

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
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Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
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- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

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SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+	REMARKS
Sensor Input							
Channels (simultaneous)	1	4	2	4	2	4	Simultaneous sampling
Sensors	Accelerometer	Accelerometer, Velocity, Displacement, Current, Voltage	Accelerometer, Velocity, Displacement, Current	Accelerometer, Velocity, Displacement, Current, Voltage	Accelerometer	Accelerometer, Velocity, Displacement	
AC coupled range	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	Allows for ± 8 V sensor output swing (± 80 g)
DC coupled range	–	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	–	–	e.g. for reading prox-probe gap
Connectors	BNC	BNC, LEMO	2x BNC	BNC, LEMO	2x BNC	BNC, LEMO	Safety feature: Break-free inline connector
Analog to digital conversion	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	
Sensor excitation current	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	2.2 mA required for ICP®-type accelerometer
Sensor detection	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	
Tachometer							
Sensor	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Sensor triggers on beam reflection
Laser sensor range	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	Dependent on size of reflective tape
Other Sensor types supported	Contact, TTL pulse	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse	Contact, TTL pulse, Keyphasor®	Optically isolated input
Power supply to sensor	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	
TTL Pulse rating	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	
Keyphasor® threshold	–	13 V ± 1 V	13 V ± 1 V	13 V ± 1 V	–	13 V ± 1 V	
Speed range	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	
Parameter Indication							
Maximum levels	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	Effective limit is sensor sensitivity and output voltage
Dynamic signal range	>95 dB	>95 dB	>95 dB	>95 dB	>95 dB	>95 dB	
Harmonic distortion	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Other distortions and noise are lower
Units	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps and user-defined	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps and user-defined	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	0-peak, peak-peak or RMS. Auto-scale by 1000s when required US & SI options for both adB & vdB
Magnitude & Cursors	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Digital readouts on chart
Accuracy	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	For DC level (%F.S.) & AC measured at 100 Hz
Frequency response	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 3 dB from 1 Hz to 5 kHz	± 3 dB from 1 Hz to 5 kHz	Acceleration and velocity. From value measured at 100 Hz
Spectrum Display							
Fmax possible ranges	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000 Hz	Or equivalent CPM values Or orders-based from 1X to 999X
Fmin possible range	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	vb instrument zeroes all spectral lines below Fmin
Resolution	400, 800, 1600, 3200, 6400 lines	400, 800, 1600, 3200, 6400, 12 800 lines	400, 800, 1600, 3200, 6400 lines	400, 800, 1600, 3200, 6400, 12 800 lines	800 lines	800 lines	3200 lines max. for dual channel measurements
Frequency scale	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM	Hz, CPM	Linear scale with zooming
Amplitude scale	Acceleration, velocity, displacement	Acceleration, velocity, displacement, current or user defined	Acceleration, velocity, displacement or current	Acceleration, velocity, displacement, current or user defined	Acceleration, velocity or displacement	Acceleration, velocity or displacement	Linear or log scales, auto or manual scaling
Window shapes	Hanning, rectangular	Hanning, rectangular	Hanning, rectangular	Hanning, rectangular	Hanning	Hanning	
Overlap	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	50%	50%	Dependent on Fmax and number of lines
Number of averages	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	4	4	Increases sampling time proportionally
Averaging types	Linear, exponential, peak hold	Linear, exponential, peak hold	Linear, exponential, peak hold, synchronous	Linear, exponential, peak hold, synchronous	Linear	Linear	
Demodulation bandwidths	21 bandwidth options	21 bandwidth options	21 bandwidth options	21 bandwidth options	–	–	
Waveform Display							
Number of samples	1024, 2048, 4096, 8192, 16 384	1024, 2048, 4096, 8192, 16 384, 32 768	1024, 2048, 4096, 8192, 16 384	1024, 2048, 4096, 8192, 16 384, 32 768	2048	2048	
Time scale	10 ms to 640 seconds	10 ms to 640 seconds	10 ms to 640 seconds	10 ms to 640 seconds	160 ms to 32 seconds	160 ms to 32 seconds	Or orders based from 1 to 999 revs
Time synchronous averages	–	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	–	–	Only available when tachometer triggered
Long time waveform	–	–	Up to 40 kHz Fmax (28 M samples)	Up to 40 kHz Fmax (28 M samples)	–	–	

SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+	REMARKS
Logging Features							
Data storage	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	
Data storage structure	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / Machines	Folders / Machines	No limits are applied, 50 character names
Max Folder size	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	
Direct print reports	–	–	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Balance reports
Balancing							
Planes	–	–	2 planes, 2 sensors	2 planes, 4 sensors	2 planes, 2 sensors	2 planes, 4 sensors	
Speed range	–	–	30 to 60 000 RPM	30 to 60 000 RPM	30 to 60 000 RPM	30 to 60 000 RPM	
Measurement type	–	–	Acceleration, velocity, displacement	Acceleration, velocity, displacement	Acceleration, velocity, displacement	Acceleration, velocity, displacement	
Weight modes	–	–	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	e.g. weights on fan blades, linear dist around circumference
Remove trial weights	–	–	Yes, No	Yes, No	Yes, No	Yes, No	Removed weight automatic recalculation
Manual data entry	–	–	√	√	√	√	Allows re-entry of previous balance jobs
Storage	–	–	Against machines in data structure	Against machines in data structure	Against machines in data structure	Against machines in data structure	No limits are applied
Channel selection	–	–	Single or dual channel	Up to 4 channels simultaneous	Single or dual channel	Up to 4 channels simultaneous	
Display & Communications							
Resolution	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	
Viewing area	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	
Backlight	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	
Communications with PC	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	Route/Measurement transfer and Proflash firmware upgrade
USB host port	√	√	√	√	√	√	Save folders to USB flash drive
Battery & Charger							
Battery Type	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	
Operating time	10 hours	10 hours	10 hours	10 hours	10 hours	10 hours	Backlight on (60 second timeout)
Charger type	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	External Power pack 12 V DC, 3 A output, included in kit
Charge rate	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 hours for complete charge
Mechanical							
Size	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	
Weight	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	
Environmental							
Operating Temp	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	
Storage Temp & Humidity	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	
EMC	EN61326	EN61326	EN61326	EN61326	EN61326	EN61326	
Ruggedness	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	
Hazardous Locations	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	
Certification	CE	CE	CE	CE	CE	CE	

SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+
Recording Types						
Route enabled	√	√	√	√		
Spectrum/Waveform	√	√	√	√	√	√
6Pack	√	√	√	√		
Keypad entry	√	√	√	√		
Average value		√	√*	√		
Time Synchronous Averaging			√	√		
Bump test			√	√	√	
Coast-down/Run-up			√	√	√	
Cross-channel phase			√	√		

* Acceleration, Velocity, Displacement and Current units only.

All product specifications are subject to change without notice. Last revised 1 September 2008.

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The Revolution

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The Revolution

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vbSeries®



Built on the proven track record of the classic **vbSeries®** portable vibration analyzers and balancers, the all-new vbSeries data collectors, analyzers, and balancers have been re-engineered from the ground up to offer leading-edge reliability, accuracy and usability.

- Improved ergonomics for walk around data collection
- Large, high resolution (HVGA) backlit LCD
- True left- and right-handed operation
- Multi-channel on route recordings (collectors and analyzers only)
- 1 GB memory – virtually unlimited spectra and waveform storage
- 10 hour battery life
- Lightweight, rugged IP65 rated cases
- DC coupled sensor support
- 12 800 lines of resolution (max)
- 40 kHz Fmax
- Single, Dual or Four-channel recordings depending on model
- Triax. compatibility (**vb6™** and **vb8™** instruments only)
- CSA Class I, Division 2 Hazardous Locations certification
- USB host port for data transfer to external USB memory

Choose the model most suitable for your needs.
Our tiered instrument range allows you to select an appropriate set of features at a cost effective price. Choose a model tailored to your requirements with the added peace of mind provided by our rock solid 5 year warranty.

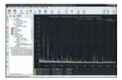
	Data Collectors	Data Analyzers	Balancers
Lean	vb5	vb7	vbBalancer
Deluxe	vb6	vb8	vbBalancer+

vb8™









* The incorporation of The Proven Method is available exclusively in **Ascent®** software

THE COMPLETE VIBRATION ANALYSIS PACKAGE

The **vb8™** analyzer is a uniquely sophisticated and feature-packed instrument, yet it remains intuitive in operation and flexible enough to suit every level of vibration analyst, from novice through to expert.

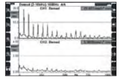
The included **Ascent®** software contains the collective experience of over 25 years of expert in-depth machine fault analysis.

1. Users with no prior experience or without previously recorded vibration history can now establish a measurement program utilizing proven baseline values from ISO standards and "The Proven Method" from Technical Associates.*
2. Experienced users can now generate meaningful spectral alarm bands automatically rather than just relying on basic overall alarms or spectral band guesswork.
3. Veteran analysts can now objectively evaluate and compare their findings against a time-tested and proven historical foundation.

Ascent® Level 2 software:
- Fully automated measurement parameter and alarm setups based on "The Proven Method" from Technical Associates*
- ISO 2372 and 10816 standards

Enhanced instrument functionality
- 4 channel simultaneous recordings
- Triax. enabled
- 12 800 line FFT resolution
- 40 kHz Fmax
- 1 GB memory – virtually unlimited spectra storage
- Large, high resolution (HVGA) backlit LCD
- Comfortable, ergonomic case design
- Support for acceleration, velocity, displacement, DC coupled, current and voltage output sensors (both AC and DC coupled)
- 2 plane balancing with up to 4 sensors (simultaneous acquisition)
- Commtest's unique **6Pack™** recording system: take up to 12 measurements simultaneously (HF, LF and Demodulation spectra and waveforms) across two channels
- Numeric parameter input via keypad with trend and alarm capability in **Ascent®** software
- Upgradeable using the 'Proflash' system and free firmware updates for five years

vb7™







EASY AND EFFICIENT TWO CHANNEL CAPABILITY

The **vb7™** analyzer offers the power and convenience of dual-channel measurement and dual-plane balancing. Its balancing functions enable the quick diagnosis and correction of dynamic unbalance, the most common form of unbalance. The **vb7** instrument's combination of accuracy, intuitive operation, ease of use and outstanding storage capacity ensures the **vb7** analyzer delivers a premium return on investment. The **vb7** instrument includes the powerful **Ascent®** software in the purchase price.

Ascent Level 2 enables you to program the instrument with thousands of separate machine definitions covering a number of route choices. A library of over 300 customizable parameter sets is also available enabling a vast array of measurement options.

