



Product Specifications

Product #: 3447

<http://www.nrgsystems.com/sitecore/content/Products/3447.aspx>

IceFree3

Anemometer, AC Sine, 10.0m

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

SPECIFICATIONS

Sensor type

Applications

Sensor range

Instrument compatibility

Signal type

Anemometer Transfer Function

Sensor to Sensor Variation

Calibration

Output signal range

Heater supply voltage

Heater supply current

Mounting

Tools required

Operating temperature range

Operating humidity range

Connections

Cable length

Weight

Dimensions

Cups

Body

Description

3 cup heated anemometer

- wind resource assessment
- wind turbine control
- meteorological studies
- ski area maintenance
- environmental monitoring

maximum rated wind speed is 90 m/s (200 miles per hour)

all NRG loggers

Output signal

variable amplitude sine wave, frequency proportional to wind speed

m/s = (Hz x 0.572) + 1.00

[miles per hour = (Hz x 1.28) + 2.24]

99.7% of sensors fall within 4.3% of stated transfer function (based on over 800 samples)

available upon request - contact NRG for more information.

0 Hz to 155 Hz

Power requirements

- 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 5/16 inch nut and bolt; cabling exits into mounting pipe

13 mm (0.5 inch) nut driver

Environmental

-40 °C to 60 °C (-40 °F to 140 °F)

0 to 100% RH

Physical

Signal Cable

- clear: signal
- black: ground
- shield drain

Heater Cable

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

- Signal & Power cables: 10.0m (32.7 feet)
- extension kits available

1.45 kg (3.2 pounds)

- overall assembly height : 224 mm (8.82 inches)
- body diameter: 70 mm (2.75 inches)
- swept diameter of rotor: 127 mm (5 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

09-05-2011

NRG Systems

black paint

Shaft

centerless ground, stainless steel

Bearing

stainless steel ball bearings with application specific lubrication

Magnet

4 pole ceramic

Coil

single coil, shielded for ESD protection

Cable

- Signal: 2 conductor 20 AWG, chrome PVC jacket with overall foil shield and drain
- Heater: 2 conductor 20 AWG, Teflon jacket with braid shield and drain

Enclosure

- sealed to IP55
- heater is epoxy encapsulated to IP65

Heater

fully encapsulated, self-regulating

Base

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

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