

Datastick® BAL-2000™ Balancer

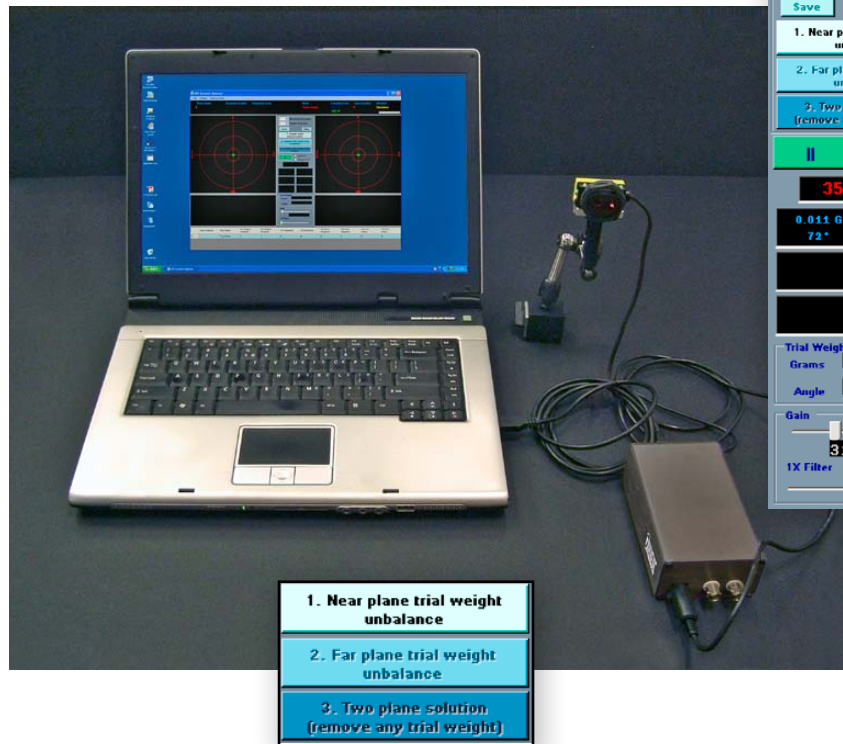
Portable USB Laser Balancing
System for Windows Laptops

Portable single-plane or two-plane balancing system with phase-reference laser tachometer

This portable balancing system for single-plane or two-plane balancing is exceptionally easy to use. It is powered by the USB port on a laptop or PC, which in turn powers its phase-reference laser tachometer and one or two ICP®-type accelerometers.

The phase-reference laser tachometer has programmable gain for optimizing performance in any environment. The visual readout shows signal level and phase tracking in analog waveform. The adjustable low-pass filter ensures a stable phase signal.

- Range from 250 – 8000 rpm
- Peak unbalance reported in acceleration (g) or velocity (in/sec)
- Step-by-step procedures and prompts eliminate confusion and error
- Built-in database to store history
- Single plane, static couple separation, and two plane methods included
- Vector split calculation from 3 to 40 blades for fans, axial bladed rotors, etc.
- Time domain waveform of each plane for visual ID of 1 x unbalance against other frequencies
- Up to 200 1 x time-domain waveform averages
- Up to 200 peak sampling averages
- Easy-to-use digital band pass filter, results of filtering immediately apparent in oscilloscope window
- Software adjustable gain control on the fly to save and recall influence coefficients
- Data sampled at 100 x rotation frequency (phase driven)
- Optimized for 1280 x 1024 and 1024 x 768 screen resolution



BAL-2000 Balancer System Components

Balancer Hardware Module

- Two BNC connectors for industry-standard ICP-compatible piezoelectric accelerometers with 10 mA constant current source
- USB Connector for signal and power
- 3-pin mini-DIN connector for Phase-Reference Laser Tachometer

Phase-Reference Laser Tach Module

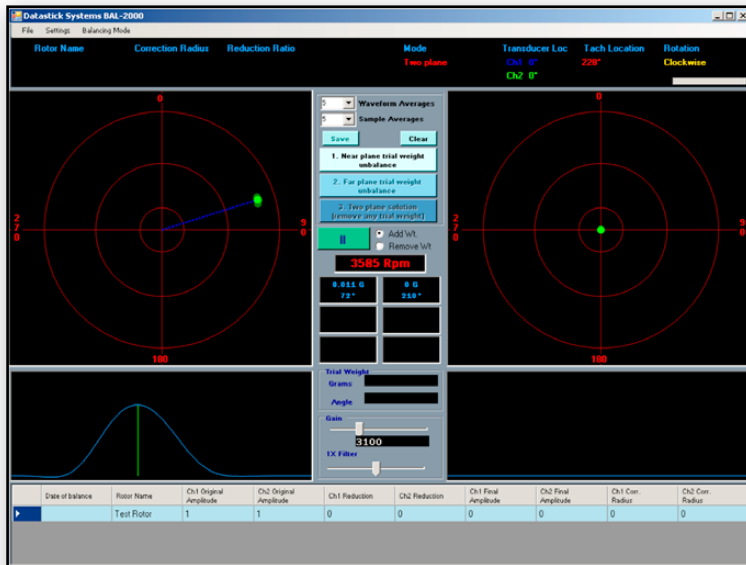
- Attached cable with 3-pin mini-DIN connector
- Magnetic mounting base with ball-joint articulating arm

