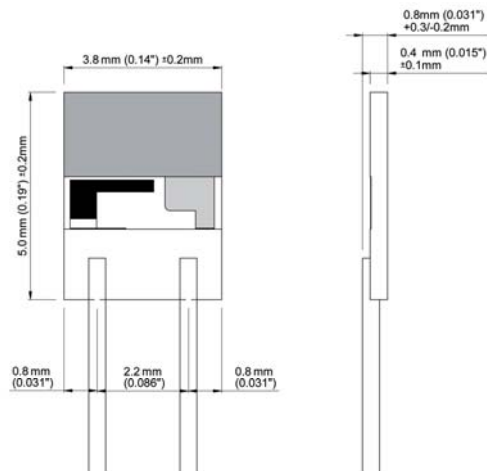
The H3000 humidity sensor can be used in a wide range of HVAC applications. Through the consistent use of state-of-the-art production technologies and our extensive know-how in the field of high performance polymers, we have succeeded in producing a high quality sensor with an almost linear characteristic. The possibility for selecting the electrical connections provides users with ideal opportunities for implementing their own sensor design without limitation.

Order Codes	
H3000	Minimum order 50 pieces

### Highlights

- Applicable in HVAC products
- Good long term stability
- High resistance to various chemicals
- Wide temperature operating range

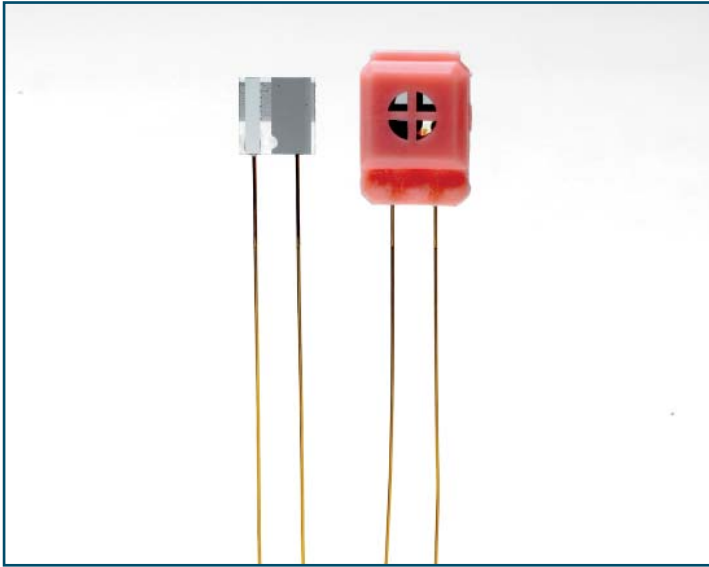
### Dimensions



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

# 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

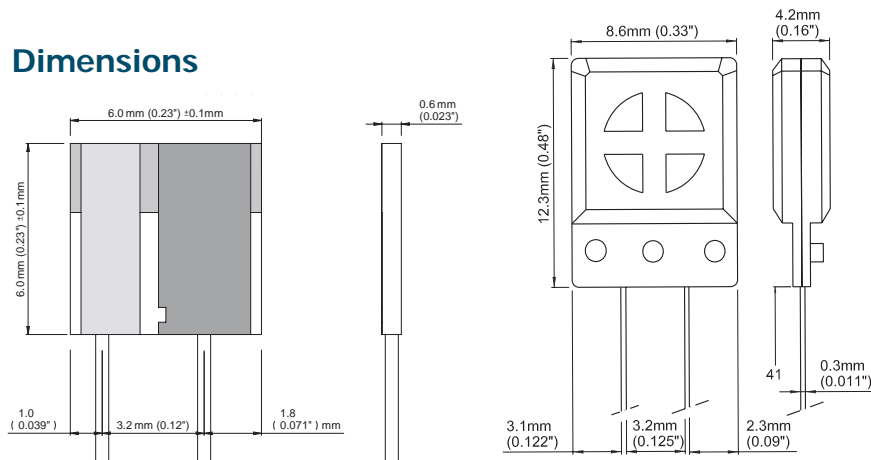
### Technical Specifications

	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



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