



## SONIC WEATHER STATION (SWS)

### FEATURES

- **All-In-One Measurement of Temperature, Relative Humidity, Wind Speed, Wind Direction, and Barometric Pressure**
- **Integrated Sonimometer™ Wind Sensor**
- **Automatic Wind Direction Alignment to Magnetic or True North**
- **Rugged, Reliable, Quick to Deploy**
- **All Metal Construction**
- **Weather Protected Multi-Sensor Design**
- **No Moving Parts**
- **Low Power Consumption**
- **Digital Output**
- **Proven Field-Use History**

The Sonic Weather Station (SWS) is the next-generation weather instrument that measures temperature, relative humidity, wind speed, wind direction, and barometric pressure in a single compact, rugged unit.

This SWS integrates a unique low-power sonic anemometer, the Sonimometer™, with a multi-element temperature sensor, fast-response capacitive relative humidity sensor, state-of-the-art barometric pressure sensor, and an internal flux-gate compass for automatic alignment of wind direction to magnetic north for quick deployment (true/magnetic North offset is adjustable by the user through software command). The result is a professional grade all-in-one weather station designed for reliability, longevity, and ease of installation.

The small footprint and power efficiency of the SWS make it ideal for remote regions, urban environments, air quality networks, construction/remediation sites, and other network applications

Designed for maximum portability and utility, the SWS is uniquely applicable for rapid deployment and use by one person under all conditions. The unit may be mounted on a tripod or vehicle mast.



Data output is a serial, digital message that can be interfaced to most data logging systems. Software is provided for user interface. Options are offered for wireless communication.

The AIO Weather Sensor is supported by a number of accessories, including carrying cases, a compact quick deploy lightweight tripod, and external power options. Additional complete and custom packages are available for HAZMAT and air quality applications.

## SPECIFICATIONS

### PERFORMANCE

#### Wind Speed

Range	0 to 75 m/sec (0 to 168 mph)
Accuracy	$\pm 0.5$ m/s or $\pm 3\%$ of reading from 0 – 50 m/s <sup>1</sup> ; $\pm 5\%$ from 50 – 75 m/s
Resolution	0.1 m/s

#### Wind Direction

Range	0° to 360°
Accuracy	$\pm 5^\circ$ @ wind speed > 2.2 m/s
Resolution	1.0°

#### Temperature

Range	-40°C to +60°C (-40°F to +140°F)
Accuracy	$\pm 0.2^\circ\text{C}^2$
Resolution	0.1°C

#### Relative Humidity

Range	0 to 100%
Accuracy	$\pm 3\%$
Resolution	1.0%

#### Pressure

Range	600 to 1100 hPa
Accuracy	$\pm 0.50$ hPa <sup>3</sup>
Resolution	0.1 hPa

#### Compass

Accuracy	$\pm 2^\circ$
Resolution	1°

#### Notes:

1. Whichever is greater
2. Over the range of 0° to 60°C.  $\pm 0.5^\circ$  from -40° to 0°C.
3. At constant temperature (25°C)

## STANDARD

- Mounting and Alignment Adapter (P/N 10523) with 10 meter connecting cable (P/N 10424)
- RS-232C, RS-485, SDI-12 communications configuration
- +12 VDC power supply

## OPTIONAL FEATURES AND ACCESSORIES

- Support tripod
- Carrying case
- External battery
- Analog converter

### ELECTRICAL

Measurement Rate	Output: 1 Hz
Signal Output	RS-232C, RS-485, SDI-12
Power Requirements	8 to 36 VDC @ 25 mA nominal, option dependent

### ENVIRONMENTAL

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

### PHYSICAL

Construction	Aluminum and stainless steel
Weight	0.91 kg (2.0 lbs)
Size	292.1 mm (11.5 in) high by 101.6 mm (4.0 in) dia.
Mounting	Mounting and alignment adapter vertical $\frac{3}{4}$ inch or 1 inch pipe
Color	Gloss white powder coat

### SHIPPING

Weight	1.82 kg (4.0 lbs)
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