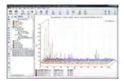
Ascent Level 2 software:
- Route enabled - build routes in **Ascent** software and send to the instrument
- CBDb - Commtest Bearing Database with over 30 000 bearings
- Orbit and Bode plots
- Waveform analysis tools - perfect for the power user
- User-designable SQL/HTML reports - unlimited reporting flexibility
- Statistical alarm creation and adjustment

Enhanced instrument functionality
- Improved ergonomics for walk around data collection
- 2 channel simultaneous recordings
- True left- and right-handed operation
- Wide measurement range: 1000 g, 25 000 mm/s, 2500mm
- 2 plane balancing
- ≥ 95 dB dynamic range
- 6400 line FFT resolution
- 40 kHz Fmax
- 1 GB memory – virtually unlimited spectra and waveform storage
- Laser speed sensor for automatic capture of machine running speed
- Keyphasor® tach mode
- 5 year warranty on the instrument hardware

vb6™







HIGH RESOLUTION, FOUR CHANNEL MEASUREMENTS FOR PROACTIVE MAINTENANCE PROFESSIONALS

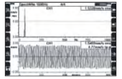
The **vb6™** data collector is a four channel, route-enabled product that provides everything needed for advanced, high resolution data collection. This instrument includes a wide range of recording and measurement types at up to 12 800 lines of resolution. The **vb6** includes the powerful **Ascent®** software in the purchase price.

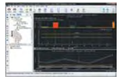
Ascent Level 1 enables you to program the instrument with thousands of separate machine definitions covering a number of route choices. A library of over 300 customizable parameter sets is also available enabling a vast array of measurement options.

Ascent Level 1 software:
- Route enabled - build routes in **Ascent** software and send to the instrument
- CBDb - Commtest Bearing Database with over 30 000 bearings

Enhanced instrument functionality
- 4 channel simultaneous recordings
- 12 800 line FFT resolution
- 40 kHz Fmax
- Laser speed sensor for automatic capture of machine running speed
- 1 GB memory – virtually unlimited spectra storage
- ≥ 95 dB dynamic range
- Large, high resolution (HVGA) backlit LCD
- Voltage output sensor support
- User-defined recordings for Temperature, Pressure, Mass Flow, Force and Power
- 5 year warranty on the instrument hardware

vb5™







THE ECONOMICAL SOLUTION FOR THE PROACTIVE MAINTENANCE PROFESSIONAL

The **vb5™** data collector is a single channel, route-enabled product that provides everything needed for cost effective data collection and analysis. Using this instrument maintenance professionals are able to easily take recordings with up to 6400 lines of resolution and greater than 95 dB of dynamic range, and all at a low price that represents exceptional value for money. The **vb5** instrument includes the powerful **Ascent®** software in the purchase price.

Ascent Level 1 enables you to program the instrument with thousands of separate machine definitions covering a number of route choices. A library of over 300 customizable parameter sets is also available enabling a vast array of measurement options.

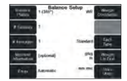
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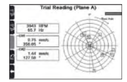
Enhanced instrument functionality
- 1 channel recordings
- 6400 line FFT resolution
- 40 kHz Fmax
- 1 GB memory – virtually unlimited spectra storage
- ≥ 95 dB dynamic range
- Spectrum and Waveform recordings
- Large, high resolution (HVGA) backlit LCD
- 5 year warranty on the instrument hardware

vbBalancer+™









FOUR CHANNEL UNBALANCE CORRECTION PACKAGE

Lightweight and extremely portable, the **vbBalancer+™** 4 channel and **vbBalancer™** 2 channel instruments are easily carried on site to any problematic machine. Their 10 hour battery life and 1 GB of internal memory ensure progress is uninterrupted, practically eliminating the need to pause in order to connect to a PC or power supply. The **vbBalancer** instruments also carry Commtest's legendary 5 year warranty and free lifetime support as standard.

Unbalance causes high levels of mechanical stress and vibration that are transferred directly to the bearings resulting in a proportional reduction in normal bearing life. With a few basic parameters the **vbBalancer** instruments calculate acceptable unbalance levels to ensure machinery operates within international ISO 1940 guidelines.

Setup
vbBalancer instrument setup is minimal, quick and easy. Only a few calibration runs are required, with or without removing your trial weight.

Memory
The **vbBalancer** instrument stores your previous balance run data. No need to waste valuable time performing calibration runs on repetitive or routine balance jobs.

Balance
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vbSeries®



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- Improved ergonomics for walk around data collection
- Large, high resolution (HVGA) backlit LCD
- True left- and right-handed operation
- Multi-channel on route recordings (collectors and analyzers only)
- 1 GB memory – virtually unlimited spectra and waveform storage
- 10 hour battery life
- Lightweight, rugged IP65 rated cases
- DC coupled sensor support
- 12 800 lines of resolution (max)
- 40 kHz Fmax
- Single, Dual or Four-channel recordings depending on model
- Triax. compatibility (**vb6™** and **vb8™** instruments only)
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- USB host port for data transfer to external USB memory

Choose the model most suitable for your needs.
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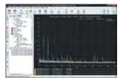
	Data Collectors	Data Analyzers	Balancers
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vb8™









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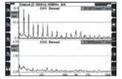
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vb7™







EASY AND EFFICIENT TWO CHANNEL CAPABILITY

The **vb7™** analyzer offers the power and convenience of dual-channel measurement and dual-plane balancing. Its balancing functions enable the quick diagnosis and correction of dynamic unbalance, the most common form of unbalance. The **vb7** instrument's combination of accuracy, intuitive operation, ease of use and outstanding storage capacity ensures the **vb7** analyzer delivers a premium return on investment. The **vb7** instrument includes the powerful **Ascent®** software in the purchase price.

