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## ***Wind Transmitter - compact***

**4.3518.x0.xxx**

**4.3519.x0.xx0**

**4.3520.x0.xx0**



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## **1 Models**

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<b>Order - No.</b>	<b>Elect. Output</b>	<b>Meas. range</b>	<b>Heating power</b>	<b>Connection</b>
4.3518.00.000	2 ... 573 Hz	0,5 ... 50 m/s	20 W	5 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
4.3518.00.120	2 ... 573 Hz	0,5 ... 50 m/s	20 W	12 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
4.3518.00.150	2 ... 573 Hz	0,5 ... 50 m/s	20 W	15 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
4.3518.00.700	2 ... 573 Hz	0,5 ... 50 m/s	20 W	7 pol. plug
4.3518.10.110	2 ... 573 Hz	0,5 ... 50 m/s	w/o heating	10 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
<hr/>				
4.3519.00.000	2 ... 630 Hz	0,5 ... 50 m/s	20 W	12 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
4.3519.00.150	2 ... 630 Hz	0,5 ... 50 m/s	20 W	15 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
4.3519.00.700	2 ... 630 Hz	0,5 ... 50 m/s	20 W	7 pol. plug
4.3519.10.000	2 ... 630 Hz	0,5 ... 50 m/s	w/o heating	12 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
<hr/>				
4.3520.00.000	2 ... 573 Hz	0,5 ... 50 m/s	20 W	5 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
4.3520.00.120	2 ... 573 Hz	0,5 ... 50 m/s	20 W	12 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
4.3520.10.000	2 ... 573 Hz	0,5 ... 50 m/s	w/o heating	5 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
4.3520.10.120	2 ... 573 Hz	0,5 ... 50 m/s	w/o heating	12 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
4.3520.10.300	2 ... 573 Hz	0,5 ... 50 m/s	w/o heating	3.3 m cable LiYCY 5 x 0.25 mm <sup>2</sup>
4.3520.10.500	2 ... 573 Hz	0,5 ... 50 m/s	w/o heating	5.5 m cable LiYCY 5 x 0.25 mm <sup>2</sup>

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## 2 Range of Application

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The wind transmitter detects the horizontal wind speed. The measured values are available at the output as frequency, proportional to the wind speed, to control for instance wind power plant. An electronically-regulated heating system has been installed in some models (see chapter 1) for winter time use, in order to prevent the ball-bearing and the external rotation parts from freezing. Power for the heating system could be provided for instance by our **Power Supply Unit**, order - no. **9.3388.00.000**.

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**Remark:**

*When using fastening adapters (angle, traverses, etc.) please take a possible effect by turbulences into consideration.*

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## 3 Mode of Operation

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The cup star (in ball bearing) is set into rotation by the wind. An opto-electronic speed scanning produces a frequency which is, proportional to the wind speed, available as output signal. The outer parts of the instrument are made of corrosion-resistant materials. Labyrinth gaskets protect the parts inside the instrument against precipitations.

## 4 Preparation for Use

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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.

## 5 Installation

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### 5.1 Mechanical 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  $\varnothing$  29 mm. In doing so please pay attention to possible obstacles which might effect the air flow and the measuring value.

The connecting cable or the connector is guided through the boring, and the wind transmitter is fixed with a hexagon nut (WO 36).

**Attention:**

*Storing, mounting and operation under weather conditions is permissible only in vertical position, as otherwise water can get into the instrument.*

### 5.2 Electrical Mounting:

For electrical connection please refer to the connecting diagram.

## 6 Plug mounting

Applies only to instruments with connection „plug“.

