H8000

Relative Humidity Element

The H8000 capacitive polymer element is the latest generation technology, developed to reliably and accurately measure moisture in a wide range of relative humidity applications. This element is the core measurement element of Michell's new range of interchangeable HygroSmart sensors, probes and transmitters.



Highlights

- Linearity ±1.5% RH
- Stability ±1% RH per year
- Operating temperature –40 to +200°C
- Low thermal hysteresis
- ø0.4mm leg diameter
- Nominal capacitance 250 pF
- Low RH hysteresis

Applications

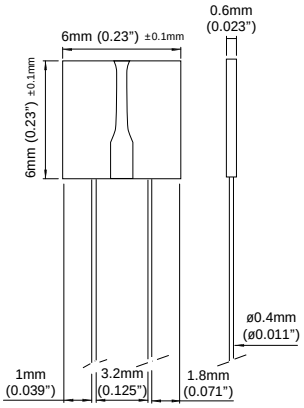
- RH probes
- RH transmitters
- Portable RH checkers
- Custom OEM RH instruments

Technical Specifications

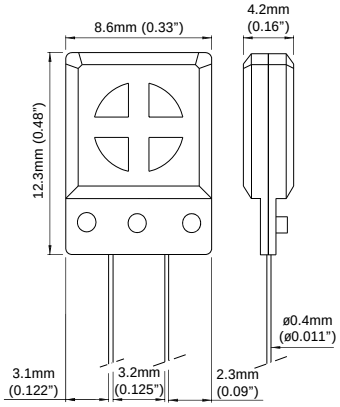
Performance Specifications	
RH measurement range	0 to 100% RH
Linearity @ 23°C	±1.5% RH (5 to 95% RH)
RH hysteresis	±1% RH
RH measurement response time	Less than 10 seconds
RH thermal drift (0 to +70°C / 10 kHz)	**@ 11%:** –0.18% RH/°C **@ 75%:** –0.24% RH/°C
Maximum mixing ratio	250g water/kg dry air (see envelope)
D factor (tangent of loss angle)	0.02 typical
RH long term stability @ 23°C	< ±1% RH per year
Recommended storage range	+10 to +40°C (+50 to +104°F)
Electrical Specifications	
Nominal capacitance (75% RH @ 23°C)	250 pF ±15%
Nominal sensitivity (15 to 85% RH @ 23°C)	0.45 pF / %RH
Operating frequency range	5 / 300 kHz
Operating Specifications	
Operating temperature	–40 to +200°C (-40 to +392°F)
Operating pressure	0.04 to 30 bar
Mechanical Specifications	
Weight	0.1g (without cap)
Leg diameter	ø0.4mm
Leg length	12mm, 50mm

Product Dimensions

H8000 Element without protection cap

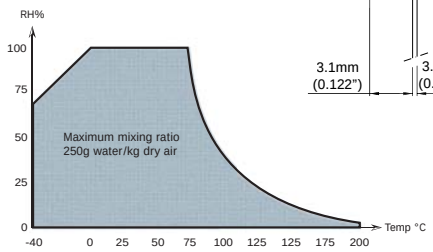


H8000 Element with blue protection cap



Measurement Operating Envelope

The H8000 RH technology operates to the defined technical specifications within the following operating condition envelope:



The orange HygroSmart symbol is used to identify any Michell RH product which has the latest generation HS3 interchangeable sensor

The blue HygroSmart symbol identifies products using the I7000XP generation interchangeable sensor

Related HygroSmart Products



HS3 Probe & OEM Sensor
Advanced interchangeable RH and Temperature Probe



WM281/291
Advanced Wall Mount RH and Temperature Transmitter



WR283/293
Advanced Remote Probe RH and Temperature Transmitter



DT284/294
Advanced 12mm Duct Mount RH and Temperature Transmitter



I7000XP
Interchangeable Sensor for Relative Humidity and Temperature

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Michell Instruments adopts a continuous development programme which sometimes necessitates specification changes without notice.
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