



INDUSTRIAL GRADE SONIMOMETER™

FEATURES

- **No Moving Parts**
- **No Periodic Maintenance**
- **Digital and Analog Outputs**
- **Automatic North Alignment (Optional)**
- **Ice-Free Operation (Optional)**
- **Two Year Warranty**
- **Field configurable**

Climatronics' Sonimometer™ (sonic anemometer) (P/N 102683) is designed for ambient wind sensing in harsh environment industrial applications as a direct replacement for conventional mechanical propeller and cup anemometers, both in terms of performance and cost. It requires no periodic maintenance or calibration.

The Sonimometer™ operates on the 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, with a power consumption of less than 0.5W for the unheated version.

The Sonimometer™ measures only 4 inches in diameter and 8 inches high, and the body is slender and aerodynamic to assure that minimum turbulence is introduced into the measured air stream. Measurement interference is further reduced by the transducers being located out of the measurement air stream. This also serves to increase the reliability and longevity of the sensor as dust, debris, snow, rain, etc. will not impact directly on the transducers.

Standard digital outputs are RS-232C, RS-485 and SDI-12 which are easily interfaced to any of Climatronics' or other commonly available data acquisition systems. A variety of standard analog outputs are also available. With the flux-gate compass option, the wind direction output is automatically referenced to magnetic north.

The small size and surface area of this anemometer allows it to be kept ice free even at relatively low power levels. The heated version of this anemometer, P/N 102729, includes the heating elements, which are factory-installed. The heater control box, P/N 102626, is ordered separately.

The Sonimometer™ is now totally field configurable through a very user friendly, software interface, which is accessed through the serial port.

This sensor is ideal for applications requiring high reliability, NO maintenance, ruggedness, ice-free operation or portability.



SPECIFICATIONS

PERFORMANCE

P/N 102683 or 102729

Wind Speed

Range 0 to 65 m/s (0 to 145 mph)
Accuracy * ± 0.5 m/s (1.1 mph) or 5%

Resolution 0.1 m/s (0.22 mph)
Repeatability ± 0.2 m/s (0.45 mph) or 5%

Wind Direction

Range 0 to 360°
Accuracy * $\pm 5^\circ$ (Including compass error)
Resolution $\pm 1.0^\circ$

ELECTRICAL

Measurement Format Two orthogonal axes,
North/South and East/West
Measurement Rate 2 Hz each axis
Operating Frequency 40 KHz
Signal Output DIGITAL: RS-232C, 100 ft @ 9600 BPS & 50 ft @ 19.2 KBPS RS-485, 4000 ft @ 9600 BPS and SDI-12, 200 ft @ 1200 BPS** ANALOG: 0 -1, 0-2.5, 0-5 or 1-5 VDC, over the measurement range selected.

Power Requirements Sensor: 9 - 36 VDC @ 35 mA nominal, option dependent
Heater** 115 VAC/60 Hz, 100 W

Mean Time Between Failures (MTBF) 80,000 hours

ENVIRONMENTAL

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

PHYSICAL

Weight 1.00 kg (2.2 lbs)
Size 203.2 mm (8.0 in) high by 101.6 mm (4.0 in) dia
Mounting P/N 102683 = 102694 mount
P/N 102729 = 102286 mount to 3/4 in IPS (1.05" or 26mm OD) vertical pipe stub.

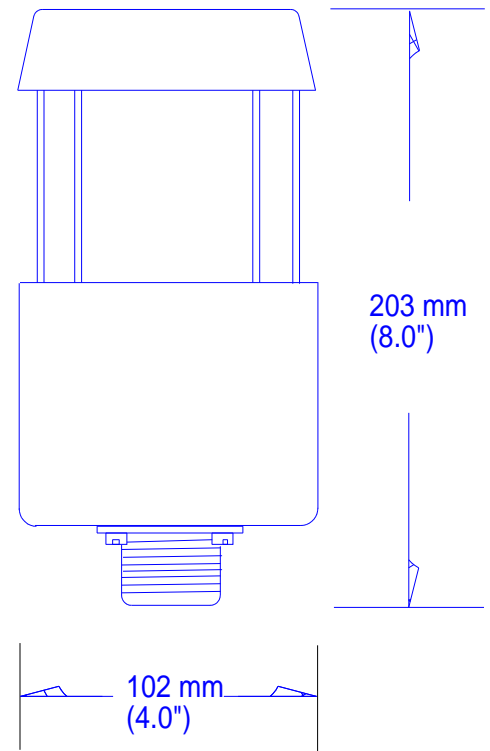
SHIPPING

Weight 1.36 kg (3.0 lbs)
Volume 0.012 m³ (0.44 ft³)

* This accuracy is maintained when the sensor is within ± 10 degrees of vertical
**P/N 102729 w/heater option does not include SDI-12

Options Configuration Guide

Base Part Number	102683 (contact factory for heated sensor)	
Digital Outputs	RS-232C, RS-422/485 and SDI-12	
Baud Rate/Output Options	1200	1
	2400	2
	4800	3
	9600	4
	19200	5
	485 Tracker	6
	NMEA	7
Analog Output Options	None	C0
	0 - 1 Volt	C1
	0 - 5 Volt	C2
	0 - 2.5 Volt	C3
	1 - 5 Volt	C4
Averaging Options	Instantaneous	A
	Running Avg	B
Speed Units	MPH 0 to 145	1
	M/S 0 to 65	2
	Knots 0 to 125	3
	Kilometers/Hr 0 to 234	4
	Mph 0 to 100	5
	M/S 0 to 50	6
	Knots 0 to 100	7
Compass Option	None	E
	11709	F



Typical Complete Part Number: 102683-4-C0-A-1-E



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Rev.29 Nov 2007