



Product Specifications

Product #: 2450

<http://www.nrgsystems.com/sitecore/content/Products/2450.aspx>

# IceFree3 Wind Vane, 10k Pot, 2.8m

The electrically heated NRG IceFree3 Wind Direction Vane's simple, robust design provides a proven and reliable solution in icing environments.

## SPECIFICATIONS

**Sensor type****Applications****Sensor range****Instrument compatibility****Signal type****Transfer function****Accuracy****Dead band****Supply voltage****Heater supply voltage****Heater supply current****Mounting****Tools required****Operating temperature range****Operating humidity range****Connections****Cable length****Weight****Dimensions****Wing****Body****Shaft****Bearing****Description**

continuous rotation potentiometric heated wind direction vane

- wind resource assessment
- meteorological studies
- environmental monitoring

360° mechanical, continuous rotation

all NRG loggers

**Output signal**

analog DC voltage from conductive plastic potentiometer, 10K ohms

output signal is a ratiometric voltage

potentiometer linearity within 1%

8° Maximum, 4° Typical

**Power requirements**

regulated potentiometer excitation of 1 V to 15 V DC

- 24 V AC/DC
- optional transformer available

- Inrush: 8 A maximum
- Steady state: 1 A at 20 °C (68 °F), 4 A under maximum thermal load (head frozen in clear ice then powered on)

**Installation**

mounts to a 27 mm (1.05 inch) diameter (3/4 inch IPS) pipe with a 3/8 inch lock bolt; cabling exits into mounting pipe

13 mm (0.5 inch) nut driver

**Environmental**

-40 °C to 80 °C (-40 °F to 176 °F)

0 to 100% RH

**Physical**

Signal Cable

- red: excitation
- black: common
- white: signal

Heater Cable

- black/white: heater power (AC or DC)

8.1 m (26.6 ft) signal and heater cables

1.23 kg (2.7 pounds)

- overall assembly height: 239 mm (9.41 inches)
- body diameter: 70 mm (2.75 inches)
- swept diameter: 212 mm (8.38 inches)
- center to tail radius: 106 mm (4.19 inches)

**Materials**

precision balanced aluminum with black anodized finish and heat-resistant black paint

cast aluminum with black anodized finish and heat-resistant black paint

centerless ground, stainless steel

- upper: sealed, stainless steel, ball bearing with application specific lubrication
- lower: stainless steel bearing

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**Cable**

**Enclosure**

**Signal generator**

**Heater**

**Base**

**NRG Systems**

- Signal: 3 conductor 20 AWG, chrome PVC jacket with overall foil shield and drain
  - Heater: 2 conductor 20 AWG, Teflon jacket with overall foil shield and drain
  - sealed to IP55
  - heater is epoxy encapsulated to IP65
- glass reinforced thermoplastic shell
- fully encapsulated, self-regulating
- cast aluminum with black anodized finish and heat-resistant black paint

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