

9 Operation

Operation of the Wind display LED is performed from the front. 5 buttons are available for operation as can be seen from the figure below. Whenever a button is pressed, this is acknowledged by a short beep.

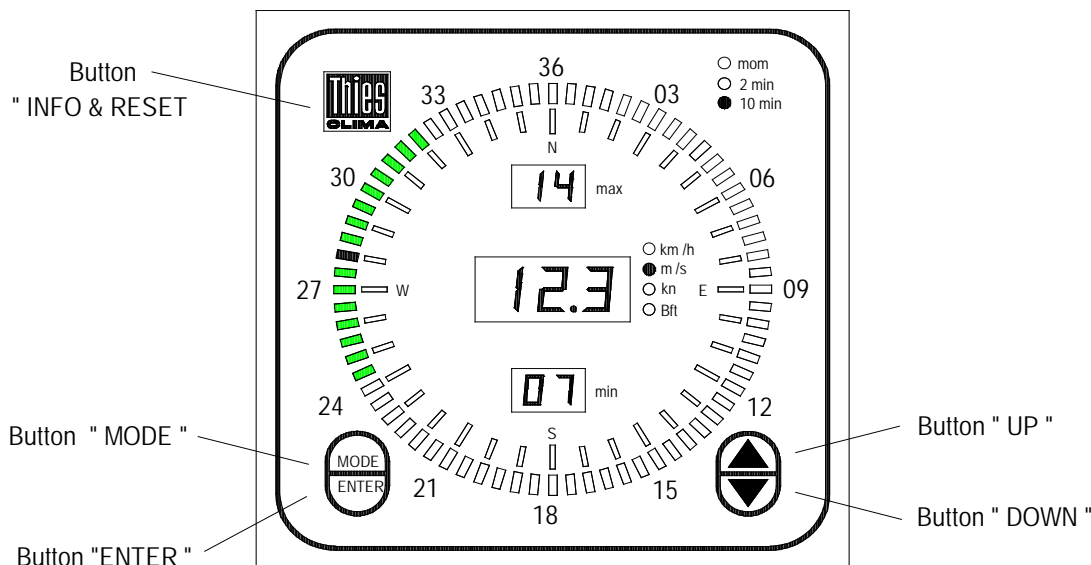


Figure 5: Operation

Button functions:

Button "▲" (UP) and Button "▼" (DOWN):

The buttons ▲ and ▼ are used to select the functions for entering **MODE 0,1 and 2**.

Button „ENTER“ :

The button **ENTER** is used to accept the respective setting into **MODE (n)**. Afterwards, the display enters automatically **MODE 0**.

Button „MODE“:

The **button MODE** is used to advance to the next **MODE** setting functions. The associated Status LED flashes.

Remark:

*After a restart the display automatically enters mode **MODE 0***

MODE	MENU
MODE 0 ¹	<p>Setting the brightness: The buttons ▲ & ▼ are used to dim the brightness level of the LED display in 18 steps.</p> <p>Setting the Max- and MIN- brightness: If the buttons ▲ or ▼ and the "Enter button" are pressed simultaneously, the brightness level previously selected can be stored as a MAX and MIN value.</p> <p>Calling up the Max- und MIN- brightness: The stored brightness values can be called up by pressing either the button ▲ or ▼ for 3 seconds.</p>
MODE 1	<p>Setting the Wind Speed- Dimension: The buttons ▲ & ▼ are used to select the WS-Dimension (km/h, m/s, kn and Beaufort).</p>
MODE 2	<p>Setting the Wind Display / Resetting of Extreme Values: The buttons ▲ & ▼ are used to select the display "instant.", or "2min, 10min"-mean value.</p> <p>Wind - display 1 „instantaneous“ Wind - display 2 „2min“ Wind - display 3 „10min“</p> <p>Resetting of Extreme Values (possible with Figure1 Display): Activate the button „ENTER“.</p>
MODE 3	<p>Setting of the COM1 (RS422 / RS485) Function is set by buttons ▲ & ▼</p> <p>3 – 0 :COM1 = RS422 (Full duplex) standard 3 – 1 :COM1 = RS422 (Full duplex) Only reception of \$WIMWV..Rel / True 3 – 2 :COM1 = RS485 (Half duplex) Request of VDT – Telegram from Ultrasonic</p>
MODE 4 ²	<p>WV- Measuring range selection (analogue wind transmitter or analogue output) With buttons ▲ & ▼ measuring range is selected</p> <p>4 – 0 : 40m/s 4 – 1 : 50m/s 4 – 2 : 60m/s 4 – 3 : 75m/s</p>
MODE 5 ²	<p>Setting of the analogue in/output In/output function is set via buttons ▲ & ▼.</p> <p>5 – 0 : analogue input ON, analogue output OFF 5 – 1 : analogue input OFF, analogue output ON</p>
MODE 6	<p>Setting the serial synchronous wind direction input</p> <p>6 – 0 : 5- or 8-Bit 6 – 1 : 10-Bit (z.B. 4.3150.x0.001, 4.3151.x0.001)</p>
MODE 7 ³	<p>Setting the characteristic of the wind speed sensor</p> <p>7 – 0 : NO Windspeed Compact 7 – 1 : Windspeed Compact1 7 – 2 : Windspeed Compact2</p>

