

Application

Environmental Monitoring – Measuring Wind Speed with an Anemometer

Anemometers are commonly used in weather stations throughout the world to measure and monitor wind speed. Getting an accurate reading of wind speed has countless applications including aviation, meteorology, industry, research and even construction.

Three-cup anemometers are very common and use a magnetic reed switch that produces a contact closure as the cups rotate which is directly proportional to wind speed.

A monitoring device must count the outputted pulses and convert those to the relative wind speed.



Solution

With a WiSI wireless network, wind speed from an anemometer can easily and unobtrusively be monitored and converted to relative wind speed with time references of seconds, minutes, or hours. The relative wind speed can be transmitted to and effectively monitored at a central location.

Since the anemometer requires no power the use of a WiSI-SP node, which has an integrated solar panel and energy storage, to monitor the contact closures is an effective solution. No external power needs to be provided so installing wind sensors at remote or difficult locations is simplified.

With one WiSI, wind speed, wind direction, and rainfall data can be collected with inputs to spare, providing a total weather monitoring solution.

OTHER APPLICATIONS FOR WIND DATA COLLECTION:

- Weather Station/Forecasts
- Aviation and Oil Rig Landing & Takeoff Conditions
- Tunnel Safety
- Bridge Safety
- Harbor Safety
- Ship Navigation and Safety
- Wind Turbine Control & Efficiency
- Wind Park/Turbine Site Evaluation
- Chemical & Nuclear Dispersion

WiSI SIGNALS USED:

- Digital Input

RELATED APPLICATION NOTES:

- Measuring Wind Direction with a Weathervane
- Measuring Rainfall with a Tipping Bucket Rain Gauge

