

ULTRASONIC ANEMOMETER 2D »compact«

Measurement of wind velocity
and wind direction

- Acoustic virtual temperature
- Atmospheric air pressure (optional)
- rugged and reliable
- highest precision and accuracy
- maintenance free
- heated
- digital and analogue interface

Thies
CLIMA



The instrument is especially
suited for

- industry automation
- regenerative power generation,
wind power plants
- building control
- traffic control
- marine application
- offshore application
- meteorology, climatology



Order No. 4.3875.xx.xxx

Ultrasonic Anemometer 2D »compact« The combination of approved quality and advanced technology

- compact
- rugged
- reliable
- excellent performance
- Special designed for use in harsh environmental conditions

The Ultrasonic Anemometer compact serves for the 2-dimensional acquisition of the horizontal components of the wind velocity, the wind direction and the acoustic-virtual temperature.

The following measuring 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)
- MODBUS RTU protocol
- Analogue data output *

The instrument is especially suited for the use in the fields of

- Regenerative power generation, wind power plants
- Industry 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 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.

If necessary, the instrument is automatically heated in case of critical ambient 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.

An integrated bootloader offers the option to simply update also future innovations, via serial interface in full duplex mode (4-wire cable, RS422/485) as well as in half duplex mode (2-wire cable, RS422/485).

* only in HD (half duplex) operation

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

Certified:
UL 61010-1:2012
CSA C22.2#61010-1:2012

Technical Data

Wind Velocity

Measuring range
Resolution

0-75 m/s
0.1 m/s (standard)
0.01 m/s (selectable)
±0.2 m/s rms (@ < 5 m/s)
±2% rms (> 5 ... 60 m/s)

Accuracy

Wind Direction

Measuring range
Resolution

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

Accuracy

Virtual Temperature

Measuring range
Resolution
Accuracy

-50 ... +70 °C
0.1 K
±2 K

Air Pressure (optional)

Measuring range
Accuracy

300 ... 1100 hPa
±0.25 hPa (@ 700 ... 1050 hPa and +25 ... +40 °C)

Data output digital

Interface
Baud rate
Output
Output rate
Status signal

RS 485 / 422
1200-921600 Bps
Instantan. values, mean values
0.1 Hz ... 100 Hz
Heating, distance error, distance temperature
ASCII (Thies-Format)
MODBUS RTU

Protocol

Data output analogue

Electrical 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 heating with heating power can be limited via software to several other max. power consumptions
Operating temperature
Electrical connection
Housing

Up to 99 instruments
8-48 V DC or 12-42 V AC/1.2 VA
24 V AC/DC, max. 250 VA

Protection
Dimension
Mounting
Weight

-50 ... +80 °C heated
8 pol. plug
Aluminium, hard anodized, seawater-resistant e.g. for offshore application
IP 68
Ø 210 x 142 mm
mast tube 1.5"
approx. 2 kg



ADOLF THIES GMBH & CO KG
Meteorology – Environmental Technology
Box 3536 + 3541
37025 Göttingen · Germany
Phone + 49 551 79001-0
Fax + 49 551 79001-6
info@thiesclima.com
www.thiesclima.com

Please contact us
for your system
requirements.
We advise you gladly.

