The new standard for online machine surveillance

The vbOnline™ system provides 24/7 round the clock surveillance of your critical assets. It is a flexible, modular system that is constantly and automatically evaluating machine operating condition, instantly notifying you when potential problems arise, thus avoiding costly downtime.

The vbOnline system allows you to collect data more cost effectively, more timely, and with improved accuracy compared with walk around portable routines. You can safely monitor machines in dangerous and inaccessible environments.
vbOnline connectivity
Simplicity is our goal. Each vbOnline device connects directly into the LAN/WAN network within your plant. Single user PC or network capable, our system can be as small as required or is easily expandable. As your surveillance needs increase, simply plug in additional modules.

Ascent software
- Displays spectra, waveforms, overalls
- Schedules data collection intervals
- Automatically checks alarms
- Controls status LEDs automatically
- Notifies of alarm condition

Local TCP/IP-based Ethernet network or wireless LAN/WAN

Sensors
- Vibration data
- Process values
- Tachometers
- Local alert system

Client PC

vbOnline module
- 4 to 32 channels and 4 tach inputs
- 12/24 VDC
- Screw terminals
- 4 relays
- Red, yellow, green LED status indicators
vbOnline™ - a complete surveillance system

The vbOnline monitoring system is built on a foundation of data acquisition modules that measure between 4 and 32 channels each, providing a flexible tailor-made solution to suit each and every requirement. Additional channels can be activated electronically when your needs expand.

LED indicators display the current status of the vbOnline module at a glance. Additionally, each module provides 4 relay outputs, which are configurable upon alarm condition, providing you the fastest response time to problems on the factory floor. The 4 relays can be configured to activate audible alarms, warning lights and even machine shutdowns when a particular alarm state is triggered.

Speed reference is accepted by 4 tachometer inputs per module. Pulse-type speed input gives you the option to configure the number of tach pulses per revolution.

Each vbOnline module utilizes an Ethernet connection to transfer the data to the host computer. Connect straight into your plant’s wired network or, for that difficult to monitor machine, simply integrate the vbOnline device into a wireless network (when used in conjunction with a commercially available wireless bridge).
**Key features**

- Modular design for system expansion
- Compact, easy to install
- 4 to 32 channel options, expandable in the field
- Powerful Ascent Level 3 vibration analysis software
- Common software platform supports both vbOnline and vb portable systems
- Simultaneous dual channel data sampling
- Single user PC or network compatible
- Ethernet wired or wireless connection
- 24 bit analog to digital conversion
- Intelligently designed to accept machine data from the following sensor types:
  - Accelerometers
  - Velocity probes
  - Proximity probes
  - AC/DC signal
  - 4–20 mA
- Automatic detection and reporting of alarms
- Plant personnel alerted by e-mail or text message
- Event-triggered data collection
- AscentView™ web-based machine reporting tool

**Increase your awareness**

Vibration analysis is the industry-preferred technology that allows you to monitor and accurately assess the health of your machinery. Continuous online surveillance is the most effective way to implement a vibration analysis program that will most dramatically minimize production losses and drive down the overall cost of maintenance.

In order to provide you the clearest possible picture of your machine operating condition, the vbOnline can measure and record many different process parameters. This gives you the ability to trend and trigger alarms so that you can assess not only vibration related faults, but also how your machines are performing on a continuous basis.
Ascent level 3 – our most advanced software
The powerful Ascent vibration analysis software is the cornerstone of both our online and portable hand held systems. Configured for a single user PC or as a network accessible application, Ascent Level 3 provides immediate notification of alarms and evaluation of problems. View the plant status at a glance – Ascent Level 3 provides visual notification of the current alarm levels.

Automatically set up measurement parameters and alarm values using the “The Proven Method”, or ISO standards, then fine-tune alarm limits with statistical analysis based on each machine’s historical data. Ascent Level 3 will also notify plant personnel by text message and/or e-mail when your machine develops a problem.

Time waveforms, FFT, overall vibration values, bearing demodulation, phase, speed and interactive charting are some of the Ascent software’s diagnostic capabilities, allowing you to investigate specific machine problems with ease.

The vbOnline system can be configured to only collect data when specified operating conditions exist. For example, running speed is measured during data collection to ensure suitability of data. The vbOnline system can also collect additional data, and increase the data collection frequency, when alarm conditions occur.

The Ascent software is OPC data acquisition compliant which makes integration with your plant’s DCS or SCADA system seamless.

