Ultrasonic Anemometer 2D Compact

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 rate	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 compontents	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-snodized
Protection	IP 68
Dimension	Ø 200 mm x 144 mm
Weight	approx. 2 kg

Versions

As per 4.3877.xx.xxx, but:

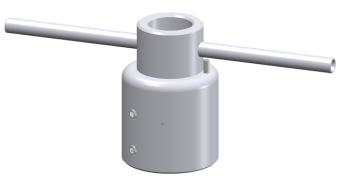
Product number 4.3877.07.000

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
	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 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	- Values - Diagrams - Tables - Windrose - Time - Date

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

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