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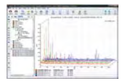
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vb6™







HIGH RESOLUTION, FOUR CHANNEL MEASUREMENTS FOR PROACTIVE MAINTENANCE PROFESSIONALS

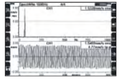
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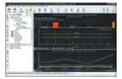
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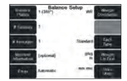
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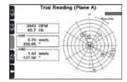
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vbBalancer+™









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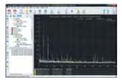
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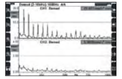
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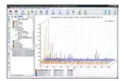
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vb6™







HIGH RESOLUTION, FOUR CHANNEL MEASUREMENTS FOR PROACTIVE MAINTENANCE PROFESSIONALS

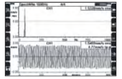
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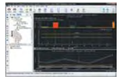
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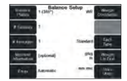
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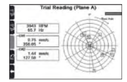
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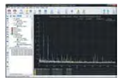
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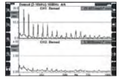
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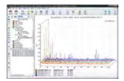
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- Waveform analysis tools - perfect for the power user
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Enhanced instrument functionality
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- 2 channel simultaneous recordings
- True left- and right-handed operation
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- 2 plane balancing
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- 6400 line FFT resolution
- 40 kHz Fmax
- 1 GB memory – virtually unlimited spectra and waveform storage
- Laser speed sensor for automatic capture of machine running speed
- Keyphasor® tach mode
- 5 year warranty on the instrument hardware

vb6™







HIGH RESOLUTION, FOUR CHANNEL MEASUREMENTS FOR PROACTIVE MAINTENANCE PROFESSIONALS

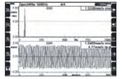
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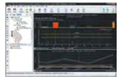
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vb5™







THE ECONOMICAL SOLUTION FOR THE PROACTIVE MAINTENANCE PROFESSIONAL

The **vb5™** data collector is a single channel, route-enabled product that provides everything needed for cost effective data collection and analysis. Using this instrument maintenance professionals are able to easily take recordings with up to 6400 lines of resolution and greater than 95 dB of dynamic range, and all at a low price that represents exceptional value for money. The **vb5** instrument includes the powerful **Ascent®** software in the purchase price.

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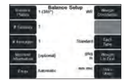
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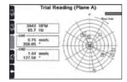
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vbBalancer+™









FOUR CHANNEL UNBALANCE CORRECTION PACKAGE

Lightweight and extremely portable, the **vbBalancer+™** 4 channel and **vbBalancer™** 2 channel instruments are easily carried on site to any problematic machine. Their 10 hour battery life and 1 GB of internal memory ensure progress is uninterrupted, practically eliminating the need to pause in order to connect to a PC or power supply. The **vbBalancer** instruments also carry Commtest's legendary 5 year warranty and free lifetime support as standard.

Unbalance causes high levels of mechanical stress and vibration that are transferred directly to the bearings resulting in a proportional reduction in normal bearing life. With a few basic parameters the **vbBalancer** instruments calculate acceptable unbalance levels to ensure machinery operates within international ISO 1940 guidelines.

Setup
vbBalancer instrument setup is minimal, quick and easy. Only a few calibration runs are required, with or without removing your trial weight.

Memory
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- Large, high resolution (HVGA) backlit LCD
- True left- and right-handed operation
- Multi-channel on route recordings (collectors and analyzers only)
- 1 GB memory – virtually unlimited spectra and waveform storage
- 10 hour battery life
- Lightweight, rugged IP65 rated cases
- DC coupled sensor support
- 12 800 lines of resolution (max)
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- Single, Dual or Four-channel recordings depending on model
- Triax. compatibility (**vb6™** and **vb8™** instruments only)
- CSA Class I, Division 2 Hazardous Locations certification
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Choose the model most suitable for your needs.
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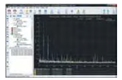
	Data Collectors	Data Analyzers	Balancers
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vb8™









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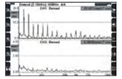
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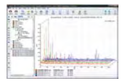
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vb6™







HIGH RESOLUTION, FOUR CHANNEL MEASUREMENTS FOR PROACTIVE MAINTENANCE PROFESSIONALS

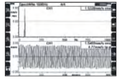
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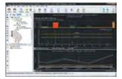
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vb5™







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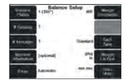
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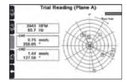
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vbBalancer+™









FOUR CHANNEL UNBALANCE CORRECTION PACKAGE

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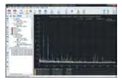
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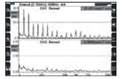
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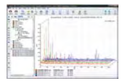
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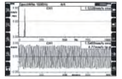
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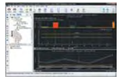
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vb5™







