0225

Wilmers Meßtechnik

Cup Anemometer *first class*

Description

Rugged and very precise sensor for the measurement of the horizontal component of the wind speed.

Driven by the flow, the cups are set into rotation. A light barrier scans an optical disc in the interior of the sensor and provides a frequency linearly dependent on the wind speed.

The sensor meets the latest requirements of MEASNET and IEC for the assessment of wind resources and wind turbine power characterics.

Technical Data

Sensor

Sensing element	Cup rotor
Transducer	Optoelectronical transmitter with frequency output
Output signal	0..50 m/s = 0..1000 Hz
Pulse level	LO = < 0.5 V HI = V_{Supply} (max. 15 V)
Resolution	0.05 m wind run
Accuracy	0..15 m/s ± 0.3 m/s > 15 m/s ± 2% of reading
IEC 61400-121-CD classification	The anemometer meets in flat terrain all aspects of the requirements for a Class 1 anemometer.
Starting threshold	0.3 m/s

Rotor

Type	3 conical cups
Material	Plastic
Outside diameter	ø240 mm
Distance constant	< 3 m (for 63% recovery)
Bearings	Stainless steel ball bearings

Power Supply

Operating voltage	3.3..42 VDC
Current consumption	0.5 mA typical at 5 V, unloaded
Power-up time	50 ms

Heating

Heating power ..... The sensor is not heated. A heated version of this sensor is available with partNo. 0226.

Casing

Material ..... Anodized aluminium
Protection class ..... IP 55
Dimensions ..... ø50 x 290 mm
Weight ..... 0.5 kg (cable exclusive)
Mounting ..... The sensor mounts on a standard one inches pipe with ø34 mm outside diametre and > ø25 mm inside diametre
Wind drag ..... Approx. 100 N at 75 m/s

Electrical connection

Connector (at the sensor) ..... 8 pin circular connector
Connector (to data logger **wilog303/306**, opt.) ..... 6 pin circular connector DIN 45322
Cable ..... 3 x 0.5 mm², optionally shielded

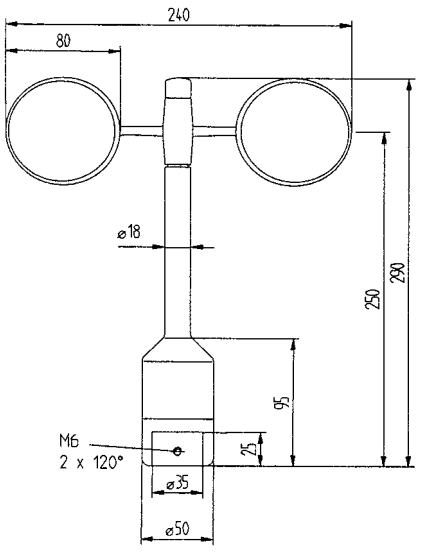
Wiring

8 Pin Connector	6 Pin Connector	Wire	Function
3	2	white	(+) power supply
2	6	brown	ground
1	3	green	output signal
casing	casing	yellow/green and shield	cable shield

Environmental Conditions

Operating temperature ..... –50..+80 °C
Relative humidity ..... 0..100%
Maximum wind speed ..... 85 m/s

Dimensions



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Technical data may be subject to change without notice. 2003-07-25