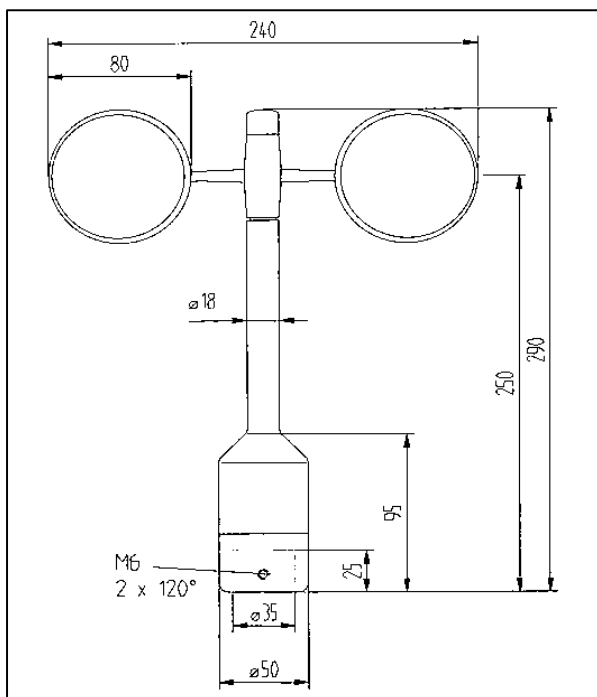


Thies Anemometer First Class

Order-No: P 6100H - heatable

- Classified according to: IEC 61400-121, Class 1
- Optoelectronic wind speed transmitter
- Very low power consumption
- Range 0.3...75 m/s
- Resolution 0.05 m/s



Dimensions: mm

Measurement principle

The low-inertia 3-cup rotor is set into rotation by the wind. The rotation is scanned optoelectronically, and is converted into a square wave signal. The frequency of this signal is proportional to the number of rotations.

The anemometer is optionally equipped with an electronically regulated heating system in order to prevent ice from the bearings. To use this heating the connection cable must have additional cores and you should provide a sufficient power supply (mains connection).

Mounting

The anemometer should ideally be mounted at the top of a mast to be open to the wind from all directions. Only a lightning protection rod mounted below may overtop the sensor. If an anemometer has to be mounted on a traverse the length must be at least 7 times the mast diameter.

Mount the transmitter onto a pipe socket of R1" (\varnothing 33,5 mm) and a length of at least 25 mm. The pipe socket must have an internal diameter of at least 25 mm. The wind transmitter will be connected electrically with a plug from below. After connection the wind transmitter is put onto the pipe socket, and is fixed at the mast or hanger by means of 2 threaded pins (female hexagon 3 mm).

To avoid damage due to lightning, a protection rod and proper grounding of all metal parts is to be recommended.

Maintenance

When mounted properly, the anemometer operates almost maintenance-free. Dust or dirt may clog the space between the rotating parts and the shaft. Therefore you should check for plausibility of measurement results at regular terms and clean the device if necessary.

In true long-term operation (years) the bearings may be subject to wear and tear showing delayed start-up behaviour or even stand-still of the anemometer. Should such a defect occur we would recommend that you return the instrument for repairs.

Specification Anemometer First Class P6100H:

Classification	Class 1 according to IEC 61400-121
Measurement range	0,3...75 m/s
Measuring instability (w/o calibration)	0,3...50 m/s < 3% of reading or < 0,3 m/s 50...75 m/s < 6% of reading
Resolution	0,05 m/s
Start-up wind speed	< 0,3 m/s
Survival wind speed	85 m/s (max. 30 min)
Delay distance	< 3 m (acc. to ASTM D 5096 – 96)
Housing made of	Anodized aluminium, carbon-fibre-reinforced plastic
Protection	IP 55 (DIN 40050)
Ambient temperature	- 50...+ 80° C
Heating	Optional, 24 V AC/DC, 25 W
Transducer	Opto-electronic scanning
operating supply	5 V DC (3,3 ... 42 V) - approx. 0,3 mA
electrical output	Approx. 1000 Hz @ 50 m/s
Connector	Female plug 8-pin (Binder series 423 special)
Mass	Anemometer: 0,5 kg / Gross weight 2kg
Recalibration	Recommended interval every 24 months
Manufacturer / type	Thies, 4.3350.10.000 (4.3350.00.000)

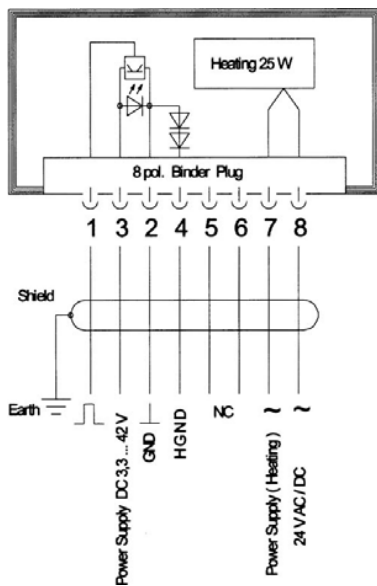
Characteristic curve / Calibration

Frequency output is determined by a linear function of the wind speed:

$$\text{Wind speed [m/s]} = \text{Frequency [1/s]} \cdot \text{Slope [m]} + \text{Offset [m/s]}.$$

manufacturers' instructions: Slope = 0,050m, Offset = 0,3m/s

- For measurement campaigns with extremely crucial requirements an individual calibration of each anemometer in a wind tunnel test may be worthwhile to achieve optimum accuracy and precision. <



	Connection Anemometer color of cores	Connetion Data Logger		
		„Wind“ 12-pin.	„Meteo“ 7-pin	3-pin. (*)
1 - Pulses	green	A, B or C	6	3
2 - Ground/GND	brown	M	-	1
3 - Supply	white	H	-	2
4 - nc (HGND)	-	-	-	-
5 / 6	n.c.	-	-	-
7 - Heating 1	yellow, grey			
8 - Heating 2	pink, blue			

(*) former Wicom-EL

Connect the shield logger-sided to Ground (GND).

Cable type without heating cores: LiY(C)Y 3 x 0,25 mm²

Cable type with heating cores: LiY(C)Y 7 x 0,25 mm²