

Datasheet

Orbital Anemometer

Module type Cup Anemometer.
Type nr. 420
Description..... To be used in wind turbines for measuring the wind speed
HW-version 2.02
Documentation..... Anemometer420_2011
Calibration..... Measnet



1 Contents

1	Contents	2
2	Features	3
2.1	Output frequency.....	3
3	Mounting the anemometer	3
3.1	Mechanically mounting.....	3
3.2	Electrical mounting.....	3
4	Environmental data.....	4
4.1	Temperature.....	4
4.2	Windspeed	4
5	Mechanical data	4
5.1	Materials.....	4
5.2	Cable	4
5.3	Screwed connection.....	4
5.4	Weight	4
5.5	Transport container	4
6	Power supply	5
6.1	Power supply.....	5
7	Interface.....	5
7.1	Output-signal & Power	5
8	Output.....	5
8.1	Output-signal	5
9	Calibration and test.....	5
9.1	Calibration	5
10	Standards	6
10.1	EMC standards.....	6
11	Mechanical dimensions (principle drawing)	7

2 Features

- Opto-electrical sensor
- PNP output
- Robust and Long-term durability performance (brass/stainless steel)
- Prepared for heating unit

2.1 Output frequency

Output : : $V \text{ [m/s]} = 0,183 * f \text{ [Hz]} + 0,65$

V = wind speed [m/s]

$a = 0,183$ *)

$b = 0,65$ *)

*) Approximate values.

3 Mounting the anemometer

3.1 Mechanically mounting

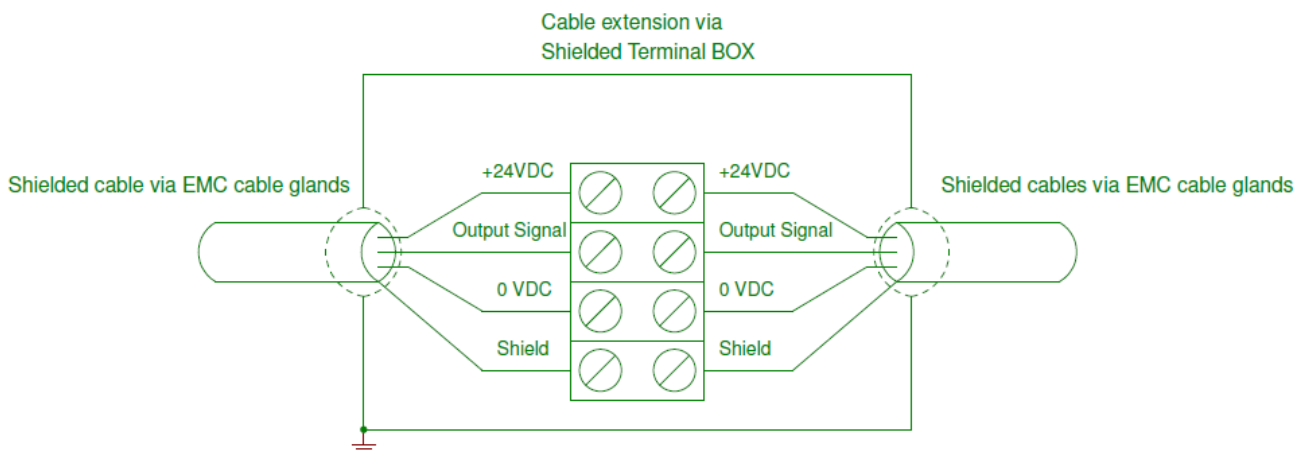
Mounting vertically. (With enclosed M12 mounting bolt (Stainless steel))

Attention: Please follow the instructions above. Do NOT remove the anemometer cups from the shaft. Reduced lifetime and bad calibration will be the result.

Mounting base must be connected to earth.

3.2 Electrical mounting

Cable shield must be grounded, i.e. earth connected.



4 Environmental data

4.1 Temperature

Operating temperature range : -20..+50 °C
Storage temperature range : -40..+70 °C

4.2 Windspeed

Start wind speed : 1,5 m/s

5 Mechanical data

5.1 Materials

Housing..... : Brass (Cu Zn39Pb3)
Top..... : Stainless 18/8 Steel (Aisi 304)
Bearings..... : Low friction precision steel bearings, on top semi-closed with special seal.

5.2 Cable

Cable type..... : Shielded PVC LIYCH, 3 x 0,25 mm²
Cable diameter : 4,6 mm

5.3 Screwed connection

Material..... : Stainless 18/8 Steel
Type..... : M12, 50.616M/EMV, (EMC)

5.4 Weight

Weight..... : 0,75 kg

5.5 Transport container

Dimensions (l x h x w)..... : 278 x 185 x 217 mm
Material : Expanded polystyrene
Total weight : 1,15 kg

6 Power supply

6.1 Power supply

Input voltage : 24VDC
Input current..... : 0.05A_{max}

7 Interface

7.1 Output-signal & Power

Interface standard..... : 3-wire shielded cable

Cable	Wire colour	Function
	White	+24 VDC (+)
	Brown	Output-signal / High (18 V) – Low (floating)
	Green	0 VDC (-)
	(Black)	Shield, (Is connected inside Anemometer)

8 Output

8.1 Output-signal

Output type : PNP
Number of outputs : 1
Output load : 0.03A_{max}

9 Calibration and test

9.1 Calibration

The calibration is made by: “Svend Ole Hansen Aps” or “Force Technology”
Copy of general calibration certificate will be forwarded on request.
Separately calibrated anemometers can be delivered, with calibration report.

10 Standards

10.1 EMC standards

- DS/EN 50081-2:1994..... : Electromagnetic compatibility - Generic emission standard - Part 2:
Industrial environment
- DS/EN 61000-6-2:1999 : Electromagnetic compatibility (EMC) - Part 6-2: Generic standards –
Immunity for industrial environment

11 Mechanical dimensions (principle drawing)

