

## WINDCAP® Ultrasonic Wind Sensor WMT700

Precise, maintenance-free wind measurement under almost any conditions



### 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

As part of a broader weather system, the WMT700 provides self-diagnostics, remote troubleshooting, and user-defined communication profiles. It also supports digital and analog outputs from a single data port.

**Accurate wind measurements are integral for meteorological modeling and reporting, but capturing this data can be difficult. Wind speeds are never constant from one second to the next. Snow and ice can interrupt wind measurement. Data can be thrown off by turbulence from complex terrain or air flow distortion due to surrounding structures and even precipitation.**

Vaisala WINDCAP® Ultrasonic Wind Sensor WMT700 delivers the highest measurement accuracy in the harshest conditions, such as heavy precipitation, severe icing, and strong winds.

The WMT700 is a robust, reliable ultrasonic anemometer that provides surface wind measurement, which is WMO CIMO and ICAO-compliant. It is based on ultrasonic technology and time of flight measurement principles, which delivers highly accurate wind speed and direction information ranging from barely perceptible winds to extremely high gusts.

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

## WMT700 at a glance

### Applications

- Measuring surface winds for weather forecasts, severe weather warnings, and climatological records.
- Studying current and seasonal storm conditions for research such as avalanche risk mitigation.
- Monitoring winds in road weather systems for travel safety and road closure determinations.
- Detecting wind shear to facilitate aviation safety.
- Monitoring wind speed and direction for wind turbine control.
- Gathering wind speed and direction information for ship navigation.

### 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 mounted on moving platforms, in complex terrain, and other demanding applications.

**Four product models** with differing measurement ranges up to 90m/s (201 mph).

**Optional thermostatically controlled heaters** in the transducer heads and arms prevent freezing rain and snow buildup for cold climate operation. A model that also adds 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 in locations where birds often perch.

**Maritime DNV GL certified** wind sensor.

## Why Vaisala?

### The industry's most dependable technology

Vaisala solutions are built on almost a half century of industry leadership with thousands of units deployed in more than 110 countries. Our technology's precision and reliability under varying conditions have been validated time and time again, and our professional wind measurement solutions are trusted by leading agencies all over the world.

### Support to count on

Look to Vaisala for dependable support, project capabilities, and training so you can get the most from your system. With decades of experience providing the best technologies and the finest support, Vaisala's philosophy of partnership is unmatched in the industry.

*Trusted weather observations for a sustainable future*

# VAISALA

[vaisala.com/meteorology](https://vaisala.com/meteorology)



Scan the code for more information

Ref. B212231EN-A ©Vaisala 2021

This material is subject to copyright protection, with all copyrights retained by Vaisala and its individual partners. All rights reserved. Any logos and/or product names are trademarks of Vaisala or its individual partners. The reproduction, transfer, distribution or storage of information contained in this brochure in any form without the prior written consent of Vaisala is strictly prohibited. All specifications – technical included – are subject to change without notice.