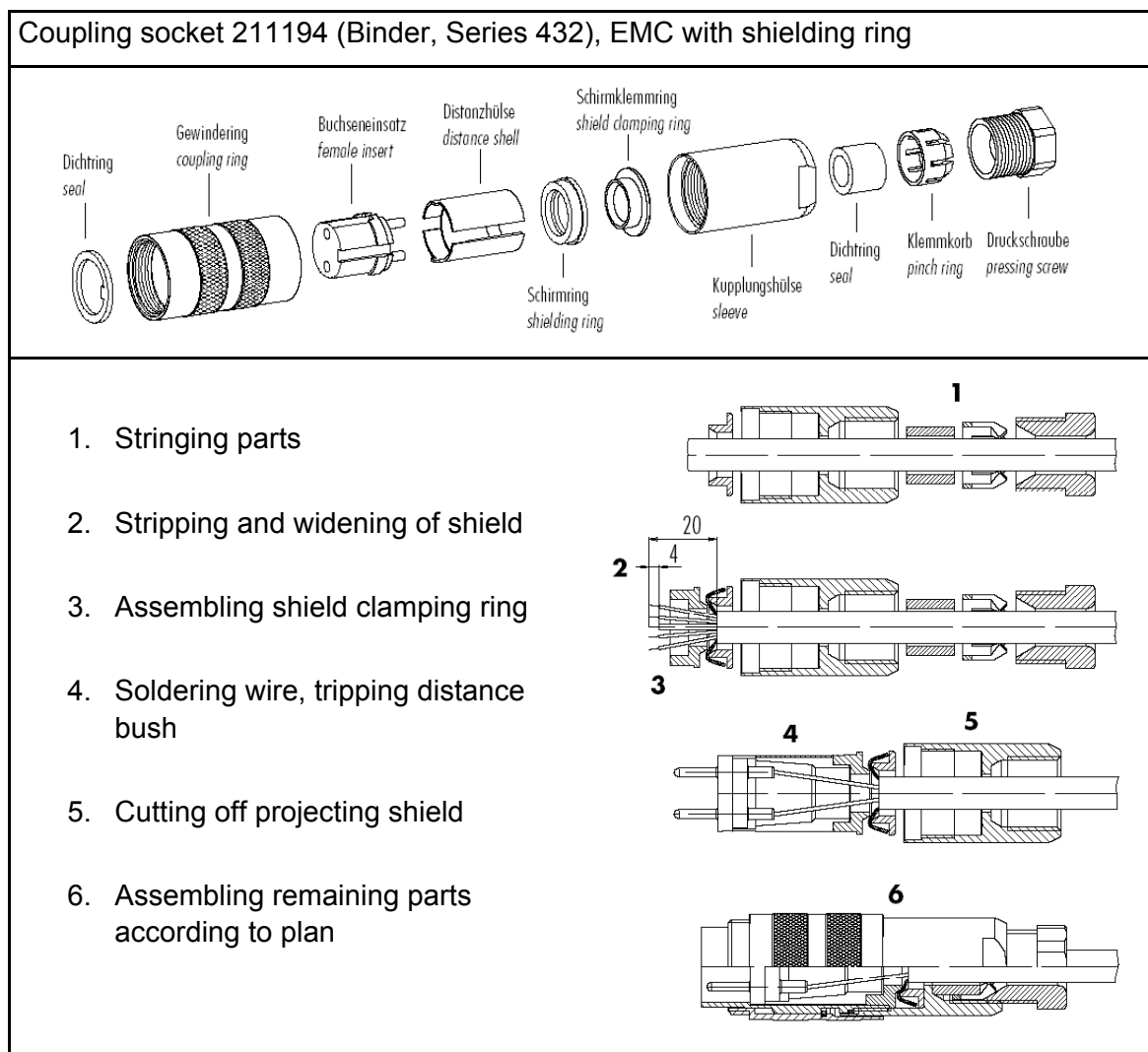


Figure 1: plug mounting

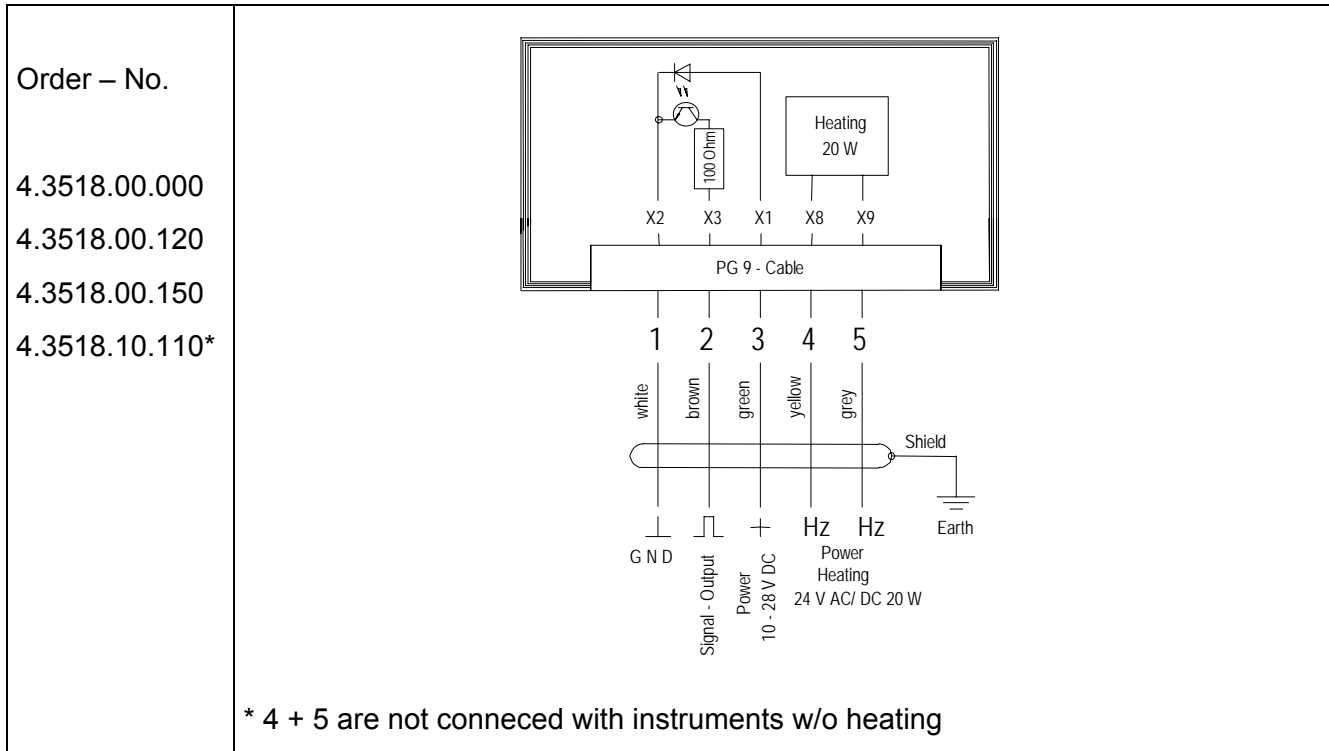
## 7 Maintenance

After proper mounting the instrument works maintenance free.

