

VibraOne Wind

OneBreeze



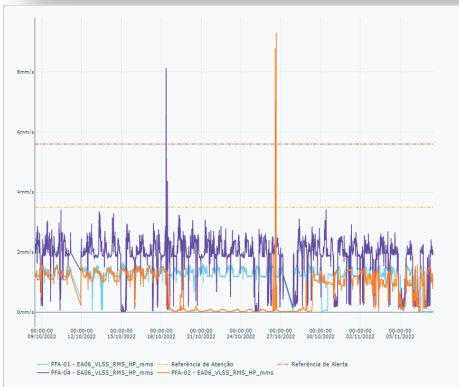
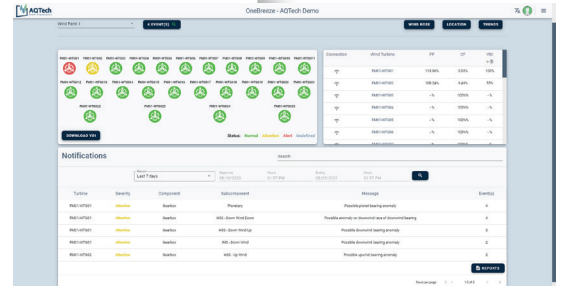
CMS
Condition
Monitoring
System



Scan the code to watch the OneBreeze demonstration video

Intuitive and innovative user interface

In predictive maintenance processes, monitoring multiple turbines can be challenging and requires the user's undivided attention, which is an extremely valuable resource. The OneBreeze platform is specifically designed to facilitate this process by directing the condition analyst's attention towards the turbines that require immediate attention and analysis. With smart indicators and a user-friendly interface, OneBreeze provides the necessary information to ensure that the most critical goal, of keeping the wind turbines operating, is achieved.



Analysis Tools

Once the user identifies the turbines that require attention, the OneBreeze software provides access to advanced analysis tools. These tools include trend analysis, directed frequency spectrum, order analysis, sensor listening, among others. The primary goal of the platform is to furnish the condition analyst with information that enables them to compare the wind turbine's performance with its historical data and other turbines on-site. This process leads to the main conclusion, which is to determine the underlying issues with the asset and take necessary action to keep it operational.

Automatic Diagnostics

The OneBreeze system incorporates sophisticated signal processing techniques that can automatically diagnose failure modes based on the vibrational characteristics of monitored machines. The system provides directed analysis screens and notifications to alert the condition analyst responsible for the asset of any critical issues and can take appropriate action to maintain the health and performance of the machine.



Integration with others Systems

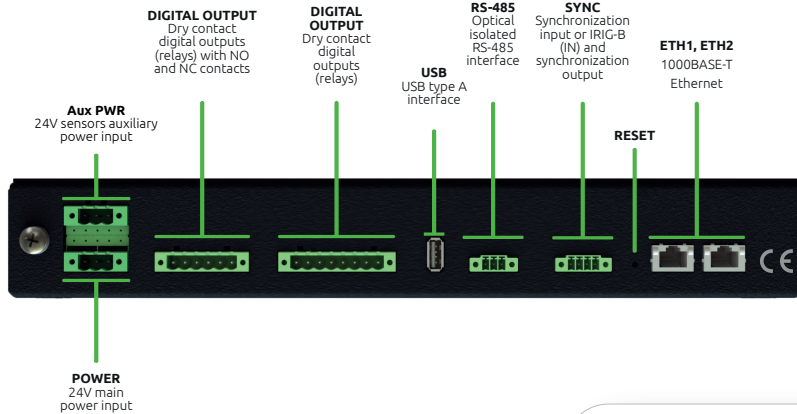
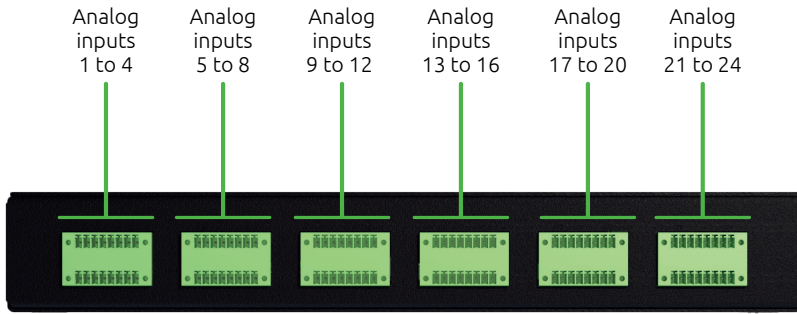
OneBreeze is not restricted to utilizing only the vibration parameters obtained through VibraOne Wind to provide essential data for O&M decision-making. AQTech facilitates the integration of the OneBreeze system with the wind turbine's SCADA system, as well as other condition monitoring systems, irrespective of their manufacturer. This integration allows for comprehensive monitoring of the asset.



