

RELATIVE HUMIDITY/TEMPERATURE SENSOR P/N 101812-G0, G1 & G2

FEATURES:

- **Moderate Cost**
- **Excellent Long-Term Stability**
- **Wide Operating Temperature Range**
- **Contamination Resistant**
- **Linear Voltage Output**
- **Compact Size**

Climatronics' capacitive relative humidity sensor (P/N 101812) is specifically designed for meteorological monitoring systems. Very low power consumption makes this capacitive relative humidity sensor ideal for integration with data acquisition systems operating in remote locations. The sensor provides a linear 0 - 1 VDC output signal corresponding to 0 - 100% relative humidity. Energizing the sensor is only required for 0.25 seconds during each measurement cycle.

The sensor can be used over long periods of time without maintenance or calibration, and features exceptional resistance to contaminants. Repeatability is also excellent, even after complete sensor saturation. The sensor maintains its accuracy over the full range of humidity, even at conditions close to condensation. This is accomplished by electronic temperature compensation of the humidity element. Separate power and signal grounds permit the use of long cable runs without loss of signal accuracy.

The dual-measurement probe includes a temperature sensor with electrical and performance characteristics matching those of a 100 Ohm platinum resistance thermometer, conforming to British Standard Institution BS 1904:1984, tolerance Class A.



SPECIFICATIONS

PERFORMANCE

Relative Humidity

Accuracy: $\pm 1\%$ RH, from 0 - 100%
Repeatability: $\pm 0.3\%$ RH
Operating Range: 0 - 100%
Operating Temperature Range: -40°C to $+70^{\circ}\text{C}$
Long-Term Stability: $\pm 1\%$ over 12 months
Response Time (without filter): 10 seconds

Temperature

Type: 100 Ohm platinum resistance thermometer
Range: G0 = -30°C to $+70^{\circ}\text{C}$
G1 = -50°C to $+150^{\circ}\text{C}$
G2 = -40°C to $+70^{\circ}\text{C}$
Accuracy: $\pm 0.3^{\circ}\text{C}$
Repeatability: $\pm 0.1^{\circ}\text{C}$
Resolution: 0.1°C
Standard Conformance: British Standard Institution No. BS 1904:1984, tolerance class A

ELECTRICAL

Relative Humidity

Excitation Power: 4.8 to 26.5 VDC; max current consumption 10 mA @ 12 VDC
Signal Output: 0 - 1 VDC = 0 - 100%
Output Impedance: 1000 Ohms

Temperature

Excitation Power: Supplied by the Central Control Unit, signal conditioner, or data logger
Signal Output: G0 = -0.3 to 0.7 Vdc, G1 = -0.5 to 1.5 Vdc, G2 = 0 to 1.0 Vdc

PHYSICAL

Length: 10.12" (257mm)
Diameter: 0.98" (25 mm)
Weight: 0.16 lb (0.16 kg)



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