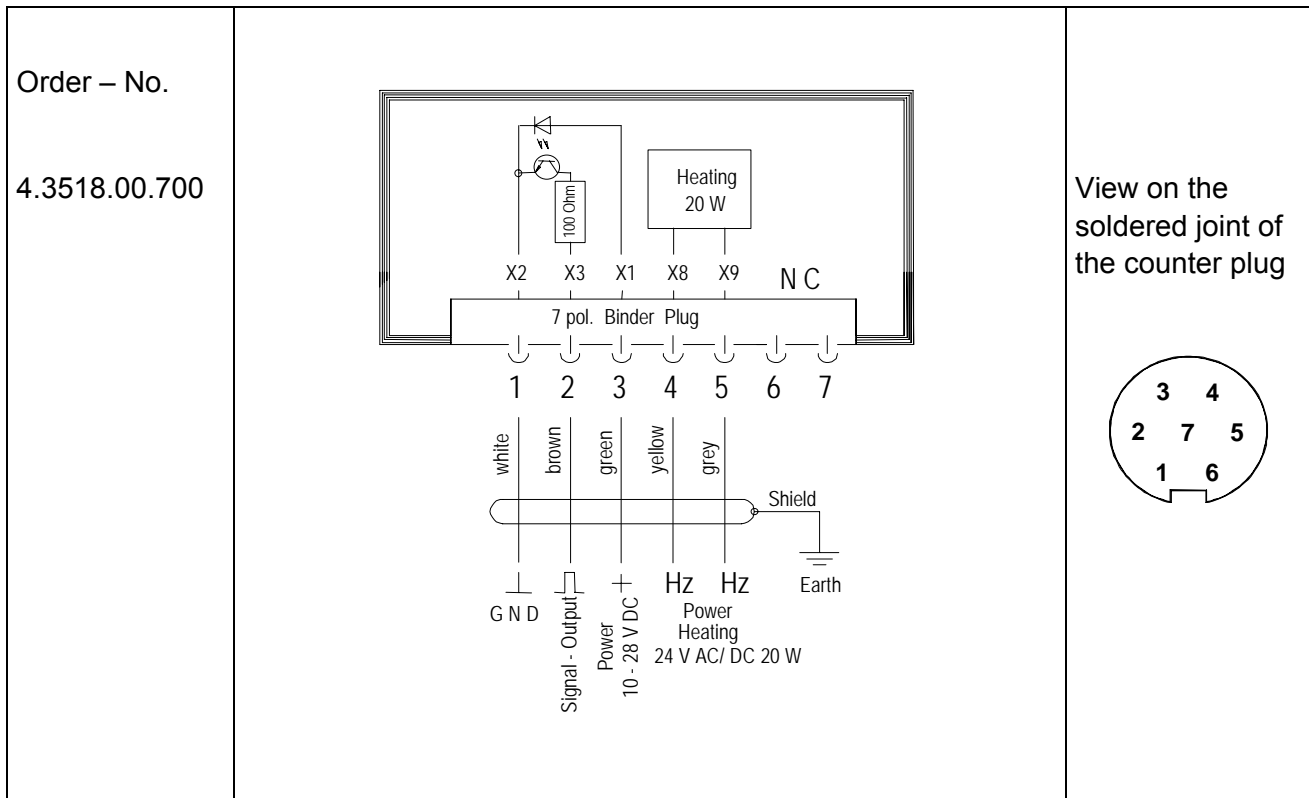
Heavy pollution can clog up the slit between the rotating and the stationary parts of the wind transmitter. This slit must be kept clean.

# 8 Connecting Diagram

## Connecting Diagram for Models with Connecting Cable



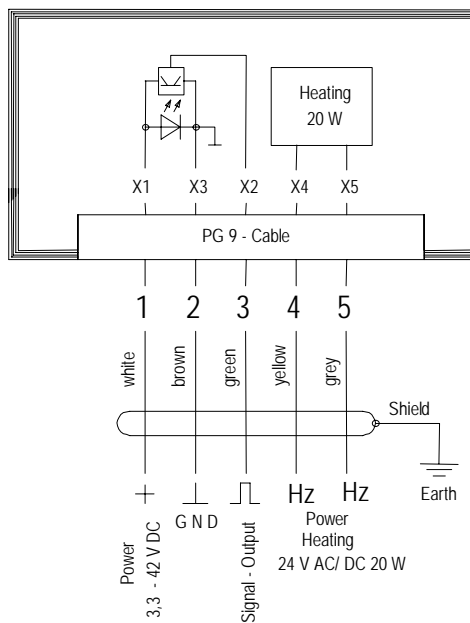
## Connecting Diagram for Models with Connector



### Connecting Diagram for Models with Connecting Cable

Order – No.

