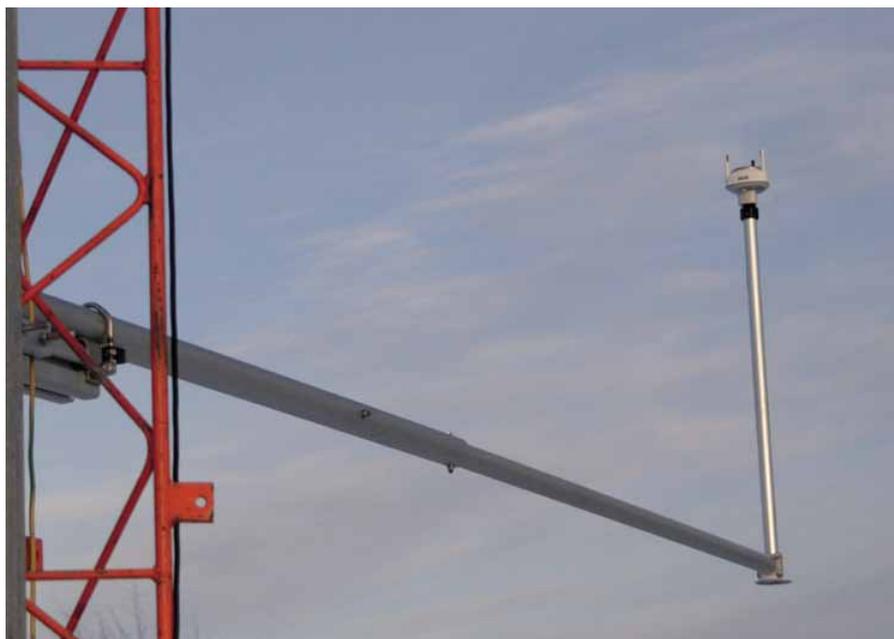


# Vaisala Wind Tower System WTS520

## Cost Effective Wind Measurement System with Ultrasonic Wind Sensors



### Features / Benefits

- Economical wind measurement system that utilizes ultrasonic wind sensor technology
- Low life-cycle costs
- Low maintenance wind sensor; no moving parts
- Vaisala's WMT52 ultrasonic sensor eliminates over-speeding
- Powerful data logger to collect and store information
- Continuous data collection
- Service package to collect and manage wind data and supply proper reporting
- System is flexible and can be customized to meet your needs with additional sensors or services

### Overview

The Vaisala WTS520 is an economical wind measurement system for monitoring conditions using ultrasonic wind sensor technology. The WTS520 is a great choice for existing wind farm operations and the ultrasonic sensors provide maintenance-free operations in non-freezing conditions.

### Reliable Measurement System with Ultrasonics

Vaisala's core expertise is weather measurement. We research, design, develop and manufacture weather sensors, including several versions of ultrasonic wind sensors. The WTS520 is built around Vaisala's WMT52 ultrasonic wind sensor. This sensor has one of the lowest life-cycle costs in the industry. Ultrasonic sensors are more sensitive to changes in wind speed and eliminate over-speeding. The WMT52

sensor provides reliable sensing without any moving parts, giving you stable measurements over time and low operating costs. The WTS520 standard wind measurement system also includes:

- Sensor booms and supports for lattice towers
  - All necessary cabling
  - Data logger for collecting measurements
  - Your option of 1, 2 or 3 measurement levels for 60, 80 or 100 meter towers
  - Vaisala's combined air temperature and relative humidity sensor at the top measurement level
  - Precision barometric pressure sensor
  - Lightning surge protection
- The system can be equipped with an additional Vaisala air temperature and humidity sensor and

pyranometer. Standard power supply options are mains power or external 24VDC feed. The power system can accommodate a battery charger for optional solar panels.

### Convenient Access to Your Measurement Data

Vaisala's WTS system collects, stores and transmits data utilizing a fully digital design, which minimizes interference and results in a continuous data set. Extensive quality checks in the sensors and data logger ensure high quality data. Vaisala's powerful data logger reads the signals from the sensors and stores the data in internal memory for later download to a computer. A 2GB CF-memory card able to store up to 1 year of 10 minute wind data and other observations is standard with the WTS520 system.

# Vaisala Wind Tower System WTS520

Wind and weather data is transmitted from the site to either Vaisala for managing, or directly to the customer. Data transfer from the site to your office is easy using a flash memory to collect data directly from the site, or through GPRS cellular service remotely.

## Vaisala Service

Service packages from Vaisala help you manage data collection, full system monitoring, and data display. We can collect, host, monitor, inspect and distribute the data according to your needs. Two standard service

packages are available, or we can customize a service package to meet your needs.

| System Components                         | Equipment | Specifications  | Description   |
|---|-----------|---|---|
| Wind                                      | WMT52     | WMT52 range is 0 to 60 m/s and 0 to 360°<br><br>WMT52 accuracy is $\pm 0.3$ m/s or $\pm 3\%$ , whichever is greater and $\pm 3^\circ$ for direction   | Ultrasonic wind sensor for measurement of wind speed and direction  |
| Relative humidity, temperature, dew point | HMP110    | Relative humidity range is 0 to 100% ( $\pm 2\%$ )<br><br>Temperature range is $-40^\circ\text{C}$ to $+80^\circ\text{C}$ ( $\pm 0.2^\circ\text{C}$ )<br><br>Dew point range is $-40^\circ\text{C}$ to $+80^\circ\text{C}$  | Humidity and temperature probe  |
| Barometric pressure                       | BARO-1QML | Pressure range is 500 to 1100 hPa, $\pm 0.2$ hPa  | Barometric pressure sensor  |
| Automatic Weather Station                 | WTE301    | QML201C data logger, 4-band GSM/GPRS modem<br>Mains/Solar or external 24VDC power supply<br>Power consumption, measurement system: 0.25A (12VDC, 3 level system)<br>Heater power consumption: 2A (24VDC, 3 level system)<br>Internal batteries 52Ah (12VDC, estimated two weeks backup for measurement) | Integrated automatic weather station in one compact enclosure. All external wiring uses connectors for easy installation. |
| Optional components                       | HMP155    | 0 to 100% for Relative Humidity,<br>$-80$ to $+60^\circ\text{C}$ for temperature  | Humidity and temperature probe  |
|   | CMP3      | 300 to 2800 nm / 0 to 2000 W/m <sup>2</sup><br><br>Stand alone power supply and telemetry options available upon request  | Solar radiation sensor (pyranometer)  |

# VAISALA

For more information, visit [www.vaisala.com](http://www.vaisala.com) or contact us at [sales@vaisala.com](mailto:sales@vaisala.com)

Ref. B211091EN-B ©Vaisala 2012

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.

