

## Ultrasonic Wind Sensor WMT700

Precise, maintenance-free wind measurement for turbine control



### Key benefits

#### Highly durable and maintenance free

The WMT700 has a full stainless-steel structure with welded arms, clear north indication, and one-point, quick bayonet-style mounting. It has no moving parts and is resistant to natural contamination and corrosion such as salt, dust, or sand — making it a true “set and forget” tool requiring minimal maintenance and configuration.

#### Exceptional data accuracy

The WMT700 outputs wind speed and direction data, which is validated by a quality control algorithm. A unique three-transducer design enables redundant data capture along six paths for accurate measurement in all wind directions. It’s highly sensitive to wind speed changes with a starting threshold close to zero, and full range accuracy has been validated in third-party accredited wind tunnels.

#### High data availability nearly anywhere

WMT700 sensors are built to work continuously in harsh conditions. The strong ultrasonic signal ensures performance in heavy precipitation conditions with proven field performance in hurricane and typhoon regions. Built-in heaters ensure the highest data availability, also in cold climates.

#### Easy system integration

The WMT700 provides self-diagnostics, remote troubleshooting, and user-defined communication profiles. It also supports digital and analog outputs from a single data port, for seamless integration into turbine control systems.

**Accurate wind measurements are integral for efficient wind power generation. Something as small as an anemometer can make or break the performance and longevity of a massive wind turbine. Incorporating the accuracy and maintenance-free operation of ultrasonic wind sensing technology is an effective way to maximize power output, minimize downtime, and reduce maintenance costs, even in the harsh environments of remote and offshore wind farms.**

Vaisala Ultrasonic Wind Sensor WMT700 delivers the highest measurement accuracy and greatest ongoing reliability for critical wind turbine applications.

The WMT700 is a robust, reliable ultrasonic anemometer that provides highly accurate wind speed and direction even under the extremely challenging conditions of both onshore and offshore wind farms. With no moving parts, its three-transducer design captures accurate data while minimizing angle of slope and vibration concerns.

The WMT700 is field proven and has been successfully deployed by professional meteorological agencies and wind energy producers in more than 100 countries. Optional heaters in the transducers, arms, and/or body prevent buildup of freezing rain, icing, and snow. No other wind sensor performs better and longer in the field.

## WMT700 at a glance

### Applications

- Efficient wind turbine control using real-time wind speed data — even in the most ambitious site locations.
- Modernization of turbine control for optimized turbine performance and reliability.
- Proper turbine alignment to wind direction for optimized power output.
- Enabling proper attenuation to maximize output and reduce wear and tear on turbine drive trains.



### Key features

**WINDCAP technology** with ultrasonic wind sensors in a three-transducer layout delivers accurate, reliable, and redundant wind measurement data over a broad wind speed range and in all directions.

**Zero moving parts** removes under speeding and over speeding concerns often found in conventional mechanical wind sensors and eliminates mechanical failure-related data errors.

**Exceptional off-axis response** reduces the effects of turbulence for accurate measurements when nacelle mounted.

**Extreme durability** that is built and tested to withstand wind speeds exceeding 100 m/s (223 mph).

**Optional thermostatically controlled heaters** in the transducer heads and arms prevent freezing rain and snow buildup for cold climate operation. A model with a heated body is available for the harshest and coldest environments.

**Fully digitized signal processing** and easy system integration, also supports digital and analog outputs from a single data port.

**Optional bird prevention kit** prevents measurement disturbances from birds taking perch on turbines.

## Why Vaisala for renewable energy?

We are innovators, scientists, and discoverers who are helping fundamentally change how the world is powered. Vaisala elevates wind and solar customers around the globe so they can meet the greatest energy challenges of our time.

Our weather and environmental monitoring solutions for renewable energy are guided by several key priorities:

- Thoughtful evolution in a time of change
- Making renewable energy smarter at every stage
- Extending our legacy of leadership

Vaisala is the only company to offer 360-degree renewable energy solutions — from sensors and systems to digital services and actionable intelligence — nearly anywhere on the planet (and even on Mars). Every Vaisala solution benefits from our 85+ years of experience, pioneering deployments in 170+ countries, and unrivaled thought leadership.

Our innovation story, like the renewable energy story, continues.

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