

Wind Vane Thies Compact TMR

S22100



Wind Vane Thies Compact TMR

Order number

S22100

Availability

Usually on stock

TMR wind direction sensor

Description

- TMR wind direction sensor
- Output: 10-bit serial-synchronous (compatible with Ammonit Meteo-40 data loggers)
- Measurement range 0 ... 360°
- Accuracy $\pm 1,5^\circ$

The wind direction is detected by a low-inertia wind vane. 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 sensed contact-free by a magnetic angle sensor, (TMR = Tunnel Magneto Resistance) which gives two sinus- and cosinus-dependent voltages as output signal.

A connected micro-controller calculates from these voltages the wind direction in 1024 sectors ($0.35^\circ/\text{sector}$). Related to sector 1 is the wind direction 0° - 35° , sector 1024 corresponds to the wind direction 359.65° - 360° .

Specifications

Wind Vane Thies Compact TMR

General Information

Order Number S22100

Measurement

Measurement Principle Magnetic

Measurement Range 0 ... 360°

Accuracy $\pm 1.5^\circ$

Resolution 0.35°

Starting Threshold
< 1 m/s (ASTM D5366-96)
< 0.4 m/s (VDI 3786 Part 2)

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

Electrical

Operating Voltage 3.3 ... 30 VDC / 24 VAC

Heating Voltage 24 V DC/AC, max. 20 W

Current Consumption @ 12 VDC 1 mA (without heating)

Environmental

Survival Speed max. 80 m/s, 30 min

Ambient Temperature -40 ... +70 °C

Construction

Connection 7-pole plug

Material Aluminum, stainless steel and plastic (housing and wind vane)

