WIND VANE

THIES COMPACT

KINTECH ENGINEERING

ORDER - N°	ELECTRICAL OUTPUT	ELECTRICAL SUPPLY	HEATING SUPPLY	MODEL IN EOL MANAGER
4.3129.00.712	Pot: 2 kΩ	0…24 VDC <1 mA	24 V DC/AC 20 W	**THIES 2K**
4.3129.10.712	Pot: 2 kΩ	0…24 VDC <1 mA	No heating	**THIES 2K**
4.3129.00.012A	Pot: 2 kΩ	0…24 VDC <1 mA	24 V DC/AC 20 W	**THIES 2K**
4.3129.10.012A	Pot: 2 kΩ	0…24 VDC <1 mA	No heating	**THIES 2K**

APPLICATION

The wind direction transmitter (wind vane) is designed for the acquisition of the horizontal wind direction. The measuring value is output proportionally to wind direction as analogue voltage in case the potentiometer is supplied by a constant voltage. The measuring data available are ideally adapted to the supply in display instruments, recording instruments, data logger, as well as process control systems.

For winter time use, the instrument is optionally equipped with an electronically regulated heating, in order to guarantee a smooth-running of the ball bearing and to prevent a blocking of the gap between the external rotation parts by ice aggregation.

CONSTRUCTION AND MODE OF OPERATION

The outer parts of the instrument are made of corrosion-resistant material (aluminum, stainless steel, plastic). The aluminum parts are additionally protected by means of an anodic coat. Labyrinth sealing protects sensitive parts inside the instrument against humidity.

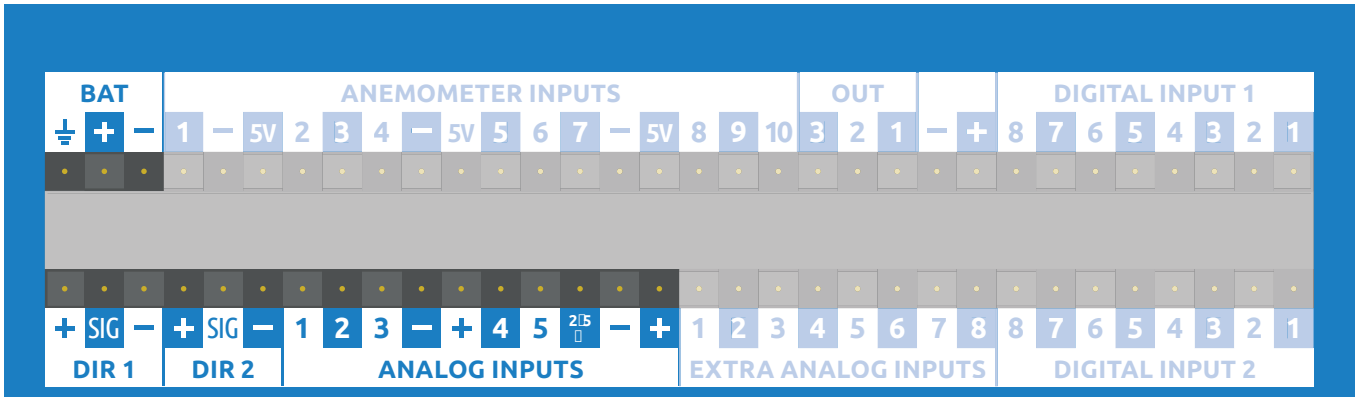
The wind direction is acquired by an inertia-free wind vane. The axis of the wind vane is held in ball bearings. A magnetic coupling connects the axis with the potentiometer in contact-free mode, thus providing for a smooth starting of the instrument.

