

Instruction for Use

021075/06/07

Wind Transmitter compact

4.3519.xx.140 ... 961



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1 Models

Order-No.	Electr. Output	Meas. range	Heating power	Connection
4.3519.00.140	0 ... 20 mA	0 ... 50 m/s	20 W	12 m cable LiYCY 6 x 0,25 mm ²
4.3519.00.141	4 ... 20 mA	0 ... 50 m/s	20 W	12 m cable LiYCY 6 x 0,25 mm ²
4.3519.00.161	0 ... 10 V	0 ... 50 m/s	20 W	12 m cable LiYCY 6 x 0,25 mm ²
4.3519.00.167	0 ... 2 V	0 ... 50 m/s	20 W	12 m cable LiYCY 6 x 0,25 mm ²
4.3519.00.173	0 ... 5 V	0 ... 50 m/s	20 W	12 m cable LiYCY 6 x 0,25 mm ²
4.3519.00.740	0 ... 20 mA	0 ... 50 m/s	20 W	7 pole plug
4.3519.00.741	4 ... 20 mA	0 ... 50 m/s	20 W	7 pole plug
4.3519.00.761	0 ... 10 V	0 ... 50 m/s	20 W	7 pole plug
4.3519.00.961	0 ... 10 V	0 ... 15 m/s	20 W	12 m cable LiYCY 6 x 0,25 mm ²
4.3519.00.361	0 ... 10 V	0 ... 3 m/s max. 13,8 V at >3m/s	20 W	12 m cable LiYCY 6 x 0,25 mm ²
4.3519.01.140	0 ... 20 mA	0 ... 50 m/s	20 W	1,5 -3 m spiral cable LiYY 6x0,14 mm ²
4.3519.00.641	4 ... 20 mA	0 ... 60 m/s	20 W	12 m cable LiYCY 6 x 0,25 mm ²
4.3519.05.641	4 ... 20 mA	0 ... 60 m/s	20 W	15 m cable LiYCY 6 x 0,25 mm ²
4.3519.10.441	4 ... 20 mA	0 ... 40 m/s	w/o heating	12 m cable LiYCY 6 x 0,25 mm ²
4.3519.00.441	4 ... 20 mA	0 ... 40 m/s	20 W	3 m PUR - cable 6 x 0,25 mm ²
4.3519.20.141	4 ... 20 mA	0 ... 50 m/s	10 W	12 m cable LiYCY 6 x 0,25 mm ²
4.3519.02.141	4 ... 20 mA	0 ... 50 m/s	10 W	2 m cable 6 x 0,56 mm ²
4.3519.05.141	4 ... 20 mA	0 ... 50 m/s	20 W	15 m cable LiYCY 6 x 0,25 mm ²
4.3519.04.441	4 ... 20 mA	0 ... 40 m/s	20 W	0,95 m PUR- cable 6 x 0,25 mm ²

2 Application

The wind transmitter detects the horizontal wind speed. The measured values are available at the output 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 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

Remark:

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

3 Mode of Operation

The cup star (in ball bearing) is set into rotation by the wind. An opto-electronic speed scanning produces a frequency which is transformed into an analogue signal by an integrated measuring transformer.

The outer parts of the instrument are made of corrosion-resistant materials. Labyrinth gaskets protect the parts inside the instrument against precipitations.

4 Recommendation Site Selection / Standard Installation

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.

5 Installation

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“.

