

# 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

### 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



ADOLF THIES GMBH & CO KG  
Meteorologie und Umweltmesstechnik  
Postfach 3536 + 3541  
D-37025 Göttingen  
Tel. ++ 49 551 7 90 01 -0  
Fax ++ 49 551 7 90 01 -65  
E-Mail info@thiesclima.com  
www.thiesclima.com