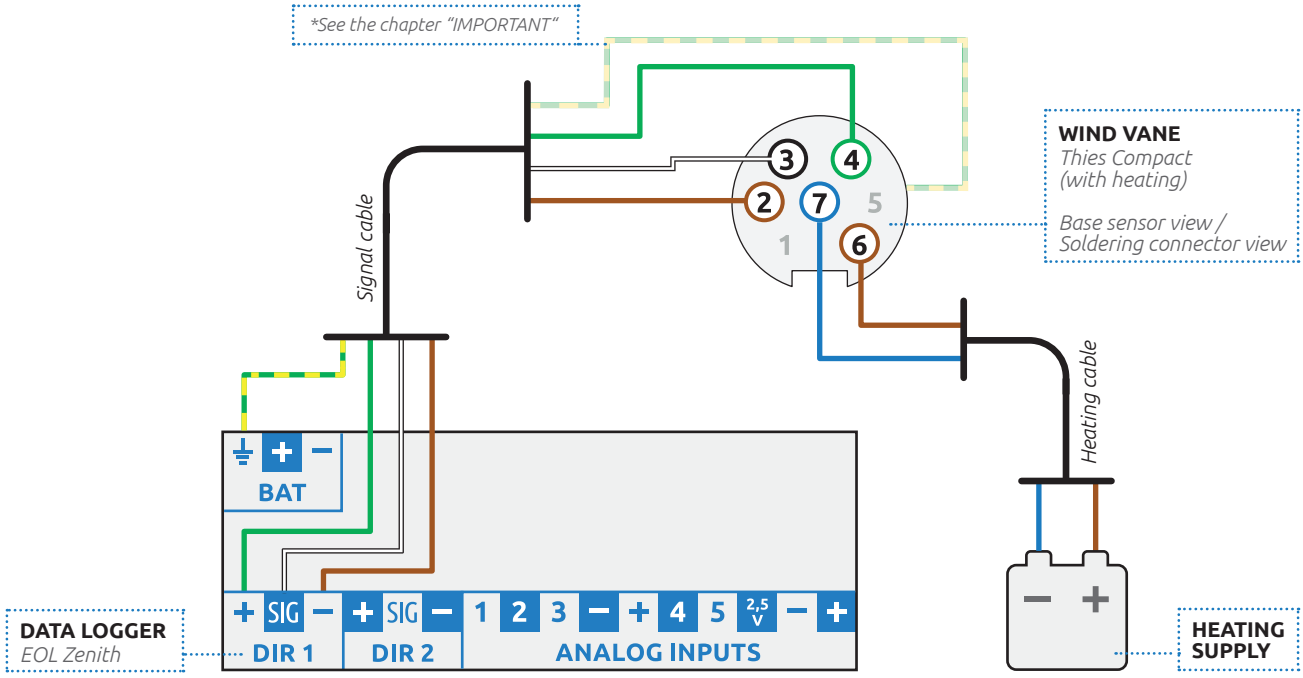
TECHNICAL DATA

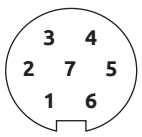
CHARACTERISTIC	DESCRIPTION / VALUE
Measuring range	0...360° (0 Ω in the North point)
Resolution	0.5°
Starting threshold	≤1 m/s acc. to ASTM Standards D 5366-96 ≤0.4 m/s acc. to VDI Directive 3786 Part 2
Delay distance	<2.5 m acc. to ASTM Standards D 5366-96
Accuracy	±2°
Measuring principle	Potentiometer
Potentiometer output	2 kΩ
Electrical supply for potentiometer	Voltage Us : 0...24 VDC **The supply must guarantee a current limiting to maximum 1 mA – short cut at the North point**
Operating voltage heating	24 V DC/AC, maximum 20 W
Ambient temperature	-40...+70 °C
Survival speed	80 m/s, 30 minutes
Connection 4.3129.X0.712 4.3129.X0.012A	 7 pol. plug 3 wires, 0.25 mm^2, 100 mm long
Protection	IP 55
Weight 4.3129.X0.712 4.3129.X0.012A	 ca. 1.10 kg ca. 0.4 kg
Material: Housing Vane Bottom	 Aluminum (AlMgSi1) Synthetic with fiber glass (PC-GF10) Synthetic (POM H2320)

INSTRUCTIONS

Use the following input channels on the logger to connect this sensor. See highligted input channels marked here below. The wire colors used in the connection diagram below only applies in case the cable is supplied by Kintech Engineering.
For additional wiring & shielding information see the chapter "IMPORTANT" at the end of this dataheet.

