



JNRGW #40H Anemometer, Hall Effect

The industry standard anemometer used worldwide. A Hall version for electrically noisy environments and instruments requiring a square wave signal.

SPECIFICATIONS

Description

Sensor type	3-cup anemometer
Applications	<ul style="list-style-type: none"> • wind resource assessment • meteorological studies • environmental monitoring
Sensor range	1 m/s to 96 m/s (2.2 mph to 214 mph) (highest recorded)
Instrument compatibility	controllers or loggers requiring a square wave signal

Output signal

Signal type	<ul style="list-style-type: none"> • square wave signal from open collector transistor • external pull-up resistor required • frequency proportional to wind speed
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Transfer function	$m/s = (Hz \times 0.765) + 0.35$ $[miles\ per\ hour = (Hz \times 1.711) + 0.78]$
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Recommended load resistance	<ul style="list-style-type: none"> • output sinks up to 20 mA • 1500 Ohm typical pull-up resistor for 12V • 250 Ohm minimum pull-up resistor for 5V
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Calibration	calibrated version available
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Output signal range	0 Hz to 125 Hz (highest recorded)
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Response characteristics

Threshold	0.78 m/s (1.75 miles per hour)
Distance constant (63% recovery)	3.0 m (10 feet)
Moment of inertia	$68 \times 10^{-6} \text{ S-ft}^2$
Swept diameter of rotor	190 mm (7.5 inches)

Power requirements

Supply voltage	5 V to 12 V DC
Supply current	9 mA max.

Installation

Mounting	onto a 13 mm (0.5 inch) diameter mast with cotter pin and set screw
Tools required	0.25 inch nut driver, petroleum jelly, electrical tape

Environmental

Operating temperature range	-55 °C to 60 °C (-67 °F to 150 °F)
Operating humidity range	0 to 100% RH

Physical

Connections	4-40 brass hex nut/post terminals
Weight	0.14 kg (0.3 pounds)
Dimensions	<ul style="list-style-type: none"> • 3 cups of conical cross-section, 51 mm (2 inches) dia. • 81 mm (3.2 inches) overall assembly height

Materials

Cups	one piece injection-molded black polycarbonate
Body	housing is black ABS plastic
Shaft	beryllium copper, fully hardened
Bearing	modified Teflon, self-lubricating
Boot	protective PVC sensor terminal boot included
Terminals	brass