2911 South Shore Blvd., Ste. 170
League City, TX 77573
Phone 1-800-899-2241
Fax 281-334-4255
Web www.reliabilitydirect.com

Your One Stop Shop for Condition Monitoring and Plant Reliability

NRS VA3 Vibration Analysis System

Durable, handheld units monitor equipment and structures to capture total equipment health information, including:

- **Unbalance**
- **Misalignment**
- **Resonance and Looseness**
- **Bearing Condition Analysis**
- **Lubrication Analysis**
- **Process Parameters Such As:**
  - **Temperature**
  - **Pressure**
  - **Speed**

Downtime can drain profitability—up to tens of thousands of dollars per hour. A predictive maintenance system is essential to prevent downtime for your company. National Reliability Systems (NRS), a division of National Electrical Carbon, is a proven industry leader in predictive maintenance equipment. NRS offers simple, affordable solutions that allow you to accurately detect potential failures early, and give you the power to prevent them.

Mass unbalance, or imbalance, is one of the most common causes of unacceptable machine vibration, and it accounts for 70% of all rotating machinery failures. Left undetected, imbalance can cause structural weaknesses to develop within the machine, resulting in unplanned downtime and extra maintenance costs.

The NRS VA3 is a portable single or dual channel data collector and analyzer, with a small dimension and weight (2 lbs), large, high-resolution LCD display and a powerful processor for fast data collection and analysis.

The NRS VA3 is equipped for bearing condition analysis lubrication analysis and mechanical defect analysis such as unbalance, misalignment, resonance and looseness. The VA3 enables FFT spectrum measurement, order analysis and time signal analysis and can work as either a data collection device, an analyzer or a balancing tool with a single button that switches modes.

Combined with the NRS DDS 2000 software, the NRS VA3 instrument is a very powerful weapon in predictive maintenance. DDS 2000 software system represents a powerful tool for storage and evaluation of vibration and diagnostic data. It allows the user to connect and work with data collected by both portable data collectors and online systems. It includes all the functions necessary for data transfer, evaluation, analysis, data storage and reporting.

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Specifications:

Applications:	**Modifications available:**
Diagnose mechanical defects such as unbalance, misalignment, resonance, and looseness	The standard instrument is the Analyzer Pro. You can also add the following options to the Analyzer Pro: DataCollector, DualChannel and Balancing.
Diagnosis bearings	
Fans, pumps, gearboxes, engines, turbines, machine tools	**AnalyzerPro**:
Low-Speed diagnosis of paper machines, rolling mills, mining equipment	Includes measurements of overall values, time signals, FFT spectra, order analysis, envelope analysis, bearing condition values, process values and speed. Measurements are taken in a multiplexed 2-channel mode (non-synchronous). The data is saved to memory for future evaluations.
Machine Deflection Shapes Measurement	
Characteristics:	
One-touch switching between data collection and analysis mode	**DataCollector**:
One-handed keyboard operation	Enables use of all possible measurements in the Data collector/ Route mode. The route is defined in DDS 2000 software and transferred to the A4300 via the RS232 communication interface. Manual data input is also available via the instrument keyboard.
Connect acceleration and velocity sensors, tachometer, CTs, ammeter, temperature probes	
Bearing condition analysis with lowspeed bearing analysis included	**DualChannel**:
FFT and Order analysis, Signal averaging, and Time signal analysis	Synchronous (simultaneous) measurement in 2 channels.
Frequency range of 0.8-40,000 Hz	**Balancing**:
RMS, Peak, Peak-to-Peak measurement	Balancing in 1 and 2 planes with trim.
Route measurement system and manual data input	
12 MB memory	

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Technical Specifications:

Input channels:	2 Channel Vibration Tachometer AC DC	**Trigger:**	Automatic (immediately after pushing the Start button) Manual (special button) External (TTL or tachometer) By signal which exceeds a defined limit
Measurements:	Data Collector or Analyzer	**External trigger:**	Signal of TTL or pulses greater than > 0.7 V0.05"
Sensors:	2 sensors with ICP power —user selectable on/off AC voltage signal DC voltage signal	**FFT:**	Frequency ranges: User defined from 20Hz to 20kHz Max. lines: 6400 Base (12,800 Advanced) Window: Hanning, Rectangular
Input ranges:	0.01 – 1,000 m/s2 (sensor 100 mV/g) 0.1 – 10,000 m/s2 (sensor 10 mV/g) 0.1 – 20,000 CPS (6 - 1,200,000 RPM) AC: +/- 10 V peak DC: 20V	**Averaging:**	Max. 255
		Filters:	High pass, Low pass and Band pass
		Memory:	12 MB
		Display:	LCD with backlighting 320 x 240 dots
Data acquisition:	TRUE RMS and TRUE PEAK measurements Demodulation Band pass measurements (user defined frequency limits) User defined sampling frequency from any band interval Signal integration (1x, 2x) Envelope analysis (ENV) Band pass Bearing measurements and envelope analysis for bearing condition measurement Peak Watch measurement for low speed or large bearings Time signal analysis FFT spectrum analysis Order analysis Speed measurement	**Interface:**	RS232
		Software:	DDS 2000
		Protection:	IP55
		Temperature:	-4°F to 150°F
		Power Supply:	4 AA 1.5 V batteries rechargeable NiMH batteries (included)
		Weight:	2 lbs
		Accessories:	Sensors, magnets and cables Laser or opto tachometer Internal battery charger