



**THEODOR FRIEDRICHS**

Precise in all conditions

**WIND SPEED & WIND DIRECTION**



GROUP 4

WIND

MADE IN GERMANY



# EASY BEST FIT

For Your Weather Applications.



Highest Precision

No Moving Parts

Compact Design



**THEODOR FRIEDRICHS & Co.**  
Meteorologische Geräte und Systeme GmbH

TH-FRIEDRICHS.DE





## ▶ THE NEW 2D ULTRASONIC ANEMOMETER TYPE 4310

Theodor Friedrichs & Co. and MESA Systemtechnik are proud to present the new 2D Ultrasonic Anemometer type 4310. Experts in Airflow Simulation, Transducer Technology, Hardware Design and Software Development have combined their latest knowledge to create an outstanding product. We developed a high precision 2D Ultrasonic Anemometer which is designed to meet the demands of today's customer applications.

## ▶ TECHNICAL DATA



### WIND SPEED

RANGE ..... 0..75 m/s, 0..85 m/s, 0..90 m/s

ACCURACY (for 0..75 m/s) .....  $v \leq 5 \text{ m/s}: \pm 0.1 \text{ m/s}$   
(rms, mean over 360°);  
 $v > 5 \text{ m/s}: \pm 1.5 \% \text{ of measurement}$   
value (rms, mean over 360°)

RESOLUTION ..... 0.1 m/s or 0.01 m/s

STARTING THRESHOLD ..... 0.1 m/s

### WIND DIRECTION

RANGE ..... 0..359°

ACCURACY .....  $\pm 0.6^\circ \text{ RMS (at } v = 8 \text{ m/s), } \pm 1^\circ \text{ absolute}$

RESOLUTION ..... 1° or 0.1°

### VIRTUAL TEMPERATURE

RANGE ..... -55..+70 °C

ACCURACY .....  $\pm 0.5 \text{ K (at } v > 0.6 \text{ m/s)}$

RESOLUTION ..... 0.1 K or 0.01 K

### DATA OUTPUT

SERIAL INTERFACE ..... RS422 full duplex / RS485 half duplex  
(1200..115200 Baud),  
CAN/CANopen (10 kbit/s..1 Mbit/s)

ANALOGUE OUTPUT ..... 0/4..20 mA or 0/2..10 V (16Bit)

PROTOCOLS ..... ASCII / MODBUS / NMEA

POWER SUPPLY ..... 9..36 V DC / 100 mA; 24V DC  
(+15%, -50%) with add. body heating

### DIMENSIONS

SIZE .....  $\emptyset 220 \times 221 \text{ mm}$

HOUSING MATERIAL ..... Stainless Steel V4A,

WEIGHT ..... 1.4 kg

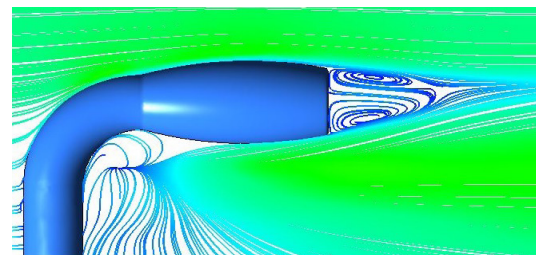
### ENVIRONMENTAL

HOUSING ..... IP67

OPERATING TEMP ..... -55..+70 °C (with add. body heating)

## ▶ OPTIMIZED DESIGN

The hardware design of the 4310 is made by our experts with the latest Air-Flow-Simulation Software. By reducing the turbulences to a Minimum, the accuracy is increased to a Maximum.



## CERTIFICATES

- EMC Test
- Wind Speed Accuracy Tests
- Blowing Sand Test based on AECPT 300, method 313
- Temperature Test
- Altitude Test
- Dust Test IP6X according to DIN EN 60529
- Water Test IPX7 according to DIN EN 60529
- Solar Irradiation according to DIN EN 60068-2-5
- Vibration Tests
- Mechanical Shock according to IEC 60068-2-27
- Bump Test according to IEC 60068-2-29
- Drop Tests
- Icing Tests

## ▶ PLEASE CONTACT US:

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