

**083F** Relative Humidity Sensor  
**085A** Relative Humidity / Temperature Sensor

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



083F Relative Humidity Sensor

## 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

## Power

Input Power: 4 mA at 12 VDC (10-14 VDC)

## 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

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

## Ordering Information

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

*Specifications are subject to change at any time.*

