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vbOnline Pro Fact Sheet

The vbOnline Pro provides automated, user-scheduled monitoring of an asset's health. It is a flexible and scalable system fully supported by the next evolution of BHGE's System 1* condition monitoring and diagnostics software. The system assists in the early detection of machinery and process problems. The vbOnline Pro provides economic vibration monitoring for mid- and low-level criticality assets. The device is easy to install and configure.

Machinery Applications

vbOnline Pro is an ideal solution for REB (roller element bearing) machines with case mounted seismic sensors, including:

- Agitators
- Air Compressors
- Ball mills
- Blowers
- Centrifuges
- Cooling tower fans and pumps
- Motors
- Small Reciprocating Compressors
- Small hydro & steam turbines

Hardware Key Features

The vbOnline Pro enables strategic, data-driven maintenance planning and decision making to optimize asset reliability. The key features and benefits include:

- Compact and easy to install
- Simultaneous 12-channel data sampling
- Support for use with single PC or network
- Wired Ethernet connection
- 24-bit A/D conversion
- State based data storage and alarming
- Supports 2 wire IEPE/ICP accelerometers
- Multiple user configurable waveforms and types per channel
- Configurable set points with alarming and events

Software Key Features

The vbOnline Pro and System 1 software complement your predictive maintenance program by performing cost effective data collection and condition monitoring analysis.

System 1 software is the core of GE's Bently Nevada* condition monitoring solution. It is an innovative approach to provide users with a single ecosystem for plant-wide machinery management.

Capability

System 1 provides scale when it comes to database management, diagnostics, and work prioritization.

- High resolution trends and alarming
- Short-term "black box" flight recorder for trend data
- Anti-friction rolling element bearings
- Diagnostic reporting

User Experience

Modern consumer software applications have pushed the envelope when it comes to user experience; we believe the same expectations apply for industrial CM applications.

- Modern and intuitive interface
- Continuous user involvement
- User-driven CM and diagnostic workflows

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Accessibility

Successful condition monitoring programs require collaboration between departments and controlled access to the tools.

• Distributed client/server deployment model

• Shared software platform with Scout data collector

• User security profiles

Analog Inputs	
Channels 1 to 12	Compatible with IEPE 2 wire sensors
Sampling method	All channels sampled simultaneously
DC-coupled ranges	-20 V to 0 V
AC-coupled ranges	24 V peak-peak
Sensor drive current (2 wire mode)	3.3 mA @ -24 V
A to D conversion	24-bit
Input impedance	>100 kΩ for 2-wire applications 10 kΩ for 3-wire sensor applications (Ch. 11 and 12 only)
Dynamic range	≥ 110 dB
Amplitude accuracy	± 1% (0.1 dB)

Advanced Features	
Data Storage Intervals	Device calculated Trended – Configurable in increments of 30 seconds, Default -30 seconds Waveforms – Increments of 10 minutes, Default 10 minutes
Current Values	Trended values – 1 second Waveforms – 1 second or as per waveform collection time SW trended data – Same as waveforms
Waveform Support	Multiple-user configurable waveforms and types per channel
Configuration Assistance	Calculation and display of available vbOnline Pro resources based on monitor configuration
Alarming and Events	Configurable set points for all trended variables
Machine state data collection	Supports state based data storage and alarming Alarm capture – One snapshot for all the channels when alarm occur.

Asynchronous Measurements	
Quantities	Acceleration Velocity Demodulation
Frequency range	0.2 Hz to 40 kHz (12 CPM to 480,000 CPM)
Sampling rates	102.4 ksps max

Measurement Types	
Trended Variables	Direct Bias Spectral Bands
Speed Accuracy	± 0.1 RPM from 3 to 100 RPM ± 1.0 RPM from 100 to 120,000 RPM

Signal Processing (Asynchronous Waveforms)	
Waveform samples	Up to 32768
Spectral lines	100 to 12,800 in increments of 2X
Fmax	User configurable up to 40 kHz
Spectral resolution	Down to 0.78 mHz/line
Window types	Hanning
Demodulation bandwidth	125 Hz-10 kHz (19 preset options)

Memory	
Offline storage duration	8 hours typical 3,000 waveforms with 6,400 lines
Recording retrieval to database	Automatic synchronization after a loss of communication
Enterprise capacity	200 monitors (2400 Vib Channels) maximum

Hardware Configuration	
Security	Configurable user name and password
Firmware Updates	Field upgrades available from BNMC
Network IP address configuration	Configured from BNMC

Tachometer Inputs	
Channels	2
Input types	Proximitor, +5V TTL
Power supply to sensor	-24 V
Keyphasor* threshold	Auto threshold
Events per revolution	Software configurable
Recommended sensor	Bently Nevada Proximitors/Keyphasors Proximity switch Turck Ni8–M18T–AP6X7M

Outputs	
Input type and connector	Dual RJ45
Buffered outputs	All channels

Status Indicators	
LEDs	Power, OK, Danger, Alert, Kph 1 OK, Kph 2 OK, Net A TX/RX A, Net B TX/RX B

Communications and Power	
Network communications	Ethernet v2.0, TCP/IP, 10/100 baseT
Power supply	1.7 A @ 18 V to 36 V
Monitor boot-up time	<5 minutes

Mechanical	
Mounting	Standard 35 mm DIN rail
Size	199 mm x 130 mm x 45 mm
Optional sealed housing	When installed in a weather-proof enclosure

Environmental	
Temperature range	-40°C to +70°C (-40°F to +158°F)
Humidity	95% RH non-condensing
EMC	EN 61000-6-2, EN 55011/CISPR 11 EN 61000-6-4, EMC Directive 2004/108/EC

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