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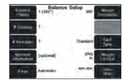
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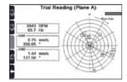
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SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+	REMARKS
Sensor Input							
Channels (simultaneous)	1	4	2	4	2	4	Simultaneous sampling
Sensors	Accelerometer	Accelerometer, Velocity, Displacement, Current, Voltage	Accelerometer, Velocity, Displacement, Current	Accelerometer, Velocity, Displacement, Current, Voltage	Accelerometer	Accelerometer, Velocity, Displacement	
AC coupled range	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	Allows for ± 8 V sensor output swing (± 80 g)
DC coupled range	–	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	–	–	e.g. for reading prox-probe gap
Connectors	BNC	BNC, LEMO	2x BNC	BNC, LEMO	2x BNC	BNC, LEMO	Safety feature: Break-free inline connector
Analog to digital conversion	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	
Sensor excitation current	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	2.2 mA required for ICP®-type accelerometer
Sensor detection	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	
Tachometer							
Sensor			Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Sensor triggers on beam reflection
Laser sensor range	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	Dependent on size of reflective tape
Other Sensor types supported	Contact, TTL pulse	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse	Contact, TTL pulse, Keyphasor®	Optically isolated input
Power supply to sensor	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	
TTL Pulse rating	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	
Keyphasor® threshold	–	13 V ± 1 V	13 V ± 1 V	13 V ± 1 V	–	13 V ± 1 V	
Speed range	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	
Parameter Indication							
Maximum levels	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	Effective limit is sensor sensitivity and output voltage
Dynamic signal range	>95 dB	>95 dB	>95 dB	>95 dB	>95 dB	>95 dB	
Harmonic distortion	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Other distortions and noise are lower
Units	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps and user-defined	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps and user-defined	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	0-peak, peak-peak or RMS. Auto-scale by 1000s when required US & SI options for both adB & vdB
Magnitude & Cursors	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Digital readouts on chart
Accuracy	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	For DC level (%F.S.) & AC measured at 100 Hz
Frequency response	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 3 dB from 1 Hz to 5 kHz	± 3 dB from 1 Hz to 5 kHz	Acceleration and velocity. From value measured at 100 Hz
Spectrum Display							
Fmax possible ranges	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000 Hz	Or equivalent CPM values Or orders-based from 1X to 999X
Fmin possible range	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	vb instrument zeroes all spectral lines below Fmin
Resolution	400, 800, 1600, 3200, 6400 lines	400, 800, 1600, 3200, 6400, 12 800 lines	400, 800, 1600, 3200, 6400 lines	400, 800, 1600, 3200, 6400, 12 800 lines	800 lines	800 lines	3200 lines max. for dual channel measurements
Frequency scale	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM	Hz, CPM	Linear scale with zooming
Amplitude scale	Acceleration, velocity, displacement	Acceleration, velocity, displacement, current or user defined	Acceleration, velocity, displacement or current	Acceleration, velocity, displacement, current or user defined	Acceleration, velocity or displacement	Acceleration, velocity or displacement	Linear or log scales, auto or manual scaling
Window shapes	Hanning, rectangular	Hanning, rectangular	Hanning, rectangular	Hanning, rectangular	Hanning	Hanning	
Overlap	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	50%	50%	Dependent on Fmax and number of lines
Number of averages	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	4	4	Increases sampling time proportionally
Averaging types	Linear, exponential, peak hold	Linear, exponential, peak hold	Linear, exponential, peak hold, synchronous	Linear, exponential, peak hold, synchronous	Linear	Linear	
Demodulation bandwidths	21 bandwidth options	21 bandwidth options	21 bandwidth options	21 bandwidth options	–	–	
Waveform Display							
Number of samples	1024, 2048, 4096, 8192, 16 384	1024, 2048, 4096, 8192, 16 384, 32 768	1024, 2048, 4096, 8192, 16 384	1024, 2048, 4096, 8192, 16 384, 32 768	2048	2048	
Time scale	10 ms to 640 seconds	10 ms to 640 seconds	10 ms to 640 seconds	10 ms to 640 seconds	160 ms to 32 seconds	160 ms to 32 seconds	Or orders based from 1 to 999 revs
Time synchronous averages	–	–	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	–	–	Only available when tachometer triggered
Long time waveform	–	–	Up to 40 kHz Fmax (28 M samples)	Up to 40 kHz Fmax (28 M samples)	–	–	

SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+	REMARKS
Logging Features							
Data storage	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	
Data storage structure	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / Machines	Folders / Machines	No limits are applied, 50 character names
Max Folder size	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	
Direct print reports	–	–	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Balance reports
Balancing							
Planes	–	–	2 planes, 2 sensors	2 planes, 4 sensors	2 planes, 2 sensors	2 planes, 4 sensors	
Speed range	–	–	30 to 60 000 RPM	30 to 60 000 RPM	30 to 60 000 RPM	30 to 60 000 RPM	
Measurement type	–	–	Acceleration, velocity, displacement	Acceleration, velocity, displacement	Acceleration, velocity, displacement	Acceleration, velocity, displacement	
Weight modes	–	–	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	e.g. weights on fan blades, linear dist around circumference
Remove trial weights	–	–	Yes, No	Yes, No	Yes, No	Yes, No	Removed weight automatic recalculation
Manual data entry	–	–	✓	✓	✓	✓	Allows re-entry of previous balance jobs
Storage	–	–	Against machines in data structure	Against machines in data structure	Against machines in data structure	Against machines in data structure	No limits are applied
Channel selection	–	–	Single or dual channel	Up to 4 channels simultaneous	Single or dual channel	Up to 4 channels simultaneous	
Display & Communications							
Resolution	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	
Viewing area	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	
Backlight	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	
Communications with PC	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	Route/Measurement transfer and Proflash firmware upgrade
USB host port	✓	✓	✓	✓	✓	✓	Save folders to USB flash drive
Battery & Charger							
Battery Type	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	
Operating time	10 hours	10 hours	10 hours	10 hours	10 hours	10 hours	Backlight on (60 second timeout)
Charger type	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	External Power pack 12 V DC, 3 A output, included in kit
Charge rate	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 hours for complete charge
Mechanical							
Size	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	
Weight	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	
Environmental							
Operating Temp	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	
Storage Temp & Humidity	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	
EMC	EN61326	EN61326	EN61326	EN61326	EN61326	EN61326	
Ruggedness	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	
Hazardous Locations	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	
Certification	CE	CE	CE	CE	CE	CE	

SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+
Recording Types						
Route enabled	✓	✓	✓	✓		
Spectrum/Waveform	✓	✓	✓	✓	✓	✓
6Pack	✓	✓	✓	✓		
Keypad entry	✓	✓	✓	✓		
Average value		✓	✓*	✓		
Time Synchronous Averaging			✓	✓		
Bump test			✓	✓	✓	
Coast-down/Run-up			✓	✓	✓	
Cross-channel phase			✓	✓		

* Acceleration, Velocity, Displacement and Current units only.

