

# Small Wind Transmitter

## Instruction for Use

4.3515.5x.xxx

4.3515.6x.xxx



Dok. No. 021150/07/22

THE WORLD OF WEATHER DATA

### 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
  - endangerment of persons by electrical or mechanical effect
  - damage to 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 a 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 may, under certain conditions, and in rare cases, may also output erroneous measuring values, it is recommended using redundant systems with plausibility checks for **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, please arrange for recycling as the packaging materials are designed to be recycled.



### Documentation

- © Copyright **Adolf Thies GmbH & Co KG**, Göttingen / Germany
- Although these 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	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	24V	3m cable LiYY 4 x 0.25mm <sup>2</sup>	white
4.3515.50.100	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	24V	3m cable LiYY 4 x 0.25mm <sup>2</sup>	black
4.3515.50.109	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	12 V	3m cable LiYY 4 x 0.25mm <sup>2</sup>	black
4.3515.50.115	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	24 V	15m cable LiYY 4 x 0.25mm <sup>2</sup>	black
4.3515.50.121	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	24 V	21m cable LiYY 4 x 0.25mm <sup>2</sup>	black
4.3515.51.000	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	w/o	3m cable LiYY 2 x 0.5mm <sup>2</sup>	white
4.3515.51.100	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	w/o	3m cable LiYY 2 x 0.5mm <sup>2</sup>	black
4.3515.51.110	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	w/o	10m cable LiYY 2 x 0.5mm <sup>2</sup>	black
4.3515.51.115	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5 Hz / ms <sup>-1</sup> )	w/o	15m cable LiYY 2 x 0.5mm <sup>2</sup>	black
4.3515.60.100	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	24V	10m cable Li9YFC11Y 4 x 0,25mm <sup>2</sup> , UV- Resistent	black
4.3515.60.115	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	24V	15m Kabel Li9YFC11Y 4 x 0,25mm <sup>2</sup> , UV- Resistent	black
4.3515.61.100	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5 Hz / ms <sup>-1</sup> )	w/o	3m cable LiYY 2 x 0.22mm <sup>2</sup> , UV-resistant	black
4.3515.61.115	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	w/o	15m cable LiYY 2 x 0.22mm <sup>2</sup> , UV-resistant	black
4.3515.51.705	0.7 ... 40m/s	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )	w/o	Plug M12 with 0.5m Kabel Li9YFC11Y 4 x 0.25mm <sup>2</sup> , UV- Resistent	black

## 2 Application

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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

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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

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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 - 10m 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

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### **Remark:**

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

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### **Attention:**

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

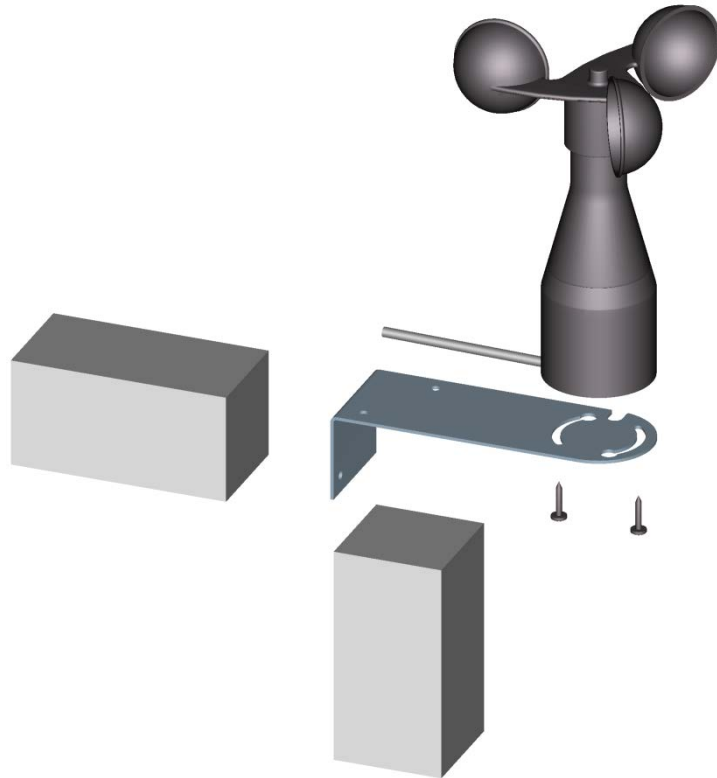
## 5.1 Mechanical Mounting

Install wind transmitter and mounting angle by means of the pictured screws.

**Attention:**  
**The screws must be tightened by max. 1.5Nm.**

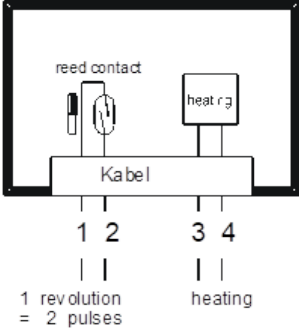
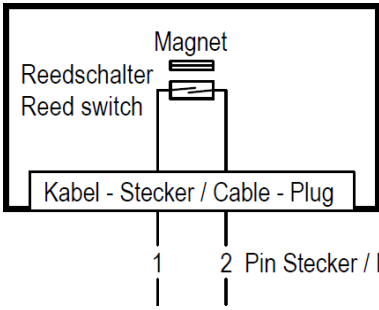
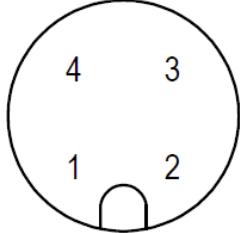
Afterwards, please mount both on a suited mast or instrument carrier.

