



## Suitable for Wind-Farm Performance Measurements

### Overview

The 083E, manufactured by Met One, is a temperature and relative humidity sensor that is commonly used with the WMS100 for wind-farm power performance measurements.

The sensor is made of corrosion-resistant aluminum and polymer, and it is water-tight. Use this sensor to measure the full range of relative humidity, from 0 to 100%.

### Detailed Description

The 083E 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 a capacitance change that is proportional to relative humidity. The thin polymer layer reacts 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.

Temperature is measured with an internal thermistor.

### Specifications

Measurement Description	Temperature, relative humidity
Signal Type/Output	Analog voltage
Input Power	4 mA at 12 Vdc (10 to 14 Vdc)
Diameter	1.91 cm (0.75 in.)
Length	19.05 cm (7.5 in.)
Weight	70.9 g (2.5 oz)

#### Relative Humidity

Sensor	Thin film polymer capacitor
Measurement Range	0 to 100% RH

Response Time	10 s (with 2 m s <sup>-1</sup> aspiration)
Temperature Coefficient	0.04% RH per °C
Accuracy	±2.0% from 0 to 100% humidity
Output Signal Range	0 to 1 Vdc

#### Air Temperature

Sensor	Thermistor (precision multi-element)
Operating Temperature Range	-50° to +50°C
Accuracy	±0.10°C (0.18°F)

Output

Resistive

For comprehensive details, visit: [www.campbellsci.com/083e](http://www.campbellsci.com/083e) 



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