

Cup Anemometer *non-freezing*



Description

Heated sensor for the measurement of the horizontal component of the wind speed under strong icing conditions.

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.

A built-in electronic heating prevents the whole sensor from being blocked by icing. Heating foils integrated in the cups keep even the rotor ice-free.

Technical Data

Sensor

Sensing element.....	Cup rotor
Transducer.....	Optoelectronic transmitter with frequency output
Output signal	0..75 m/s = 0..764 Hz
Pulse level	LO = < 1.5 V HI = > 4.5 V
Resolution	0.1 m wind run
Accuracy.....	0.4..60 m/s ± 0.17 m/s (standard deviation)
Starting threshold	0.5 m/s

Rotor

Type	3 conical cups
Material.....	Plastic, built-in electrical heating foils
Outside diameter	ø182 mm
Distance constant	2.7 m (for 63% recovery)
Bearings	Stainless steel ball bearings

Operating voltage 4.8..15 VDC
Current consumption 11 mA typical at 12 V, unloaded

Type	Electronically controlled heating of body and rotor, transmission of heating power to the rotor via rotary transformer, no slip rings
Heating power	72 W at < 2 °C 1 W at > 6 °C
Supply voltage	24 VDC ± 10%
Current consumption	3.2 A max.

Material.....	Anodized aluminium
Protection class	IP 55 in upright position
Dimensions	ø90 x 264 mm
Weight	0.8 kg, cable exclusive
Mounting	The sensor mounts on a plate with three M6 fixing screws.

Connection to the sensor	6 pin circular connector MIL-C-26482
Connection to data logger wilog303/306	6 pin circular connector DIN 45322 (optional)
Cable	10 x 0.25 mm ² , optionally shielded

Wiring

connector MIL-C	6 pin connector	wire	function
A	2	white	(+) power supply
B	6	brown	ground
F	3	green	output signal
E	5	red (1 mm ²)	(+) heating
D	4	blue (1 mm ²)	(-) heating
not connected	casing	yellow/green and shield	cable shield

Operating temperature	-55..+55 °C
Relative humidity	0..100%
Maximum wind speed.....	75 m/s



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