

# Seizing Every Breeze



Maximizing Wind Energy Efficiency  
Pitch and Yaw Control



Capture the full potential of wind with the Ultrasonic 2D Compact. This anemometer, based on best practice point-to-point measuring principle provides precise measurements of horizontal wind velocity components, wind direction, and acoustic-virtual temperature. The ice resistance and exceptionally low failure rates are evidence of the high reliability and durability of this product. The Ultrasonic Compact 2D contributes to optimizing Pitch and Yaw Control, enhancing the performance and efficiency of your wind turbine. Rely on our proven technology to activate the full potential of your wind energy system.

THE WORLD OF WEATHER DATA



# Wind Energy Efficiency

Ultrasonic 2D Compact | Ultrasonic 2D Compact Plus



## Key Criteria

- 24K instruments worldwide
- Range: 0-75 m/s
- Operating Temp.: -50...80 °C
- Measuring speed: 1000Hz
- Output rate: 100 Hz
- Ice free acc. MIL-STD-810G
- Wind Direction:  $\pm 2^\circ$  WS > 1 m/s
- Wind Speed:  $\pm 0.2$  m/s rms (< 5 m/s)  
 $\pm 2\%$  rms (5 m/s ... 60 m/s)
- Acoustic-Virtual Temp.:  $\pm 2$  K
- Air Pressure (option):  
 $\pm 0.25$ hPa @ 700 to 1050hPa

## Product Line Extension

- Ultrasonic 2D Compact  
Output: seriell/analog
- Ultrasonic 2D Compact Plus  
- Output seriell/analog  
- Output Ethernet, TCP/IP  
Webserver, PROFINET



## Advanced Version:

### Ultrasonic 2D Compact Plus

- Enhanced ice resistance: Reliability in icy conditions, compliant with the strong standard MIL-STD 810G, METHOD 521.3
- Integrated air pressure (optional): Real-time and accurate air pressure monitoring
- Improved ultrasound level: Disturbance-free operation thanks to adaptive ultrasound in heavy thunderstorm, continuous signal performance, and dynamic plausibility value adjustment during turbulence
- Interface: PROFINET seamless connectivity and control for efficient communication with other systems. Web server and Ethernet TCP/IP for easy integration and access with remote monitoring and management via a web interface, remote trouble shooting, and remote upgrades via REST API
- Enhanced self-diagnostic: Predictive maintenance for optimizing performance and minimizing downtime
- Platform-based for versatility: Easy ordering, efficient inventory management, volume-based pricing, standardization, cost savings, and streamlined processes

## Advantages

of the point-to-point measurement principle,  
in comparison to a reflector anemometer:

- Highest accuracy due to the open-frame design
- No reflector means no influences from reflections (water, dirt, insects, etc.)
- Proven and reliable principle based on patented Thies CLIMA inhouse sensors
- Insensitive to turbulence with a wide sensor observation range of over 135 mm (chamber space)
- Heating only when it matters – no cozy place for insect nests
- Fixed precision throughout lifetime: no re-calibration and precision adjustment
- No irritation by insects

