

Ultrasonic Anemometer 3D

The Ultrasonic Anemometer 3D provides measurement of the wind direction and the wind velocity in all three dimensions. The maintenance-free and wearless anemometer needs no recalibration, and it is equipped with a heating for winter operation even under extreme conditions.



All calculations are carried out by a high-capacity digital-signal-processor (DSP) within the propagation time of the ultrasonic signals with an accuracy basis of 32 bit.

The instrument offers comprehensive statistic functions such as gliding averaging, standard deviation, co-variance etc., which can be selected via the digital interface. The gliding averaging can be set optionally in vectorial or scalar form, identically or differently for each parameter.



The highest precision



Real-time measurement



More than 70 different measurement values available



Maintenance free / heatable



Digital / analogue outputs and inputs

Wind speed

Measuring range	0 to 85 m/s (starting threshold: 0.01 m/s)
Resolution	0.1 m/s (standard) 0.01 m/s (user defined)
Accuracy	±(0.1 m/s +1 %) rms (0 to 35 m/s) ±2 % rms (35 to 65 m/s) ±3 % rms (65 to 85 m/s)

Wind direction

Measuring range	0 to 360° / 540° / 720°
Resolution	1° (standard) < 1° (user defined)
Accuracy	±1° (1 to 35 m/s) ±2° (35 to 65 m/s) ±4° (65 to 85 m/s)

Virtual temperature

Measuring range	-50 °C to +80 °C
Resolution	0.1 K
Accuracy	± 0.5 K

Data output digital

Interface	RS-485 / RS-422
Baudrate	1200 to 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

Data output analog

Measured values	WS - Vectors VxVyVz WS - Azimut, WD - Azimut, WS Elevation
Wind speed	0 to 20 mA 4 to 20 mA 0 to 10 V 2 to 10 V
Stromausgang	max. 400 Ω
Wind direction	0 to 20 mA 4 to 20 mA 0 to 10 V 2 to 10 V
Voltage output	min. 4000 Ω
Resolution	16 bit

Data input analog [alternative]

Channels	3 x 0 to 10 V
Resolution	16 bit

Operating voltage

Electronic	8 to 78 V DC or 12 to 55 V AC / 2.5 W
Heating	24 V AC / DC, typ 150 W

General

Bus operation	up to 98 sensors
Electr. connection	8 pol. connector
Mounting	on a mast tube 1,5"
Housing	stainless steel (V4A) AiSi316Ti
Protection	IP 67
Dimension	600 x 300 mm
Weight	3.4 kg