

Wind Vane Thies First Class TMR

S21110H



Wind Vane Thies First Class TMR

Order number

S21110H

Availability

Usually on stock

Improved version of First Class wind vane

Description

Ammonit's standard is heated version. It can be used for both heated and non-heated system.

- New and improved version of First Class wind vane
- 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 (3.3V @ 1.4 mA)

The wind vane serves for the detection of the horizontal wind direction in the field of meteorology and 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.

Specifications

Wind Vane Thies First Class TMR

General Information

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Measurement

Measurement Principle Magnetic

Measurement Range 0 ... 360°

Accuracy $\pm 0.75^\circ$

Resolution 0.35°

Survival Speed max. 85 m/s, 30 min

Starting Threshold
< 0.5 m/s at 10° amplitude (acc. to ASTM D 5366-96)
< 0.2 m/s at 90° amplitude (acc. to VDI 3786 Part 2)

Delay Distance < 1.8 m (acc. to ASTM D 5366-96)

Damping Ratio $D > 0.3$ (acc. to ASTM D 5366-96)

Quality Factor $K > 1$

Output

Output 10-bit serial-synchronous (compatible with Ammonit Meteo-40 data loggers)

Electrical

Operating Voltage 3.3 ... 42 VDC

Operating Voltage Heating 24 V DC/AC, 45 ... 65 Hz (galvanically isolated from housing), max. 25 W

Current Consumption @ 12 V DC 2.5 mA (without heating)

Environmental

Ambient Temperature -50 ... +80 °C

Construction

Connection 8-pole plug connection for shielded cable in the shaft

Mounting Mounting on mast 1" (DIN EN 10255; 1" = $\varnothing$ 33.4 mm), 1 ½" with separate adapter (optional)

