

- Low threshold speed
- Low distance constant
- Negligible overspeeding
- Angular response independent of wind speed
- Fully tested temperature performance
- Symmetrical geometry



Description

The P2546A Cup Anemometer is a sturdy wind sensor solely constructed by durable materials such as anodized aluminium and stainless steel. The wind speed is sensed by a three-cup rotor assembly. Permanent magnets mounted on the shaft causes a switch to close and open two times per revolution. The switch has no bounce and it is equipped with a special built-in mechanism, which reduces the variation in operating time over the frequency range. This feature provides the possibility of obtaining the instantaneous wind speed by measuring the time interval of each revolution.

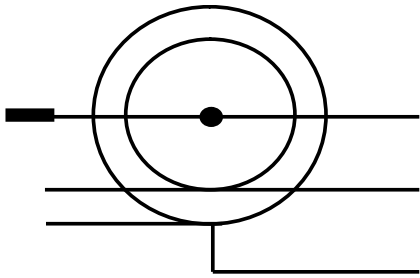
Specification

The specifications are based on 80 wind tunnel calibrations performed according to the Measnet Cup Anemometer Calibration Procedure. The specified offset and gain figures represent the mean values of these calibrations. Variation among units designates the maximum deviation of any unit from the straight line representing these mean values.

All units are run-in for 225 hours at 9 m/s, in order to reduce the initial bearing friction to a level close to the steady state value.

After run-in, bearing friction is tested at -15°C and at room temperature. The allowed limits for this test assures that the temperature influence on the calibration is within the specified limit.

Cable Connections

Terminal	Notes	Colour	Notes
	Signal, high	Green	
	Signal, low	Brown	
	Housing	Green-Yellow	

Characteristic	Description / Value
Measurement Range	0 ... 70 m/s
Starting Threshold	< 0.4 m/s
Distance constant	$\lambda_0 = 1.81 \pm 0.04$ m
Standard Calibration	$U = A_0 + B_0 \times f$
Wind Speed	U [m/s]
Offset ("starting speed")	$A_0 = 0.027$ m/s
Gain	$B_0 = 0.6201$ m
Output frequency	f [Hz]
Standard deviation of offset	0.014 m/s
Standard deviation of gain	0.027 m
Variation among units	$\pm 1\%$
Non-Linearity	< 0.04 m/s
Temperature influence	< 0.05 m/s (-15 ... +60 °C)
Switching Characteristic	
Signal Type	potential free contact closure
Duty cycle	40 ... 60 %
Max. switching voltage	30 V
Max. recommended switching current	10 mA
Series resistance	330 Ω , 1 W
Operating temperature range	-35 ... +60 °C
Reference report	Risø-R-1364 (EN) version Jan 2, 2004
Classification	CLASSCUP (Report: Risø-R-1348 (EN))
Manufacturer	WindSensor (Risø) / P2546A
Accessories	Module M83500