BAL-2000 Software CD-ROM

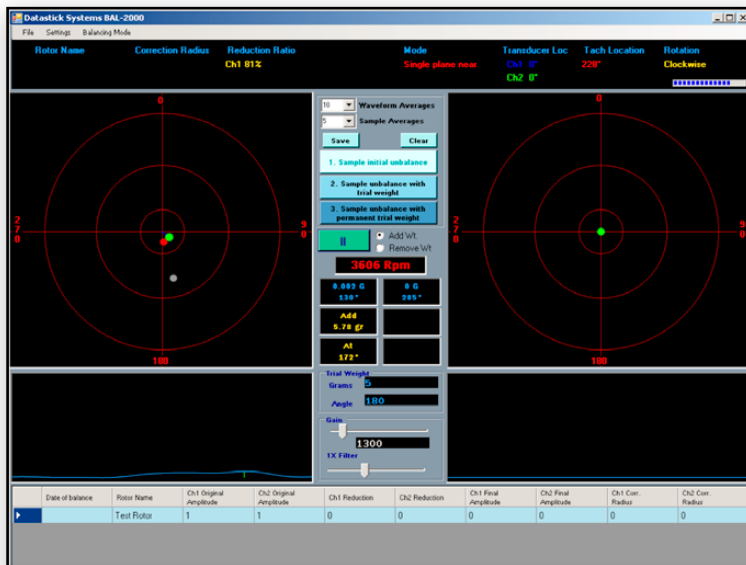
- Desktop instrumentation software
- Drivers
- Manuals with step-by-step installation procedure

System Requirements

- Windows XP or Windows 7; laptop or desktop PC
- One or two IEPE (Integrated Electronics Piezo Electric) piezoelectric industrial accelerometers with mounts and cables



A test run shows the initial unbalance, the input signal and phase trigger.



After balance correction, the signal is reduced as shown by the readout in the "bullseye" and by reduced analog waveform amplitude.

Available Options Include

Accelerometer

Datastick DS140-1A Accelerometer or similar ICP-compatible industrial accelerometer

Cable

Datastick DSC-MMB15 15-foot cable with BNC to 2-pin mini-MIL connector for DS140-1A piezoelectric industrial accelerometer

Note: If you already own a DSC-MMB6 6-foot cable with BNC connector for use with a DS140-1A piezoelectric industrial accelerometer, then you could add the following 10-foot extension cable:

Datastick DSC-MME10 10-foot extension cable BNC Male to BNC Female connector for use with DS140-1A Accelerometer. Ideal to extend the 6-foot cable supplied with Datastick VSA series Vibration Spectrum Analyzers to 16 feet for use with the BAL-2000.

Magnetic Mount

Datastick DSM-112 Magnetic Mount for DS140-1A Accelerometer

Specifications

BAL-2000 Module

ICP-Compatible (IEPE = Integrated Electronics Piezo Electric) Inputs:

- Voltage: 24 V max
- Constant Current Source: 10 mA
- Connector: BNC

Power Requirement:

USB Input: 100 mA max powered by USB port on PC or laptop

Phase-Reference Laser Tachometer (when used with BAL-2000):

Laser: Class 1

Range: 400 mm (16")

Spot Size at Focus: 1 mm at 400 mm (0.039" at 16")

Supply Voltage: 10 V – 30 V DC

Sensing Beam: 650 nm visible red

Beam Size at Aperture: ~ 2 mm

Output Response Time: 500 microseconds

Repeatability: 70 microseconds

Adjustments:

Two-push-button programming

- 2-point static
- 2-point dynamic
- 1-point static
- LO/DO options

Indicators:

- Signal Strength: Eight-bar LED

- Power On: Green

- Output Conducting: Yellow

Environmental Rating: IP 64

Operating temperature: 50 degrees F to 122 degrees F (10 degrees C to 50 degrees C)

90% RH at 122 degrees F (noncondensing)



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