

Instruction for Use

021150/02/12

Small Wind Transmitter

4.3515.5x.xxx

4.3515.6x.xxx



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Safety Instructions

- Before operating with or at the device/product, read through the operating instructions. This manual contains instructions which should be followed on mounting, start-up, and operation. A non-observance might cause:
 - failure of important functions
 - Endangering of persons by electrical or mechanic effect
 - Damages at objects
- Mounting, electrical connection and wiring of the device/product must be carried out only by a qualified technician who is familiar with and observes the engineering regulations, provisions and standards applicable in each case.
- Repairs and maintenance may only be carried out by trained staff or **Adolf Thies GmbH & Co. KG**. Only components and spare parts supplied and/or recommended by **Adolf Thies GmbH & Co. KG** should be used for repairs.
- Electrical devices/products must be mounted and wired only in voltage-free state.
- **Adolf Thies GmbH & Co KG** guarantees proper functioning of the device/products provided that no modifications have been made to the mechanics, electronics or software, and that the following points are observed:
- All information, warnings and instructions for use included in these operating instructions must be taken into account and observed as this is essential to ensure trouble-free operation and a safe condition of the measuring system / device / product.
- The device / product is designed for a specific application as described in these operating instructions.
- The device / product should be operated with the accessories and consumables supplied and/or recommended by **Adolf Thies GmbH & Co KG** .
- Recommendation: As it is possible that each measuring system / device / product under certain conditions, and in rare cases, may also output erroneous measuring values, it is recommended to use redundant systems with plausibility checks with **security-relevant applications**.

Environment

- As a longstanding manufacturer of sensors Adolf Thies GmbH & Co KG is committed to the objectives of environmental protection and is therefore willing to take back all supplied products governed by the provisions of "*ElektroG*" (German Electrical and Electronic Equipment Act) and to perform environmentally compatible disposal and recycling. We are prepared to take back all Thies products concerned free of charge if returned to Thies by our customers carriage-paid.
- Make sure you retain packaging for storage or transport of products. Should packaging however no longer be required, arrange for recycling as the packaging materials are designed to be recycled.



Documentation

- © Copyright **Adolf Thies GmbH & Co KG**, Göttingen / Germany
- Although this operating instruction has been drawn up with due care, **Adolf Thies GmbH & Co KG** can accept no liability whatsoever for any technical and typographical errors or omissions in this document that might remain.
- We can accept no liability whatsoever for any losses arising from the information contained in this document.
- Subject to modification in terms of content.
- The device / product should not be passed on without the/these operating instructions.

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Included in delivery

- 1 x Small Wind Transmitter
- 1 x Mounting bracket
- 1 x Operating Instructions

1 Models available

Order-No.	Meas. range	Output	Heating	Connection	Housing-colour
4.3515.50.000	<0.9...40 m/s	100Hz @ 40m/s (typ. 2,5Hz / ms ⁻¹)	24V	3 m cable LiYY 4 x 0.25 mm ²	white
4.3515.50.100	<0.9...40 m/s	100Hz @ 40m/s (typ. 2,5Hz / ms ⁻¹)	24V	3 m cable LiYY 4 x 0.25 mm ²	black
4.3515.50.109	<0.9...40 m/s	100Hz @ 40m/s (typ. 2,5Hz / ms ⁻¹)	12V	3 m cable LiYY 4 x 0.25 mm ²	black
4.3515.51.000	<0.9...40 m/s	100Hz @ 40m/s (typ. 2,5Hz / ms ⁻¹)	w/o	3 m cable LiYY 2 x 0.5 mm ²	white
4.3515.51.100	<0.9...40 m/s	100Hz @ 40m/s (typ. 2,5Hz / ms ⁻¹)	w/o	3 m cable LiYY 2 x 0.5 mm ²	black
4.3515.51.110	<0.9...40 m/s	100Hz @ 40m/s (typ. 2,5Hz / ms ⁻¹)	w/o	10 m cable LiYY 2 x 0,5 mm ²	black
4.3515.60.115	<0.9...40 m/s	100Hz @ 40m/s (typ. 2,5Hz / ms ⁻¹)	24V	15 m cable Li9YC22Y 4 x 0.55 mm ² , UV-resistant	black
4.3515.61.100	<0.9...40 m/s	100Hz @ 40m/s (typ. 2,5Hz / ms ⁻¹)	w/o	3 m cable LiYY 2 x 0.22 mm ² , UV-resistant	black

2 Application

The small wind transmitter is designed for the acquisition of the horizontal wind velocity. The measuring value is output as frequency, which is proportional to the wind speed. The measuring data available are ideally adapted to the supply in display instruments, recording instruments, datalogger, as well as process control systems.

For trouble-free winter operation the instrument is optionally equipped with a heating (PTC-heating element).

3 Construction and Mode of Operation

The outer parts of the instrument are made of plastic, the mounting angle is made of stainless steel. Labyrinth gaskets protect the parts inside the instrument against precipitation.

