CSI 2600 Machinery Health Expert

- Portable, 24-channel machinery health monitor and analyzer helps troubleshoot your entire machine or group of machines
- Includes transient analysis for turbo machinery startup, coast down, and production state monitoring
- Monitor and record all channels continuously and simultaneously for hours, days, or weeks – unattended
- AMS Suite integration saves time and facilitates multi-technology integration
- PeakVue™ technology can be added for early identification of bearing wear in paper machines, rolling mills, complex gearboxes and rolling element bearing machines

The CSI 2600 Machinery Health Expert combines the portability of the CSI 2130 Machinery Health Analyzer with the online capabilities of the CSI 6500 Machinery Health Monitor.

Introduction

Portable vibration analyzers are the cornerstone of a successful predictive maintenance program. However, some anomalies, like root cause investigations and machine train evaluations, can surpass the capabilities of even the most sophisticated 2-channel portable data collector. For example, turbo machinery start-ups, coast downs and production state monitoring require multi-channel, simultaneous recording, vibration monitoring, and real-time feedback to capture rapidly changing events across an entire machine train.

For balance of plant critical machines, a mobile, multi-channel monitoring solution with rolling element and gearbox monitoring technology is necessary for root cause analysis and to determine if the machine will survive to the next outage.

One Tool to Fit Many Needs

Emerson's CSI 2600 Machinery Health Expert satisfies the need between two-channel portable analyzers and permanently-installed online vibration monitoring by borrowing the best from both solutions. Before a planned outage, setup the CSI 2600 to simultaneously record up to 24 channels of continuous sensor data and up to 4 tachometers for speed references. With AMS Suite: Machinery Health Manager, view waveforms, spectral data, and live orbits. Replay events using a customized view for further analysis, or replay as a presentation to the maintenance staff. Configure the CSI 2600 for waveform processing using PeakVue technology, order tracking, time synchronous averaging, or predefined parameters for advanced analysis.

The CSI 2600 can be configured and applied in a variety of applications — diagnosing a suspected load, speed, or batch-dependent problem, bringing a new machine online, or verifying critical speed prior to machine acceptance from the vendor.

EMERSON™
Process Management

The CSI 2600 is designed to sit upright, fit in tight spaces, or lay on its side to support your laptop. The hinged back door enables direct access to termination panels, providing numerous sensor-mounting options.

Innovative, Powerful

The CSI 2600 is a data collector, data viewer, data recorder and data manager in a single instrument. This unique tool can record continuous-time waveforms over 100 hours in length and allows you to view live plots with updates as fast as 5 times per second. The CSI 2600 also offers:

- 8-256 hours of continuous, simultaneous data recording
- Live plot displays
- Replay mode (play, rewind, fast forward, stop, auto-repeat)
- Complete plot control during Replay mode
- Support for external hard drive arrays to extend recording and storage options

The CSI 2600 Machinery Health Expert interfaces directly with a laptop computer for immediate access to all data using AMS Machinery Manager. The laptop can be disconnected for unattended recording.

Getting Started is Simple and Fast

Connect the BNC cables from the protection rack or your accelerometers to the termination panel of the CSI 2600 and turn the power switch on. With a library of database templates to choose from, setup is simple and fast. Choose a template and 24 channels of vibration and 4 channels of speed/phase will begin recording. Connect the Ethernet cable and use your laptop to view live rotor diagnostic displays. Select Live View and your saved preferences for viewing orbits, shaft centerlines, waveforms, spectrums, and trends automatically display.

Continuous Data Recording, No Snapshots

The unique architecture of the monitor allows for these very powerful capabilities:

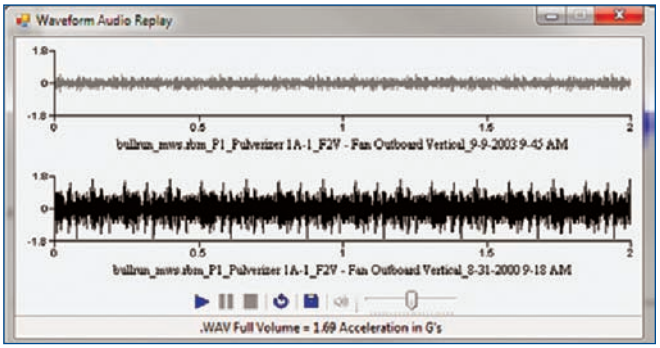
- Data recording is both continuous and simultaneous on all channels versus infrequent snapshots of data with other technologies
- Monitoring and recording function remain uninterrupted, even while you perform data manipulation (such as live data viewing, analysis or even manual data extraction) via AMS Machinery Manager

