

Wind Speed & Direction Sensor AV-WS

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Description

The AV-WSD wind speed and direction sensor provides wind speed and direction measurements and converts those measurements into a potentiometric or pulsed output which can be read by a PLC or Building Management System.

Features

- Converts wind speed to a pulsed output
- Zero bounce contact closure output

Technical Specification

Electrical conn:	Flying lead 3m long
Ambient temperature:	-20°C/+70°C
Dimensions:	Height 280mm
Protection:	IP65
Weight:	500g
Wind speed output:	1 contact closure per 1.493m/s (Zero bounce)
Min. start speed:	0.5 m/s
Accuracy:	±2%
Contact rating:	50W, 100Vdc max, 1A
Direction output:	0-1KΩ for 0-357°
Mechanical travel:	360° endless travel
Electrical travel:	357° (±2°)
Resistance tolerance:	±3%
Linearity tolerance:	±0.5%

Order Codes

AV-WSS	Wind speed sensor
AV-WSD	Wind speed and direction sensor

Connections

Windspeed:	Green (1)	Pulse output
	Black (2)	Pulse output
Wind Direction:	White (3)	Not used
	Black (4)	Not used
	Red (5)	Resistance 0-1kΩ
	Black (6)	0V

NB. each core has an identifying marker label

Installation

It is important to choose a site carefully to mount the unit. Sheltered sites should be avoided, as should exposed sites unless there is a requirement to measure wind speed under exposed conditions. Mounting on the wall of a building may also shelter the unit, leading to inaccurate readings.

It should be noted that the windspeed increases exponentially with the height above the ground, for the first 20 metres. It follows that mounting on a tall mast will lead to higher wind speeds. A good recommended height is between 2 and 9 metres above ground, where possible.

Mounting on a flat roof should also be avoided as this can lead to inaccurate readings due to turbulence and eddies.

If the unit is to be mounted near to the ground, anti-vandalism measures may be required. Any protection of this nature should not obstruct the wind flow to the unit.

NB. the unit should be mounted with the direction vane at the bottom and the speed cups at the top. The unit mounting arm should pointing north.

All connections to BMS controllers, data recorders etc. should be made using screened cable. Normally, the screen should be earthed at one end only (usually the controller end) to avoid earth hum loops which can create noise. Low voltage signal and supply cables should be routed separately from high voltage or mains cabling. Separate conduit or cable trays should be used. Where possible, the screen of the cable feeding the sensor should be connected to a FUNCTIONAL EARTH, rather than the mains safety earth. This will provide better immunity to high frequency noise. Most modern buildings have a separate earth for this purpose.

