

200-05103-45 Wind Monitor-Alpine Model



200-05103-45 Alpine Wind Monitor

The **200-05103-45 Wind Monitor-Alpine Model** offers the performance and rugged construction of our standard Wind Monitor with the added benefit of an ice-resistant coating on external surfaces. It promises improved survivability for the most severe wind measuring applications.

The wind direction sensor is a rugged molded vane. The wind speed sensor is a four blade helicoid propeller. Propeller diameter is slightly reduced from our standard model to minimize vibration at high speeds. External housing surfaces are coated with a specially formulated, ice-resistant coating to improve performance in harsh alpine conditions. The all-black color scheme further enhances ice-shedding performance of the sensor.

The instrument is made of UV stabilized plastic with stainless steel and anodized aluminum fittings. Precision grade, stainless steel ball bearings are used. Transient protection and cable terminations are in a convenient junction box. The instrument mounts on standard 1 inch pipe. A mounting orientation ring assures correct realignment of the wind direction reference when the instrument is removed for maintenance.

The Wind Monitor-Alpine Model is available with two additional output signal options. The 200-05103V-45 offers calibrated 0-1 Vdc outputs (0-5 Vdc optional), convenient for use with many dataloggers. The 200-05103L-45 provides a calibrated 4-20 mA current signal for each channel, useful in high noise areas or for long cables (up to several kilometers). Signal conditioning electronics are integrated into the sensor junction box.

Specifications

Range:

Wind speed: 0-60 m/s (134 mph)
Gust survival: 100 m/s (220 mph)
Azimuth: 360° mechanical, 355° electrical, (5° open)

Accuracy:

Wind speed: ± 0.3 m/s or 1% of reading (greater of)
Wind direction: $\pm 5^\circ$

Threshold sensitivity:

Propeller: 1.0 m/s (2.2 mph)
Vane: 1.1 m/s (2.5 mph) @ 10° displacement

Dynamic response:

Propeller distance constant: 2.7 m (8.9 ft)
Vane delay distance: 1.3 m (4.3 ft)
Damping ratio: 0.3

Signal output:

Wind speed: magnetically induced
AC sine wave voltage: 3 pulses per revolution.
1800 rpm (90Hz) = 8.8 m/s
Azimuth: analog DC voltage from conductive plastic potentiometer, 10K ohms resistance, .25% linearity, life expectancy 50 million revolutions.

Power requirement:

Potentiometer excitation 15 Vdc maximum.

Dimensions:

Overall height: 37 cm
Overall length: 55 cm
Propeller: 14 cm diameter
Mounting: 34 mm (1.34 in) diameter (standard 1 inch pipe)

Weight:

Sensor weight: 1.0 kg (2.2 lb)
Shipping weight: 2.3 kg (5.0 lb)

200-05013L-45 4-20 mA Output

Power Requirement: 8-30 Vdc (40 mA max)
Operating temperature: -50° to 50° C
Output signals: 4-20 mA full scale

200-05103V-45 0-1 Vdc Output

Power requirement: 8-24 Vdc (5 mA @ 12 Vdc)
Operating temperature: -50° to 50° C
Output signals: 0-1.00 Vdc full scale, 0-5.00 Vdc optional

Ordering Information

200-05103-45 Wind Monitor-Alpine Model
200-05103L-45* Wind Monitor-Alpine Model, 4-20 mA output
200-05103V-45* Wind Monitor-Alpine Model, specify 0-1 or 0-5 Vdc out

*Specify wind speed scaling:

| | |
|-------------|----------------|
| 0-50 m/s | Add suffix "M" |
| 0-100 mph | Add suffix "P" |
| 0-100 knots | Add suffix "N" |
| 0-200 km/hr | Add suffix "K" |