

083E Relative Humidity Sensor

085 Relative Humidity & Temperature Sensor

The 083E/085 Relative Humidity Sensor is a highly sensitive and stable temperature measurement tool that provides outstanding accuracy.

Model 083E is reliable in the full range of relative humidity conditions, from 0-100%, performing equally well in meteorological, industrial, laboratory and other demanding settings. Model 085 is a combined relative humidity/temperature sensor that uses a dual element thermistor temperature sensor. It can be used with a variety of radiation shields.

The 083E/085 Relative Humidity Sensor measures variance in the capacitance change of a one-micron thick dielectric polymer layer. This film absorbs water molecules through a metal electrode, and causes capacitance change proportional to relative humidity. The thin polymer layer reacts very quickly, providing up to 90% of the final value of relative humidity in fewer than five seconds. The sensor's response is essentially linear, with small hysteresis, and negligible temperature dependence

Features

- All solid state construction, digital electronics
- Fast response of less than 5 seconds to 90% of final value
- Low power consumption of 4 mA at 12 VDC
- Easily cleaned using distilled water
- 0-1V output for 0-100% RH
- Resistive output for temperature
- Will operate from a 12 VDC battery



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Applications

- Ambient Air Monitoring
- Environmental Surveys
- Fence line Monitoring

Relative Humidity

Sensing Element:	Thin film polymer capacitor
Range:	0 - 100% relative humidity
Temperature Operation Range:	-50°C to +50°C (-58°F to 122°F)
Response Time:	10 sec. with 2 m/s aspiration
Temperature Coefficient:	0.04% RH/°C
Accuracy:	±2.0% from 0 – 100% humidity
Output:	0 to 1 VDC – Standard (0 to 5.0 VDC Optional)

Temperature

Temperature Sensor:	Thermistor (precision multi-element)
Temperature Operation Range:	-30°C to +50°C (-22°F to 122°F)
Accuracy:	±.15°C (0.27°C)
Output:	Resistive

Physical Characteristics

Weight:	2.5 oz (70.9 g)
Dimensions:	.75 in (19.05 mm) diameter, 7.5 in (190.5 mm) length

Ordering Information

083E-6	For use with the 076B Motor Aspirated Shield
083E-35	For use with the Naturally Aspirated Shield - Requires cable P/N 2348 (Specify Length ft/m) For use with the 076B
085-6	Motor Aspirated Shield
085-35	For use with the Naturally Aspirated Shield - Requires cable P/N 2348 (Specify Length ft/m)

Power

Input Power:	4 mA at 12 VDC (10-14 VDC)
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Specifications are subject to change at any time.