Compact Wind Speed Sensor Unheated
Compact Wind Speed Sensor Heated

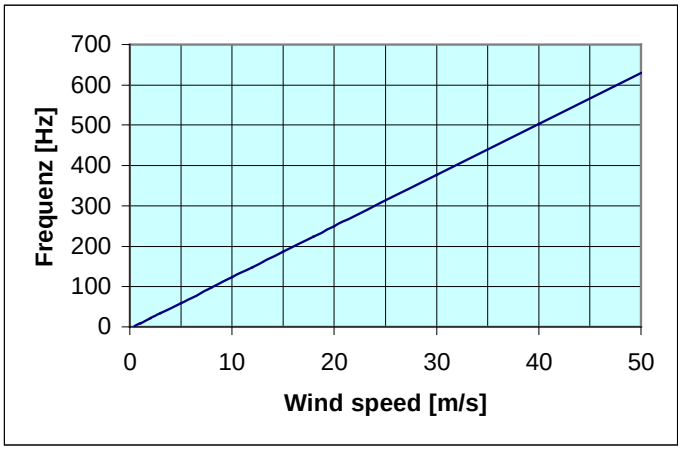
Pic. 1: Compact Wind Speed Sensor

Product Certificate
Compact Wind Speed Sensor

The wind sensor measures and transmits the horizontal wind speed. The measured values are available at the output as digital signal. The instrument could be used in the range of 0,5...50 m/s wind speed. An electronically-regulated heating system has been installed for wintertime use, in order to prevent the ball bearing and the external rotation parts from freezing.
When using fastening adapters (angle, traverses etc.) please notice that turbulence could possibly influence the characteristic curve. The wind velocity is recorded by means of a low-inertia plastic cup star the ball-bearing axis of which is connected to a slotted disk or cup wheel. The slotted disc/cup wheel is scanned opto-electronically and supplies 11 pulses with every rotation (see Technical Data).
The external parts of the instruments are made of corrosion-resistance material (plastic) res. the aluminium housing is additionally protected by means of an anodic coat.
Labyrinth sealing protect sensitive parts inside the instrument against humidity.

Measuring parameter/precision

- Wind speed: measurement by cup anemometer
- Measuring range: 0.5...50 m/s
- Starting velocity: 0.5 m/s
- Maximal load: 80 m/s for 30 minutes
- Uncertainty: 0.5 m/s or 3% of measuring value
- Resolution: 0.1 m/s, 11 pulses/revolution



Pic. 2: Characteristics wind speed sensor

Interface/outputs

- Characteristics: 0,5 m/s correspond to 2 Hz; 50 m/s correspond to 630 Hz
- V [m/s] = 0,07881 • f [Hz] + 0,32
- Signal output: pulse (Amplitude = V_{cc})

- Scanning: light barrier – slot disc

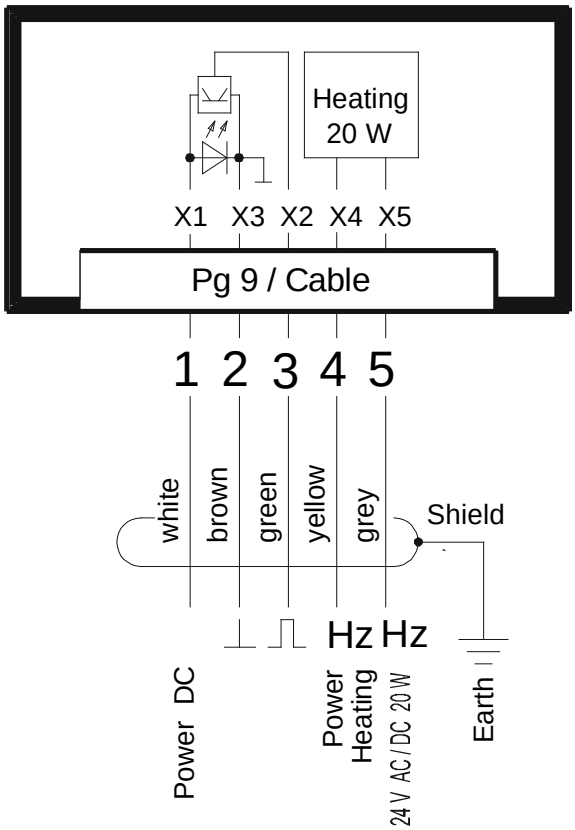
Power supply

- Operating voltage: 4 V to 40 V DC
- Power consumption < 1 mA
- Optional heater: 24V AC DC, 20 W, electronically controlled

Wiring

- The sensor cable is fixed onto the sensor. Therefore it is necessary to specify the required sensor cable length on order. In the standard delivery there is a sensor cable with 12 m included.

