USER MANUAL

ECONOMY

Wind Direction Sensor

aem | LAMBRECHT meteo

Warranty

Please note the loss of warranty and non-liability by unauthorized manipulation of the system. You need a written permission of the LAMBRECHT meteo GmbH for changes of system components. These activities must be operated by a qualified technician.

The warranty does not cover:

1. Mechanical damages caused by external impacts (e. g. icefall, rockfall, vandalism).
2. Impacts or damages caused by over-voltages or electromagnetic fields which are beyond the standards and specifications in the technical data.
3. Damages caused by improper handling, e. g. by wrong tools, incorrect installation, incorrect electrical installation (false polarity) etc.
4. Damages which are caused by using the device beyond the specified operation conditions.

Calculation of wind direction

The output of the wind direction is provided with a resolution of 1°.

For the 0...20 mA output, the angle is calculated as follows: Angle = I_1 [mA] / 20 mA x 360°

Correspondingly for the 4...20 mA output: Angle = (I_2 [mA] - 4 mA) / 16 mA x 360°

Installation

1. First, the wind vane is placed on the sensor. It can only be fixed in one direction on the sensor with the two captive screws.
2. Now the cable with the mounted coupling socket is pulled through the mounting mast with a diameter of approx. 50 mm.
3. The plug-in connection is made and secured by screwing.
4. Then the sensor is placed on the mast.
5. To align the sensor to the north, the two points on the sensor housing and the dome are positioned one above the other and, if necessary, fixed with an adhesive strip.
6. This allows a point determined in the south to be targeted via the sword of the wind vane and the fastening screw to be tightened in this position using the enclosed Allen key (4 mm).

Electrical connection

The electrical connection is made using a 12-pin plug connector. A shielded cable 10 x AWG 24 C UL sw with a wire cross-section of 0.22 mm² is recommended for connection. The maximum cable length is approx. 100 m. Preconfigured cables with cable socket can be ordered separately.

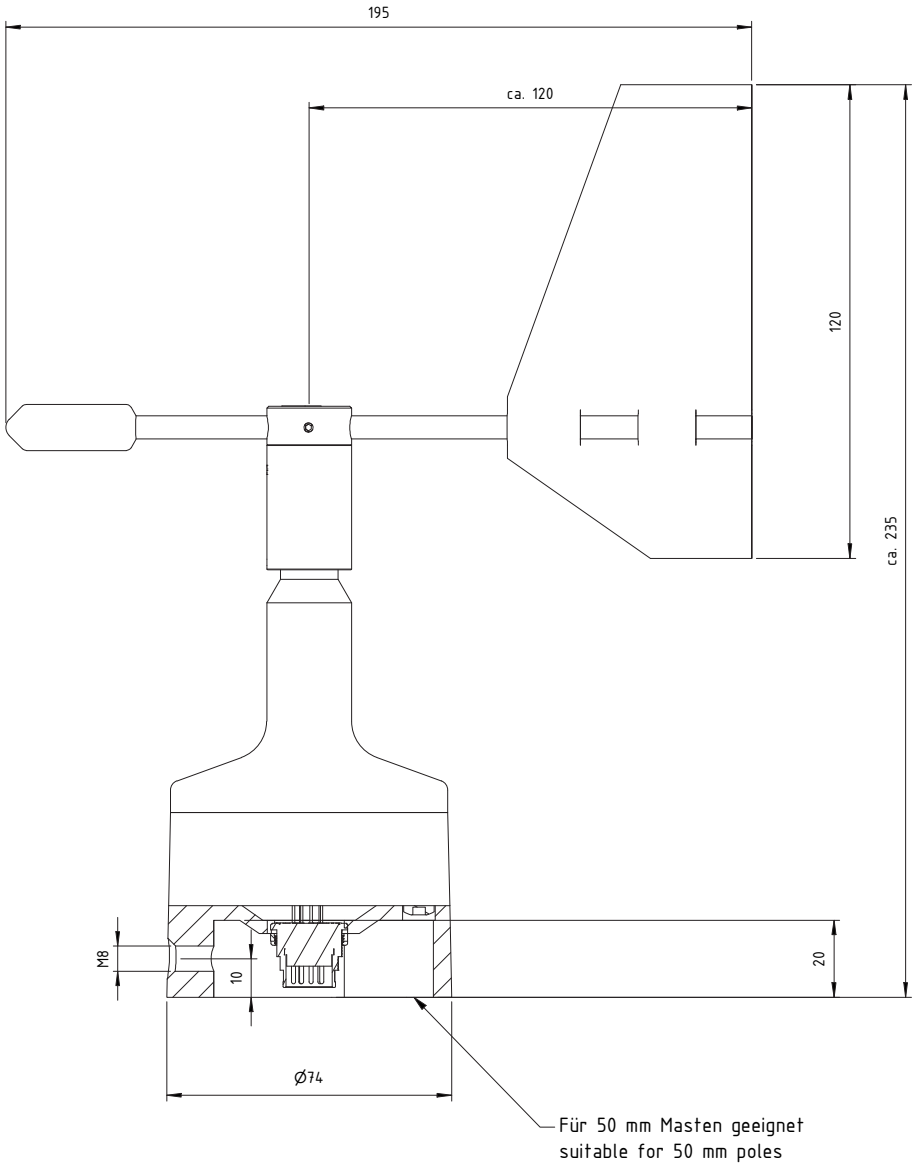
Troubleshooting

If the sensor is not delivering a signal, check the following:

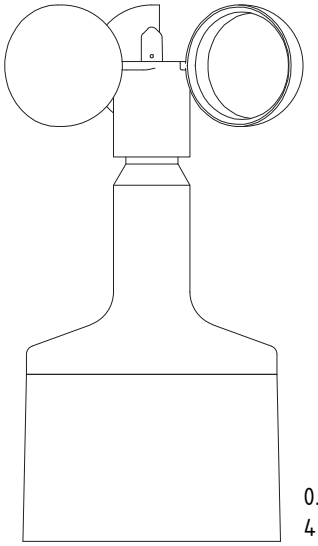
1. Does the wind vane rotate? Is the wind vane frozen solid (sensor without heating)? For sensors with heating, check the power supply at pin M and G if necessary.
2. Is the supply voltage connected to pins J and H? If not, check the voltage source or the line.

