Wind Vane Thies First Class TMR S21100H

- High level of measuring accuracy (0.5°) and resolution (0.35°)
- Output: 10-bit serial-synchronous (compatible with Ammonit Meteo-40 data loggers)
- Measurement range 0 ... 360°
- Low current consumption

Description

The wind direction transmitter serves for the detection of the horizontal wind direction in the field of meteorology and the technology of environmental protection. The axis of the wind vane is running in ball bearings and carries a diametrically magnetized magnet at the inner end. The angle position of the axis is scanned contact-free by a magnetic angle sensor (TMR-Sensor, Tunnel Magneto Resistance) through the position of the magnet field. As the sensor is operated the magnetic saturation, effects by external magnetic fields can almost be eliminated. The connected electronics calculated the angle position of the axis and provides the respective serial-synchronous output signal.

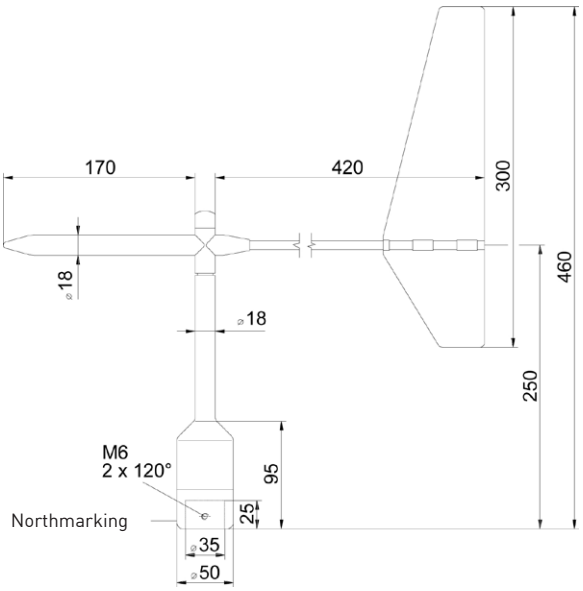
Benefits of Thies TMR wind vanes

Thies TMR wind vanes have a clear advantage towards potentiometer wind vanes in terms of accuracy and reliability.

Wind vane	Accuracy
Thies First Class TMR	± 0.5°
Thies First Class Potentiometer	± 1°

Additionally TMR wind vanes do not have a north gap and thanks to their solid state design they are subject to less mechanical wear that potentiometer wind vanes. TMR wind vanes do not have moving parts, except the bearings.

Dimensional Drawing



Mounting

Mount the transmitter onto a pipe socket of R 1" (Ø 33.5mm) and a length of 25 mm. The pipe socket must have an internal diameter of a least 25 mm as the wind direction transmitter must be connected electronically with a plug from below. After electrical connection the wind direction transmitter is put onto the pipe socket, and is fixed by means of 2 threaded pins (female hexagon 3mm) at the base of the transmitter.

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measuring wind power
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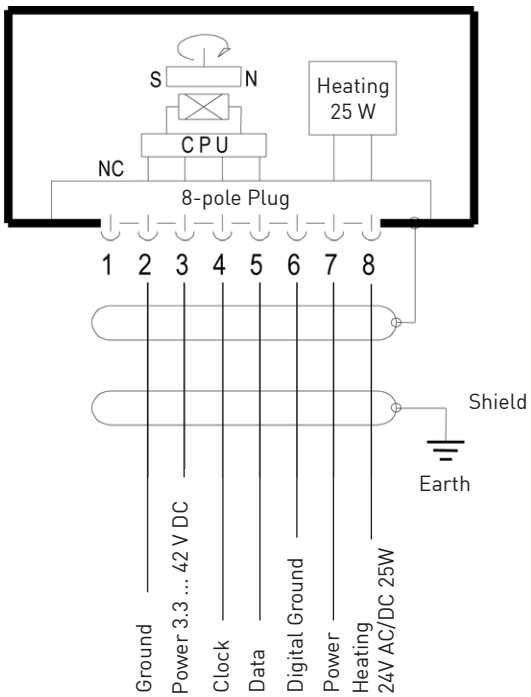
Wind Vane Thies First Class TMR — S22100 / S22100H

Characteristic	Description / Value
Measurement principle	Magnetic
Measurement range	0 ... 360°
Accuracy	± 0.5°
Resolution	0.35°
Output	10-bit serial-synchronous (compatible with Ammonit Meteo-40 data loggers)
Survival speed	max. 90 m/s, 30 min
Operating voltage	3.3 ... 42 V DC
Operating voltage heating	24 V DC/AC, max. 25W
Ambient temperature	-50 ... +80 °C
Connection	8-pole plug connection for shielded cable in the shaft
Weight	approx. 0.7 kg
Protection	IP 55
EMC	EN 61000-6-2:2001 (immunity) EN 55022:2001; Class B (interferring transmission)
Manufacturer	Thies / 4.3150.00.001



Sensor	Plug Pin No.	Ammonit Cable Wire Colour	Meteo-40 Digital	Supply Sensor
Wind Direction Data	5	white	IN	
Clock	4	blue	CLK	
Supply	3	red		12V
Ground	2	black		Main Ground
Heating	7	orange, orange		24V AC/DC
	8	purple, purple		

Cable type without heating: LiYCY 4 x 0.25mm²
Cable type with heating wires: LiYCY 8 x 0.25mm²

Connect the shield logger-sided to Ground (GND)

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