4.3519.00.000  
4.3519.00.150  
4.3519.10.000\*

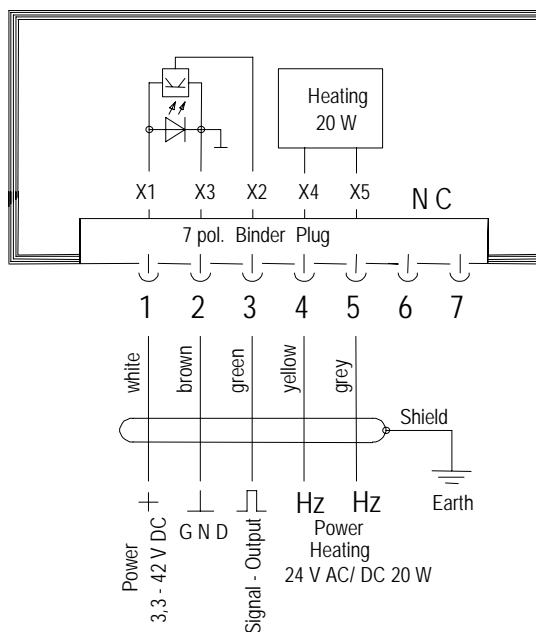


\* 4 + 5 are not connected with instruments w/o heating

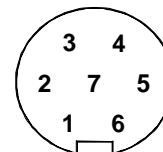
### Connecting Diagram for Models with Connector

Order – No.