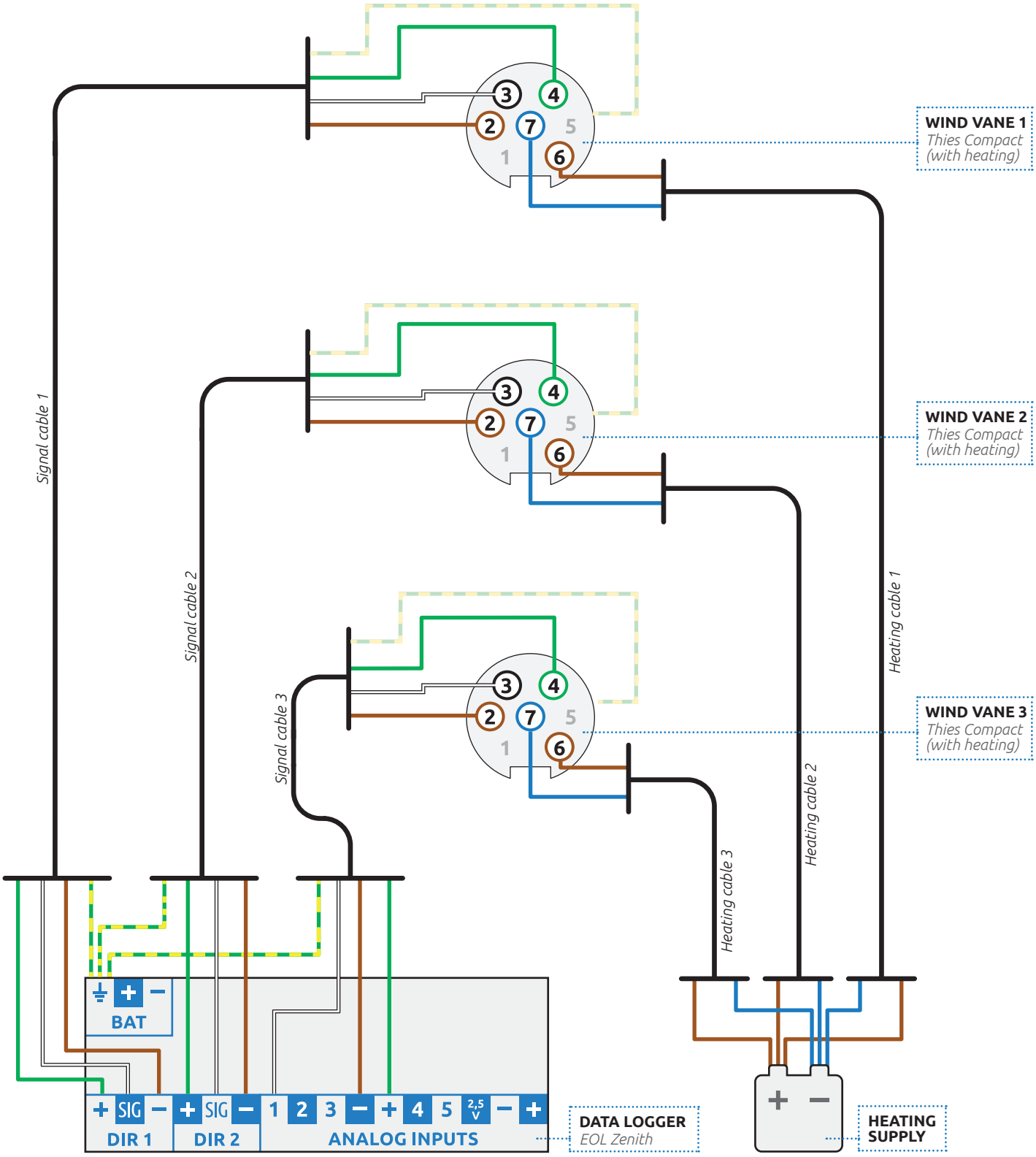




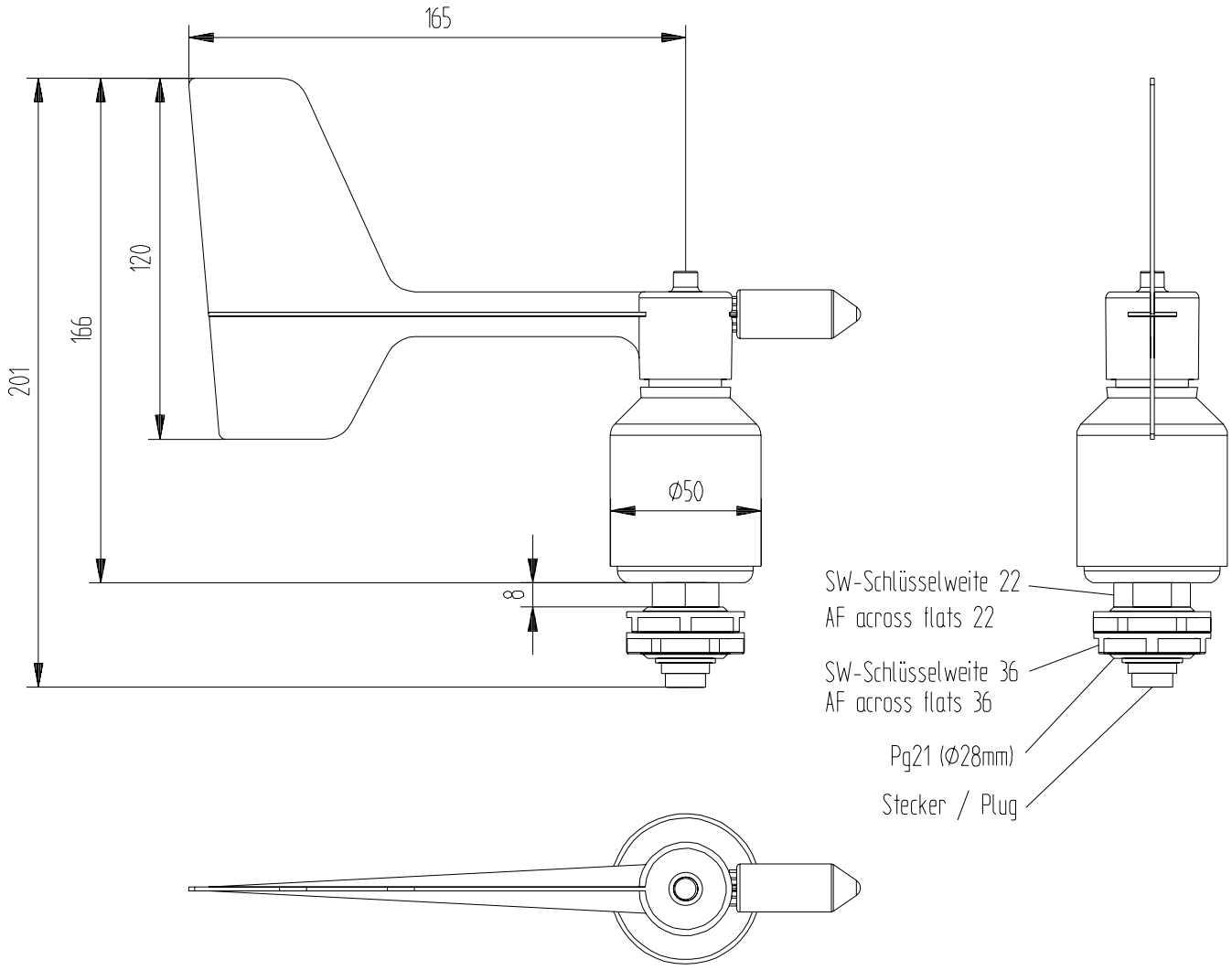
SENSOR PIN DESCRIPTION (4.3129.X0.712)			DATA LOGGER INPUT CHANNEL	
	1	**Do not connect!**		
	2	GND	DIR 1	(-)
	3	SIG	DIR 1	SIG
	4	Us (+)	DIR 1	(+)
	5	**Do not connect!**		
	-	Shield	BAT	GND
	6	Heating (+)	Heating Supply	(+)
	7	Heating (-)	Heating Supply	(-)

