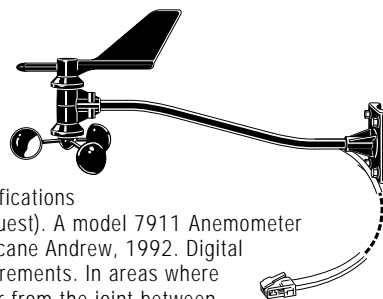


ANEMOMETER, Standard



7911
SENSORS

The Anemometer includes both wind speed and wind direction sensors. Rugged components stand up to hurricane-force winds, yet are sensitive to a light breeze. Includes sealed stainless-steel bearings for long life. The range and accuracy specifications of this unit have been verified in wind-tunnel tests (information available upon request). A model 7911 Anemometer reported wind speeds of 175 miles per hour before its tower collapsed during hurricane Andrew, 1992. Digital filtering, with time constant as specified below, is applied to wind direction measurements. In areas where icing of the anemometer is a problem, use Anemometer Drip Rings to deflect water from the joint between moving parts.

SPECIFICATIONS

General

Sensor Type

Wind Speed Wind cups and magnetic switch
Wind Direction Wind vane and potentiometer

Attached Cable Length 40' (12 m)

Cable Type 4-conductor, 26 AWG

Connector Modular connector (RJ-11)

Recommended Maximum Cable Length

Wizard and Monitor 140' (42 m) Sensor to Console
GroWeather and EnviroMonitor 250' (75 m) from Sensor to SIM + 250' (75 m) from SIM to Console

Material

Wind Vane and Control Head UV-resistant ABS
Wind Cups Polycarbonate
Anemometer Arm Black-anodized aluminum

Dimensions 18.5" long x 7.5" high x 4.75" wide (470 mm x 191 mm x 121 mm)

Weight 2 lbs. 15 oz. (1.332 kg)

Console Data (These specifications apply to sensor output as converted by Davis Instruments weather station consoles.)

Range

Wind Speed (See Note 1) 0 to 175 mph (150 knots, 78 m/s, 280 km/hr)
Wind Direction 0° to 360° or 16 compass points
Wind Run 0 to 1999.9 miles (1999.9 km)

Accuracy

Wind Speed ±5%
Wind Direction ±7°
Wind Run ±5%

Resolution

Wind Speed 1 mph (1 knot, 0.1 m/s, 1 km/hr)
Wind Direction 1° (0° to 355°), 22.5° between compass points
Wind Run 0.1 m (0.1 km)

Measurement Timing

Wind Speed Sample Period 2.25 seconds
Wind Speed Sample and Display Interval 2.25 seconds (Monitor & Wizard), 3 seconds (GroWeather & EnviroMonitors)
Wind Direction Sample Interval 1 second (Monitor & Wizard), 1.5 seconds (GroWeather & EnviroMonitors)
Wind Direction Filter Time Constant (typical) 8 seconds (Monitor & Wizard), 6-9 seconds (GroWeather & EnviroMonitors)
Wind Direction Display Update Interval 2 seconds (Monitor & Wizard), 1 second (GroWeather & EnviroMonitors)
Wind Run Sample and Display Interval 3 seconds (GroWeather & Energy EnviroMonitor)

WeatherLink® Data (These specifications apply to sensor output as logged and displayed by the WeatherLink.)

Wind Speed Average during archive interval
High Wind Speed Maximum during archive interval
Wind Direction Dominant wind direction during archive interval
Wind Run Sum over archive interval (GroWeatherLink & Energy WeatherLink)

Input/Output Connections

Black Wind speed contact closure to ground
Green Wind direction pot wiper (360° = 20 kOhm)
Yellow Pot supply voltage
Red Ground

NOTES

1. On Monitor and Wizard stations, cable lengths longer than 140' (42 m) between sensors and console may artificially limit wind speed readings. That is, beyond that length, maximum recordable wind speed decreases as cable length increases. For example, with a length of 140' (42 m), the maximum recordable speed exceeds 175 mph. At 240' (72 m), however, the maximum recordable speed drops to less than 140 mph. Below that upper limit, however, the anemometer's accuracy is not affected. On GroWeather, Energy and Health EnviroMonitor stations, the maximum recordable wind speed is 175 mph regardless of cable length.

INSTALLATION OPTIONS