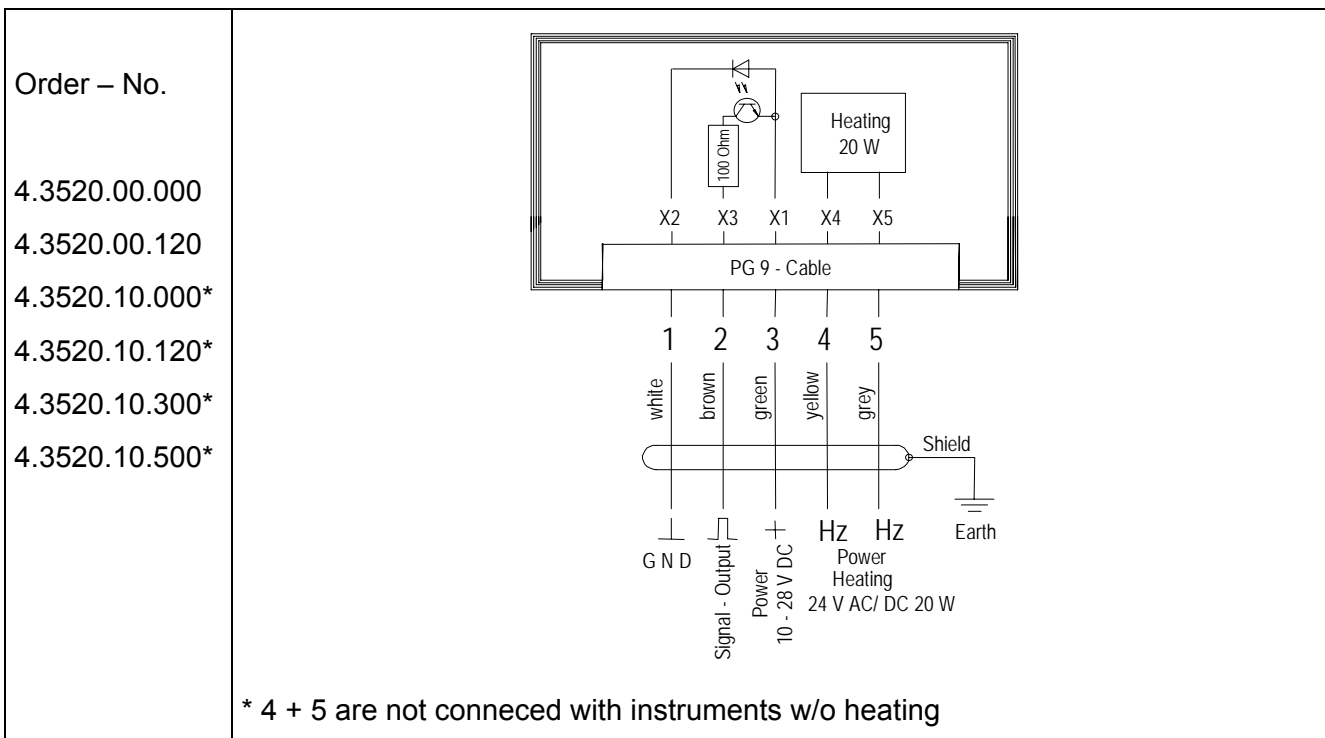
4.3519.00.700



View on the soldered joint of the counter plug



## Connecting Diagram for Models with Connecting Cable



## 9 Technical Data

### - device-specific

	Windgeber 4.3518... open collector sink	Windgeber 4.3520... open collector source	Windgeber 4.3519... low power
Operating voltage $V_{cc}$	10 - 28 V DC	10 - 28 V DC	3,3 - 42 V DC
Current consumption	20 mA	20 mA	< 1 mA
Heating	24 V AC/DC max. 20 W	24 V AC/DC max. 20 W	24 V AC/DC max. 20 W
Signal output	pulse ( $U_{max} \leq 30 \text{ V}$ )	pulse ( Amplitude = $V_{cc}$ )	pulse ( Amplitude = $V_{cc}$ max. 15 V)
Signal output load	max. 30 mA	max. 30 mA	$R > 1\text{K}\Omega$ (output with 220 $\Omega$ in seria) $C < 200\text{nF}$ (corresponds to <1Km of instr.cable)
Output  resolution characteristic	10 pulses / revolution 0,5 m/s = 2 Hz ; 50 m/s = 573 Hz $V [\text{m/s}] = 0,08669 \cdot f [\text{Hz}] + 0,32$  see Diagram 1	10 pulses / revolution 0,5 m/s = 2 Hz ; 50 m/s = 573 Hz $V [\text{m/s}] = 0,08669 \cdot f [\text{Hz}] + 0,32$  see Diagram 1	11 pulses / revolution 0,5 m/s = 2 Hz ; 50 m/s = 630 Hz $V [\text{m/s}] = 0,07881 \cdot f [\text{Hz}] + 0,32$  see Diagram 2

**- General**

Measuring Range	0.5 ... 50 m/s
Resolution	0,1 m/s
Responsiveness	0,5 m/s
Accuracy	$\pm 0.5$ m/s or $\pm 3$ % of measuring value
Measuring principle	opto-electronic (slotted disc)
Electrical output	See model
Ambient temperature *	- 40 °C ... + 70 °C
Survival speed	maximally 80 m/s, 30 minutes
Connection	See model
Dimensions	See dimensional drawing
Mounting	For ex. Onto a mast tube with boring thread Pg 21 or boring $\varnothing$ 29 mm
Protection	IP 55
Weight	0.40 – 0.75 kg depending on model

\* For wind transmitters without heating the stated ambient temperature is possible only in ice-free conditions.