MODE 8 ⁴	Setting the brightness of the 4 levels of the DDC telegram ⁴
MODE 9	Mode 8: O Backlighting Off
MODE A	Mode 9: D Daytime
MODE B	Mode A: K DusK
	Mode b: N Nighttime

Table 10: Operation

¹⁾ Setting only possible as long as **no** NMEA DDC command (ref. chapter 8) has been received after switching on (or pressing the info button).

²⁾ MODE 4 and MODE 5 are only for wind display LED with analogue input or analogue output significant.

³⁾ MODE 7: please ref. chapter 7.2

⁴⁾ DDC telegram: please ref. chapter 8

Button „INFO & RESET“:

When the button **INFO & RESET** is pressed, a LED test starts.

- All LED's light up
- Display of device parameters (ref. **Table 4**)
- Restart of wind display LED.

	Example
Device parameter	Display
Software	
Version No. (e.g.)	r 1.7
Input type	
Wind transmitter input	AL0
COM interface	AL1
Wind transmitter type	
Classic	CL1
Classic	CL2
Compact1	Co5
Compact2	Co6
First-Class	F-C
Input telegram	
NMEA REL/TRUE	Pr1
Output telegram	
LED Standard	Pn0
Ultrasonic	Pn1
NMEA0	Pn2
NMEA1	Pn3
Baud rate	
1200	b12
2400	b24
4800	b48
9600	b96
*analogue inputs	

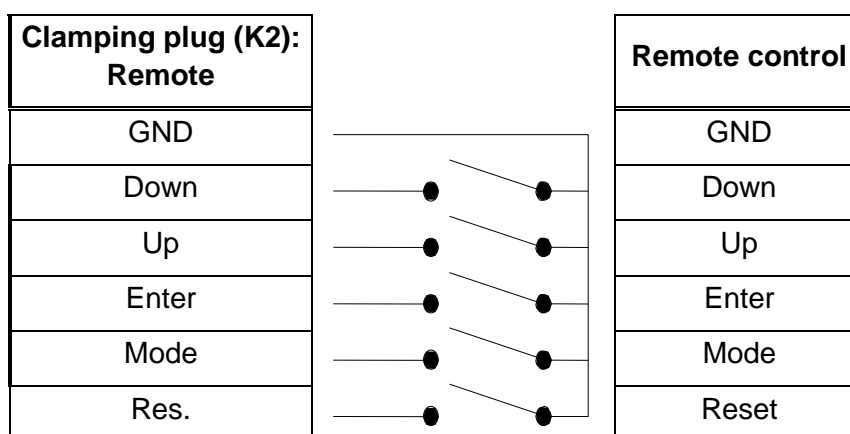
0..5V/0..10V	u5
0..20mA	i20
4..20mA	i42
*analogue output	
0..20mA	Au1
4..20mA	Au2
0..5V	Au3
0..10V	Au4
Serial synchronous input WD	
5- or 8-Bit	58b
10Bit	10b

Table 11: Instrument parameter

***Display only when analogue inputs and analogue outputs are available**

External Operation

In addition to operation from the front remote control of the wind display LED is also possible using the rear clamping plug “Remote” (K2), and external buttons for remote control. The buttons for remote control are not included in the scope of supply.



10 Functional Test

On restarting or activating the button **INFO & RESET** (ref. chapter 9) the wind display LED carries out a number of test procedures. In case of an error the display shows an error-code (ref. chapter 11). To run a full test on the wind interface no wind transmitter should be connected.