- Type of cable: LiYCY 5x0.25 mm2, UV resistant



Without heating Pin 4 and Pin 5 not connected

Pic. 3: Wiring diagram

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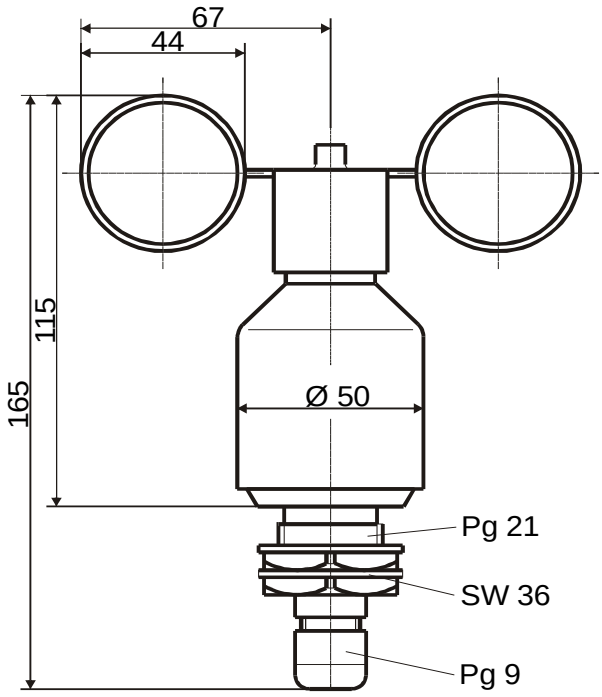
Wire No.	Function	Remark	Recommended Wire Colors
1	Power supply 4 V to 40 V DC		white
2	GND - Power supply ground		brown
3	Signal output - pulses		green
4	Heater power supply 24V AC DC	20 VA	yellow
5	Heater power supply 24V AC DC	20 VA	gray
	Shield		green/yellow

Environmental/mechanical data

- Operating temperature -40℃ up to 70℃
- Protection mode according to IP55
- Weight: 0.75 kg
- Mounting: onto a mast tube 1 ½", i.g. DIN 2441
- Dimensions:



Pic. 4: Dimensional drawing

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Mounting

The mounting of the transmitter could be done for example onto a central mast tube with a boring thread PG 21 or on hangers with a boring of 29 mm ∅.
When using fastening adapters (angle, traverses etc.) please notice that turbulence could possibly influence the characteristic curve
After flexible connection cable (LiYCY, uv-resistant) is passed through the boring, wind transmitter could be fixed with hexagonal nut (WO 36). For electrical connection please refer to the connection diagram.

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.

Origin

- Country of origin: European Community

Production quality standard

- Production according to ISO9001

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Ordering Information

- **Compact Wind Speed Sensor Unheated**
  o Compact, affordable wind speed sensor
  o Measuring range: 0.5 to 50 m/s
  o Uncertainty: 0.5 m/s or 3% of measuring value
  o Resolution: 0.1 m/s
  o Starting velocity: 0.5 m/s
  o The supply includes 12 m sensor cable
  o Please specify other length of sensor cable on order

- **Compact Wind Speed Sensor Heated**
  o Compact, affordable wind speed sensor
  o Measuring range: 0.5 to 50 m/s
  o Uncertainty: 0.5 m/s or 3% of measuring value
  o Resolution: 0.1 m/s
  o Starting velocity: 0.5 m/s
  o Integrated shaft heater 20 W
  o The supply includes 12 m sensor cable
  o Please specify other length of sensor cable on order

Accessories

- **Gealog Heater Transformer 24 V / 80 VA**
  o For sensors mit heater-voltage 24 V AC

Revision List

No.	Revision	Date	Name	Description of Changes
1	1	31.10.06	Pe	New release
2	2	27.8.2008	Pe	Update of some minor technical details

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