Ascent Level 3 provides the following key benefits, through our key applications
• Information Networking – through Ascent® (Network License)
• View machine status anywhere anytime – through AscentView™
• Receive alarm notifications at any location 24/7 – through AscentWatcher™
• Enhance your existing plant monitoring system – through AscentOPC™
• Minimize man power allocated for routine data collection – through OnlineManager™
• Automated database file management – through routine backups and data thinning
The OnlineManager™ is a separate software application that takes measurements according to the collection schedules that have been specified in the Ascent program. The online log contains a recording of all the actions taken by the OnlineManager. It can show all actions or a basic summary of the data collection over a date range.

The OnlineManager™ is the brain of the vbOnline system. The OnlineManager program is responsible for managing the collection of data as specified within the Ascent program, and writing the data to your network database. As is standard with all Commtest products, the simplicity and ease of use is an important feature within the OnlineManager - configuring the online system is trouble free.

Initial setup is simple. From the main screen you can:
- choose when a relay should be activated according to which LEDs are set
- enter a description for each tachometer and the number of pulses per revolution
- specify what type of sensor will be attached to each channel
Configure the measurement capabilities of the module, perform a reset of the firmware and set the LEDs and relays to a configuration of your choice.

Here you can associate measurement criteria with a particular schedule entry. When the OnlineManager program attempts to collect the schedule entry it will first determine whether the collection criteria have been met. You can assign a collection schedule to a schedule entry allowing you to specify how often a recording should be taken, or assign a dual channel recording for simultaneous measuring.
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<td>± 1% (0.1 dB)</td>
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<td></td>
</tr>
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<tr>
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<td>Number of spectral lines</td>
<td>400, 800, 1600, 3200, 6400</td>
<td>3200 lines (8192 samples) max for dual channel recordings</td>
</tr>
<tr>
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<td>1024, 2048, 4096, 8192, 16384</td>
<td>From 125 Hz to 1250 Hz up to 16 to 20 kHz</td>
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<tr>
<td>Window types</td>
<td>Hanning, rectangular, Linear, exponential, peak hold, synchronous</td>
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<tr>
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<td>1, 2, 4, 8, 16, 32, 64, 128</td>
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</tr>
<tr>
<td>Number of averages</td>
<td>0, 12.5, 25, 37.5, 50, 62.5, 75, 87.5%</td>
<td></td>
</tr>
<tr>
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<td>10 Hz to 1 kHz overall or average DC value</td>
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<td>For other sensor types</td>
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<td></td>
<td>RPM based</td>
<td>User configurable, controls data storage</td>
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</table>
**SPECIFICATIONS** | **MODEL vbOnline** | **REMARKS**
---|---|---
**Tachometer Inputs**
Number | 4 | 
Range | 0.5 Hz to 5000 Hz (30 to 300 000) RPM | 
Recommended sensor | Hall effect | 
Power supply to sensor | 12 V | 
Input type | Optically isolated, accepts TTL | 
TTL input pulses | 2 V min, 28 V max, off-state < 1 V | 
Keyphasor® mode threshold | 13.5 V +/- 0.5 V | 
| Multiplexed | 
| Divided by number of pulses per revolution | 
| Also optical, laser and Keyphasor® tach sensors | 
| Current limited to 50 mA PTC | 

**Relay Outputs**
Number | 4 | 
Type | SPST, normally open | 
Voltage and current rating | 250 V AC or 30 V DC, 5 A | 
Controlled by | Server, status backed up on vbOnline device | 
| User configurable, based on alarms, optional delay |

**Status Indicators**
System status | 2 x LEDs | 
Vibration status | 4 sets LEDs: red, yellow, green | 
Relay status | 4 x LEDs | 
| One for power, one for DSP status |
| Indicates alarm state, user configurable |
| Indicates if each relay is energized |

**Comms and Power**
Network connection, link speed | Ethernet v2.0, IEEE 802.3, TCP/IP, 10/100baseT, RJ-45 socket ≥ 256 kbps (optimum), 2400 bps (min) RS232 @ 115 kbaud, RJ-12 socket 250 mA @ 9 V to 36 V DC | 
Diagnostic comms | Auto senses 10/100 Mbps and half/full duplex |
| Via any commercially available link |
| Auto-baud at power up 57.6 kbaud to 230 kbaud |

**Mechanical**
Mounting | Standard 35 mm DIN rail |
Size | 308 mm x 130 mm x 45 mm NEMA 4 X, 413 mm x 366 mm |
Optional sealed housing | For installation in enclosed control cabinet (60 mm including DIN rail) |
| Part number PM 110-32 |

**Environmental**
Temperature range | -10 °C to 60 °C (14 to 140) °F |
Humidity | 95% RH non-condensing |
EMC | EN61326 |

**Analysis Software**
Name | Ascent Level 3 vbSeries® |
Compatible portables | |

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<tr>
<td></td>
<td></td>
<td><strong>As detailed in vbOnline model</strong></td>
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Profitable