200-WS-0x WeatherPort Series

WeatherPort Wind Sensors are moderately priced quality transducers designed for general applications up to 125 mph (56 m/s). The sensors are easy to install and maintain. They are constructed of injection molded thermoplastic, anodized aluminum, and stainless steel for reliable operation in adverse environments.

Wind Speed and Wind Run

The **200-WS-01** is a cup-style anemometer. One or more permanent magnets in the rotating cup assembly cause a reed switch in the base to close momentarily, so that the frequency of pulses is proportional to wind velocity, and the number of pulses is proportional to distance.

- **Wind speed** sensors output 3 pulses per revolution (3 ppr).
- **Wind run** sensors output 1 pulse per revolution (1 ppr).

Wind Direction

The **200-WS-04** is a vane-style direction sensor. The wind vane is coupled to a 20K ohm single turn potentiometer. When connected to a well-regulated voltage source the output voltage of the sensor is proportional to the wind direction and can be read by a single-ended analog input channel.

Wind Speed and Direction

The **200-WS-02** combines two sensors into one compact in-line unit. Wind speed is output at the rate of 3 pulses per revolution, while the direction is measured by a 20k ohm potentiometer.

Ordering Information

Wind Run

200-WS-01B-C1	Wind Run Sensor, 1ppr, 40' cable
200-WS-01C	Wind Run Sensor, 1ppr, 1' wires (wires exit through base)

Wind Speed

200-WS-01A	Wind Speed Sensor, 3ppr, 40' cable (cable exits through base)
200-WS-01B	Wind Speed Sensor, 3ppr, 40' cable
200-WS-01B-TS	Wind Speed Sensor, 3ppr, 40' cable, Teflon-seal bearing

Wind Direction

200-WS-04A	Wind Direction Sensor, 40' cable

Wind Speed and Direction

200-WS-02E	Wind Speed and Direction Sensor, 3ppr, 40' cable, (direction signal reversed)
200-WS-02FA	Wind Speed and Direction Sensor, 3ppr, 40' cable
200-WS-02FA-TS	Wind Speed and Direction Sensor, 3ppr, 40' cable, Teflon-seal bearing

Mounting Arm

200-153	Wind Sensor Mounting Arm

200-153 Mounting Arm

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Anemometer Specification

Measurement Range	125 mph max (56 m/s max)
Speed Threshold	1.2 mph (0.54 m/s) *Except Model 200-WS-01B-TS, which has a slightly higher starting threshold due to a characteristic of the Teflon bearing.*
Speed Accuracy (3 ppr)	1 mph (0.4470 m/s) or ±3%
Speed Constant (3 ppr)	1.25 mph = 1 Hz (0.5588 m/s = 1 Hz)
Distance Constant (1 ppr)	960 pulses per mile (596.5 pulses per km) 0.001042 miles per pulse (0.001676 km per pulse)
Transducer Type	Reed switch, magnet activated
Maximum Rating	10 mA @ 50 V (ac or dc)
Turning Radius	4 inch (10.16 cm)

Wind Vane Specification

Measurement Range	0-360 degree azimuth
Potentiometer Gap	5 degree (approximate)
Accuracy	±3 degrees
Vane Threshold	1.2 mph (0.5364 m/s)
Distance Constant	1.5 feet (45.72 cm)
Time Constant	2 seconds
Damping Ratio	0.4
Transducer Type	20k ohm, 20% tolerance, 1% linearity, bushing type bearing
Maximum Rating	1/4 watt
Turning Radius	10.5 inch (26.67 cm)

Overall Specification

Cable	40 feet (12 m), 24 AWG, shielded, tinned leads *Except Model 200-WS-01C, which has 1' (0.3 m) hookup wire.*
Mounting	1.07 inch diameter by 0.82 inch socket (27 mm dia x 21 mm) *Note: Standard 3/4" IPS pipe is 1.05" o.d. and fits the socket.*
Assembled Dimensions	**200-WS-01:** 4.5" H x 8.2" W x 8.2" D (12 x 21 x 21 cm) **200-WS-02:** 12.0" H x 15.2" W x 8.2" D (31 x 39 x 21 cm) **200-WS-04:** 11.4" H x 15.2" W x 1.6" D (29 x 39 x 4 cm)
Weight / Shipping	**200-WS-01:** 0.95 lbs (0.43 kg) / 2 lbs (0.9 kg) **200-WS-02:** 1.95 lbs (0.88 kg) / 3 lbs (1.4 kg) **200-WS-04:** 1.65 lbs (0.75 kg) / 2 lbs (0.9 kg)

Repair Kits:

2502-14-01B	3-magnet wind cup assembly for wind speed sensors
2502-14-01C	1-magnet wind cup assembly for totalizing anemometers
200-WS-02FA-RK01	Potentiometer assembly (potentiometer, wires, and heat shrink tubing)
200-WS-02FA-RK02	Aluminum potentiometer holder (holder, set screws, lock washer, and jam nut)
200-WS-02FA-RK03	Anemometer cup and hub assembly (cups, bearing, and retainer)