All product specifications are subject to change without notice. Last revised 1 September 2008.

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SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+	REMARKS
Sensor Input							
Channels (simultaneous)	1	4	2	4	2	4	Simultaneous sampling
Sensors	Accelerometer	Accelerometer, Velocity, Displacement, Current, Voltage	Accelerometer, Velocity, Displacement, Current	Accelerometer, Velocity, Displacement, Current, Voltage	Accelerometer	Accelerometer, Velocity, Displacement	
AC coupled range	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	Allows for ± 8 V sensor output swing (± 80 g)
DC coupled range	–	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	–	–	e.g. for reading prox-probe gap
Connectors	BNC	BNC, LEMO	2x BNC	BNC, LEMO	2x BNC	BNC, LEMO	Safety feature: Break-free inline connector
Analog to digital conversion	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	
Sensor excitation current	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	2.2 mA required for ICP®-type accelerometer
Sensor detection	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	
Tachometer							
Sensor	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Sensor triggers on beam reflection
Laser sensor range	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	Dependent on size of reflective tape
Other Sensor types supported	Contact, TTL pulse	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse	Contact, TTL pulse, Keyphasor®	Optically isolated input
Power supply to sensor	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	
TTL Pulse rating	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	
Keyphasor® threshold	–	13 V ± 1 V	13 V ± 1 V	13 V ± 1 V	–	13 V ± 1 V	
Speed range	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	
Parameter Indication							
Maximum levels	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	Effective limit is sensor sensitivity and output voltage
Dynamic signal range	>95 dB	>95 dB	>95 dB	>95 dB	>95 dB	>95 dB	
Harmonic distortion	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Other distortions and noise are lower
Units	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps and user-defined	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps and user-defined	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	0-peak, peak-peak or RMS. Auto-scale by 1000s when required US & SI options for both adB & vdB
Magnitude & Cursors	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Digital readouts on chart
Accuracy	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	For DC level (%F.S.) & AC measured at 100 Hz
Frequency response	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 3 dB from 1 Hz to 5 kHz	± 3 dB from 1 Hz to 5 kHz	Acceleration and velocity. From value measured at 100 Hz
Spectrum Display							
Fmax possible ranges	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000 Hz	Or equivalent CPM values Or orders-based from 1X to 999X
Fmin possible range	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	vb instrument zeroes all spectral lines below Fmin
Resolution	400, 800, 1600, 3200, 6400 lines	400, 800, 1600, 3200, 6400, 12 800 lines	400, 800, 1600, 3200, 6400 lines	400, 800, 1600, 3200, 6400, 12 800 lines	800 lines	800 lines	3200 lines max. for dual channel measurements
Frequency scale	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM	Hz, CPM	Linear scale with zooming
Amplitude scale	Acceleration, velocity, displacement	Acceleration, velocity, displacement, current or user defined	Acceleration, velocity, displacement or current	Acceleration, velocity, displacement, current or user defined	Acceleration, velocity or displacement	Acceleration, velocity or displacement	Linear or log scales, auto or manual scaling
Window shapes	Hanning, rectangular	Hanning, rectangular	Hanning, rectangular	Hanning, rectangular	Hanning	Hanning	
Overlap	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	50%	50%	Dependent on Fmax and number of lines
Number of averages	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	4	4	Increases sampling time proportionally
Averaging types	Linear, exponential, peak hold	Linear, exponential, peak hold	Linear, exponential, peak hold, synchronous	Linear, exponential, peak hold, synchronous	Linear	Linear	
Demodulation bandwidths	21 bandwidth options	21 bandwidth options	21 bandwidth options	21 bandwidth options	–	–	
Waveform Display							
Number of samples	1024, 2048, 4096, 8192, 16 384	1024, 2048, 4096, 8192, 16 384, 32 768	1024, 2048, 4096, 8192, 16 384	1024, 2048, 4096, 8192, 16 384, 32 768	2048	2048	
Time scale	10 ms to 640 seconds	10 ms to 640 seconds	10 ms to 640 seconds	10 ms to 640 seconds	160 ms to 32 seconds	160 ms to 32 seconds	Or orders based from 1 to 999 revs
Time synchronous averages	–	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	–	–	Only available when tachometer triggered
Long time waveform	–	–	Up to 40 kHz Fmax (28 M samples)	Up to 40 kHz Fmax (28 M samples)	–	–	

SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+	REMARKS
Logging Features							
Data storage	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	
Data storage structure	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / Machines	Folders / Machines	No limits are applied, 50 character names
Max Folder size	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	
Direct print reports	–	–	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Balance reports
Balancing							
Planes	–	–	2 planes, 2 sensors	2 planes, 4 sensors	2 planes, 2 sensors	2 planes, 4 sensors	
Speed range	–	–	30 to 60 000 RPM	30 to 60 000 RPM	30 to 60 000 RPM	30 to 60 000 RPM	
Measurement type	–	–	Acceleration, velocity, displacement	Acceleration, velocity, displacement	Acceleration, velocity, displacement	Acceleration, velocity, displacement	
Weight modes	–	–	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	e.g. weights on fan blades, linear dist around circumference
Remove trial weights	–	–	Yes, No	Yes, No	Yes, No	Yes, No	Removed weight automatic recalculation
Manual data entry	–	–	√	√	√	√	Allows re-entry of previous balance jobs
Storage	–	–	Against machines in data structure	Against machines in data structure	Against machines in data structure	Against machines in data structure	No limits are applied
Channel selection	–	–	Single or dual channel	Up to 4 channels simultaneous	Single or dual channel	Up to 4 channels simultaneous	
Display & Communications							
Resolution	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	
Viewing area	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	
Backlight	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	
Communications with PC	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	Route/Measurement transfer and Proflash firmware upgrade
USB host port	√	√	√	√	√	√	Save folders to USB flash drive
Battery & Charger							
Battery Type	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	
Operating time	10 hours	10 hours	10 hours	10 hours	10 hours	10 hours	Backlight on (60 second timeout)
Charger type	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	External Power pack 12 V DC, 3 A output, included in kit
Charge rate	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 hours for complete charge
Mechanical							
Size	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	
Weight	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	
Environmental							
Operating Temp	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	
Storage Temp & Humidity	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	
EMC	EN61326	EN61326	EN61326	EN61326	EN61326	EN61326	
Ruggedness	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	
Hazardous Locations	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	
Certification	CE	CE	CE	CE	CE	CE	

SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+
Recording Types						
Route enabled	√	√	√	√		
Spectrum/Waveform	√	√	√	√	√	√
6Pack	√	√	√	√		
Keypad entry	√	√	√	√		
Average value		√	√*	√		
Time Synchronous Averaging			√	√		
Bump test			√	√	√	
Coast-down/Run-up			√	√	√	
Cross-channel phase			√	√		

* Acceleration, Velocity, Displacement and Current units only.

All product specifications are subject to change without notice. Last revised 1 September 2008.

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SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+	REMARKS
Sensor Input							
Channels (simultaneous)	1	4	2	4	2	4	Simultaneous sampling
Sensors	Accelerometer	Accelerometer, Velocity, Displacement, Current, Voltage	Accelerometer, Velocity, Displacement, Current	Accelerometer, Velocity, Displacement, Current, Voltage	Accelerometer	Accelerometer, Velocity, Displacement	
AC coupled range	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	16 V peak-peak	Allows for ± 8 V sensor output swing (± 80 g)
DC coupled range	–	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	0 V to 20 V, -10 V to 10 V, -20 V to 0 V	–	–	e.g. for reading prox-probe gap
Connectors	BNC	BNC, LEMO	2x BNC	BNC, LEMO	2x BNC	BNC, LEMO	Safety feature: Break-free inline connector
Analog to digital conversion	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	24-bit ADC	
Sensor excitation current	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	0 mA or 2.2 mA (configurable), 24 V maximum	2.2 mA required for ICP®-type accelerometer
Sensor detection	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	Warns if short circuit or not connected	
Tachometer							
Sensor	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Laser sensor with reflective tape included in kit	Sensor triggers on beam reflection
Laser sensor range	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	10 cm to 2 m nominal	Dependent on size of reflective tape
Other Sensor types supported	Contact, TTL pulse	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse, Keyphasor®	Contact, TTL pulse	Contact, TTL pulse, Keyphasor®	Optically isolated input
Power supply to sensor	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	5 V, 50 mA	
TTL Pulse rating	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	3.5 V (4 mA) min, 28 V (6 mA) max, off-state 0.8 V	
Keyphasor® threshold	–	13 V ± 1 V	13 V ± 1 V	13 V ± 1 V	–	13 V ± 1 V	
Speed range	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	30 RPM to 300 000 RPM (0.5 Hz to 5 kHz)	
Parameter Indication							
Maximum levels	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm), >10 000 Amps	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	>1000 g (10 000 m/s2), >1000 in/sec (25 000 mm/s), >100 in (2500 mm)	Effective limit is sensor sensitivity and output voltage
Dynamic signal range	>95 dB	>95 dB	>95 dB	>95 dB	>95 dB	>95 dB	
Harmonic distortion	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Less than -70 dB typical	Other distortions and noise are lower
Units	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps and user-defined	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB, amps and user-defined	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	g or m/s2, in/s or mm/s, mil or mm or µm adB, vdB	0-peak, peak-peak or RMS. Auto-scale by 1000s when required US & SI options for both adB & vdB
Magnitude & Cursors	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Overall RMS value, dual cursors, harmonics	Digital readouts on chart
Accuracy	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	± 1% (0.1 dB)	For DC level (%F.S.) & AC measured at 100 Hz
Frequency response	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 0.1 dB from 10 Hz to 15 kHz; ± 3 dB from 1 Hz to 40 kHz	± 3 dB from 1 Hz to 5 kHz	± 3 dB from 1 Hz to 5 kHz	Acceleration and velocity. From value measured at 100 Hz
Spectrum Display							
Fmax possible ranges	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10 000, 15 000, 20 000, 30 000, 40 000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000 Hz	25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000 Hz	Or equivalent CPM values Or orders-based from 1X to 999X
Fmin possible range	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	0 to Fmax	vb instrument zeroes all spectral lines below Fmin
Resolution	400, 800, 1600, 3200, 6400 lines	400, 800, 1600, 3200, 6400, 12 800 lines	400, 800, 1600, 3200, 6400 lines	400, 800, 1600, 3200, 6400, 12 800 lines	800 lines	800 lines	3200 lines max. for dual channel measurements
Frequency scale	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM, Orders	Hz, CPM	Hz, CPM	Linear scale with zooming
Amplitude scale	Acceleration, velocity, displacement	Acceleration, velocity, displacement, current or user defined	Acceleration, velocity, displacement or current	Acceleration, velocity, displacement, current or user defined	Acceleration, velocity or displacement	Acceleration, velocity or displacement	Linear or log scales, auto or manual scaling
Window shapes	Hanning, rectangular	Hanning, rectangular	Hanning, rectangular	Hanning, rectangular	Hanning	Hanning	
Overlap	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	(0, 12.5, 25, 37.5, 50, 62.5, 75, 87.51 %	50%	50%	Dependent on Fmax and number of lines
Number of averages	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	4	4	Increases sampling time proportionally
Averaging types	Linear, exponential, peak hold	Linear, exponential, peak hold	Linear, exponential, peak hold, synchronous	Linear, exponential, peak hold, synchronous	Linear	Linear	
Demodulation bandwidths	21 bandwidth options	21 bandwidth options	21 bandwidth options	21 bandwidth options	–	–	
Waveform Display							
Number of samples	1024, 2048, 4096, 8192, 16 384	1024, 2048, 4096, 8192, 16 384, 32 768	1024, 2048, 4096, 8192, 16 384	1024, 2048, 4096, 8192, 16 384, 32 768	2048	2048	
Time scale	10 ms to 640 seconds	10 ms to 640 seconds	10 ms to 640 seconds	10 ms to 640 seconds	160 ms to 32 seconds	160 ms to 32 seconds	Or orders based from 1 to 999 revs
Time synchronous averages	–	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	1, 2, 4, 8, 16, 32, 64, 128	–	–	Only available when tachometer triggered
Long time waveform	–	–	Up to 40 kHz Fmax (28 M samples)	Up to 40 kHz Fmax (28 M samples)	–	–	

SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+	REMARKS
Logging Features							
Data storage	1 GB	1 GB	1 GB	1 GB	1 GB	1 GB	
Data storage structure	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / machines / points / locations /routes	Folders / Machines	Folders / Machines	No limits are applied, 50 character names
Max Folder size	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	10 000 measurement locations	
Direct print reports	–	–	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Via Ethernet to PCL-enabled printer	Balance reports
Balancing							
Planes	–	–	2 planes, 2 sensors	2 planes, 4 sensors	2 planes, 2 sensors	2 planes, 4 sensors	
Speed range	–	–	30 to 60 000 RPM	30 to 60 000 RPM	30 to 60 000 RPM	30 to 60 000 RPM	
Measurement type	–	–	Acceleration, velocity, displacement	Acceleration, velocity, displacement	Acceleration, velocity, displacement	Acceleration, velocity, displacement	
Weight modes	–	–	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	Angle 0° to 360°, fixed position, circumference arc	e.g. weights on fan blades, linear dist around circumference
Remove trial weights	–	–	Yes, No	Yes, No	Yes, No	Yes, No	Removed weight automatic recalculation
Manual data entry	–	–	√	√	√	√	Allows re-entry of previous balance jobs
Storage	–	–	Against machines in data structure	Against machines in data structure	Against machines in data structure	Against machines in data structure	No limits are applied
Channel selection	–	–	Single or dual channel	Up to 4 channels simultaneous	Single or dual channel	Up to 4 channels simultaneous	
Display & Communications							
Resolution	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	480 x 320 pixels (HVGA) Graphic Greyscale LCD	
Viewing area	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	4.4" x 3.1" (117 x 79) mm	
Backlight	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	White LED, 4V, 100 Cd/m2	
Communications with PC	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	USB and Ethernet	Route/Measurement transfer and Proflash firmware upgrade
USB host port	√	√	√	√	√	√	Save folders to USB flash drive
Battery & Charger							
Battery Type	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	Custom Lithium Ion pack, 7.4 V, 4500 mAh	
Operating time	10 hours	10 hours	10 hours	10 hours	10 hours	10 hours	Backlight on (60 second timeout)
Charger type	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	Internal charging, automatic control	External Power pack 12 V DC, 3 A output, included in kit
Charge rate	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 A nominal	3 hours for complete charge
Mechanical							
Size	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	9.9" W x 5.8" L x 2.4" H (252 x 148x 60) mm	
Weight	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	2.7 lb (1.2 kg) including battery	
Environmental							
Operating Temp	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	14 °F to 122 °F (-10 to 50) °C	
Storage Temp & Humidity	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	-4 °F to 140 °F (-20 to 60) °C, 95% RH	
EMC	EN61326	EN61326	EN61326	EN61326	EN61326	EN61326	
Ruggedness	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	IP65 / 4' (1.2 m) drop onto concrete / MIL-STD-810F-IV	
Hazardous Locations	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	CSA Class I, Division 2 (Groups A, B, C, D)	
Certification	CE	CE	CE	CE	CE	CE	

SPECIFICATIONS	DATA COLLECTORS vb5	DATA COLLECTORS vb6	DATA ANALYZERS vb7	DATA ANALYZERS vb8	BALANCERS vbBalancer	BALANCERS vbBalancer+
Recording Types						
Route enabled	√	√	√	√		
Spectrum/Waveform	√	√	√	√	√	√
6Pack	√	√	√	√		
Keypad entry	√	√	√	√		
Average value		√	√*	√		
Time Synchronous Averaging			√	√		
Bump test			√	√	√	
Coast-down/Run-up			√	√	√	
Cross-channel phase			√	√		

* Acceleration, Velocity, Displacement and Current units only.

All product specifications are subject to change without notice. Last revised 1 September 2008.

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