KINTECH COLOR CODES		MANUFACTURER COLOR CODES (4.3129.X0.012A)		
Brown		Red		Signal cable
White		Yellow		
Green		Blue		
Yellow - Green		Yellow - Green		
Brown		Green		Heating cable
Blue		Green		

HOW TO CONNECT MORE THAN ONE OF THIS SENSOR



SENSOR DIMENSIONS

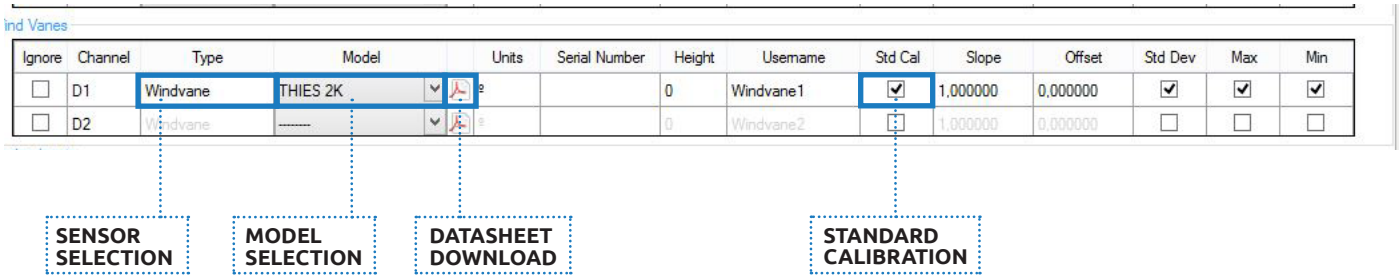


HOW TO CONFIGURE THIS SENSOR IN EOL MANAGER

Open EOL Manager and go to the data logger you are working on. Open the "inputs" tab and select the following type and model:

- **Section**: Wind Vanes
- **Type**: Windvane
- **Model**: THIES 2K

Offset value: Tick the "Std Cal" if the north marking on the wind vane is aligned exactly towards North (in this case the offset is zero (0)). Otherwise the angle (in degrees) must be typed in the offset.



IMPORTANT

- After configuring the sensor in EOL Manager make sure to upload the configuration file to your EOL Zenith data logger. See the "Quick User Guide" how to upload configuration files to the data logger.
- All sensor wire shields must be connected to the data logger GND terminal.
- The data logger should always be connected to a separated ground rod. **Not** to the lightning rod of the tower.
- There are two exclusive inputs in the logger for the wind vanes (DIR1 & DIR2). Connecting the 3rd – 7th wind vane use "ANALOG INPUTS" of the logger.
- Wind vanes connected to the "ANALOG INPUTS" of the logger must be connected to exclusive (+) and (-) terminals. The terminals (+) and (-) can consequently **not** be shared between wind vanes.
- Wind vanes **cannot** be connected to the "EXTRA ANALOG" channels of the logger.
- To store data such as Std Dev, Max and Min you should tick the corresponding boxes next to each anemometer channel when setting up your site file. Otherwise these parameters will not be stored.

- Connecting recommendation sensor-shield:

Metallic measurement mast, grounded	Drawing of wind vane incl. isolator 	The shield should be connected to both the anemometer side and the data logger side Data logger should always be connected to ground
Metallic measurement mast, grounded	Drawing of wind vane **without** isolator 	The shield should only be connected on the data logger side **Not on the sensor** Data logger should always be connected to ground

- Cable recommendation (up to 100 m cable):

Sensor no heating	Signal cable 3x0.5 mm²
Sensor with heating	Signal cable 3x0.5 mm²
	Heating cable 2x2.5 mm²

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