Instant Replay

The Replay Mode is one of the most powerful analyzing tools introduced in AMS Machinery Manager v5.0. During Replay Mode, saved data from transient events can be used to simulate an event in real-time. Fast forward, rewind, or use slow motion and auto-repeat to view the event. Spread plots across dual displays and select new filters as you replay the orbit plots. By controlling every view and all of the data generated by the event, you can analyze any machine event at your own convenience.

Rolling Element Bearing Monitoring

The CSI 2600 includes an option to add Emerson's PeakVue technology — a unique expert approach to monitoring the distinct characteristics of bearing and gearbox problems. The PeakVue technology utilizes a 6400-line resolution, 40kHz Fmax, and over 60,000 rolling element bearing fault frequency data files to deliver the earliest indication of developing bearing faults. In addition, the CSI 2600 includes order tracking, definable data collection strategies, configurable analysis techniques, and unattended automatic eventbased monitoring for customizing the data you collect during an event.



Time waveforms can be replayed from AMS Machinery Manager to listen for machinery defects or for comparison to stored waveforms.

Enclosure Specs for CSI 2600

Enclosure Dimensions		
CSI 2600	8 ¼" W x 16" D x 20 ¼" H	
	Weight	29.8 lbs
Case	19.5W x 24.5"D x 13.75"H	
	Weight	23 lbs
Temperature	0°C - 48°C	
0 – 95% Relative Humidity		
General		
120 - 240 VAC autosensing input		
80 watts power consumption		
X2 10/100BaseT Ethernet		
Includes fan		
CE approved		
CSA approved		
Recommended Laptop Specs		
Emerson part number, A4500H5		
Dell E6410, Intel Core 2 Duo P8700, 2.53GHz		
4.0GB memory		
256MB NVIDIA Quadro NVS video driver		
14.1 inch wide screen display, WXGA 1280 x 800 LED		
160 GB hard drive, 5400 rpm		
Windows 7 professional		
8X DVD +- RW		
4.26 lbs		
Dell wireless LAN		

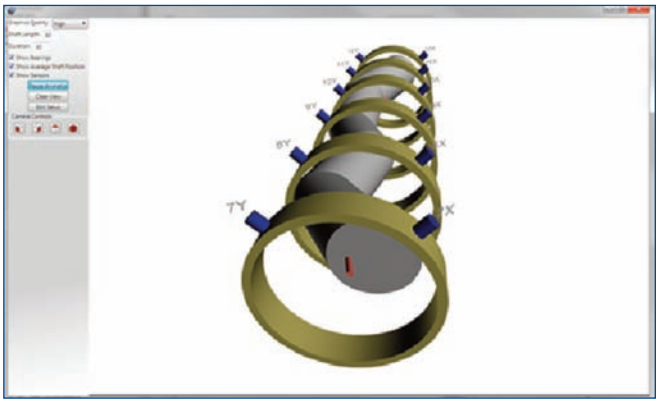
CSI 2600 Machinery Health Expert Includes:

- Transient analysis for turbo machinery
- Transient processor: 51,200 lines of resolution, 2 kHz Fmax simultaneous
- Integration with AMS Machinery Manager
- Turbine replay*
- 12 or 24 channels of simultaneous, continuous data acquisition
- Live plots, updating 5 times per second
- 100+ hours of data recording
- Runout subtraction
- Acceptance regions*
- Drag and drop baseline on live plots
- 3D rotate cascade plots*
- Integration with CSI 2130 Machinery Health Analyzer
- 2 or 4 speed/phase sensors channels
- 24+ user-definable analysis parameters per channel
- Unattended or automatic event-based, adaptive monitoring
- Event monitoring based on speed, overall vibration level, using DC input level or relay input, with Boolean combinations
- Customized filtered orbits
- Multi-colored plots for easy analysis*

