



Wind Speed Sensor (WS45 & WS46)

Features

- Magnetic Hall Effect sensing
- Low friction bearings
- Low starting torque
- Good dynamic characteristics
- Long operating life

Applications

- Meeting Australian Standards
- EPA Reporting & Licensing
- Meteorology
- Wind Profiling
- Automation & Alarms
- Crop Studies
- Agronomy
- Pollution Tracking & Dispersion Monitoring

The WS4x Series Wind Speed Sensor uses a sensitive 3-cup anemometer designed to measure wind speed and wind run. The rugged Australian design ensures reliable long term unattended operation.

Three conical black Delron cups of optimum proportions turn the main spindle. The spindle is supported by two special low torque, stainless steel ultra long life, low - friction shielded bearings.

The dynamic characteristics of the unit are exceptionally good because the moment of inertia of the rotating parts is very low. The body is symmetrical and well clear of the three rotating cups, which minimises interference.

The sensor is designed specifically to prevent the entrance of moisture or dust into the upper bearing, to provide a long sensor life, even in dusty, marine or other harsh environments.



Specifications

Sensing Type:

- 3-cup anemometer

Measurement Units:

- Metres per second (m/s)
- Other units can also be used

Operating Range:

- 0 to 75 m/s

Thresholds & Accuracy:

- **Startup:** 0.30 m/s
- **Stall:** 0.20 m/s
- ± 4% to 4m/s
- ± 2% to 35m/s
- ± 3% over 35m/s

Distance Constant:

- Typically 3 metres

Sensor Exposure:

- Heights of 2 or 10 metres above ground level are most commonly used

Calibration:

- Not subject to drift, Replace bearings as directed

Reliability:

- 5 years bearing life in normal conditions
- 2 years bearing life in extreme conditions
- 20 years typical field life for sensor

Construction:

- **Cups:** Black - 64 mm diameter Delron
- **Arms:** Light weight stainless steel
- **Bearings:** Low friction, 316 SS shielded
- **Housing:** Clear anodised aluminium

Mode of Operation:

- Magnetic Hall Effect

Operating Conditions:

- Temperature -20°C to +70°C
- Humidity 0% to 100%

Supply Voltage:

- 5.5 to 15 Volts DC

Current Drain:

- < 1.5 mA

Output:

- +5 Volt square wave pulse

- 4-20mA Converters are available (FA12)
- Sensor Alarms are available (SA12)

Configurations:	WS45	WS46	WS47
Pulses per Rev.	2	1	6
Pulse/km:	987	493.5	2961
Hz per km/hr	3.553	1.775	10.65
Hz per m/s	0.987	0.4935	2.958

Cable:

- 3 Core Shielded UV Stabilised
- Cable Length: 2m Standard, extensions up to 200 metres available

Dimensions:

