

vbOnline™



commtest
The Revolution



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.

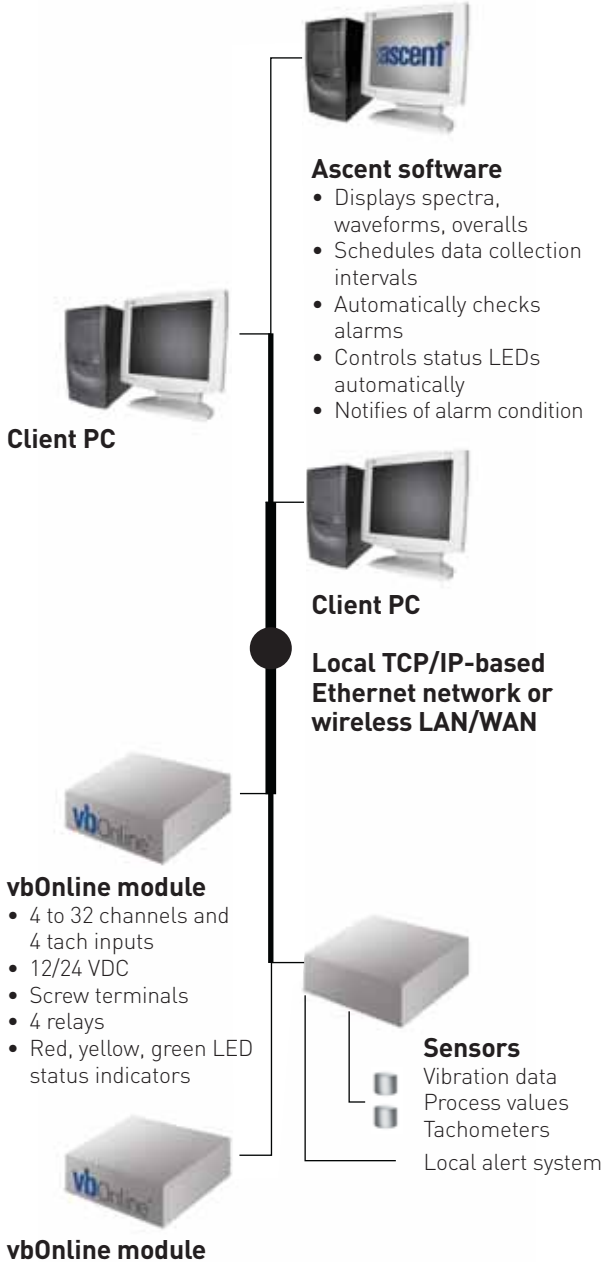
The vbOnline system allows you to collect data more cost effectively, more timely, and with improved accuracy compared with walk around portable routines. You can safely monitor machines in dangerous and inaccessible environments.



Within reach

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.



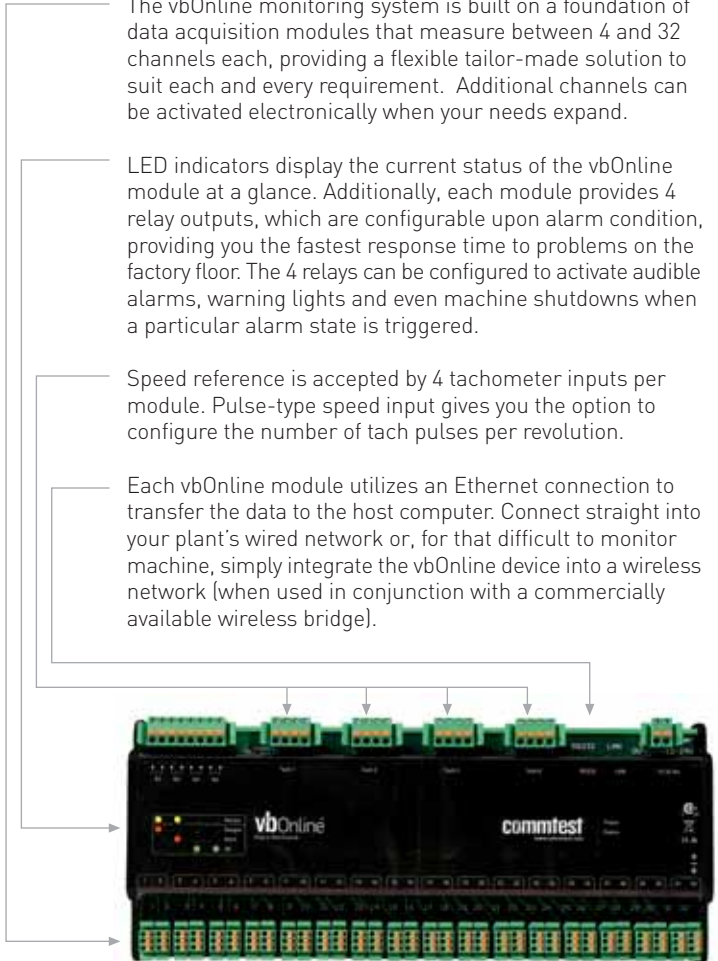
vbOnline™ - a complete surveillance system

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).



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.

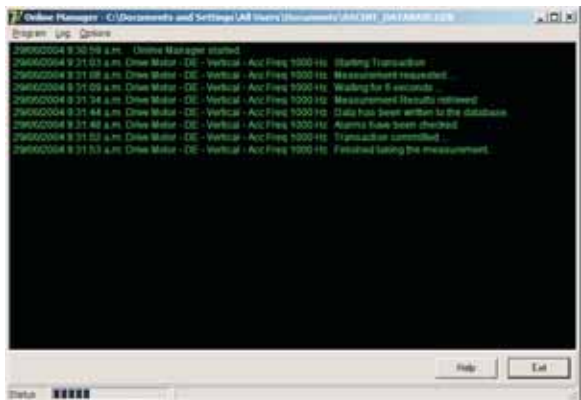
Ascent Level 3 provides the following key benefits, through our key applications

- 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

OnlineManager

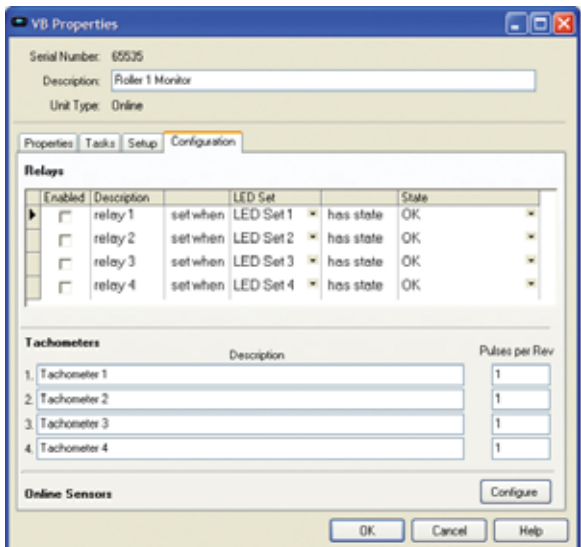
The brain of the vbOnline system is our OnlineManager. The OnlineManager program is responsible for managing the collection of data as specified within the Ascent program, and writing the data to your network database. As is standard with all Commtest products, the simplicity and ease of use is an important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

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.

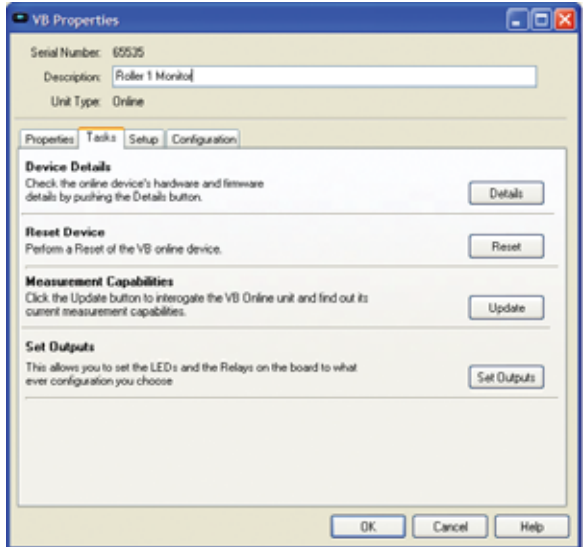


Initial setup is simple. From the main screen you can:

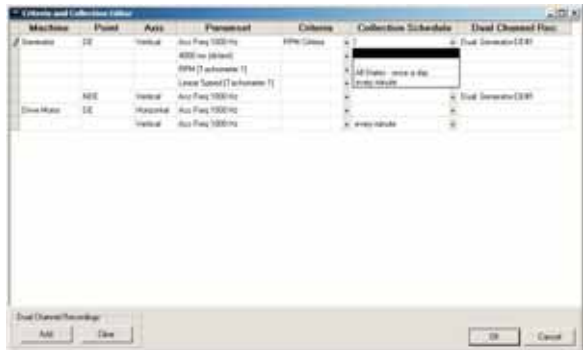
- choose when a relay should be activated according to which LEDs are set
- enter a description for each tachometer and the number of pulses per revolution
- specify what type of sensor will be attached to each channel



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.



SPECIFICATIONS	MODEL vbOnline	REMARKS
<p>Analog Inputs</p> <p>Number of channels Simultaneous recordings</p> <p>Channel scan rate Compatible sensors</p> <p>DC-coupled ranges AC-coupled ranges</p> <p>Sensor drive current A to D conversion Input impedance AC sensor bias voltage</p>	<p>4 to 32 Dual channel</p> <p>≤ 8s per channel pair Accel, vel, displ, voltage o/p, 4-20 mA</p> <p>0 V to 20 V, -10 V to 10 V, -20 V to 0 V 16 V peak-peak 4 mA @ 24 V</p> <p>24 bits > 100 kΩ</p> <p>Measures DC level while sensor settles</p>	<p>Configuration in blocks of 4 Any odd #channel with any even #channel Accel 1000 Hz 400 lines</p> <p>Selectable to suit sensor type Allows for ± 8 V sensor output swing Enable for ICP® type sensors</p> <p>Alarm and trendable for sensor fault detection</p>
<p>Analog Measurements</p> <p>Measurement types</p> <p>Quantities</p> <p>Max value (Accelerometer)</p> <p>Max value (Vel. sensor) Max value (Displ sensor) Spectrum Fmax values</p> <p>Sampling rates Dynamic range Harmonic distortion</p> <p>Accuracy</p> <p>AC Frequency response</p>	<p>Single value, time waveform, spectrum</p> <p>Accel, vel, displ, demod, user-scaled</p> <p>± 80 g, ± 100 mm/s (4 in/s), ± 10 mm (0.4 in)</p> <p>± 2000 mm/s (80 in/s) ± 2 mm (80 mil)</p> <p>100 Hz to 40 kHz (6000 CPM to 2400 kCPM)</p> <p>256 Hz to 102.4 kHz ≥ 95 dB Less than -70 dB typical</p> <p>± 1% (0.1 dB)</p> <p>± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz</p>	<p>User scaling for voltage and 4-20 mA sensors With 100 mV/g sensor</p> <p>With 100 mV/in/s sensor With 100 mV/mil sensor</p> <p>In 23 steps</p> <p>In 23 steps</p> <p>Other distortions and noise are lower For DC level and AC measured at 100 Hz From value measured at 100 Hz High freq response also applies to DC ranges Accel and velocity</p>
<p>Signal Processing</p> <p>Number of spectral lines</p> <p>Time waveform samples Window types Averaging types</p> <p>Number of averages</p> <p>Overlap</p> <p>Demodulation bandwidths Onboard recording criteria</p>	<p>400, 800, 1600, 3200, 6400</p> <p>1024, 2048, 4096, 8192, 16384 Hanning, rectangular</p> <p>Linear, exponential, peak hold, synchronous</p> <p>1, 2, 4, 8, 16, 32, 64, 128</p> <p>0, 12.5, 25, 37.5, 50, 62.5, 75, 87.5%</p> <p>20 bandwidth options Triggered by RPM and/or DC level</p>	<p>3200 lines (8192 samples) max for dual channel recordings</p> <p>From 125 Hz to 1250 Hz up to 16 to 20 kHz</p> <p>For variable speed or intermittent machines Checks for stable RPM/DC during recording</p>
<p>Quickscan</p> <p>Measurement type</p> <p>Scan rate</p> <p>QuickScan criteria</p>	<p>10 Hz to 1 kHz overall or average DC value</p> <p>2 seconds per channel pair</p> <p>5 seconds per channel pair RPM based</p>	<p>Accelerometer readings are converted to velocity For DC-coupled sensors, no integration (e.g. prox probes) For other sensor types User configurable, controls data storage</p>

SPECIFICATIONS	MODEL vbOnline	REMARKS
Tachometer Inputs Number Range Recommended sensor Power supply to sensor Input type TTL input pulses Keyphasor® mode threshold	4 0.5 Hz to 5000 Hz (30 to 300 000) RPM Hall effect 12 V Optically isolated, accepts TTL 2 V min, 28 V max, off-state < 1 V 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 Load current limited to 5 mA Recommended setup: Probe reads 8 V on shaft
Relay Outputs Number Type Voltage and current rating Controlled by	4 SPST, normally open 250 V AC or 30 V DC, 5 A Server, status backed up on vbOnline device	User configurable, based on alarms, optional delay
Status Indicators System status Vibration status Relay status	2 x LEDs 4 sets LEDs: red, yellow, green 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 comms Network connection, link speed Diagnostic comms Power supply	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	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 Size Optional sealed housing	Standard 35 mm DIN rail 308 mm x 130 mm x 45 mm NEMA 4 X, 413 mm x 366 mm	For installation in enclosed control cabinet (60 mm including DIN rail) Part number PM 110-32
Environmental Temperature range Humidity EMC	-10 °C to 60 °C (14 to 140) °F 95% RH non-condensing EN61326	Emissions and immunity
Analysis Software Name Compatible portables	Ascent Level 3 vbSeries®	
<p>Revised 24 August 2006. While every effort has been made to provide the most accurate information we advise that information in this document may contain technical inaccuracies or typographical errors.</p> <p>Commtest Instruments Ltd may at any time and without notice make improvements and/or changes in the products described in this information.</p>		

SPECIFICATIONS	MODEL WiFi Option	REMARKS
QuickScan Spectra storage Spectra retrieval Other parameters	Onboard 512 MB SD memory card From vbOnline device via Ascent software	Circular buffer, overwrites after 2 weeks (typical) Retrieved spectra remain in Ascent database As detailed in vbOnline model
Status Indicators System status Vibration and relay status	4 x LEDs	Indicating power, DSP status, WLAN traffic, SD memory card activity As detailed in vbOnline model
Comms and Power Wireless (WiFi) Range Power supply Cabled Ethernet	802.11b, 11 Mbps, 2.4 GHz, 128 bit WEP 100m line of sight, standard antenna 350 mA @ 9 V to 36 V DC	Compatible with 802.11g > 1 km with 19dBi directional antenna As detailed in vbOnline model
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Profitable

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