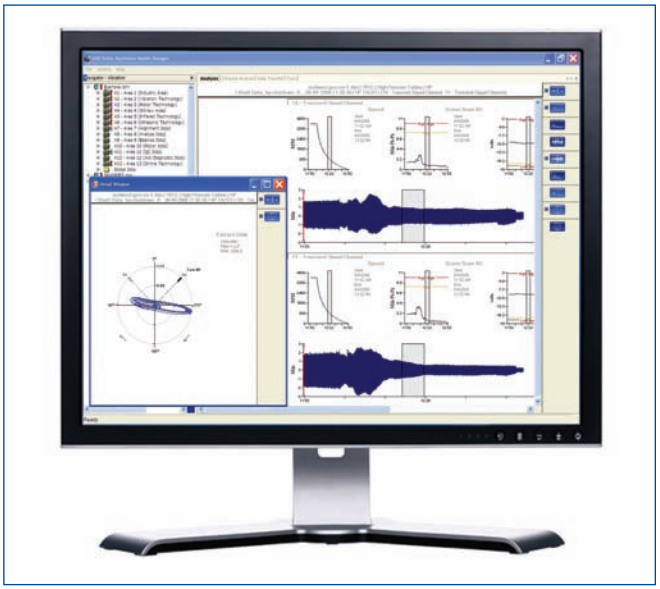
Options

- PeakVue processor (6400 lines, 40 kHz Fmax) scanning
- PeakVue software to export rolling element bearing and gearbox analysis
- Sensors: Complete selection of accelerometer, dual temperature/accelerometers, velometers, tachometers and displacement probes
- Mounting pads, magnetic bases
- Turbo Machinery Diagnostic training and PE credit hours provided by recognized leaders in this field
- Remote configuration or analysis support via dial-up or onsite service
- BNC cables, connectors, extension cables
- Spare parts
- AMS Machinery Manager
- External hard drive*

*Denotes AMS Machinery Manager v5.0 or higher



Use the Live 3D Shaft Animation to see the motion of the shaft around the average bearing shaft centerline. All aspects of the display, including angle of view and playback speed, are controlled by the user.



Replaying the 100 hour plus time buffer with the many analysis tools within the optional AMS Machinery Manager software

Order Information

CSI 2600 Machinery Health Expert	
Transient DVR*, Machinery Health Processor, 24 ch, 4 tach, 4 relay	A2600T8
Transient DVR*, Machinery Health Processor, 12 ch, 2 tach, 2 relay	A2600T7
Machinery Health Processor, 24 ch, 4 tach, 4 relay	A2600M8
Machinery Health Processor, 12 ch, 2 tach, 2 relay	A2600M7
*DVR - digital vibration recorder	
Software Options for the New User	
AMS Machinery Manager VibView Online only A474505	
Transient Analysis and Plotting Tools, per concurrent user seat (software support agreement must be up-to-date)	A474507
Unlimited Online Watch and Online Config license (included with A474505)	A474500
PeakVue Firmware	A476514
Software Options for Existing AMS Machinery Manager Users	
AMS Machinery Manager VibView Online only	A474505-A
Transient Analysis and Plotting Tools, per concurrent user seat (software support agreement must be up-to-date)	A474507
Unlimited Online Watch and Online Config license (included with A474505)	A474500
PeakVue Firmware	A476514
Services	
2-day onsite startup services, including setup and informal onsite training	AO-SERV-ONLINE
Hardware support, per year per unit	SUPPORT-26-1
Accessories included in the purchase of the CSI 2600:	
Accessory pack includes the following:	A2600ACC
Cable ASM 3 cond with plug & rect 125v	MHM-65010
Fan filter, 120mm, 45ppi foam	MHM-94987
Category 5E patch cord, 7', blue	MHM-64986
Cable ASM RS-232 data cable, DB9M-F, 6'	MHM-65137
Conn Plug 3P straight, screw mount (PN1834916)	MHM-60251
Pelican case, 19.5" x 24.5" x 13.75"	D25334

The CSI 2600 was designed for travel. It comes with a special rugged and durable travel case

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