All specifications are at room temperature unless otherwise specified.
In the interest of constant product improvement, we reserve the right to change specifications without notice.

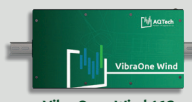

sales@aqtech.com
www.aqtech.com





Interface

VibraOne Datasheet

Models		
Mechanical Specifications	Aluminum enclosure Dimensions (HxWxD): 45 x 350 x 160 mm DIN-rail mounting option Interface Connectors Electrical Ethernet: RJ45 Power and analog inputs: Terminal Block Headers Power, analog inputs, digital inputs/outputs and SYNC: Terminal Block Headers	
Power	Base board: from 8 to 36 VDC Sensors: 24 VDC	
Processing and storage	Intel FPGA SoC Cyclone V (built-in ARM-9 dual-core 900 MHz) 1 GB DDR3 RAM 32 GB Flash memory	
Communication	2 1000BASE-T Ethernet ports 1 USB interface 1 isolated RS-485 port	
MTBF <small>(Mean Time Between Failure)</small>	MTBF: 370,000 hours * Estimation by project	
Analog inputs	16 DIP-configurable analog inputs for: • IEPE ($\pm 5V$ with blocked DC level) • 0-20 mA (with 24V sensor supply) • $\pm 10V$ (with 24V sensor supply) • $\pm 30V$	24 DIP-configurable analog inputs for: • IEPE ($\pm 5V$ with blocked DC level) • 0-20 mA (with 24V sensor supply) • $\pm 10V$ (with 24V sensor supply) • $\pm 30V$
Operating condition	24-bit ADC resolution Sampling rate up to 128 kHz 24 V output for sensors 8mA IEPE sensor current output Operation temperature range - From $-40^{\circ}C$ to $70^{\circ}C$ (from $-40^{\circ}F$ to $158^{\circ}F$) Storage/transportation temperature range - From $-40^{\circ}C$ to $85^{\circ}C$ (from $-40^{\circ}F$ to $185^{\circ}F$)	
Synchronization	Ethernet synchronization SYNC input/output synchronization (optically isolated input, buffered output)	
Digital Interfaces	6 digital outputs with dry contact (2 NO/NC and 4 NO) *	
Signaling	Signaling LEDs 24 bicolor channel status LEDs	

* option for 4 digital inputs with optocouplers and 2 digital outputs with dry contact NO/NC, upon request.



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The solution



VibraOne is a data acquisition device designed specifically to meet the requirements of the electric power generation industry.



The system comprises processing functions, analogue inputs, digital inputs, digital outputs, communication interfaces, and other features.



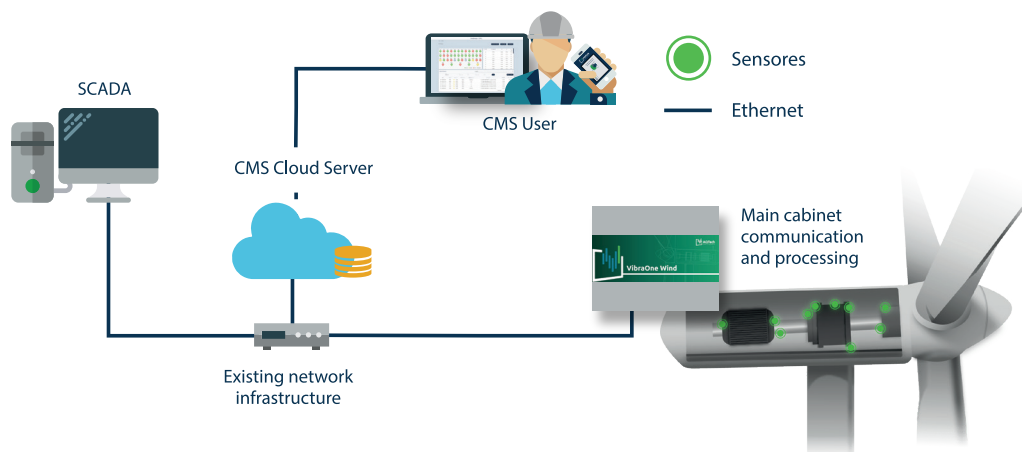
The solution provides continuous monitoring and recording of wind turbine's operating conditions, detecting faults and disturbances, allowing constant validation of the operational performance of field systems.



Our equipment is CE marked, indicating compliance with the electromagnetic compatibility, safety, and environmental requirements of the European Union.

Architecture

Designed for Wind Application



*The cloud server can also be replaced with on-premises server.



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