

# ***Classic Wind Transmitter***

***Instruction for use*** 4.3303.22.040 /.041 /.061 /.073  
4.3303.22.640 /.641 /.661 /.673



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## 1. Range of application

The wind transmitter is used for the registration of the horizontal component of the wind velocity. The measuring value will be placed at the output as analog signal. The signal can be given to display instruments, recording instruments, datalogger as well as process wise systems. The wind transmitter is equipped with an electronically regulated heating system in order to prevent ice and frost from the ball bearings and the outer rotation parts (please refer to instrument models).

Power supply unit, Order no. 9.3388.00.000 provides the transmitter and the heating system with current. It is advisable to attach Lightning rod, Order no. 4.3100.99.000 in areas with considerable lightning activity.

## 2. Set-up of the instrument

A low-inertia light metallic cup star is set into rotation by the wind. Through the optoelectronic-rotating-frequency-scanning the resulting pulse frequency is converted through an integrated measuring transducer into an analog signal. The measuring transducer is normally provided with voltage from the heating system. The instrument can also be used without the heating system. In this case the measuring transducer has to be provided with a separate voltage supply. Input and outputs have to be protected from overload by transzorb diodes.

The outer parts of the instrument are made of corrosion-resistant parts and they are protected through a varnish. The sensitive parts inside of the instrument are protected from precipitation through labyrinth seals and o-rings. The instrument is designed to be mounted to a mast, the electrical connection is located in the stem of the transmitter.

The wind transmitter is shipped in a semi-mounted state in order to avoid transport damage and to keep the package small.

It consists of the following parts:

- 1 Case
- 1 Cup star
- 1 Connection plug

## 3. Models available

Order no.:	Measuring range	Electrical output
4.3303.xx.040	0...50 m/s	0...20 mA (max. 500 Ohm)
4.3303.xx.041	0...50 m/s	4...20 mA (max. 500 Ohm)
4.3303.xx.061	0...50 m/s	0...10 V (Ri = 100 Ohm)
4.3303.xx.073	0...50 m/s	0... 5 V (Ri = 100 Ohm)
4.3303.xx.640	0...60 m/s	0...20 mA (max. 500 Ohm)
4.3303.xx.641	0...60 m/s	4...20 mA (max. 500 Ohm)
4.3303.xx.661	0...60 m/s	0...10 V (Ri = 100 Ohm)
4.3303.xx.673	0...60 m/s	0... 5 V (Ri = 100 Ohm)
.10.	without heating	
.22.	with heating	

#### **4. Technical data**

Measuring range	: see connection diagram
Starting velocity	: 0,3 m/s
Maximal load	: 60 m/s
Electrical output	: see connection diagram
Accuracy	: 0,5 m/s or 2% from measuring range
Resolution	: 0,05 m wind run
Wind load at 35 m/s	: approx. 10 N
Distance constant	: 5 m
Ambient temperature	: -35...+80°C
Heating (for type .22...)	: 24 V AC/DC; approx. 20 W; electronically controlled
Connection	: 5-pole plug
Mounting	: onto a mast tube 1 _“, DIN 2441
Weight	: 1 kg

## **5. Preparation for use**

### **5.1 Selecting the site**

According to international regulations, the surface wind should be measured at a height of 10 m above flat, open terrain, in order to achieve comparable values. An open terrain is defined as terrain where the distance between the wind-measuring instrument and the next obstacle is at least ten times the height of this obstacle (see VDI 3786, Part 2). If the regulation cannot be adhered to, the measuring instrument should be installed at a height at which the measurement values are not influenced by any local obstacles. In any case, the measuring instruments are to be installed at a height of 6 to 10 m above the mean height of the buildings or trees in the vicinity. If it is necessary to install the instrument on a roof, it should be installed in the centre of the roof in order to avoid any preferential directions.

### **5.2 Mounting of the cup star**

Unscrew the cap nut (SW 8) from the wind velocity sensor case and remove the disk. Keep the rubber sealing washer in the protection cap. Set the cup star into position in such a way that the dowel pin in the cup star catches in the nut of the protective cap. Replace the disk and rescrew the cap nut. Hold the transmitter on the protective cap not on the cup.

### **5.3 Mounting of the Wind Transmitter**

Mount the transmitter to a short piece of pipe of R 1\_“ (Ø 48 mm) and a length of 50 mm. The short piece of pipe must have an internal diameter of at least 36 mm as the wind transmitter must be connected electrically with a plug from below. Solder a flexible lead wire LiYCY with the appropriate number of cores of 0,5 mm\_ each to the enclosed plug. Once the electrical connection has been carried out, set the wind transmitter onto the short piece and fasten it to the shaft with the two hexagonal screws.

## **6. Maintenance**

If the instrument has been properly mounted, no maintenance is required. However, heavy pollution could cause the slits between the rotating and stationary parts of the instrument to clog up. Thus it is recommendable to remove dirt deposits from the transmitter from time to time. Naturally, the bearings of the generators and the ball-bearings are subject to a certain degree of wear and tear. After years of use, this could lead to a higher starting torque or to the fact that the cup anemometer no longer rotates. Should such a defect occur, we would recommend that you return the instrument for repairs.

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