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

Connection diagram:

<p>4.3515.xx.xxx</p> <p><b>Note:</b> The small wind transmitter w/o heating is dispensed with 3 + 4</p>		<p>These products are supplied without a plug.</p>
<p>4.3515.51.705</p> <p><b>Note:</b> Pin 3 &amp; 4 are not used without heating.</p>		<p>View on the connector:</p> 

## 6 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.

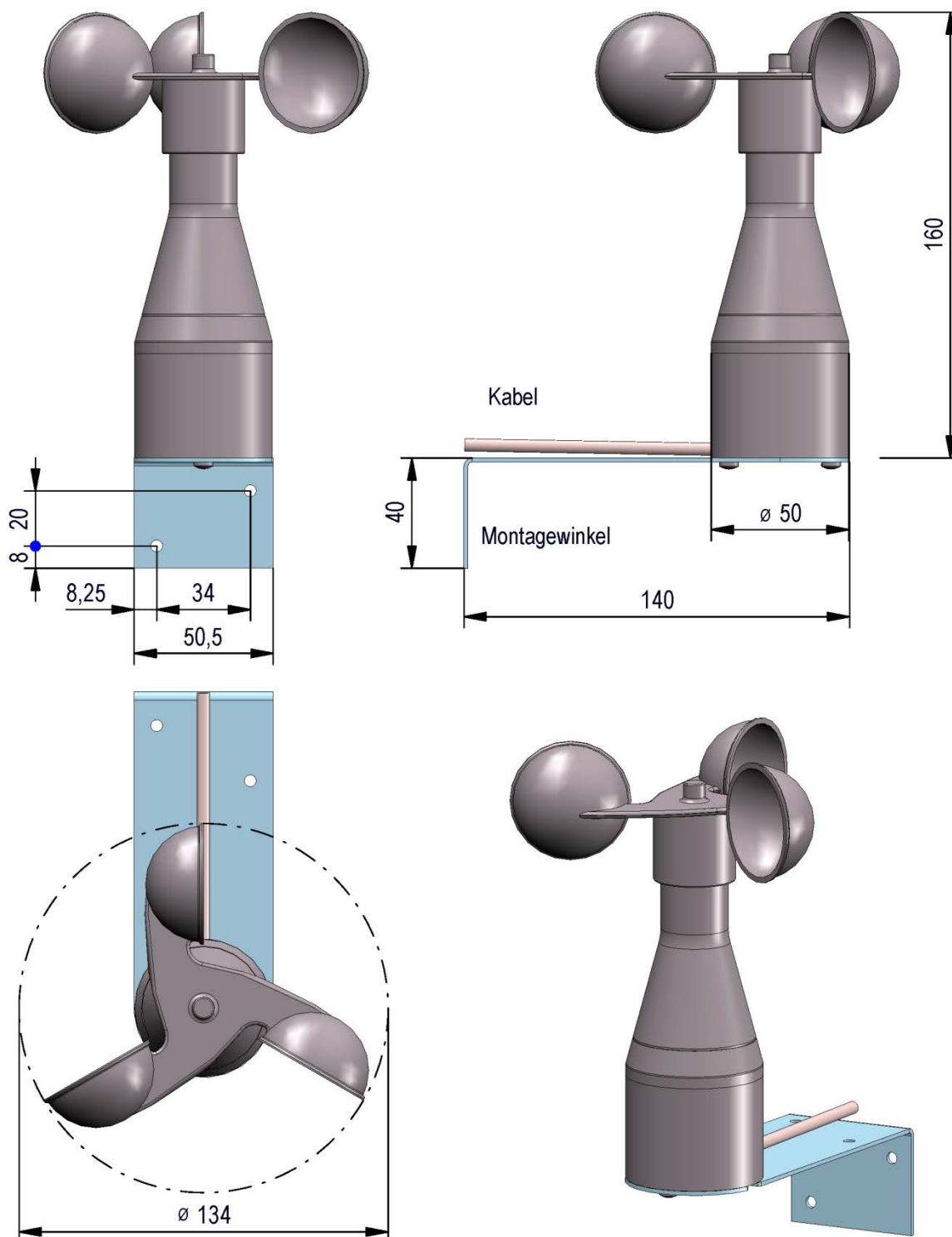
## 7 Technical Data

	4.3515.50.000 4.3515.50.100 4.3515.50.115 4.3515.50.121 4.3515.60.100 4.3515.60.115	4.3515.50.109	4.3515.51.000 4.3515.51.100 4.3515.51.110 4.3515.51.115 4.3515.51.705 4.3515.61.100 4.3515.61.115
Measuring range	0.7 ... 40m/s		
Electrical output	100Hz @ 40m/s (typ. 2.5Hz / ms <sup>-1</sup> )		
Resolution	0.4m wind run		
Accuracy	± 0.5m/s or ± 5% of measuring value		
Measuring system	1 x Reed-contact, 2 x magnet.		
Contact	Reed-contact		
Contact load (Reed-contact)	10VA, max. 42V DC, max. 0.4A		
Load	Max. 60m/s for a short time		
Heating (PTC, max.80°C)	24V AC / DC (80 °C)	12V AC / DC	-----
Switch-on current	Max. 1A (3sec.)	Max. 4A (3sec.)	-----
Ambient temperature	- 25°C ... + 60°C (with ice-free condition)		
Ambient air humidity			
Material	Housing ABS (acrylonitrile-butadiene-styrene) Cup star Polycarbonate, glass fibre reinforced		
Connection	See models available.		
Dimensions	See dimensional diagram.		
Weight	0.3kg		

To achieve a maximum switching cycle life, we recommend operating the reed contact in a switching voltage range from 1V to 12V and a switching current range from 1mA to 10mA.



## 8 Dimension Diagram



## 9 EC-Declaration of Conformity

**Manufacturer:** Adolf Thies GmbH & Co. KG  
 Hauptstraße 76  
 37083 Göttingen, Germany  
<http://www.thiesclima.com>

**Product:** Small Wind Transmitter, Photo Wind Transmitter Doc. Nr. 410-44749\_CE

**Article Overview:**

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	4.3515.41.110	4.3515.50.000
4.3515.50.061	4.3515.50.100	4.3515.50.109	4.3515.50.115	4.3515.50.161	4.3515.51.000	4.3515.51.061	4.3515.51.100	4.3515.51.101	4.3515.51.102
4.3515.51.105	4.3515.51.110	4.3515.51.115	4.3515.51.161	4.3515.51.361	4.3515.51.461	4.3515.51.961	4.3515.60.100	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		

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

2014/30/EU	26.02.2014	DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility.
2017/2102/EU	15.11.2017	DIRECTIVE (EU) 2017/2102 of the European Parliament and of the Council of November 15, 2017 amending Directive 2011/65 / EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
2012/19/EU	13.08.2012	DIRECTIVE 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE).

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

DIN EN 55011+A1:2017	2018-05	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement (CISPR 11:2015, modified + A1:2017); German version EN 55011:2016 + A1:2017
