



## HOBO<sup>®</sup> S-WCA-M003 Sensor

### Wind Speed and Direction Smart Sensor

The combination Wind Speed and Direction Smart Sensor provides average wind speed, highest 3-second wind gust, and average wind direction in the measurement interval. Designed with a large wind vane area for high sensitivity, the Wind Speed/Direction Smart Sensor offers high accuracy at an affordable price. The wind speed sensor has fiberglass reinforced thermoplastic cups and shielded stainless steel ball bearings for fast response. The wind vane has metal bushings.



NOTE: the M-CAB Half Cross Arm is required for mounting.

Warning: The S-WCA wind speed and direction sensor is designed for sensitivity, not ruggedness. It is not suitable for use in the following locations:

on tall buildings in the wake of wind turbines or other locations with turbulence in locations with icing combined with high winds

The wind sensor must be mounted on a mast secured with guy wires to prevent the sensor from vibrating in high winds. For harsh applications we recommend using one of the following RM Young wind sensors with one of our adapters: Wind Sentry Adapter, Wind Monitor Adapter, Wind Monitor AQ Adapter, or Marine Wind Monitor Adapter.

#### Key Advantages:

- Provides average wind speed, highest three-second wind gust, and average wind direction
- High sensitivity
- Fiberglass reinforced thermoplastic cups

## HOBO S-WCA-M003 Sensor Specifications

Specifications	Wind Speed/Gust	Wind Direction
Measurement Range	0 to 44 m/s (0 to 99 mph)	0 to 358 degrees, 2 degree dead band
Maximum Wind Speed Survival	In non-icing conditions: 45 m/sec (100 mph) peak, or 34 m/sec (75 mph) sustained* In icing conditions: 34 m/sec (75 mph) peak, or 18 m/sec (40 mph) sustained*	
Accuracy	$\pm 0.5$ m/s ( $\pm 1.1$ mph) $\pm 3\%$ 17 to 30 m/s (38 to 67 mph) $\pm 4\%$ 30 to 44 m/s (67 to 99 mph)	$\pm 5$ degrees
Resolution	0.19 m/s (0.42 mph)	1.4 degrees
Starting Threshold	0.5 m/s (1.1 mph)	0.5 m/s (1.1 mph)
Damping Ratio	NA	0.4
Distance Constant	Approximately 3 m (9.8 ft)	0.8 m (2.6 ft)
Measurement Definition	Cup revolutions are accumulated every three seconds for the duration of the logging interval. Wind speed is the average speed for the entire logging interval. Gust speed is the highest three-second wind recorded during the logging interval.	Unit vector components of wind direction are accumulated every three seconds for duration of logging interval. Average direction is calculated from the average of these.
Operating Temperature Range	-40°C to +75°C (-40°F to +167°F)	
Environmental Rating	Weatherproof	
Service Life	2 to 5 years typical depending upon environmental conditions	
Housing	Anodized aluminum housing, injection-molded plastic cups, stainless steel fasteners, Acetal base, and black anodized aluminum mounting rod.	
Bearing Type	Stainless steel shielded ball bearing	Bushing
Turning Radius	108 mm (4.25 in.)	Approximately 305 mm (12.5 in.)
Dimensions	317 mm (12.5 in.) H x 419 mm (16.5 in.) W, 12.7 mm (0.5 in.) diameter mounting pole	
Weight	Approximately 700 g (1.5 lbs)	
Bits per Sample	8 for each channel, 24 total	
Number of Data Channels**	3	
Measurement Averaging Option	Automatic averaging (see Measurement Definition)	
Cable Length Available	3.0 m (9.8 ft)	
Length of Smart Sensor Network Cable *	3.0 m (9.8 ft)	
Part Number	S-WCA-M003	

\* **Warning:** The S-WCA wind speed and direction sensor is designed for sensitivity, not ruggedness. It is not suitable for use in the following locations:

1. on tall buildings
2. in the wake of wind turbines or other locations with turbulence
3. in locations with icing combined with high winds

The wind sensor must be mounted on a mast secured with guy wires to prevent the sensor from vibrating in high winds. For harsh applications we recommend using one of the following RM Young wind sensors with one of our adapters: Wind Sentry Adapter, Wind Monitor Adapter, Wind Monitor AQ Adapter, or Marine Wind Monitor Adapter.

\*\* A single HOBO Weather Station logger can accommodate 15 data channels and up to 100 m (325 ft) of smart sensor cable (the digital communications portion of the sensor cables).

## Contact Us

Sales (8am to 5pm ET, Monday through Friday)

- ▶ Email [sales@onsetcomp.com](mailto:sales@onsetcomp.com)
- ▶ Call 1-508-759-9500
- ▶ In U.S. toll free 1-800-564-4377
- ▶ Fax 1-508-759-9100

Technical Support (8am to 6pm ET, Monday through Friday)

- ▶ Contact Product Support [www.onsetcomp.com/support/contact](http://www.onsetcomp.com/support/contact)
- ▶ Call 1-508-759-9500
- ▶ In U.S. toll free 1-877-564-4377

Onset Computer Corporation  
470 MacArthur Boulevard  
Bourne, MA 02532