11 Error Message

If an error is detected while a program is running, the display will show the relevant error code for min. 3 seconds or as long as the error is present.

Error-Code	Error	Comment/Action
E01	Internal Vcc 5V	Instrument defect: send in for checking.
E02	Vcc Wind transmitter	Disconnect wind transmitter, restart instrument. If error is still indicated, send instrument in for checking. Otherwise connect wind transmitters one after the other, and detect the defect wind transmitter.
E03	Icc WS	Check cables and connections of wind speed transmitter. If error message is still existing, wind transmitter is probably defect.
E04	Icc WD	Check cables and connections of wind transmitter. If error message is still existing, wind transmitter is probably defect.
E05	WS-Interface	Instrument defect: send in for checking.
E06	WD-Interface	Instrument defect: send in for checking.
E07	WD-Serial	Data- connection/line from the wind direction sensor setting or check mode6. Check data-connection/-cable of the wind direction transmitter. If error message is still existing, wind transmitter is probably defect.
E08	WS-Overflow	1. Check setting of wind transmitter type. 2. Check connection and cable. If error message is still existing, wind transmitter is probably defect.
E09	Timeout (COM)	1. Check setting of Baud rate. 2. Check R422 connections/cables Rx+ & Rx-. 3. If error message is still existing, connect Rx+ & Rx- to Tx+ & Tx- at the terminal strip. 4. If no error message is existing, the transmitter is defect. 5. If error message is still existing, send instrument in for checking.
E10	SIN-Buffer overflow	Check transmitted protocol.
E11	Protocol format	Check transmitted protocol.
E12	Check sum	Check transmitted protocol.
E13	WS & WD error	Failure of wind transmitter at "Master" wind transmitter LED.
E14	WS "FF.F"	Failure of wind speed transmitter at "Master" wind transmitter LED.

E15	WD "FFF"	Failure of wind direction transmitter at "Master" wind transmitter LED.
E16	REL/TRUE error	Check transmitted protocol (error twice „a“ in the telegram).
E17	VDT protocol	No reception from Ultrasonic. - check connection (RS485 half duplex).
E20	WV U/I Range	WV Analogue input: U/I measuring range exceeded.
E21	WD U/I Range	WD Analogue input: U/I measuring range exceeded.
E50	Syntax-Error	Instrument defect, restart possibly.
E99	Watchdog	Temporary failure if error message is displayed once for 3sec. If error message occur oftentimes, instrument is defect.

Table 12: Error Message

12 Maintenance

The wind display LED is maintenance-free

Cleaning

To clean the face plate and housing a damp cloth should be used without chemical cleaning agents.

Storage

The wind display LED should be stored in a dry dust-free room at temperatures between -20.. + 50°C. We recommend storing the device in a box.

Fuse

There is a mains fuse on the rear of the wind display LED. The fuse holder can be opened using a screwdriver.

Attention:

In case of a defect only the following fuses should be used:

230V: 0.25AT (time-lag) for wind display 4.3250.00.xxx

115V: 0.5AT (time-lag) for wind display 4.3250.01.xxx

13 Technical Data

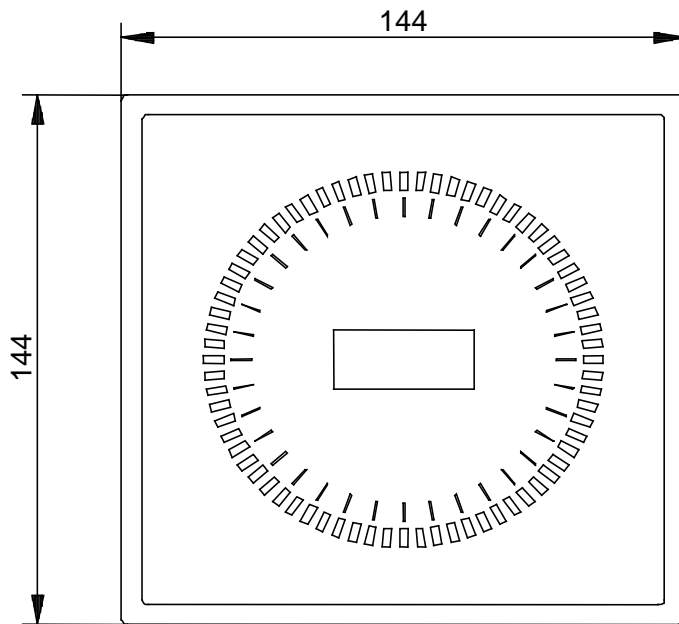
Wind transmitter inputs (digital)		
Wind direction	Input	Thies Serial Synchronous
	Type	Compact 4.3129.00.000 / 4.3129.60.000 Classic 4.3125.x2.100 / 101 Classic 4.3336.x1.00x / 4.3336.x2.00x First Class 4.3150.x0.000 (8Bit: Mode 6-0) First Class 4.3150.x0.001 (10Bit: Mode 6-1) First Class 4.3151.x0.000 (8Bit: Mode 6-0) First Class 4.3151.x0.001 (10Bit: Mode 6-1)
	Sampling rate	10Hz
Wind velocity	Input	Frequency
	level (Ua)	Ua ≤ 1V , Ua ≥ 3.3V
	Frequency (max)	Compact 1000Hz Classic 1550Hz Classic 850Hz First Class 1600Hz
	Type	Compact1 4.3519.00.000 Compact 2 4.3619.00.000 Classic 4.3303.22.000/007/008/018/4.3336.x1.00x 4.3336.x2.00x First-Class 4.3351.x0.000
	Sampling rate	1Hz

Wind transmitter supply	Vcc WR / WG	5.1... 5.7V
	Icc max	60mA
	Icc min	0.25mA
Wind transmitter input (analogue)		
Wind velocity	Input	0..5V / 0..10V / 0..20mA / 4..20mA
	Measuring range	40m/s, 50m/s, 60m/s, 75m/s selectable
Wind direction	Input	0.. 2V, 0..5, 0.. 10V, 0.. 20mA, 4.. 20mA
	Measuring range	0..360°
WV / WD	Resolution	0.06% @ 2V, 0.025% @ 5V, 0.049% @ 10V 0.049% @ 0..20mA, 0.06% @ 4..20mA
	Load	125Ω (input 0/4..20mA)
	Input resistance	>1MΩ (input 2V,5V); 20kΩ (input 10V)
Wind transmitter supply (only with 4.3250.0x.1xx)	Vcc WV/WD	12 V
	Icc max	80mA
	Icc min	0.25mA
Output (analogue)		
Wind velocity	Output	0..5V / 0..10V / 0..20mA / 4..20mA
	Meas. range	40m/s, 50m/s, 60m/s, 75m/s adjustable
Wind direction	Output	0..5, 0.. 10V, 0.. 20mA, 4.. 20mA
	Meas. range	360 Grad
WV / WD	Resolution	0.05% @ 5V, 0.03% @ 10V 0.1% @ 0..20mA, 0.1% @ 4..20mA
	Accuracy	U(V) = ±0,3% I(mA) = ±0,3%
	Load (I)	≤ 400Ω
	Load (U)	>50kΩ (output 0..10V), >1kΩ (output 0..5V)
Interface		
Digital Interface		EN 61162-1
	Type	RS422 / RS485
Data format	Output	7E1, 8N1
	Input	7E1, 8N1, 7O1
	Baud rate	1200, 2400, 4800, 9600 Bd
Operating Voltage	Mains	230V AC (with 4.3250.00.000) 115V AC (with 4.3250.01.000)
	Mains fuse	0.25AT (time-lag) resp. 0.5AT (time-lag)
	Low voltage	18 ... 28V AC 12 ... 35V DC
	Current consumption	Max. 1000mA at 12V DC
Display		
Wind speed	Dimension	m/s, kn, km/h, Bft
	WS - Display	3 digit LED, height 15mm