If 1) and 2) are failing, return sensor to manufacturer. If only the vane is damaged, the new vane can be ordered and installed.

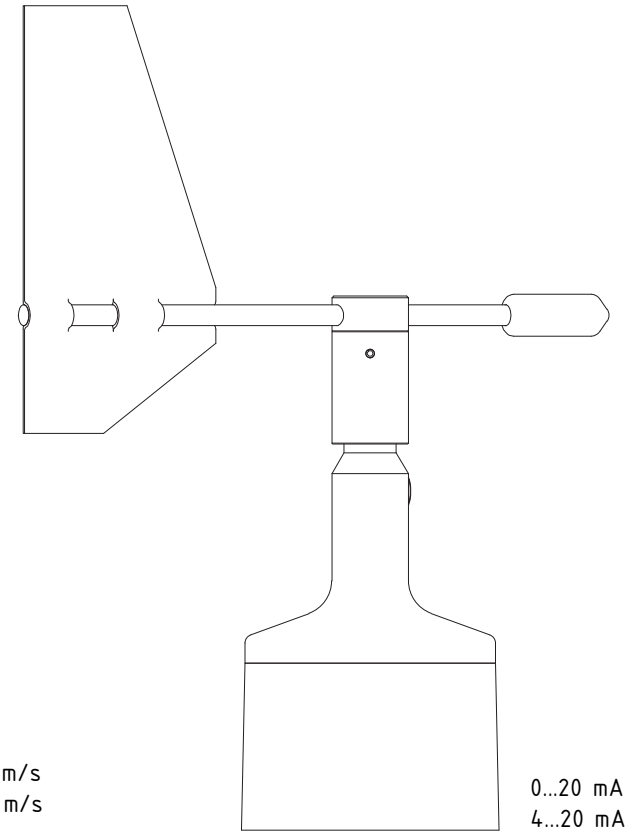
Dimensioned drawing



Wiring diagram

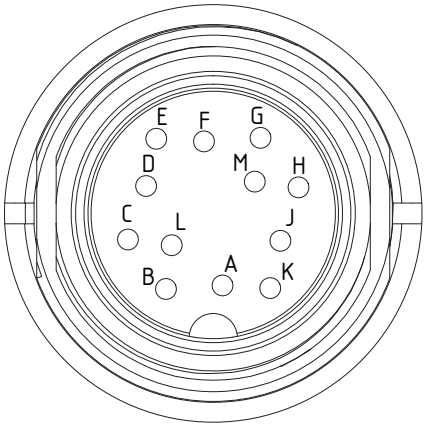


0...20 mA = 0...50 m/s
4...20 mA = 0...50 m/s



0...20 mA = 0...360°
4...20 mA = 0...360°

Anschlussbild / connection diagram		
PIN	Kabelfarbe color code	Funktion function
F	BK	+ 0...20 mA
E	BN	GND (I OUT)
D	RD	+ 4...20 mA
C	NC	NC
L	OG	Fout 700 Hz (WG)
B	YE	GND (A GND)
A	GN	SDI-12 OUT
K	NC	NC
J	BU	+ 10...30 VDC (Elektronik)
H	VT	GND
M	GY	- 24 VDC Heating
G	WH	+ 24 VDC Heating



Technical data

ECONOMY Wind Direction Sensor	
Id No.	00.14565.400000
Measuring range	0...360°
Accuracy	3.6°
Resolution	1°
Output	0...20 mA (maximum load 500 Ohm at 15 V) 4...20 mA (maximum load 500 Ohm at 15 V)
Range of application	temperatures: -30...+70 °C heated; 0...+70 °C unheated survival wind speed: 75 m/s
Starting value	< 0.7 m/s
Operating voltage	10...30 VDC
Heating voltage	24 VDC, 600 mA (for controlled heating)
Housing	seawater resistant aluminum; anodized; IP 53
Measuring element	blade vane, aluminum, dimensionally stable
Dimensions	see dimensional drawing; for mounting on pipe Ø 49...51 mm
Weight	0.4 kg
ACCESSORIES (please order separately)	
Id No. 32.14565.060000	Ready-made cable with 12-pin plug; length: 12 m
Id No. 32.14565.060020	Ready-made cable with 12-pin plug; length: 15 m

Disposal

LAMBRECHT meteo GmbH is listed and registered at the Stiftung Elektro-Altgeräte Register ear under:

WEEE-Reg.-Nr. DE 45445814

In the category of monitoring and control instruments, device type: “Monitoring and control instruments for exclusively commercial use”.

Within the EU

The device has to be disposed according to the European Directives 2002/96/EC and 2003/108/EC (Waste Electrical and Electronic Equipment). Do not dispose the old device in the household waste! For an environmentally friendly recycling and disposal of your old device, contact a certified disposal company for electronic waste.

Outside the EU

Please follow the regulations in your country regarding the appropriate disposal of waste electronic equipment.

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