

# WIND MEASURING TECHNOLOGY

## Ultraschall Anemometer 2D Compact

Part number: 4.3875.xx.xxx

The following measurement data are available:

- Orthogonal wind velocity vectors (X- and Y-distance)
- Scalar / vectorial wind velocity wind direction
- Acoustic-virtual temperature

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

- Regenerative power generation, wind power plants
- Industry automation
- Wind warning devices, building construction and building security
- Traffic engineering, aviation and navigation
- Meteorology
- Climatology

The measurement principle allows, compared to the classic anemometers, an inertia-free measurement of running variable dimensions with highest precision and accuracy.

The data can be served

- analogically\*, as standard signal or / and digitally in
- ASCII THIES- Format or
- binary as MODBUS RTU protocol

If necessary, the instrument is automatically heated at critical ambient temperatures.

Thus,

the risk of malfunction caused by icing is minimized.

The model no. 4 3875 2x xxx is equipped with an additional baro transmitter.

\* only in HD (half duplex) operation

no output of virtual temperature

## Specification

Part number: 4.3875.xx.xxx

### Wind speed

Measuring range	0 ... 75 m/s
Resolution	0.1 m/s (standard) 0.01 m/s (special telegrams)
Accuracy	±0.2 m/s rms ( 5 m/s ) ±2 % rms ( 5 m/s ... 60 m/s )

### Wind direction



Measuring range	0 ... 360 °
Resolution	1 ° 1 ° (standard)
Accuracy	±2 ° WS > 1 m/s

#### Virtual temp.

Measuring range	-50 ... +70 °C
Resolution	0.1 K
Accuracy	±2 K

#### Data output digital

Interface	RS485 / RS422
Baudrate	1200 ... 921600 Baud
Data values	instant. values, average values, standard deviation
Output range	1 per 10 msec up to 1 per 10 sec
Status signals	heating, distance error, Temperature of meas section
Protocol	ASCII / MODBUS RTU

#### Data output analog

Wind speed	0 ... 20 mA 4 ... 20 mA 0 ... 10 V 2 ... 10 V
Stromausgang	max. 300
Wind direction	0 ... 20 mA 4 ... 20 mA 0 ... 10 V 2 ... 10 V
Voltage output	min. 3000
Resolution	16 bit

#### Data input analog (alternative)

Channels	3
Resolution	16 bit

#### Operating voltage

Electronic	8 ... 60V DC or 12 ... 42 V AC / 1.2 W
Heating	24 V AC/DC, max. 250 W

#### Heating

Heated components	bottom plate, cover plate, ultrasonic transducers
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### General

Bus operation	up to 98 sensors
Electr. connection	8 pol. connector
Mounting	e.g. Mast tube Ø 50mm
Housing	AL, hard-anodized
Protection	IP 68
Dimension	Ø 200 mm x 144 mm
Weight	approx. 2 kg

## Versions

As per 4.3875.xx.xxx, but:

### Product number 4.3875.00.340

#### Data output digital

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

### Product number 4.3875.01.300

#### Data output digital

Baudrate	9600 Baud
Duplex mode	Half duplex
Data telegram	no independent data output

#### Data output analog

Type	2 x 0 ... 20 mA
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### Product number 4.3875.01.311

#### Data output digital

Baudrate	9600 Baud
Duplex mode	Half duplex
Data telegram	no independent data output

#### Data output analog

Type	2 x 4 ... 20 mA
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#### Heating

Heating control	HP11
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#### Product number 4.3875.02.300

##### Data output digital

Baudrate	9600 Baud
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Duplex mode	Half duplex
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Data telegram	no independent data output
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##### Data output analog

Type	2 x 0 ... 10 V
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#### Product number 4.3875.01.381

##### Data output digital

Baudrate	9600 Baud
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Duplex mode	Half duplex
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Data telegram	MODBUS RTU
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##### Data output analog

Type	2 x 4 ... 20 mA
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#### Product number 4.3875.01.310

##### Data output digital

Baudrate	9600 Baud
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Duplex mode	Half duplex
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Data telegram	no independent data output
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##### Data output analog

Type	2 x 4 ... 20 mA
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#### Heating

Heating control	HP10
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#### Product number 4.3875.00.260

##### Data output digital

Baudrate	4800 Baud
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Duplex mode	Full duplex
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Data telegram	NMEA telegram
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### Heating

Heating control	HP11
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### Product number 4.3875.01.319

#### Data output digital

Baudrate	9600 Baud
Duplex mode	Half duplex
Data telegram	no independent data output

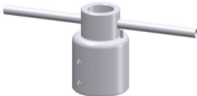
#### Data output analog

Type	2 x 4 ... 20 mA
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### Heating

Heating control	HP0
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## Accessories

Product	Product name	Brief description								
	Connecting cable 50775x	<p>Suitable cable for 4.3820/30/75/80/81</p> <ul style="list-style-type: none"> <li>length: see versions</li> </ul> <hr/> <p><b>General</b></p> <table border="1"> <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> </table>	Cable length	see versions	Cable	PUR 4 x 0,75 +2x2x0,14 mm <sup>2</sup>				
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	Northring for Ultrasonic anemometer 508696	<p>The adapter is used for the north alignment of a Ultrasonic anemometer.</p> <hr/> <p><b>General</b></p> <table border="1"> <tr> <td>Length</td> <td>90 mm</td> </tr> <tr> <td>Material</td> <td>Alluminum anodized ( AlMgSi1 )</td> </tr> <tr> <td>Weight</td> <td>0.4 kg</td> </tr> <tr> <td>Mounting</td> <td>for mast Ø 50 mm for sensor Ø 50 mm</td> </tr> </table>	Length	90 mm	Material	Alluminum anodized ( AlMgSi1 )	Weight	0.4 kg	Mounting	for mast Ø 50 mm for sensor Ø 50 mm
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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.

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**Data display**

Monitor - display	<ul style="list-style-type: none"> <li>- Values</li> <li>- Diagrams</li> <li>- Tables</li> <li>- Windrose</li> <li>- Time</li> <li>- Date</li> </ul>
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**Compatibility**

Connectable instruments	<ul style="list-style-type: none"> <li>- US-Anemometer</li> <li>- Datalogger</li> <li>- Clima Sensor</li> <li>- Weather station WSC11</li> <li>- Wind display</li> <li>- etc.</li> </ul>
System requirements	PC mit <ul style="list-style-type: none"> <li>- Prozessor &gt; 1 GHz</li> <li>- RAM &gt; 1 GB</li> </ul>
Operating system	<ul style="list-style-type: none"> <li>- Windows 2003 SP2</li> <li>- Windows Server 2008</li> <li>- Windows 7</li> <li>- Windows Server 2008 R2</li> <li>- Windows 7 SP1</li> <li>- Windows Server 2008 R2 SP1</li> <li>- Windows 8</li> <li>- Windows 10</li> </ul>