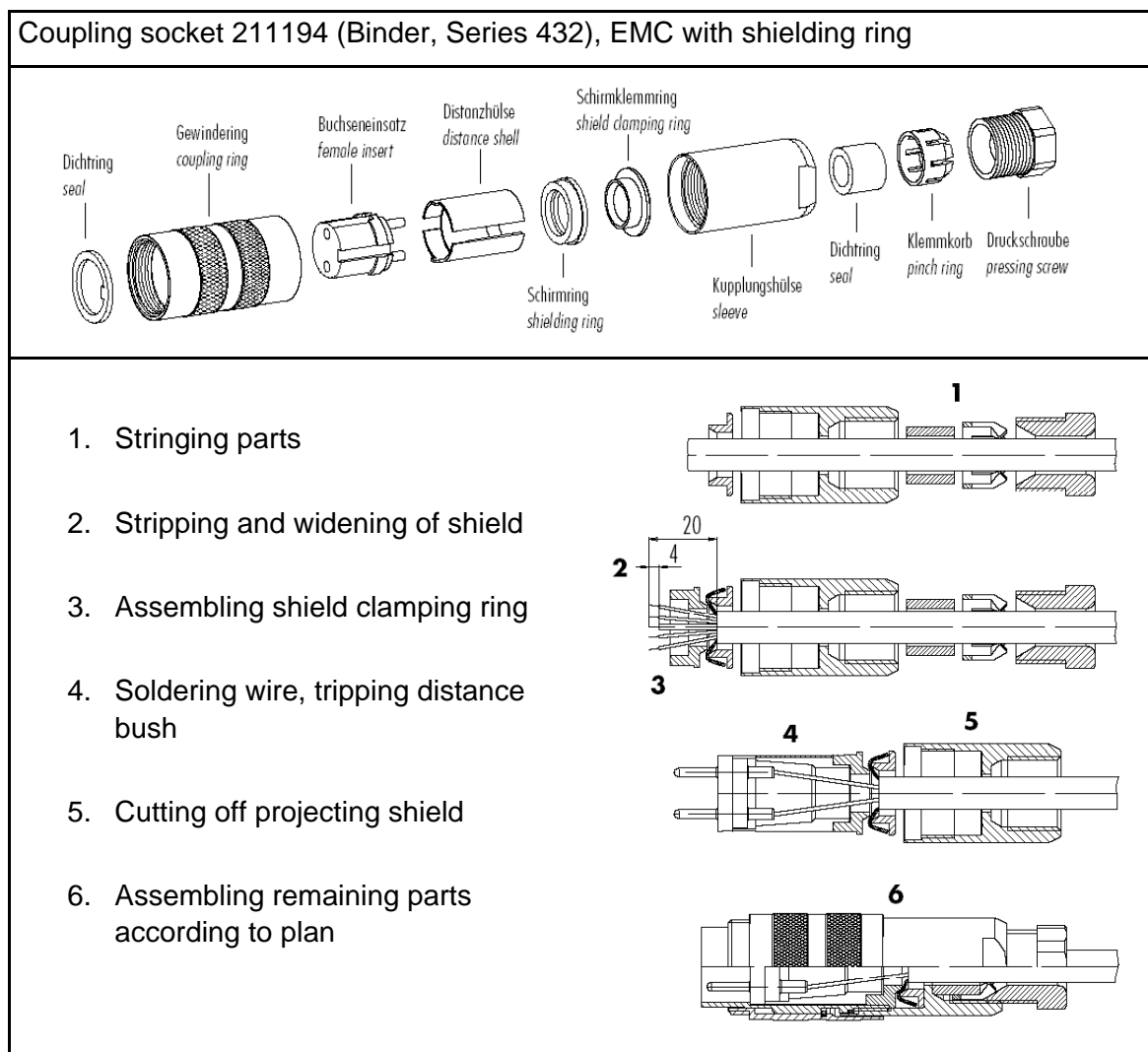


Figure 1: plug mounting

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

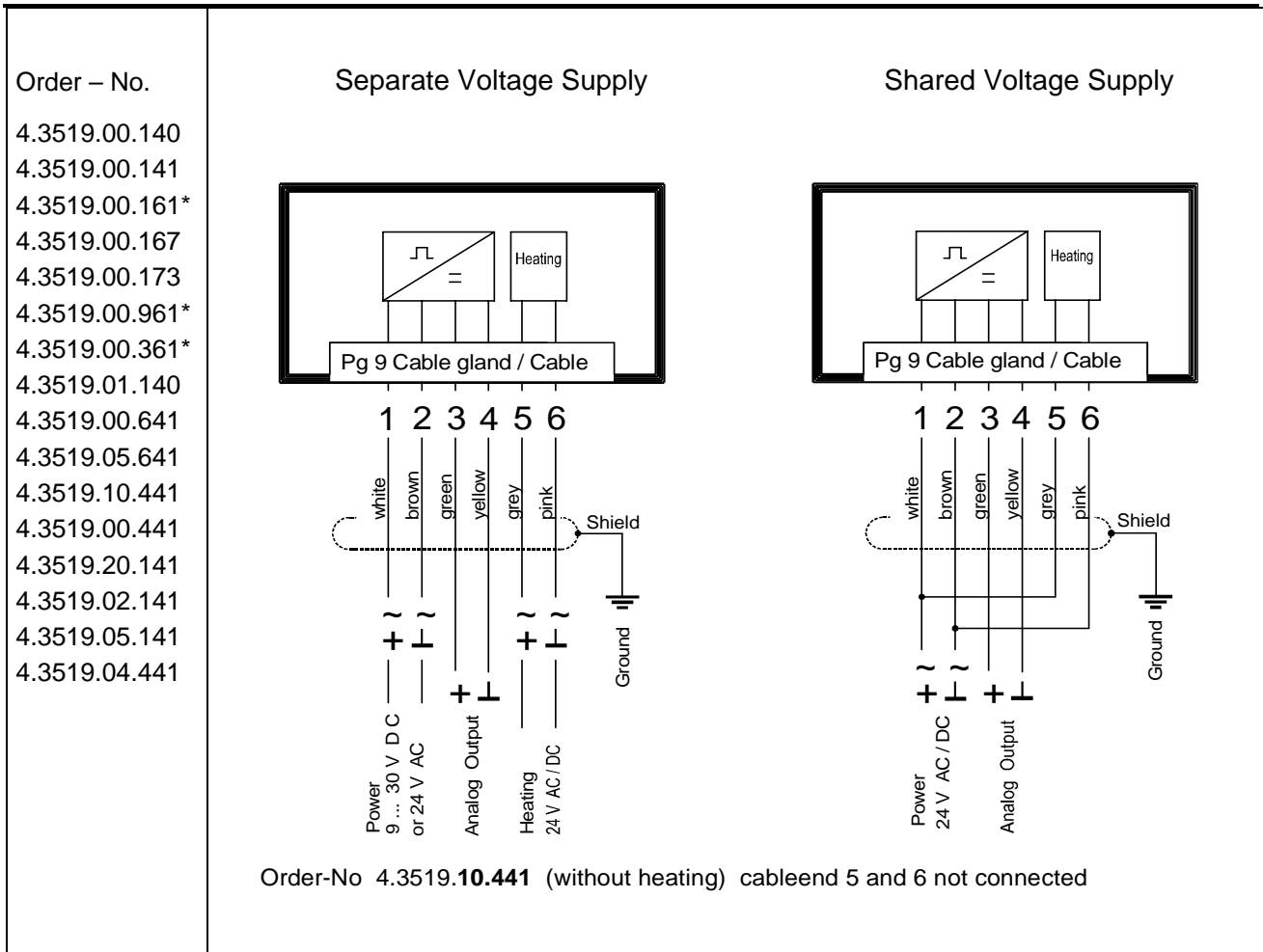


Figure 2: Connecting Diagram for Models with fixed Connecting Cable

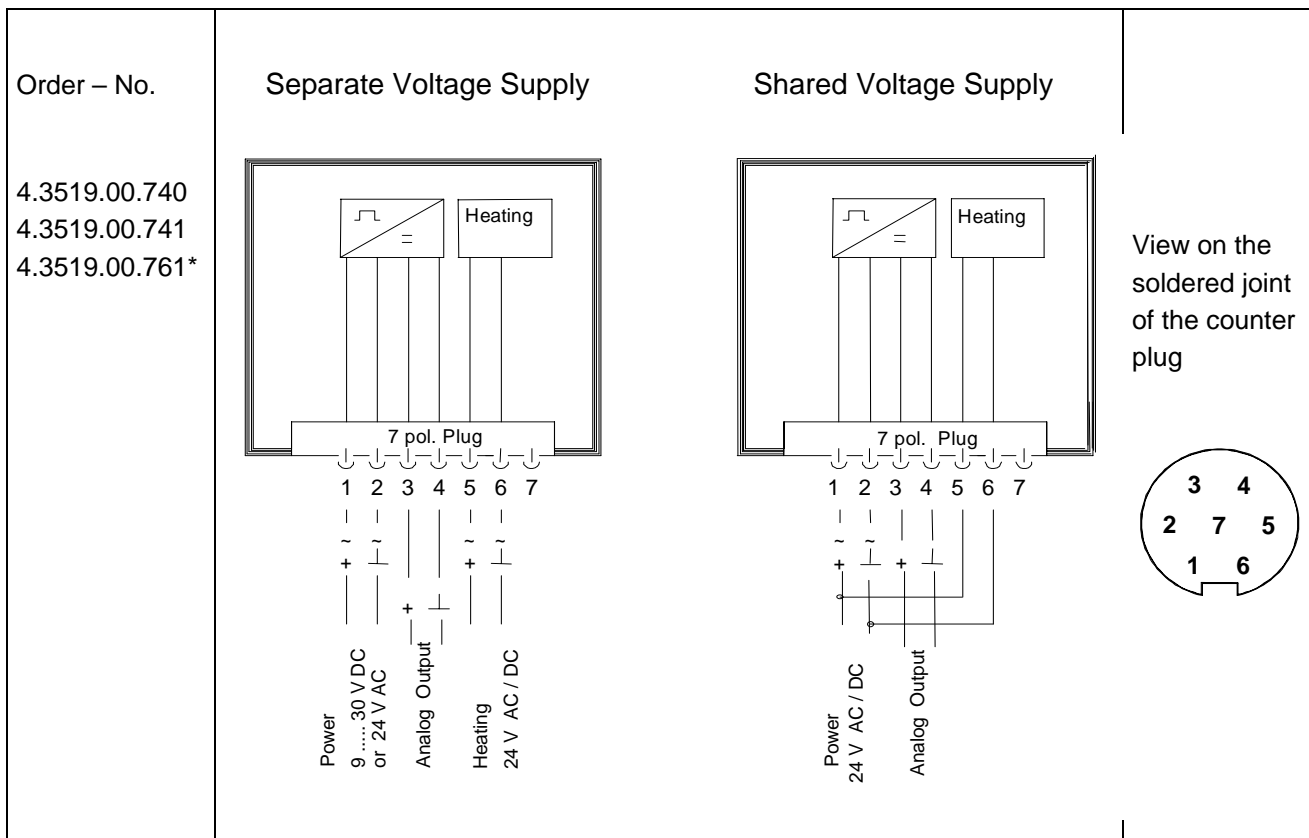


Figure 3: Connecting Diagram for Models with Connector

9 Technical Data

Measuring range	See model
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
	Accuracy $\pm 0,05\%$ of the final value
Load	
for current output (mA)	max. 500 Ohm (for operating voltage > 15 V DC)
for current output (V)	min. 1 K Ω
Operating voltage	9 ... 30 V DC or 24 V AC/DC, max. 50 mA
*for 0 -10 V output	13 ... 30 V DC or 24 V AC/DC, max. 50 mA
Operating voltage heating	24 V DC/AC, max. 20 W (10 W)
Ambient temperature	-40°C ... 70°C
Survival speed	maximally 80 m/s, 30 minutes
connection	See model
dimensions	See dimensional drawing
Montage	For ex. onto mast tube with receptacle thread Pg 21 or boring \varnothing 29 mm
Protection	IP 55
Weight	0,40 – 0,75 kg depending on model