Material Aluminum

Type of Ball Bearings Metallic ball bearings

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Weight approx. 0.7 kg

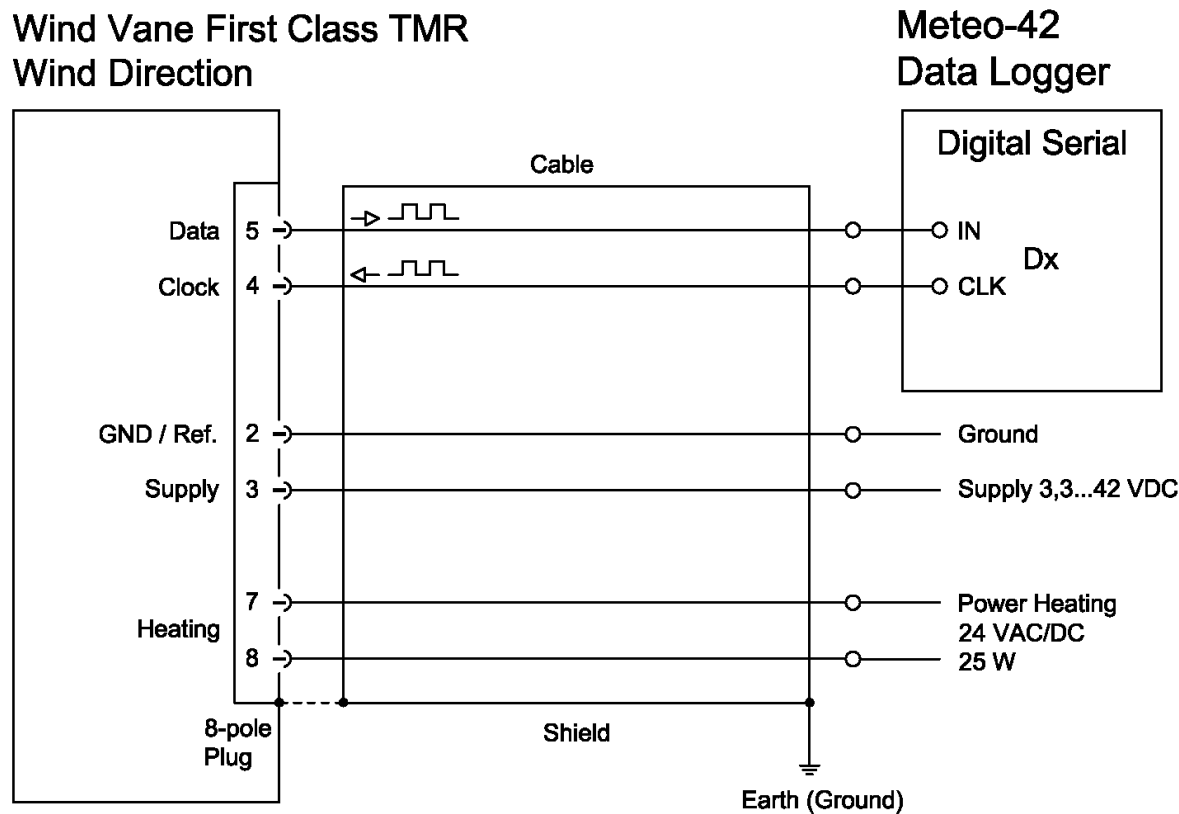
Protection IP 55

Manufacturer

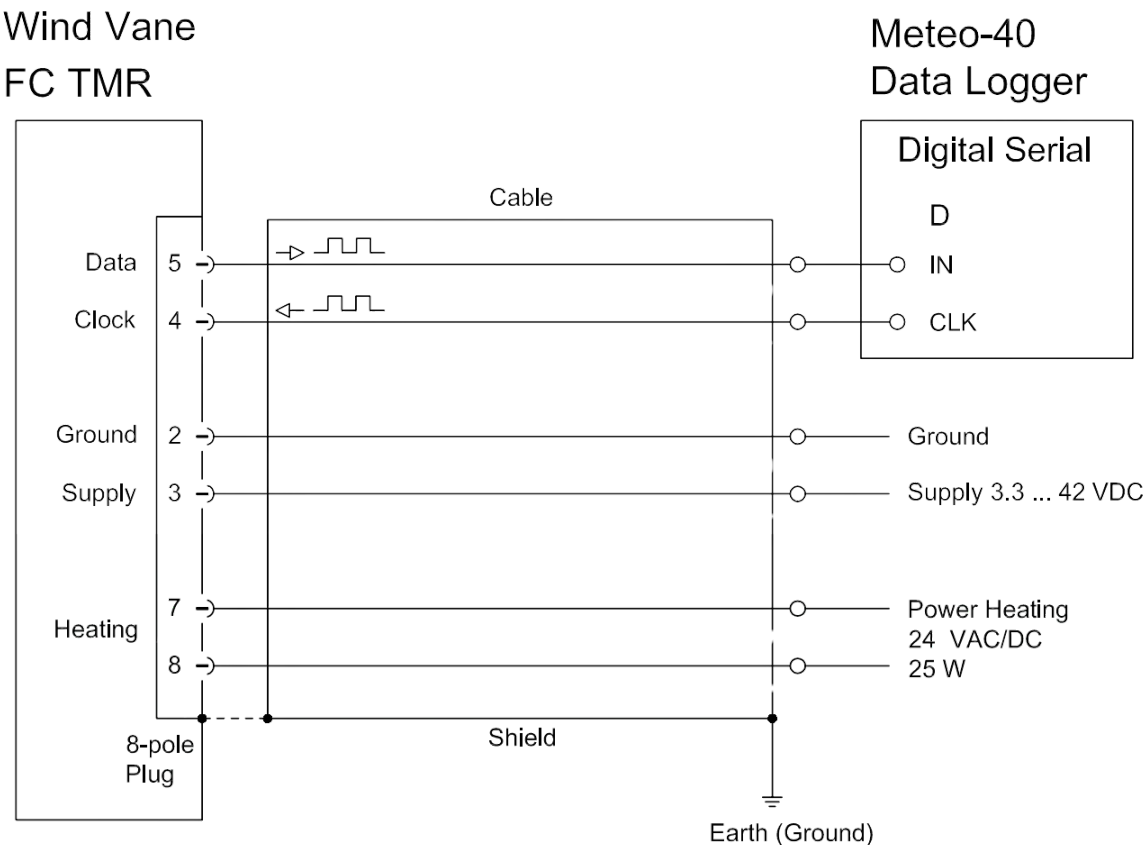
Manufacturer Thies

Sensor connection diagram

Sensor connection diagram to Ammonit Meteo-42 data logger



Sensor connection diagram to Ammonit Meteo-40 data logger



Sensor	Plug Pin No.	Ammonit Cable Wire Color*	Meteo-40 Digital	Supply Sensor
Wind Direction Data	5	white	IN	
Clock	4	blue	CLK	
Supply	3	red		9 ... 36 V*
Ground	2	black		Main Ground
Heating	7	orange, orange		24 V AC/DC
	8	violet, violet		

*** Supply voltage for usage with Meteo-40 data loggers.**

Cable type without heating: LiYCY 6 x 0.25 mm²

Cable type with heating wires: LiYCY 10 x 0.25 mm²

Accessories

- Calibration Wind Vane Thies First Class