The cup star is set into rotation by the wind. An axis, running in friction bearings, is fixed at the cup star, and leads two magnets through a Reed-contact. The pulses thus produced are available as output signals.

4 Recommendation Side 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 unobstructed area. An unobstructed area means that the distance between the wind 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

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 transmitter should be set up in the centre of flat roofs and not on the roof side in order to avoid bias in the direction (privileged directions).

5 Installation

Remark:

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

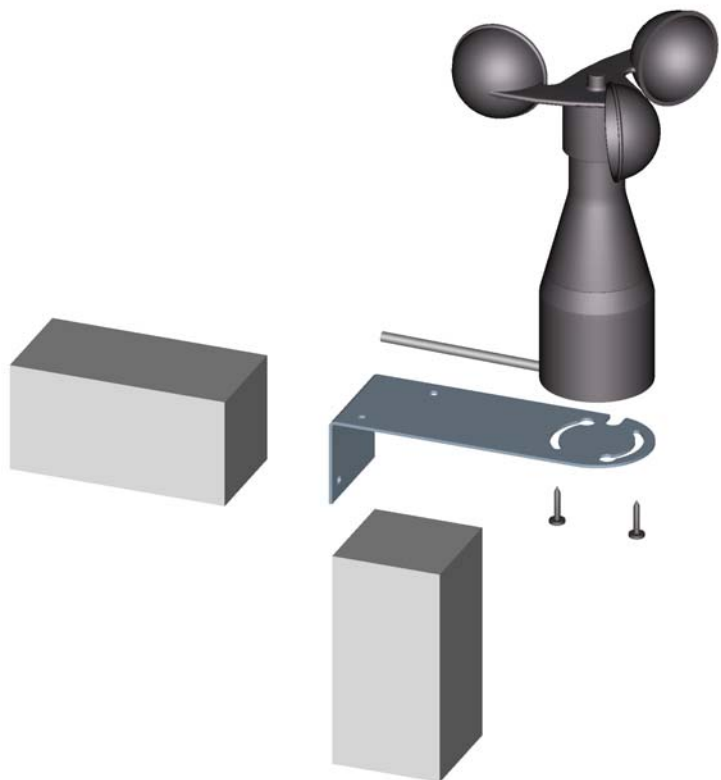
Attention:

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

5.1 Mechanical Mounting

Install wind transmitter and mounting angle by means of the pictured screws.
Afterwards, please mount both on a suited mast or instrument carrier.

The cable is to be fastened tightly on mast or instrument carrier traverse by means of brackets, cable connectors or similar mounting material.

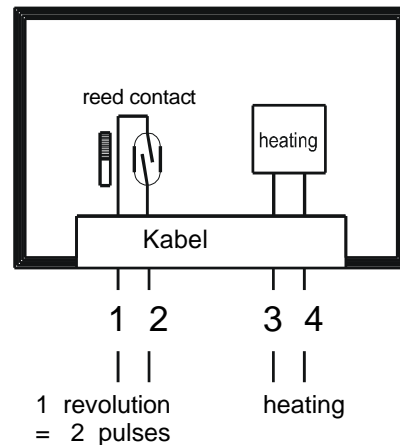


5.2 Electrical Mounting

The electrical connection is carried out acc. to the connection diagram (chapter 6).

