

SONIMOMETER[®]

FEATURES

- **No Moving Parts**
- **No Periodic Maintenance**
- **Immersible (Sealed Unit Only)**
- **Digital and Analog Outputs**
- **Automatic North Alignment (Optional)**
- **Ice-Free Operation (Optional)**

Climatronics' sonic anemometer, the "SONIMOMETER", is designed as a direct replacement for conventional mechanical anemometers both in terms of performance and cost. It requires no periodic maintenance or calibration. An immersible unit, (P/N 102264) is ruggedized for harsh environments or applications such as off-shore buoys and HazMat emergency response.

The Sonimometer[®] operates on the established principle of the measurement of the speed of sound in air. All electronics utilize the latest solid state surface mount technology conserving power, size, and weight. Power consumption is low, at less than 0.5 watt.

The Sonimometer[®] body is slender and aerodynamic to assure that minimum turbulence is introduced into the measured air stream. The Sonimometer[®] head measures 4 inches in diameter and 8 inches high. This makes the sonic anemometer unobtrusive and therefore ideal for applications where detection wants to be minimized, or where vandalism may be anticipated. Its small size and surface area allow the Sonimometer[®] to be kept ice free even at relatively low power levels.

The electronics produce both digital and analog outputs, which are compatible with any of Climatronics' and other commonly available data acquisition systems. A flux-gate compass is available where self-orientation is important. Wind direction is automatically processed and output as referenced to magnetic north.

The sensor is ideal for applications requiring high reliability, low maintenance, ice free operation, ruggedness or portability.



SPECIFICATIONS

PERFORMANCE:

STANDARD P/N 102263

RUGGEDIZED P/N 102264

Wind Speed

Range 0-60 m/s (0-135 mph)
 Accuracy * ± 0.2 m/s (0.45 mph) or 5%
 Resolution 0.1 m/s (0.22 mph)
 Repeatability ± 0.2 m/s (0.45 mph) or 5%

0-60 m/s (0-135 mph)
 ± 0.5 m/s (1.1 mph) or 5%
 0.1 m/s (0.22 mph)
 ± 0.5 m/s (1.1 mph) or 5%

Wind Direction

Range 0-360°
 Accuracy * $\pm 5^\circ$ @ wind speed > 2.2m/s (5 mph)
 (Including compass error)
 Resolution $\pm 1.0^\circ$

0-360°
 $\pm 5^\circ$ @ wind speed > 2.2m/s (5 mph)
 (Including compass error)
 $\pm 1.0^\circ$

Compass **

Accuracy $\pm 2^\circ$

ELECTRICAL:

Measurement Format Two orthogonal axis, North/South and East/West
 Measurement Rate 2 Hz each axis
 Operating Frequency 40 KHz
 Signal Output RS-232, RS-422 or RS-485 ASCII
 @ 1200/19200 BPS (0-1 Vdc or 0-5 Vdc **)
 representing wind speed and wind direction
 over the measurement range selected

Power Requirements

Sensor 10-14 Vdc @ 50 mA nominal, option dependent
 Heater ** 115 Vac/60 Hz, 100 W (P/N 102299)

ENVIRONMENTAL:

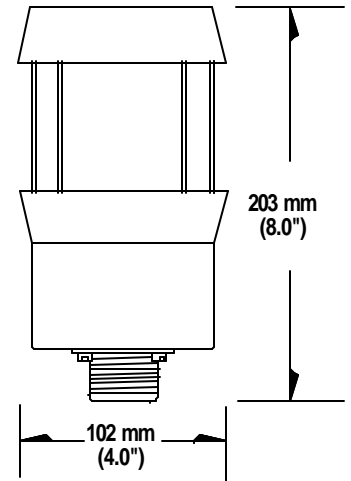
Temperature -40° to 60°C (-40° to 140°F)
 Humidity 0-100%

PHYSICAL:

Weight 0.77 Kg (1.7 lbs.)
 Size 203.2 mm (8.0") high by 101.6 mm (4.0") dia.
 Mounting MS3102R18-1P connector or P/N 102286-XX
 sensor mount to 3/4", 1.0" or 1-1/4"IPS vertical
 pipe stub

SHIPPING:

Weight 1.36 Kg (3.0 lbs)
 Volume 0.012 m³ (0.44³ lbs)



* This accuracy is maintained when the sensor is within ± 10 degrees of vertical
 ** OPTIONAL



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