

Instruction for Use

020783/08/04

Small Wind Transmitter

4.3515.30.xxx



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1 Models

Order-No.	Meas. Range	Connection / Cable type	Cable length
4.3515.30.0xx	0,5 ... 40 m/s	cable LiYY 2 x 0,25 mm ²	acc. to order
4.3515.30.9xx	0,5 ... 40 m/s	cable LiYCY 2 x 0,25 mm ² with shield	acc. to order

2 Application

The wind transmitter serves for the detection of the horizontal wind speed. The measurement values are output as potential-free pulses.

The signals can be transmitted to display instruments, measuring transducers, or dataloggers.

In areas endangered by lightning it is recommendable to install a Lightning rod, order no.

4.3100.99.000 as well as to fit the instrument on a metallic mast with the grounding set.

Remark:

When using fastening adapters (angle, traverses, etc.) please take a possible effect by turbulences into consideration.

3 Mode of Operation

The wind transmitter converts wind velocity into an electrical signal. The signal is generated by a reed contact which is activated without contact magnetically by a cup anemometer.

The cup anemometer is mounted in a ball-bearing shaft and leads a magnet past the reed contact, resulting in a frequency proportional to the number of rotations of the cup anemometer. This frequency is almost linearly dependent on wind velocity. Cup star and upper part of the shaft consist of synthetic fibre, the lower part is made of aluminium.

4 Recommendation Site Selection / Standard Installation

In general wind measurement instruments should be able to detect the wind conditions of a large area. In order to obtain comparable values when determining the surface wind, measurements should be taken at a height of 10 meters over an even area with no obstacles.. An area with no obstacles means that the distance between the wind transmitter and an obstacle should be at least 10 times the height of the obstacle (s. VDI 3786). If it is not possible to fulfil this condition, then the wind transmitter should be set up at a height where local obstacles do not influence the measured values to any significant extent (approx. 6-10 m above the obstacle). The wind transmitter should be set up in the centre of flat roofs not on the edge to avoid bias in the direction (privileged directions).

5 Installation

5.1 Mechanical Mounting

The instrument can be mounted to a 50 mm long tube of R 1" (diameter 35 mm). The internal diameters of the tube must be at least 20 mm in order to be able to hold the connecting cable with the plug connection.

Then, run the cable through the mast tube. Place the wind transmitter onto the tube and attach it to the shaft with the two fixing screws.

If the instrument is being used in combination with a wind direction transmitter (4.3124.40...,4.3127.40...), mount the small wind transmitter to the traverse, order-no. 4.3171.20.000 (see accessories), and screw this onto a mast with a diameter of 30...50 mm.

Attention:

Storing, mounting and operation under weather conditions is permissible only in vertical position, as otherwise water can get into the instrument.

5.2 Electrical Mounting

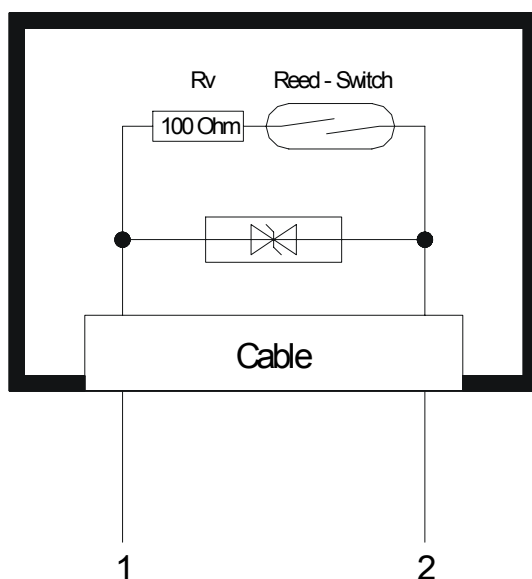
The electrical connection is carried out acc. to the connection diagram (chapter 7).

6 Maintenance

Heavy pollution can clog up the slit between the rotating and the stationary parts of the wind transmitter. This slit must be kept clean.

After a long period of use, wear and tear may occur on the ball bearings and on the reed contact. This will manifest itself in a higher starting torque, in the fact that the cup anemometer does not start to move or in a lack of output pulses. To avoid errors in measurement, we recommend that the instrument undergo an annual check-up and that the starting and the stopping mechanism be tested for ease of movement by blowing on it gently. Moreover we recommend that the instrument be overhauled once every two years by the manufacturer.

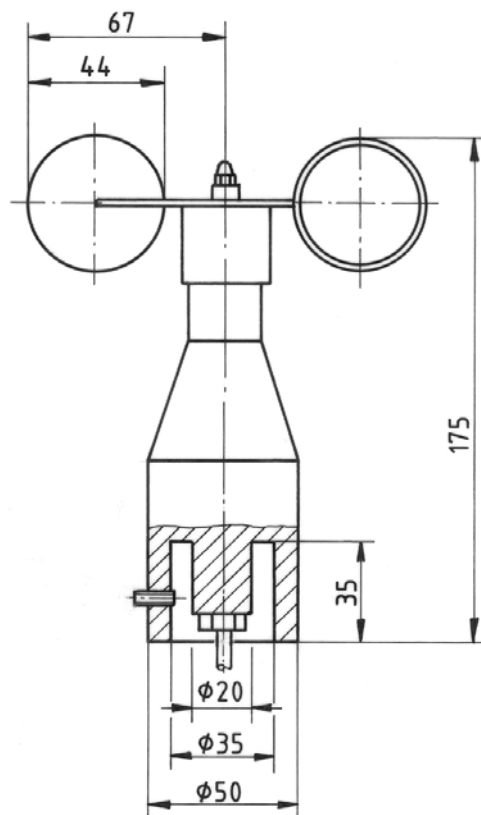
7 Connecting Diagram



8 Technical Data

Measuring range	0,5 ... 40 m/s
Resolution	0,8 m wind run
Load	max. 60 m/s
Electr. output	50 Hz at 40 m/s
Contact	Reed contact (approx.. 5×10^8 switching cycle)
Contact load	0,5 W; 24 V DC; 20 mA
Rv (see connection diagram)	0,5 W , 100 Ω
Ambient temperature	- 25°C ... + 60°C, ice-free
Connection	See model
Weight	ca. 0,3 kg
Protection	IP 54

9 Dimension diagram



10 Accessories

The following accessories are available for the wind transmitter

Traverse For mounting the wind transmitter and wind direction transmitter jointly onto a mast	4.3171.20.000	Clamping range: Ø 30 ... 50 mm Sensor distance: 0,5 m Material: Aluminium
Lightning rod	4.3100.99.000	Height: 0,8 m Material: steel

Other accessories such as masts and additional mast- or system-constructions on request.



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