

# RELATIVE HUMIDITY SENSORS

## FEATURES

- **Inexpensive**
- **Excellent Long-Term Stability**
- **Wide Operating Temperature Range**
- **Contamination Resistant**
- **Optional Temperature Sensor**
- **Linear Voltage Output**
- **Compact Size**

Climatronics' capacitive relative humidity sensors, P/N 102273 and 102425 are specifically designed for meteorological monitoring systems. Very low power consumption makes these relative humidity sensors ideal for integration with data acquisition systems operating at remote locations. Both sensors provides a linear 0 to 1 VDC output signal corresponding to 0 to 100% relative humidity.

The sensors require a minimum of maintenance or calibration and features exceptional resistance to contaminants. Repeatability is also excellent, even after complete sensor saturation. The P/N 102273 sensor maintains its accuracy over the full range of humidity, even in conditions close to condensation. This is accomplished by electronic temperature compensation of the humidity element. The moderately priced P/N 102425 sensor does not have the high overall accuracy of the P/N 102273 and an increase in error at the upper and lower 10% of its range.

Both sensors include provision for adding a temperature measurement. The temperature option for the P/N 102273 is a dual bead thermistor with electrical and performance characteristics identical to that of Climatronics P/N 100093 temperature sensor. The temperature option of the P/N 102425 sensor is a PT100 platinum transducer, which produces a 0 to 1 VDC linear output of the specified temperature range. Dimensions and weight of the sensors remain the same with or without the temperature option.



## SPECIFICATIONS

### PERFORMANCE

**P/N 102273**

**P/N 102425**

#### Relative Humidity

Accuracy	<+/- 1% RH from 0 to 100%	<+/- 3% RH from 10 to 90 %
Repeatability	+/-0.3% RH	
Operating Range	0 to 100 %	0 to 100 %
Operating Temperature Range	-40° to 60°C	-10° to 60°C
Long Term Stability	+/-1% over 12 months	+/- 5% RH over 24 months
Response Time (without filter)	10 seconds	10 seconds

#### Temperature

Type	Dual bead thermistor	PT1000 DIN 43760B
Accuracy	+/- 0.15°C	+/- 0.6°C
Range	-30° to 50°C	-10° to 60°C

### ELECTRICAL

#### Relative Humidity

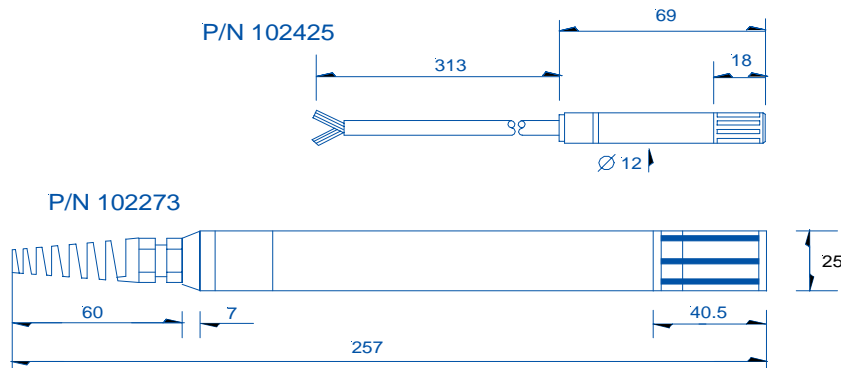
Excitation Power	4.8 to 30 VDC; 2.5 mA @ 12 VDC	7 to 28 VDC; 2 mA @ 12 VDC
Signal Output	0 to 1 VDC = 0 to 100%	0 to 1 VDC = 0 to 100%
Output Impedance	1000 Ohms	

#### Temperature

Excitation Power	Precision DC voltage supplied by Climatronics data logger or signal conditioner	7 to 28 VDC; 2 mA @ 12 VDC
Signal output	Variable, low level DC voltage for input to data logger or signal conditioner	0 to 1 VDC = -40° to 60°C

### PHYSICAL

Length	10.12 in (257 mm)	2.7 in (69 mm)
Transducer Diameter	0.98 in (25 mm)	0.47 in (12 mm)
Weight	0.15 lb (70 g)	0.15 lb (70 g)



Dimensions in mm / Modifications reserved



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