

# WIND

## Ultrasonic Anemometer 3D

**Part number: 4.383x.2x.xxx**

More than 70 different measurement values are available, for ex.:

- Wind velocity in X/Y/Z-direction
- Total wind velocity
- Wind velocity azimuth
- Wind direction azimuth
- Wind velocity elevation
- Wind direction elevation
- Acoustic-virtual temperature
- Standard deviation of the wind velocity in X/Y/Z-direction
- Standard deviation of the total wind velocity
- Standard deviation of the wind velocity azimuth
- Standard deviation of the wind direction azimuth
- Standard deviation of the wind direction elevation
- Standard deviation of the acoustic-virtual temperature
- Statistic functions such as variance, co-variance, turbulence intensity
- Wind velocity X/Y/Z of the gust acc. to WMO
- Wind direction of the gust (elevation) acc. to WMO



The instrument is especially suitable for the use in the fields of

- Meteorology
- Climatology
- Traffic engineering, aviation and navigation
- Indoor flow measurement
- And in alpine field of application

The ultrasonic measurement principle allows, compared to the classic anemometers, an inertia-free measurement of running variable dimensions with highest precision and accuracy. It is especially suitable for the measurement of gust- and peak values.

## Specification

**Part number: 4.383x.2x.xxx**

Wind speed	
Measuring range	0 ... 85 m/s
Resolution	0.1 m/s (standard) 0.01 m/s (user defined)
Accuracy	±(0.1 m/s +1 %) rms (0 ... 35 m/s) ±2 % rms (35 ... 65 m/s) ±3 % rms (65 ... 85 m/s)
Wind direction	
Measuring range	0 ... 360 ° / 540 ° / 720 °
Resolution	1 ° (standard) < 1 ° (user defined)

Accuracy	±1 ° (1 ... 35 m/s) ±2 ° (35 ... 65 m/s) ±4 ° (65 ... 85 m/s)
<b>Virtual temp.</b>	
Measuring range	-50 ... +80 °C
Resolution	0.1 K
Accuracy	±0.5 K
<b>Data output digital</b>	
Interface	RS485 / RS422
Baudrate	1200 Baud ... 921600 Baud
Data values	instant. values, average values, standard deviation
Output range	1 per 10 msec up to 1 per 60 sec
Status signals	heating, Meas section error, Temperature of meas section
<b>Data output analog</b>	
Measured values	WS - Vectors VxVyVz WS - Azimut, WD - Azimut, WS Elevation
Wind speed	0 ... 20 mA; 4 ... 20 mA; 0 ... 10 V; 2 ... 10 V;
Stromausgang	max. 400
Wind direction	0 ... 20 mA; 4 ... 20 mA; 0 ... 10 V; 2 ... 10 V;
Voltage output	min. 4000
Resolution	16 bit
<b>Data input analog (alternative)</b>	
Chaneln	3 x 0 ... 10 V
Resolution	16 bit
<b>Operating voltage</b>	
Electronic	8 ... 78 V DC or 12 ... 55 V AC / 2.5 W
Heating	24 V AC/DC, typ 150 W
<b>General</b>	
Bus operation	up to 98 sensors
Electr. connection	8 pol. connector
Mounting	on mast tube 1,5''
Housing	stainless steel (V4A) AiSi316Ti
Protection	IP 67
Dimension	600 mm x 300 mm
Weight	3.4 kg

## Versions

As per 4.383x.2x.xxx, but:

### Product number 4.3830.20.300

Data output digital	
Baudrate	9600 Baud
Duplex mode	Full duplex
Data telegram	no independent telegram output

### Product number 4.3830.20.340

Data output digital	
Baudrate	9600 Baud
Duplex mode	Full duplex
Data telegram	VDT-Telegram (Telegram2)
Output range	10 per 1 sec

### Product number 4.3830.21.310

Data output digital	
Baudrate	9600 Baud
Duplex mode	Half duplex
Data telegram	no independent data output
Data output analog	
Type	3 x 4 ... 20 mA

### Product number 4.3830.22.300

Data output digital	
Baudrate	9600 Baud
Duplex mode	Half duplex
Data telegram	no independent data output
Data output analog	
Type	3 x 0 ... 10 V; Vx, Vy, Vz

## Accessories

Product	Product name	Brief description						
	Connecting cable 50775x	Suitable cable for 4.3820/30/75/80/81 <ul style="list-style-type: none"> <li>length: see versions</li> </ul> <table border="1"> <thead> <tr> <th colspan="2">General</th> </tr> </thead> <tbody> <tr> <td>Cable length</td> <td>see versions</td> </tr> <tr> <td>Cable</td> <td>PUR 4 x 0,75 +2x2x0,14 mm<sup>2</sup></td> </tr> </tbody> </table>	General		Cable length	see versions	Cable	PUR 4 x 0,75 +2x2x0,14 mm <sup>2</sup>
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Cable length	see versions							
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**Northring for Ultrasonic anemometer**  
508696

The adapter is used for the north alignment of a Ultrasonic anemometer.

**General**

Length	90 mm
Material	Alluminum anodized ( AlMgSi1 )
Weight	0.4 kg
Fixing boring	for mast Ø 50 mm for sensor Ø 50 mm



**Meteo-Online**  
9.1700.98.x01

Meteo-Online is a software for detecting, filing, and displaying data of meteorological measuring instruments. The display of the data is carried out graphically as diagram and/or as text. The user has the possibility to place the display-elements free on the screen, and to save them.

**Data display**

Monitor - display	- Values - Diagrams - Tables - Windrose - Time - Date
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**Compatibility**

Connectable instruments	- US-Anemometer - Datalogger - Clima Sensor - Weather station WSC11 - Wind display - etc.
System requirements	PC mit - Prozessor > 1 GHz - RAM > 1 GB
Operating system	- Windows 2003 SP2 - Windows Server 2008 - Windows 7 - Windows Server 2008 R2 - Windows 7 SP1 - Windows Server 2008 R2 SP1 - Windows 8 - Windows 10