10 Dimension diagram

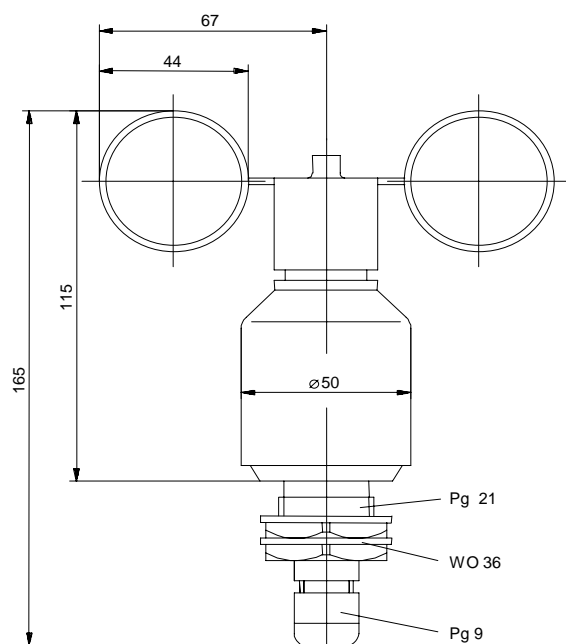


Figure 4: Dimensional Drawing Model cable gland

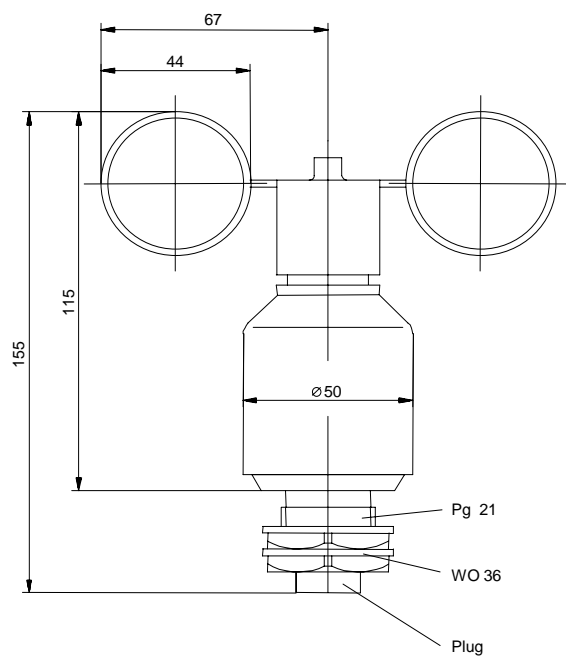


Figure 5: Dimensional Drawing Model plug

11 Accessories

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.

12 EC-Declaration of Conformity

Document-No.: **001221**

Month: 06 Year: 07

Manufacturer: **ADOLF THIES GmbH & Co. KG**

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Description of Product: **Wind Transmitter – compact analog**

Article No.	4.3519.00.140	4.3519.00.141	4.3519.00.161	4.3519.00.167
	4.3519.00.173	4.3519.00.361	4.3519.00.441	4.3519.00.641
	4.3519.00.740	4.3519.00.741	4.3519.00.761	4.3519.00.961
	4.3519.01.140	4.3519.02.141	4.3519.02.441	4.3519.03.141
	4.3519.04.441	4.3519.05.141	4.3519.05.641	4.3519.09.141
	4.3519.10.441	4.3519.20.141	4.3519.53.141	4.3519.83.141

specified technical data in the document: **021072/06/07; 021190/06/07; 021455/06/07; 021533/06/07**

The indicated products correspond to the essential requirement of the following European Directives and Regulations:

- 2004/108/EC DIRECTIVE 2004/108/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC
- 73/23/EEC COUNCIL DIRECTIVE of 19. Feb.1973 on the harmonization of the law of Member States relating to electrical equipment designed for use within certain voltage limits (73/23/EEC)
- 552/2004/EC Regulation (EC) No 552/2004 of the European Parliament and the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (the interoperability Regulation)

The indicated products comply with the regulations of the directives. This is proved by the compliance with the following standards:

Reference number	Specification
EN61000-6-2:2002	Electromagnetic compatibility Immunity for industrial environment
EN61000-6-3:2002	Electromagnetic compatibility Emission standard for residential, commercial and light industrial environments
EN61010-1:2001	Safety requirements for electrical equipment for measurement, control and laboratory use. Part 1: General requirements

Date: 18.06.2007

issuer:

Place: Göttingen
Legally binding signature:

.....
Wolfgang Behrens

.....
Joachim Beinhorn

This declaration certifies the compliance with the mentioned directives, however does not include any warranty of characteristics. Please pay attention to the security advises of the provided instructions for use.



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