Type of Bearings Metallic ball bearings

Weight approx. 0.4 kg

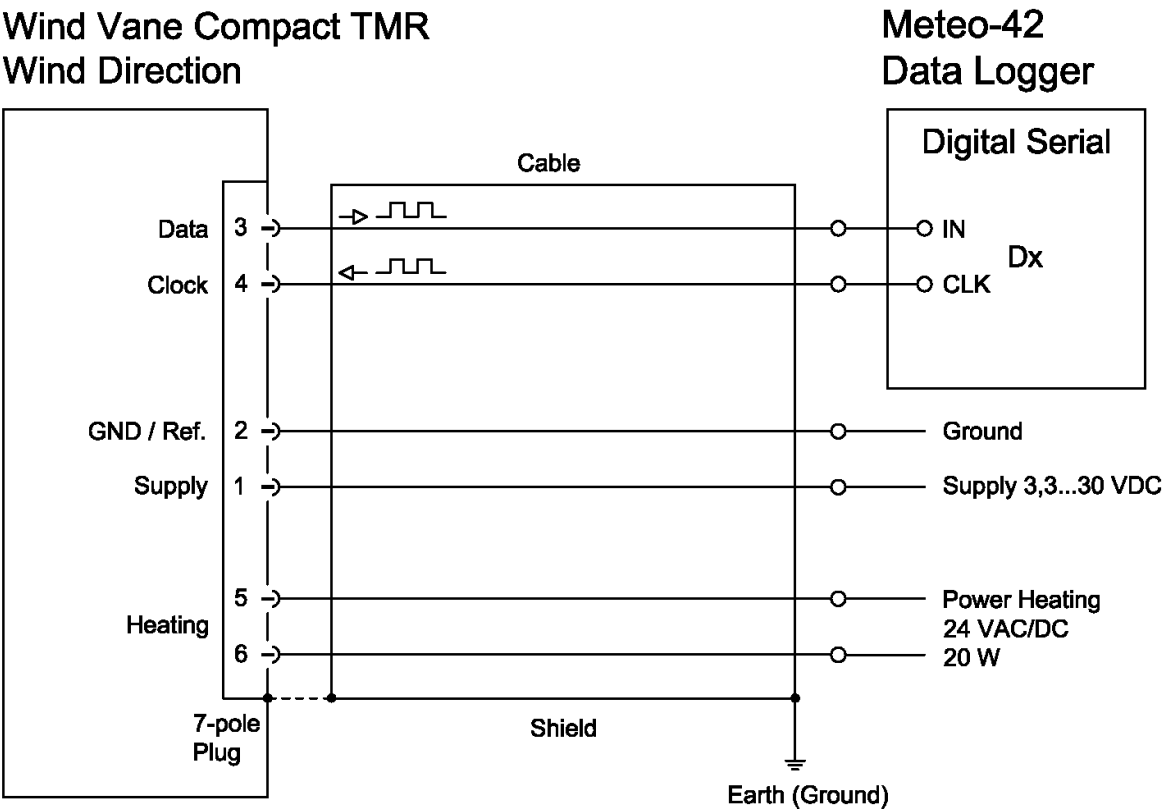
Protection IP 55

Manufacturer

Manufacturer Thies

Sensor connection diagram

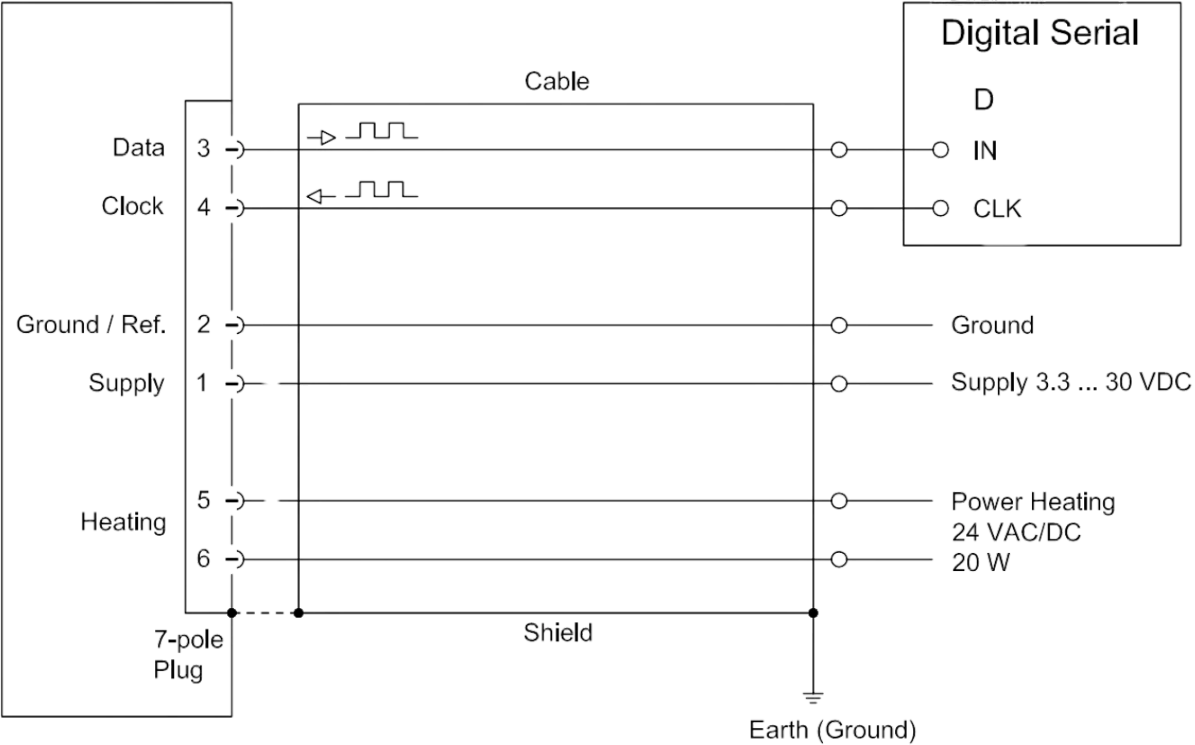
Sensor connection diagram to Ammonit Meteo-42 data logger



Sensor connection diagram to Ammonit Meteo-40 data logger

Wind Vane
Compact TMR

Meteo-40
Data Logger



Sensor	Plug Pin No.	Ammonit Cable Wire Color*	Meteo-40 Digital	Supply Sensor
Wind Direction Data	3	white	IN	
Clock	4	blue	CLK	
Supply	1	red		12 V
Ground	2	black		Main Ground
Heating	5	orange, orange		24 VAC/DC
	6	violet, violet		

Cable type without heating: LiYCY 4 x 0.25 mm²
Cable type with heating wires: LiYCY 8 x 0.25 mm²
Connect the shield logger-sided to Ground (GND).