

## Technical data

### Wind Speed Sensor

<b>Speed sensor</b>	Magnetically operated mucusy wetted reed switch
<b>Output</b>	1 contact closure per 1.493m (zero bounce)
<b>Min. start speed</b>	0,5 m/s
<b>Accuracy</b>	± 2%
<b>Linearity</b>	± 2%
<b>Contact rating</b>	50 W (dc resistive)
<b>Supply voltage</b>	100 Vdc max. May be used in circuits down to zero voltage and current
<b>Supply current</b>	1 A maximum

### Wind Direction Sensor

<b>Direction sensor</b>	360° endless travel
<b>Electrical travel</b>	357° (±2°)
<b>Output</b>	0-1 Kohm for 0-357°
<b>Resistance tolerance</b>	± 3%
<b>Temperature coeff. of wire</b>	± 20 ppm/°C
<b>Linearity tolerance</b>	± 0,5%
<b>Supply voltage</b>	Max. 80 Vdc
<b>Recommended voltage</b>	24 Vdc
<b>Electrical conn.</b>	Flying lead (3 m long)
<b>Ambient range</b>	-20...+70°C
<b>Dimensions</b>	Height 280 mm Max. arc 120 mm
<b>Protection</b>	IP65
<b>Weight</b>	500 g (excl. mast or bracket)
<b>EMC</b>	EN-50081-1 Emission EN-50082-2 Immunity

## Features

- Wind speed output 1 contact closure per 1.493 m
- Wind direction output 0-1 Kohm output for 0-357°
- Can be supplied with bracket for mast mounting or wall mounting
- Can be supplied with bracket, 2 meters mast, guys and pegs
- Wind tunnel tested
- Low inertia cup assembly for fast response
- Dynamically balanced wind vane with triple ballrace shaft
- Flexible mounting arrangements
- Suitable for naturally ventilated building applications

## Application

The sensors accurately measures the wind speed and direction, providing output signals compatible with most DDC controllers.

Intended for applications where external weather conditions influence the building control strategy, such as for the automatic closing of windows in high wind conditions.



## Ordering

Type no.	Description
<b>WSM</b>	Wind speed sensor with bracket, 2 meters mast, guys and pegs
<b>WSB</b>	Wind speed sensor with bracket
<b>WSDM</b>	Wind speed & direction sensor with bracket, 2 meters mast, guys and pegs
<b>WSDB</b>	Wind speed & direction sensor with bracket

The bracket for WSB and WSDB can be used for mast and wall mounting.

**Functionality**

The wind speed sensor produces one contact closure per rotation of the head which is equivalent to 1.493 m of travel.

This needs to be counted over a time period within the controller to produce a rate of m/.

The optimal direction sensor produces a resistance varying between 0 to 1 Kohm as wind direction varies between 0 to 357°.

Zero degrees is normally set at North with a dead band of 3° (358° to 360° inclusive).

The mounting bracket consists of an anodised aluminium alloy elbow and a bracket plate with two U clamps suitable for fixing to masts or poles.

**Description**

The sensors provides accurate measurement of wind speed and direction for building applications where the control strategy needs to respond to outside weather conditions.

The unit incorporates an anodised aluminium mounting arm suitable for mast or wall-mounting using the clamp supplied.

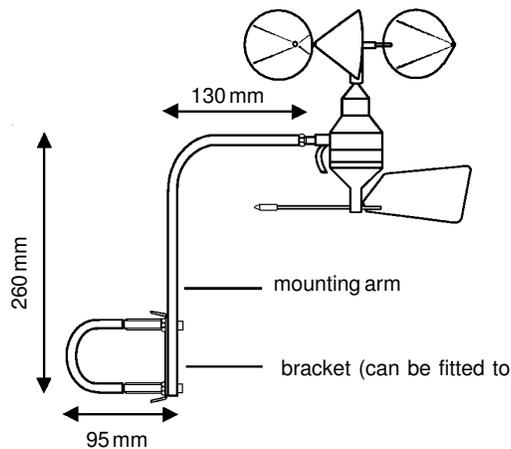
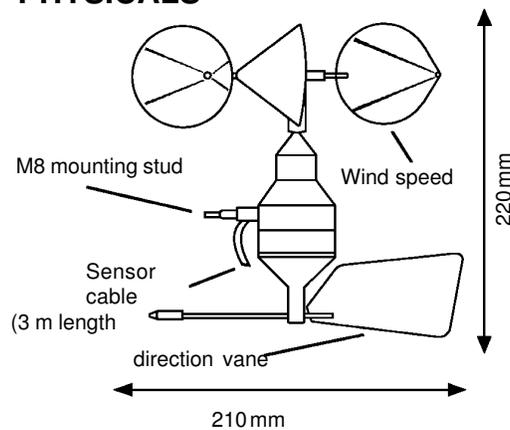
The wind speed component consists of a low inertia ABS cup assembly for fast response, mounted on a dual ballrace supported stainless steel shaft.

A magnet on the rotor operates a long life reed switch producing one pulse per rotation.

The wind direction component consists of a dynamically balanced wind vane operating a triple ballrace supported shaft and microtourque 357° potentiometer with a deadband of 3° at North.

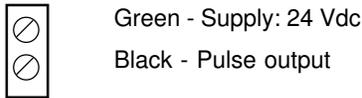
The sensors has been wind tunnel tested at the Meteorological Office to determine its full windspeed characteristics. A wind speed only version is also available.

**PHYSICALS**



### Connections

Windspeed (All versions):



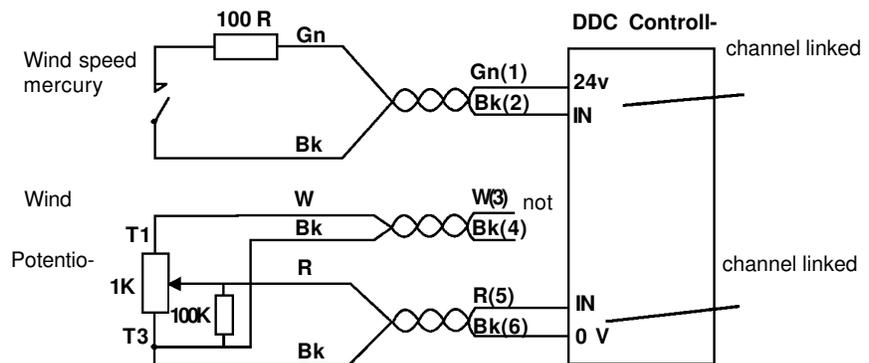
Wind direction (WSDM and WSDB):



### Installation

The installation process involves:

- 1 Find a suitable location
- 2 Fix the mouth bracket
- 3 Attach sensor head to elbow
- 4 Align the direction sensor to the north (if fitted)
- 5 Connect to controller  
(use correct specification extension cable if necessary)
- 6 Configure controller.  
The direction sensor requires six function modules to cater for 3° dead band and hysteresis
- 7 Test and commission



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