Wind speed sensor

General

The wind speed sensor detects the horizontal wind speed. The measured values are available at the outputs as analogue voltage or current signal to control for instance wind power plant.

An electronically-regulated heating system has been installed for winter time use, in order to prevent the ball-bearing and the externals rotation parts from freezing. The electronical supply of the heating system is done e.g. by our power supply. When using of attachment adapters (angles, cross member, etc.) an possible interference by turbulences must be observed.

Selection of setup 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 direction 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 direction transmitter should be set up a height where local obstacles do not influence the measured values to any significant extent (approx. 6-10 m above the obstacle). The wind direction transmitter should be set up in the centre of flat roofs and not on the edge in order to avoid any preferential directions.

Wind speed mounting

The mounting of the wind transmitter could be done for example on a central mast tube with a PG 21-boring thread, or on hangers or the like with a boring of ∅29 mm. In doing so please pay attention to possible obstacles which might effect the air flow and the measuring value.
The flexible control wire LiYCY will be guided through the boring the guard will be fixed by a hexagonal nut (SW 36). The electronical connection will be done by the recommended connection diagram.

Attention: Storage, mounting and operation under atmospherical conditions is only in upright position admissible, otherwise water can enter the device.

Maintenance

After proper mounting the instrument works maintenance free.
Heavy pollution can clog up the slit between the rotating and the stationary parts of the wind transmitter. This slit must be kept clean.

Technical data

Type	Wind speed sensor
Art. Nr.	80086010
Operating voltage	9 - 30 V DC or 24 V AC/DC
Heating	24 V AC/DC max. 20 W
Measurement range	0,5 ... 50 m/s
Measurement accuracy	± 0,5 m/s oder ± 3 % of the measure value
Measurement principle	optical electronic (slot disc)
Resolution	< 0,1 m/s²
For 0 - 10 V output	13 - 30 V DC
Dimensions	HxD 165x134mm
Weight	0,75 kg
Environmental temperature	-30°C ... +70°C
Cable	12m long, LiYCY 6 x 0,25 mm²

Wind speed sensor	Continued
Mounting	e.g. mast tube with PG 21 or boring Ø 29 mm
Storage temperature	-25 ...+70°C
Humidity	0 ...85 % r. F. non condensing
ESD immunity	Category 3 according to IEC-1000-4-2
EMV immunity	Use in typical industrial enviroment. Category 3 according to IEC-1000-4-4 (Test was carried out within a whole system)
CE sign	yes

Terminal assignment

Number	wire colour	description
1	white	operating voltage +9...30V DC or 24V AC
2	brown	operating voltage 0V
3	green	analog output +0-10V
4	yellow	analog output GND
5	grey	heating supply voltage 24V AC/DC
6	pink	heating supply voltage 0V
	shield	PE

Wiring diagram