



ICEFREE3A Anemometer



Overview

The ICEFREE3A anemometer is an electrically heated wind-speed sensor, designed for ice-prone sites. The sensor provides an electrical output signal with frequency directly proportional to wind speed.

The ICEFREE3A is manufactured by Renewable NRG Systems and has an 8 m (26 ft) cable.

Detailed Description

The ICEFREE3A monitors wind speed using a three-cup anemometer. Rotation of the cup wheel produces a sine-wave that is directly proportional to wind speed. The frequency of the sine wave is measured by the data logger pulse count channel, then converted to engineering units (mph, $m s^{-1}$, knots).

Wiring Information

Gray Cable

- ▶ Clear - Signal
- ▶ Black - Reference
- ▶ Shield - Shield

Red Cable

- ▶ Black - Heater
- ▶ White - Heater

Specifications

Sensor	3-cup anemometer
Measurement Description	Wind speed
Range	0 to 90 $m s^{-1}$ (0 to 200 mph)
Sensor to Sensor Variation	99.7% of sensors fall within 4.3% of stated transfer function (based on over 800 samples)

Distance Constant	7.6 m (25 ft) for 63% recovery
Sensor Output Signal Range	0 to 155 Hz
Operating Temperature Range	-40° to +60°C
Operating Humidity Range	0 to 100% RH
Supply Voltage	24 V ac/dc

Supply Current Inrush	8 A (maximum)
Supply Current Steady State	1 A at 20°C, 4 A under maximum thermal load (head frozen in clear ice then powered on)
Body Diameter	7.0 cm (2.75 in.)

Swept Diameter of Rotor	12.7 cm (5 in.)
Cable Length	8 m (26 ft)
Overall Assembly Height	22.4 cm (8.82 in.)
Weight	1.45 kg (3.2 lb)

For comprehensive details, visit: www.campbellsci.com/icefree3a 



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