

Wind Transmitter >>first class<<

for evaluation of location, and measurement of capacity characteristics of wind power systems.

Fulfills all specifications according the latest requirements ([MEASNET](#) , CLASSCUP, IEC 61400-121-CD)

- optimized dynamic action also with high turbulence-intensity
- minimal over speeding
- low starting values
- high accuracy
- Certified by [DEWI](#) and [WindGuard](#)
- high survival speed (Certified by [DNV](#))
- excellent cost -performance ratio

Certificates from  ,
 and 



1. Range of Application

The wind transmitter is designed for the acquisition of the horizontal component of the wind speed in the field of meteorology and environmental measuring technology. The measuring value is available as digital signal at the output. It can be transmitted to display instruments, recording instruments, data loggers as well as to process control systems. For winter operation the instrument is equipped with an electronically regulated heating, which guarantees a smooth running of the ball bearings, and prevents the shaft and slot from icing-up.

2. Construction and Mode of Operation

A low-inertia cup star with 3 cups, made of carbon-fibre-reinforced plastic, is set into rotation by the wind. The rotation is scanned opto-electronically, and is converted into a rectangular signal. The frequency of this signal is proportional to the number of rotations. Depending on the connection, the output signal ranges between maximal output voltage and ground or a potential (life-zero), lifted by approx. 1,2 v. The supply of the electronics can be effected by dc-voltage of 3,3 v up to 42 v at a very low current consumption. An ac- or dc-voltage of 24 v is intended for the separate supply of the optional heating. In all probability, the heating guarantees a trouble-free function of the Wind Transmitter First Class even under extreme meteorological icing-conditions.

The outer parts of the instrument are made of corrosion-resistant anodized aluminum. Highly effective labyrinth gaskets and o-rings protect the sensitive parts inside the instrument against humidity and dust. The instrument is mounted onto a mast tube; the electrical plug-connection is located in the transmitter shaft.

Order-No. 4.3350.00.000 4.3350.10.000
with heating w/o heating

Technical Data:

Characteristic	Description
Measuring range	0,3...75 m/s
Measuring instability(w/o calibration)	0,3...50 m/s < 3% of meas. value or < 0,3 m/s
Survival speed	85 m/s (max. 30 min.)
Permissible Ambient conditions	- 50...+ 80°C, all occurring situations of relative humidity (incl. dew moistening)
	Form rectangle
	Frequency 1000 Hz @ 50 m/s
Output signal	Amplitude is supply voltage, max. 15 V
	Load R > 1 K Ohm (Push-pull output with 220 Ohm in series) C < 200 nF (corresp. to length typical cable < 1km)
Linearity	Correlation factor r between frequency and wind speed, r > 0.999 95 (4...20 m/s)
Starting velocity	< 0,3 m/s
Resolution	0,05 m wind run
Distance constant	< 3 m (acc. to ASTM D 5096 - 96)
	Measuring value deviation Delta v compared with stationary horizontal flow: Delta v < 1 %
	Wind speed v = 8 m/s
	Voltage: 3,3...42 V DC (galvanic isolation from housing)current: 0,3 ma @ 3,3 V typical (w/o external load) < 0,5 ma @ 5 V (w/o external load) Voltage: 24 V AC/DC (galvanic isolation from housing)Idling voltage: max. 30 V AC, max. 42 V DC Capacity: 25 W 8-pole plug-connection for shielded cable in the shaft(see connecting diagram below) Mounting on mast R 1", for ex. DIN 24411½ " with separate adapter (option) See dimension diagram Mounting on mast R 1", for ex. DIN 24411½ " with separate adapter (option) 0,5 kg IP 55 (DIN 40050) EN 61000-6-2:2001 (immunity)EN 55022:2001, class B (interfering transmission)
Inclined flow	t <= 20%
	conditions: Turbulence structure (rough country) r <= 0,8d
	Average deviation from the horizontal flow δ 2°
Turbulent flow	deviation Delta v turbulent compared with stationary horizontal flow -0,5% < Delta v < +2% frequency < 2 Hz

Wind load at 75 m/s	ca. 100 N
Heating	Surface temperature of housing neck > 0 °C, at 20 m/s up to -10 °C air temperature, at 10 m/s up to -20 ° Cusing the THIES icing standard 012002 on the housing neck.Heating regulated by temperature sensor.
Electrical supply for opto-electronic scanning	Voltage: 3,3...42 V DC (galvanic isolation from housing) current: 0,3 mA @ 3,3 V typical (w/o external load) < 0,5 mA @ 5 V (w/o external load)
Electrical supply for heating	Voltage: 24 V AC/DC (galvanic isolation from housing) Idling voltage: max. 30 V AC, max. 42 V DC Capacity: 25 W
Connection	8-pole plug-connection for shielded cable in the shaft
Mounting	Mounting on mast R 1", for ex. DIN 24411½ " with separate adapter (option)
Weight	approx. 0,5 kg
Protection	IP 55 (DIN 40050)
EMV	EN 61000-6-2:2001 (immunity) EN 55022:2001, class B (interfering transmission)



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