

Ultrasonic Anemometer 2D Compact

Part number: 4.3877.xx.xxx

Thanks to the adaptive ultrasonic level adjustment, this sensor delivers precise measurement results even under extreme conditions such as heavy rain and typhoons. The improved electromagnetic compatibility ensures interference-free operation even in environments with high electromagnetic interference fields. The sensor also supports advanced self-diagnostic functions for predictive maintenance to maximize operational reliability.



The following measured values are available:

- Orthogonal wind speed vectors (X and Y distance)
- Scalar / vectorial wind speed, wind direction
- Acoustic virtual temperature
- Predictive maintenance information
- Air pressure (option)

The device is particularly suitable for use in

- Wind energy
- Industrial automation
- Wind warning systems, building construction and building security
- Traffic engineering, aviation and shipping
- Meteorology
- Climatology

Compared to the classic anemometer, the measuring principle allows inertia-free measurement of rapidly changing variables with maximum precision and accuracy.

Data output:

- PROFINet / PROFIsave with Ethernet TCP/IP interface

Specification

Part number: 4.3877.xx.xxx

Wind speed

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

Wind direction

Measuring range	0 ... 360 °
Resolution	0.1 °
Accuracy	±2 ° WS > 1 m/s

Virtual temp.

Measuring range	-50 ... +70 °C
Resolution	0.1 K
Accuracy	±2 K
Data output digital	
Interface	PROFINET V2.42 CLASS B, PROFIsafe V2.6.1, Webinterface
Data values	WG, WR, VT, LD, DATA QUALITY, STATUS
Output range	10-Mbit/s, 100-Mbit/s
Operating voltage	
Electronic	U: 17 ... 48V DC ± 10% P: typ. 4,5W, max. 6W SELV or PLEV
Heating	U: 48V DC ± 10% P: typ. 300 W SELV or PLEV
Heating	
Heated components	bottom plate, cover plate, ultrasonic transducers
Icing resistance	Acc. to MIL-STD-810G, METHOD 521.3, 2008/10
General	
Firmware update	Firmware update via Ethernet
Predictive Maintenance Indicator	Yes
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 4.3877.xx.xxx, but:

Product number 4.3877.07.000


Product number 4.3877.27.000

Air pressure

Measuring range	300 ... 1100 hPa
Resolution	0.1 hPa

Accuracy	± 0.25hPa @ 700 ... 1050hPa and +25 ...+40 °C ± 2.0hPa @ 300 ... 1100hPa, -40...+60 °C and activated heating
Long-term stability	± 1hPa per year

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"> • length: see versions <hr/> <p>General</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 mm²</td> </tr> </table>	Cable length	see versions	Cable	PUR 4 x 0,75 +2x2x0,14 mm ²				
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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>General</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.

Data display

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

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