

# Small Wind Transmitter

Instruction for use 4.3400.30.000



## Range of Application

The windsensor measures and transmits the horizontal wind velocity. The measuring values are available at the output as analogue signals.

This transmitter is a small construction with a DC-generator, which is moved by the revolution of the cup star.

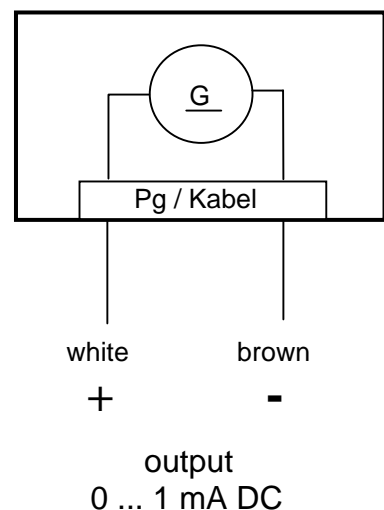
The signals can be transmitted to display instruments, or via measuring converters to recording instrument.

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**.

## Technical Data

Measuring range	: 0,5 ... 35 m/s
Accuracy	: $\pm 0,5$ m/s resp. $\pm 3\%$
Wind load	: max. 60 m/s
Electrical output	: 0...1 mA DC at 800 $\Omega$
Ambient temperature	: - 25 ... + 60 °C, ice free
Cable	: LiYY 2 x 0,5 mm <sup>2</sup> ; 30 m long
Mounting	: onto a mast tube 1"
Dimensions	$\varnothing$ 134 mm , cup star $\varnothing$ 50 x 175 mm high
Weight	: 0,3 kg

## Connecting diagram



## **Construction and Mode of Operation**

The wind transmitter, small model, 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, to the greatest extent, linearly dependent on wind velocity.

The instrument is constructed of synthetic material.

## **Selecting a Site**

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. If it is not possible to fulfill 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 center of flat roofs not on the edge to avoid bias in the direction (privileged directions).

## **Mounting the Wind Transmitter**

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.

Thread the flexible control line LiYY through the mast. Connect electrically as shown in the connecting diagram.

Once the instrument has been connected, place the wind transmitter onto the tube and attach it to the shaft with the two hexagonal screws.

If the instrument is being used in combination with a wind direction transmitter, mount the instrument to the **Traverse**, Order-No. **4.3171.20.000** and screw this in turn onto a mast with a diameter of 30...50 mm with a clamp strap.

## **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 checkup 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.



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