

ULTRASONIC ANEMOMETER 2D »compact«

Measurement of
wind direction and speed

- rugged and reliable
- highest precision and accuracy
- maintenance free / heated
- digital and analogue interface

Thies
CLIMA



The instrument is well suited for

- industrial automation
- renewable power generation, wind power plants
- building control
- traffic control
- marine application
- meteorology, climatology



Order No. 4.3871.xx.xxx

Technical Data

Ultrasonic Anemometer 2D »compact«

The combination of proven quality and advanced technology

- Designed for use in harsh environmental conditions without sacrificing accuracy or precision.
- compact
- rugged and reliable
- maintenance free

The compact Ultrasonic Anemometer is designed to simultaneously measure the 2-dimensional horizontal components of the wind velocity, as well as the wind direction and acoustic-virtual air temperature.

The following measurement values are available:

- Orthogonal wind velocity vectors (X- and Y-distance)
- Scalar / vectorial wind velocity wind direction
- Acoustic-virtual temperature
- NMEA data protocol
- ASCII THIES FORMAT
- Analogue data output *

The instrument is well suited for use in the fields of

- Renewable power generation, wind power plants
- Industrial automation
- Wind warning devices, building construction and building control
- Traffic control
- Marine application
- Meteorology
- Climatology

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

The measurement values can be output digitally and/or in analogue form.

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

The instrument is equipped with integrated heating to maintain ice free operation in below freezing temperatures. Thus, the possibility of malfunction, caused by icing, is minimized. The sensor arms and the ultrasonic sensors as well as housing parts are heated.

* only in HD (half duplex) operation

Patented
EP 1 448 966 B1
US 7,149,151 B2

Velocity

Measuring range
Resolution

0-65 m/s
0.1 m/s (standard)
0.01 m/s (selectable)
±0.2 m/s rms (@ < 5 m/s)
±2% rms (> 5 m/s)

Direction

Measuring range
Resolution

0-360°
1° (standard)
0.1° (selectable)
±2° @ v > 1 m/s

Accuracy

Virtual Temp.

Measuring range
Resolution
Accuracy

-50 ... +70 °C
0.1 K
±2 K

Data output digital

Interface
Baud rate
Output
Output range
Status signal

RS 485 / 422
1200-921600 Bps
Instantan. values, mean values
0.1 Hz ... 100 Hz
Heating,
distance error,
distance temperature

Data output analogue

Electr. output
for WV, WD
Current output
Voltage output
resolution

0(4) ... 20 mA
0(2) ... 10 V
max. 300 Ω load
min. 2000 Ω
16 bit

General

Bus operation
Operation voltage
Electronic
with heating
heating power can be limited
via software to several other
max. power consumptions
Electr. connection
Housing

Up to 99 instruments
8-60 V DC or 12-42 V AC/1.2 VA
24 V AC/DC, max. 250 VA

Protection
Dimension
Mounting
Weight

8 pol. plug
Aluminium, anodised,
seawater-resistant
IP 67
Ø 200 x 129 mm
mast tube 1.5"
approx. 2 kg



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