Wind
Ultrasonic

Model Brief Description	Order No.
Anemometer Ultrasonic 2D The Ultrasonic Anemometer 2D serves for the 2-dimensional acquisition of the horizontal components of the wind velocity, the wind direction as well as of the acoustic-virtual temperature. More than 35 different measurement values are available, for ex.: • Orthogonal wind velocity vectors (X- and Y-distance) • Scalar wind velocity • Wind direction • Acoustic-virtual temperature • Acoustic-virtual temperature of the orthogonal measurement distances (X- and Y-distance) • Standard deviation of the vectorial wind velocity (X and Y-distance) • Standard deviation of the scalar wind velocity • Standard deviation of the wind direction • Standard deviation of the acoustic-virtual temperature • Wind velocity of the gust acc. to WMO • Wind direction of the gust acc. to WMO The instrument is especially suited for the use in the fields of • Meteorology • Climatology • Regenerative energy, wind energy plant • Traffic engineering, aviation and navigation • Pollutant dispersal • Wind alarm devices, building construction and building safety • 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 suited for the measurement of gust- and peak values. The measurement values can be output digitally and/or in analogue form.	**4.3820.xx.xxx** **.0x.** **.3x.**

Technical Data	
With heating	For sensor arms
With heating	For sensor arms and ultrasonic-sensors
Velocity	
Measuring range	0-75 m/s
Resolution	0.1 m/s (standard) 0.01 (user-defined)
Accuracy	±0.1 m/s rms (0-5 m/s) ±2% rms (‹ 5 m/s)
Direction	
Measuring range	0-360°
Resolution	1°
Accuracy	±1°
Virtual temperature	
Measuring range	-40 ... +70 °C
Resolution	0.1 K
Accuracy	±0.5 K
Data output digital	
Interface	RS 485/422
Baud rate	1200-921600
Output	instantan. values, mean values, standard deviations, etc.
Output rate	1 per 1 msec. up to 1 per 60 sec.
Status signal	heating distance error, distance temperat.
Data output analogue	
Electr. output for wv, wr, acoustic-virtual temperature	0-20 mA/0-10 V or 4-20 mA/2-10 V
Load	
Current output	max. 400 Ω
Voltage output	min. 4000 Ω
or as:	
Data input	3 x 0-10 V
Output	serial
Resolution	16 bit
General	
Bus operation	up to 99 instruments
Operat. voltage	8-24 V DC or
Electronics	12-28 V AC/2.5 VA
with heating	24 V AC/DC, typ. 80 VA
Electr. connection	8 pole plug
Mounting	onto a mast tube 1½"
Fixing boring	Ø 50 x 40 mm
Housing material	aluminium and stainless steel (V4A)
Protection	IP 65
Dimensions	600 x 300 mm
Weight	2.5 kg

Model Brief Description	Order No.	Technical Data

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The serial or analogue output of the data is carried out alternatively as instantaneous value or with selectable time frame.

If necessary, the sensor arms are automatically heated in case of critical ambient temperatures. The possibility of malfunction, caused by icing, is minimized.

Model no. 4.3820.3x.xxx, thanks to the additionally installed ultrasonic converter heating, is suited even for the more difficult use in locations where frequently icing is to be expected.

Accessories

Device to Refuse Birds
The device protects the ultrasonic converter of the ultrasonic anemometer (4.3820.xx.xxx).
The device shall prevent smaller birds from sitting on the instrument.

Order No.: **507245**

Device to Refuse Birds
- consisting of:
  - Pin and — **508396**
  - protective cap — **212352**

A pin to be screwed onto the shaft, shall protect the instrument against bigger birds and prevent them from sitting on.

Connecting Cable
Suited for 4.3820/30.....
Shielded cable, ready for connection with plug on sensor and cable end sleeve on the other end.

Order No.	Technical Data	
507751	Cable length	15 m
507752		20 m
507753		25 m

Software Meteo-Online — **9.1700.98.000** — s. page 46

For other accessories such as masts, lightning rods, power supply etc. please refer to page 47 - 54