

# Portable Condition Monitoring System

Mobile immediate diagnostics for wind turbines.



# Condition Monitoring

— Our Experience – Your Success

Bachmann Portable Condition Monitoring System –  
get the insight you need, when you need it most

## Gain critical information with a single inspection

The Bachmann Portable Condition Monitoring System (CMS) delivers a snapshot in time of the health of your wind assets. Vibration analysis has proven itself time and time again in the wind industry, providing a quick return on investment and placing maintenance savings back into the hands of wind site operators. Bachmann's portable CMS unit allows wind site operators to assess the health of the drivetrain from the main bearing to the generator, with minimal setup and no major investment. Don't let the budgetary restrictions prevent you from gaining visibility into the health of your aging wind fleet through the power of CMS!

## What's inside

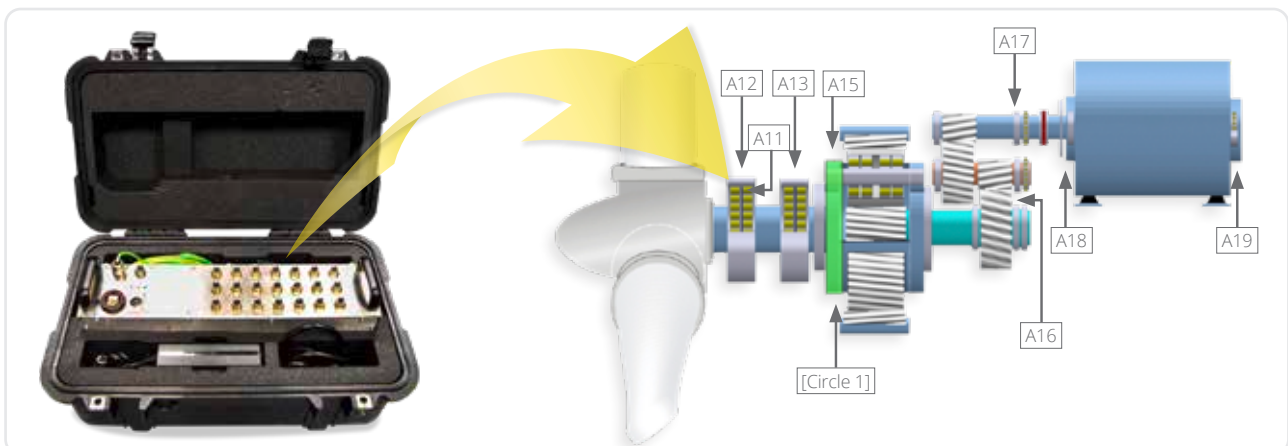
The portable system is compact, rugged and easy to use with 18 channels available for vibration measurements and 1 channel for both power and speed. Using the laptop included with

the system, recordings are configured to capture data between specific operating ranges and for a customized length of time. Signal analysis is performed by Bachmann's team of expert vibration analysts and diagnostic reports are then sent to the customer informing them of any defects detected across the drivetrain, along with a recommended course of action.

Each portable CMS unit comes with everything necessary to acquire vibration data for turbine diagnostics at the press of a button:

- Data acquisition unit
- Sensors and cabling
- Laptop
- Comprehensive instructions for specific turbine make/model
  - Sensor placement
  - System setup
  - Collecting data

▼ **Detail:** The installation location and type of sensor to be installed are specified beforehand for each turbine type. The individual mounting sets ensure very efficient and time saving installation.



# Turbine diagnostics

— *Any turbine, any time.*

Downtime means a loss of Annual Energy Production (AEP) for your plant. Whether it's the result of performing unnecessary maintenance based on predetermined time intervals or reacting to catastrophic failures due to a run to failure maintenance strategy, the outcome is the same... downtime. CMS technology allows wind site operators to transition to a predictive maintenance strategy, performing targeted maintenance when needed.

## *Where does your turbine fall in its lifespan?*

### **For turbines outside of warranty**

- Get a snapshot of the overall health of turbine drivetrain and identify major issues based on fault patterns
- Maximize remaining useful life of components by understanding the health of the drivetrain
- Extend total asset life
- Localize source of issues for problematic turbines

### **For turbines coming out of warranty**

- Get snapshot of health of turbine
- Identify issues prior to end of warranty
- Avoid inheriting major mechanical issues

### **For turbines under warranty**

- Establish baseline for healthy operating conditions. For smaller wind sites that are unable to establish a budget for online condition monitoring systems, the Bachmann Portable CMS unit provides wind site operators with an economical means of establishing a baseline for future inspections to be measured against.

Baseline measurements can aid both future portable inspections and online CMS units installed down the road.

### **TARGETED SERVICE & INSPECTION**

- *Avoid unnecessary maintenance*
- *Detect damage and assess severity*
- *Perform repairs up-tower when possible*
- *Reduce risk of secondary damage*
- *Increase remaining useful life of components*

**bachmann.**



**[www.bachmann.info](http://www.bachmann.info)**

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