brewer science
Where innovation takes flight!℠

InFlect™ Moisture Sensor

Brewer Science InFlect™ moisture sensors utilize our revolutionary carbon-based nanotechnology to deliver highly sensitive and real time response to small changes in moisture and are ideal for monitoring low humidity environments.

BENEFITS

- Minimizes moisture contamination risk through real-time detection
- Prevents equipment downtime, raw material contamination, scrapped batches, and equipment repair
- Small form factor enables insertion into dry air and inert gas valves and fittings
- Extends battery life due to low power consumption
- Easily interfaces with existing electronic systems

FEATURES

- Ultrafast response time (≤ 10 ms)
- Low-power operation (< 30 pW)
- Rugged encapsulation
- Corrosion-resistant design

APPLICATIONS

- Clean dry air (CDA) lines
- Inert gas lines (N_2, Ar)
- Glove boxes
- Security
- Process monitoring, breath monitoring, etc.

Check out our latest moisture sensor video at www.youtube.com/user/brewerscience.

SPECIFICATIONS

The specifications are for standard moisture sensors. The dimension, form factor, and performance specification can be customized to meet application requirements.

Parameter	Performance	Unit
Resistance value (25°C, 40% RH)	500	kΩ
Resistance tolerance (25°C, 40% RH)	±10	%
Resolution	< 1	%RH
Average humidity coefficient of resistance (HCR)	150-300	Ω/%RH
Response time (1/e in slow moving air)	< 10	ms
Minimum operating power (< 4 mV, < 8 nA)	< 30	pW
I-V linearity	±50	V
Operating temperature	-20 to 100	°C
Operating humidity	0 to 85	%

MOISTURE SENSOR DIMENSIONS

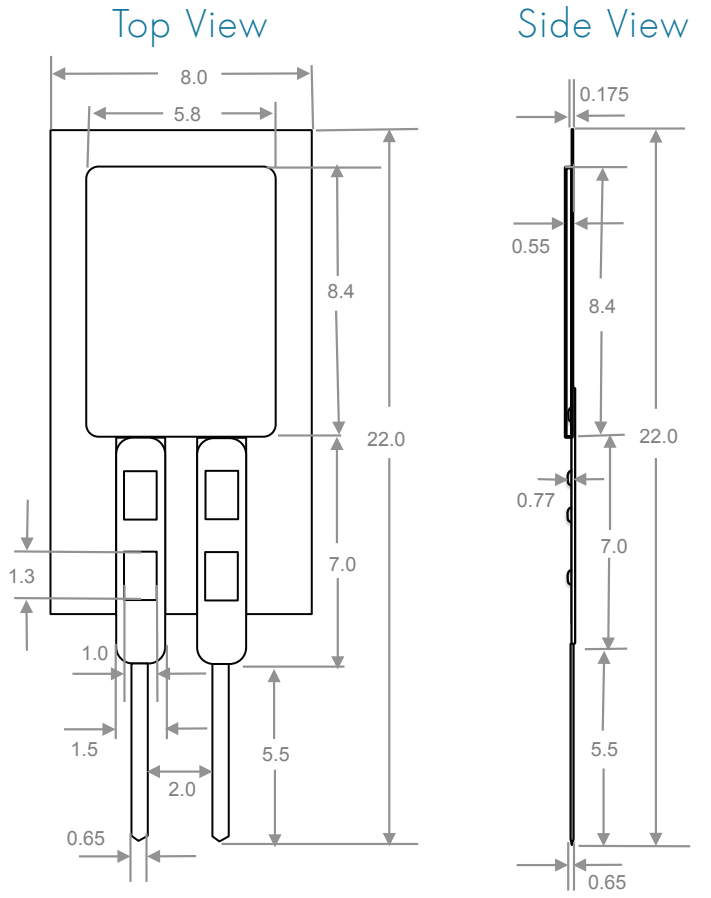

Figure: A schematic of Brewer Science's moisture sensor in millimeters

Parameter	Specification
Sensor dimension	8 x 22 mm
Sensing region dimension	2 x 3 mm
Weight including connecting pins	116 mg
Weight without connecting pins	30 mg
Storage temperature	10-35°C
Storage condition	0-20% RH
Shelf life	> 12 months

Mounting and Electrical

- The moisture sensor comes with 0.1" (2.54 mm) pitch crimp pins
- The moisture sensor is available in FFC connection type for slide-in connection
- Maximum supply voltage = 50 V
- Maximum power dissipation (5 V, 25°C) = 50 µW

SENSOR CUSTOMIZATION

- Dimensions and form factor of the sensors can be customized to meet application requirements.
- The sensors can be fabricated on a large variety of substrates depending upon the application requirements.

Effective Date: 6/8/2016