VibraOne Wind

OneBreeze

CMS
Condition
Monitoring
System

AQTech
Power Prognostics

The solution

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

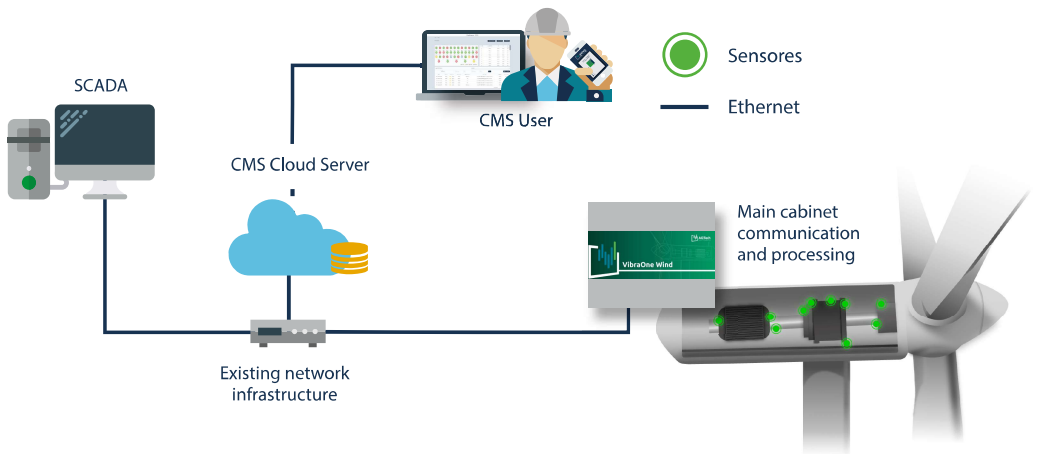
The system comprises processing functions, analogue inputs, digital inputs, digital outputs, communication interfaces, and other features.

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.

CE 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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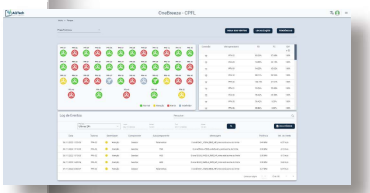
OneBreeze

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.

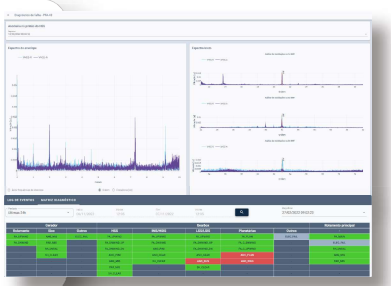


Analysis Tools

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 appropiate 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.

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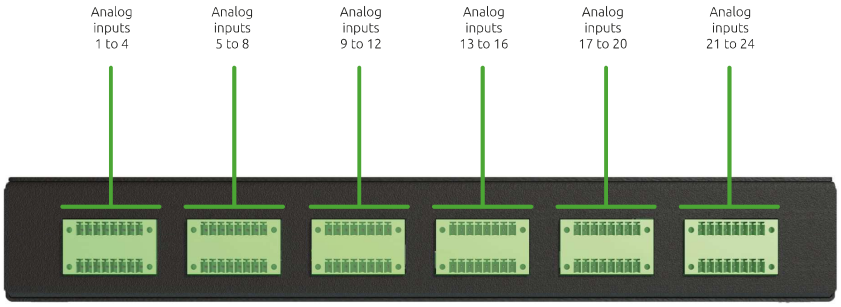

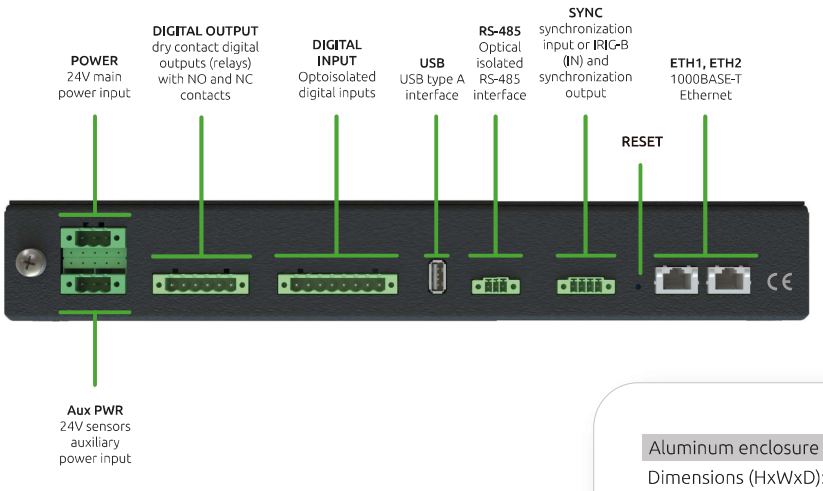

Interface

VibraOne Datasheet

Mechanical Specifications

Aluminum enclosure

Dimensions (HxWxD): 45 x 350 x160 mm

DIN-rail mounting option

Interface Connectors:
Eletrical Ethernet: RJ45
Power, analog inputs, digital inputs/outputs and SYNC: Terminal Block Headers

Power

Base board: from 8 to 36Vdc

Sensors: 24Vdc

Processing and storage

Intel FPGA SOC Cyclone V (built-in ARM-9 dual core 900MHz)

1GigaByte DDR3 RAM

32GigaByte Flash memory

Communication

2 1000BASE-T Ethernet ports

1 isolated RS-485 port

MTBF (Mean Time Between Failures)

MTBF: 370.000 hours*

*Estimation by project

Analog inputs

24-bit ADC resolution

Sampling rate up to 128KHz

24V sensor output

24 DIP-configurable analog inputs for:
IEPE (+/- 5V with blocked DC level)
0 - 20 mA (with 24V sensor supply)
+/- 10V (with 24V sensor supply)
+/- 30V

8mA IEPE sensor current output

Digital outputs

2 dry contact outputs relays NO / NC

Digital inputs

4 optical isolated digital inputs

Input range: 125V

Switching voltage: 75V

Synchronization

Ethernet synchronization

SYNC input/output synchronization (optical isolated input, buffered output)

Signaling

Signaling LEDs
24 bicolor channel status LEDs

Operating condition

Operation temperature range - From 20ºC to 70ºC (from 68ºF to158ºF)

Storage/transportation temperature range - From 20ºC to 85ºC (from 68ºF to185ºF)

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.

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Know more. Know before.

Get in touch and let us know how we can help!

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