6 Connecting Diagram

Note: The small wind transmitter w/o heating is dispensed with 3 + 4



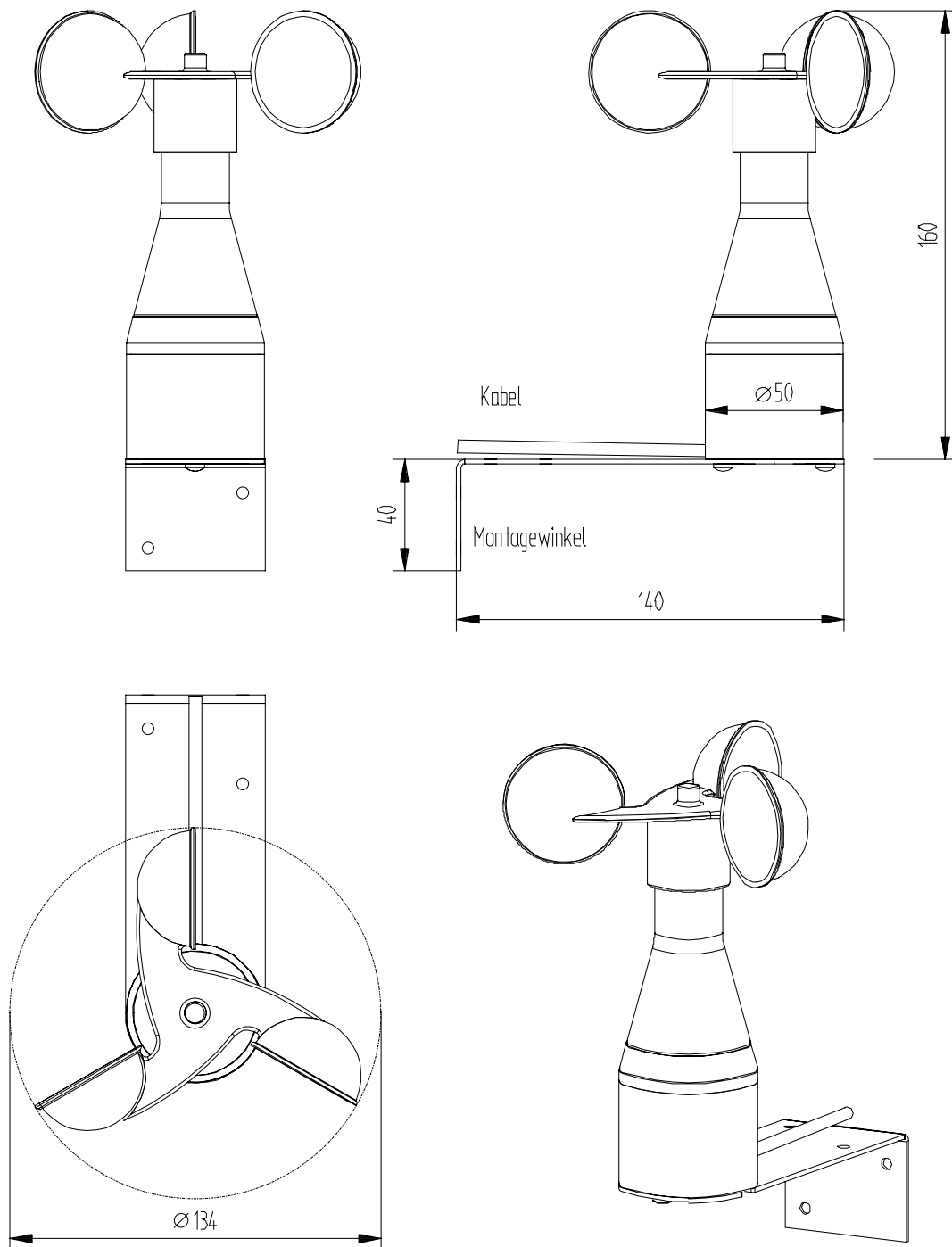
7 Maintenance

After proper mounting the instruments 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 Technical Data

	4.3515.50.000 4.3515.50.100 4.3515.60.115	4.3515.50.109	4.3515.51.000 4.3515.51.100 4.3515.51.110 4.3515.61.100
Measuring range	0.9...40 m/s		
Electrical output	100Hz @ 40m/s (typ. 2,5Hz / ms ⁻¹)		
Resolution	0.4 m wind run		
Accuracy	± 0.5 m/s or ± 5% of measuring value		
Measuring system	1 x Reed-contact, 2 x magnet		
Contact	Reed-contact		
Contact load (Reed-contact)	10 VA, max. 42 V DC, max. 0.4 A		
Load	max. 60 m/s for a short time		
Heating (PTC, max.80°C)	24 V AC / DC (80 °C)	12 V AC / DC	-----
Switch-on current	max. 1 A (3 sec.)	max. 4 A (3 sec.)	-----
Ambient temperature	- 25 °C ... + 60 °C (with ice-free condition)		
Material	plastic ABS		
Connection	See models available		
Dimensions	See dimensional diagram		
Weight	0.3 kg		

9 Dimension diagram



10 EC-Declaration of Conformity

Document-No.: **000410**

Month: 02 Year: 12

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

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Description of Product: **Small Wind Transmitter, Photo Wind Transmitter**

Article No.	4.3400.30.000	4.3515.30.000	4.3515.30.000A	4.3515.30.001
	4.3515.30.002	4.3515.30.030	4.3515.30.036	4.3515.30.900
	4.3515.50.000	4.3515.50.061	4.3515.50.100	4.3515.50.109
	4.3515.50.161	4.3515.51.000	4.3515.51.061	4.3515.51.100
	4.3515.51.101	4.3515.51.105	4.3515.51.110	4.3515.51.161
	4.3515.51.361	4.3515.51.961	4.3515.60.115	4.3515.61.100
	4.3517.30.000	4.3517.30.010	4.3517.30.020	4.3517.31.000
	4.3517.51.000	4.3517.60.010	4.3517.71.000	4.3711.30.000

specified technical data in the document: **020917/02/97; 022076/08/04; 020743/02/12; 021125/10/09; 021543/08/07; 021640/07/10; 021646/10/10**

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

2006/95/EC

DIRECTIVE 2006/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits

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

IEC 61000-6-2: 2005

Electromagnetic compatibility
Immunity for industrial environment

IEC 61000-6-3: 2006

Electromagnetic compatibility
Emission standard for residential, commercial and light industrial environments

IEC 61010-1: 2010

Safety requirements for electrical equipment for measurement, control, and laboratory use. Part 1: General requirements

Place: Göttingen

Date: 02.02.2012

Legally binding signature:

issuer:

.....
Wolfgang Behrens, General Manager

.....
Joachim Beinhorn, Development Manager

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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