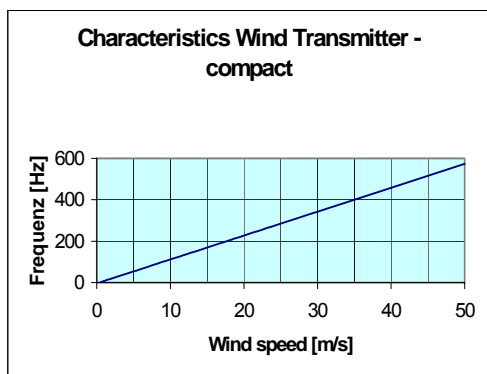


Diagram 1

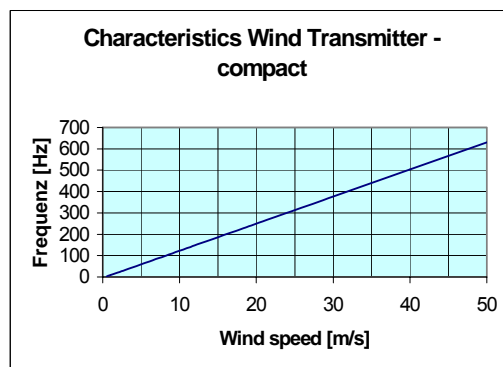
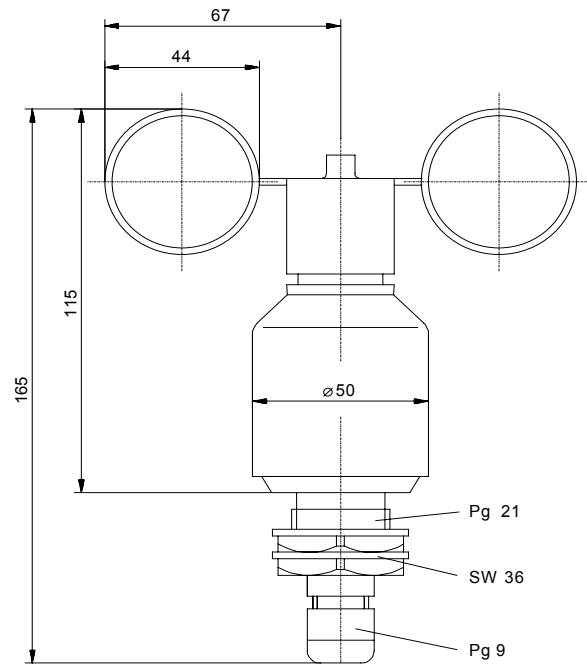
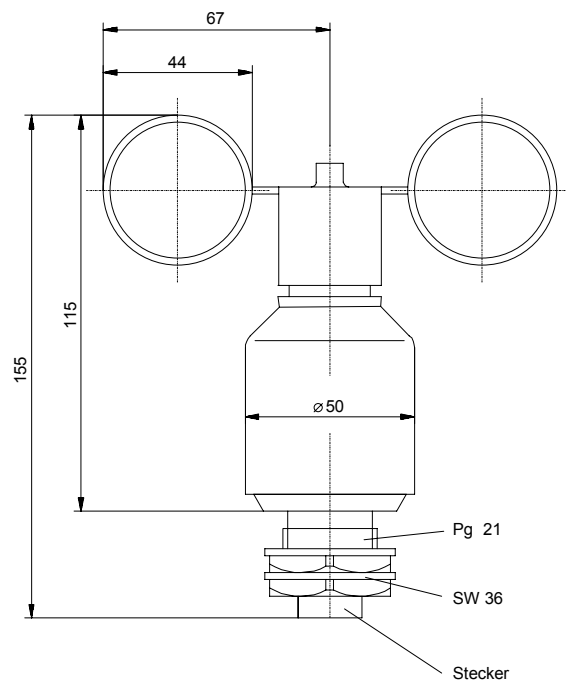


Diagram 2

# 10 Dimensional Drawing



**Figure 2: Model cable gland**



**Figure 3: Model plug**

## 11 Accessories

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For the wind transmitter the following accessories are available:

Traverse For mounting the wind transmitter and wind direction transmitter <i>compact</i> jointly onto a mast.	4.3171.30.000 4.3171.31.000	Clamping range: Ø 48 ... 102 mm Clamping range: Ø 116 ... 200 mm Sensor distance: 0,8 m Material: Aluminium
Traverse, short For mounting the wind transmitter <i>compact</i> onto a mast.	4.3171.40.000 4.3171.41.000	Clamping range: Ø 48 ... 102 mm Clamping range: Ø 116 ... 200 mm Length: 0,4 m Material: Aluminium
Lightning Rod For mounting onto the a/m traverse	506351	Length: 0,56 m Material: stainless steel

Other accessories such as cables, power supply units, masts as well as additional mast- or system-constructions on request.



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