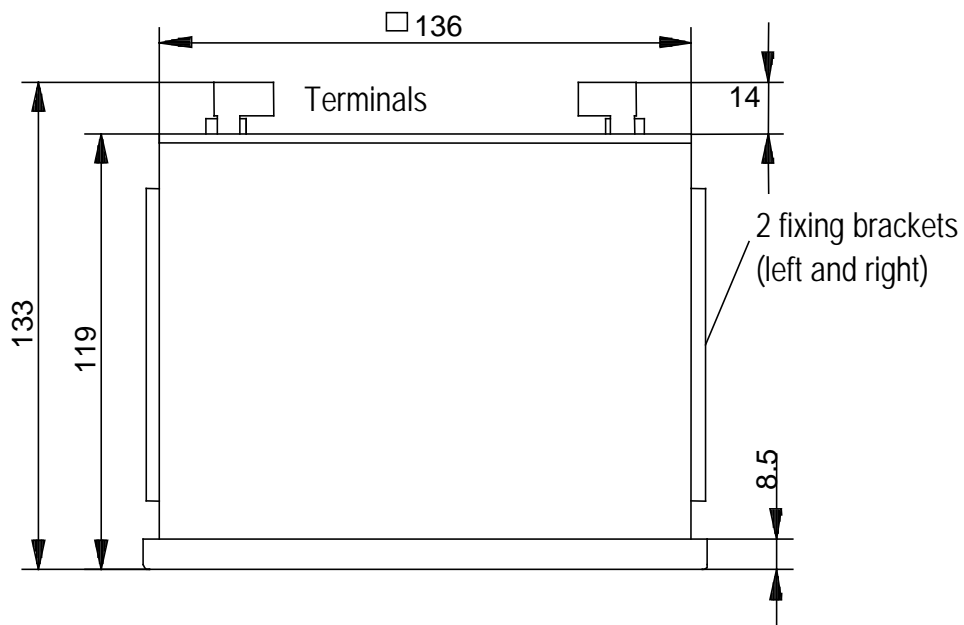
	Resolution	0,1m/s 0,1kn from 100kn 1kn 1km/h 1Bft
	WS-max/min Display	2 digit LED, height 8mm
	Resolution	1m/s / 1kn / 1km/h / 1Bft
Wind direction	Resolution	5 °
	LED's	72; 2 x 4mm, colour: red, green
	Tracking time of variation	1 increment /sec
	WD-delay	T = 6sec.
General		
	Temperature range	-10 ... +50 °C
	Humidity range	Non-condensing
	EMC	EN 60945, EN 61000-6-2, EN 61000-6-3
	Vibration	EN 60945, IEC 60068-2-6
	Environmental test	EN 60945
	Guard band of compass	EN 60945 Safe distance to the Standard- Magnetic- compass 0.50m Steering- Magnetic- compass 0.35m
Housing		
	Material	Aluminium
	Dimensions	144 x 144mm Depth: 119mm
	Weight	1,5kg
	Protection	IP23; EN 60529

Table 13: Technical Data

14 Dimension Drawing



Control panel opening
as per DIN 43700
 $138^{+1} \times 138^{+1}$



15 EC-Declaration of Conformity

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

Product: Wind Display LED

Doc. Nr. 2003-44749_CE

Article Overview:

4.3250.00.000	4.3250.00.040	4.3250.00.041	4.3250.00.061	4.3250.00.140	4.3250.00.141	4.3250.00.161	4.3250.00.900	4.3251.00.000	4.3251.00.001
4.3251.00.002	4.3251.00.141	4.3251.00.900	4.3251.00.902	4.3251.01.000	4.3251.01.001	4.3251.01.002	4.3250.01.041	4.3250.01.141	

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).
2014/90/EU	23.07.2014	DIRECTIVE 2014/90 / EU of the European Parliament and of the Council of 23 July 2014 on marine equipment and repealing Council Directive 96/98 / EC Text with EEA relevance.

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

DIN EN 60945	2003-07	Maritime navigation and radiocommunication equipment and systems. General requirements. Methods of testing and required test results
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.

16 UK-CA Declaration of Conformity

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

Product: Wind Display LED

Doc. Nr. 2003-44749_CA

Article Overview:

4.3250.00.000	4.3250.00.040	4.3250.00.041	4.3250.00.061	4.3250.00.140	4.3250.00.141	4.3250.00.161	4.3250.00.900	4.3251.00.000	4.3251.00.001
4.3251.00.002	4.3251.00.141	4.3251.00.900	4.3251.00.902	4.3251.01.000	4.3251.01.001	4.3251.01.002	4.3250.01.041	4.3250.01.141	

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)
2014/90/EU	23.07.2014	DIRECTIVE 2014/90 / EU of the European Parliament and of the Council of 23 July 2014 on marine equipment and repealing Council Directive 96/98 / EC Text with EEA relevance.

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

BS EN 60945	15.04.2003	Maritime navigation and radiocommunication equipment and systems. General requirements. Methods of testing and required test results
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.**

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