DIN EN 61000-6-2	2019-11	Electromagnetic compatibility Immunity for industrial environment
DIN EN 61000-6-3:2007 + A1:2011	2011-09	Electromagnetic compatibility (EMC). Generic standards. Emission standard for residential, commercial and light-industrial environments
DIN EN 61010-1	2020-03	Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements
DIN EN 63000	2019-05	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

Legally binding signature:



General Manager - Dr. Christoph Peper

Legally binding signature:



Development Manager - ppa. Jörg Petereit

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.

# 10 UK-CA Declaration of Conformity

**Manufacturer:** Adolf Thies GmbH & Co. KG  
 Hauptstraße 76  
 37083 Göttingen, Germany  
<http://www.thiesclima.com>

**Product:** Small Wind Transmitter, Photo Wind Transmitter Doc. Nr. 410-44749\_CA

**Article Overview:**

4.3400.30.000	4.3515.30.000	4.3515.30.000#	4.3515.30.001	4.3515.30.002	4.3515.30.030	4.3515.30.036	4.3515.30.900	4.3515.41.110	4.3515.50.000
4.3515.50.061	4.3515.50.100	4.3515.50.109	4.3515.50.115	4.3515.50.161	4.3515.51.000	4.3515.51.061	4.3515.51.100	4.3515.51.101	4.3515.51.102
4.3515.51.105	4.3515.51.110	4.3515.51.115	4.3515.51.161	4.3515.51.361	4.3515.51.461	4.3515.51.961	4.3515.60.100	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	4.3517.50.010	4.3517.71.000	4.3711.30.000		

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

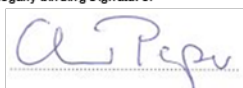
1091	08.12.2016	The Electromagnetic Compatibility Regulations 2016
RoHS Regulations 2012	01.01.2021	The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
3113	01.01.2021	Regulations: waste electrical and electronic equipment (WEEE)

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

BS EN 55011+A2:2016	31.05.2016	Industrial, scientific and medical equipment. Radio-frequency disturbance characteristics. Limits and methods of measurement
BS EN IEC 61000-6-2	25.02.2019	Electromagnetic compatibility (EMC). Generic standards. Immunity standard for industrial environments
BS EN IEC 61000-6-3	30.03.2021	Electromagnetic compatibility (EMC). Generic standards. Emission standard for equipment in residential environments
BS EN 61010-1+A1	31.03.2017	Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements
BS EN IEC 63000	10.12.2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
		▽
		▽
		▽
		▽
		▽

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Legally binding signature:



General Manager - Dr. Christoph Peper

Legally binding signature:



Development Manager - ppa. Jörg Petereit

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.

**Please contact us for your system requirements.  
We advise you gladly.**

**ADOLF THIES GMBH & CO. KG**

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