CSI 2130 Machinery Health Collector

Early detection of critical machine defects allows plant personnel to plan and prioritize maintenance corrective action to avoid costly interruptions in production schedules.

- High-speed data collection covers more machines in less time
- Embedded PeakVue® technology makes you a bearing and gear analysis expert
- In-field alarming identifies problem machinery immediately
- Splash proof, dustproof, and sealed IP-65 enclosure is safe for most environments
- Unlimited memory storage can handle all necessary data
- Easily upgradeable to higher functionality to grow with your program

Introduction

Emerson is proud to be the leader in the development of advanced Machinery Health Management technologies. With that in mind, Emerson has rounded out its line of portable vibration products with the new CSI 2130 Machinery Health Collector. This portable vibration data collector is just the right size for getting new programs off the ground or contributing to existing programs. It is able to grow in functionality as needed so your investment is never limited to today's needs.

Product Description

Emerson's CSI 2130 Machinery Health Analyzer is already recognized worldwide as the fastest, highest-performance portable vibration analyzer on the market. The unit's multi-functional, handheld platform is based on a module design that allows any combination of technology options:

- Route data collector
- In-field vibration analyzer
- Field balancing instrument
- Laser alignment tool
- Transient collector
- Advanced vibration analysis

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Process Management

The new CSI 2130 Collector is built on the same modular design capability of the CSI 2130 Analyzer, but is offered as a dedicated vibration route data collector. The functionality of this instrument, combined with its ability to upgrade, makes this data collector ideal for facilities that:

- Are launching a predictive maintenance program.
- Have a limited budget, but want the best data collection capability for their money.
- Operate small- to medium-sized plants with less machinery to monitor.
- Are larger plants looking to expand existing vibration data collection coverage.

Full-Featured Data Collection

The CSI 2130 Collector is a full-featured vibration data collector available at an affordable price. When integrated with AMS Suite: Machinery Health Manager, the CSI 2130 Collector is the most capable and complete portable vibration route data collector available.

Fastest Data Collection Available

The CSI 2130 Collector has the same fast data collection speed as the CSI 2130 Analyzer. This speed allows you to cover 30-60% more plant assets in the same amount of time as other data collectors could. Speed does not sacrifice quality – data collected will be high resolution and Fmax with vibration spectrum, waveform, and up to 12 specific narrow bands of trend data for machine health analysis.

PeakVue Analysis

The patented PeakVue digital stress wave detection technology, standard with the CSI 2130 Collector, is recognized as the most accurate provider of early detection of bearing and gear defects available in a portable vibration data collector.

Easy Operation

The 640x480 pixel, full VGA color screen provides a viewing area large enough to effectively review data in the field, while collecting data in live mode or with an active cursor after collection. The screen viewing area can also be divided to show multiple plots, analysis parameters with the data plots, or in-field reports. The CSI 2130 Collector's large buttons and intuitive navigation screens make the instrument easy to use, even when wearing gloves.

The CSI 2130 collector features the same speed and ease-of-use functionality as the CSI 2130 analyzer.

In-Field Alarming

The CSI 2130 Collector receives the vibration parameter alarm levels during download of the collection route, so a notification appears immediately on screen with developing faults at the time of measurement. The machine can then be flagged for further analysis from the field with a single button.

Upgradeable to Higher Functionality

As part of the modular CSI 2130 platform, the CSI 2130 Collector can grow with your predictive maintenance needs and experience to include any of the program modules found in the CSI 2130 Analyzer.

Service Options

Emerson offers options for getting started with your CSI 2130 Collector or CSI 2130 Analyzer. Whether you are launching a program or revitalizing an existing program, our experts are available to help you incorporate the technology into your maintenance program and maximize your investment as quickly as possible.

Technical Specifications

Data Analysis Speed	
	400 line / 1000 Hz spectrum: 0.14 sec/avg
	1600 line / 1000 Hz spectrum: 0.5 sec /avg
Analysis Capabilities	
Noise Floor	Less than 0.2 micro-volts per root Hz over 1,000 Hz frequency range
PeakVue	Built-in, with selectable filters
Demodulation	Built-in, with selectable filters
SST	Built-in Low Frequency processing
Dynamic Analysis	Overall, Spectra, Waveform, 12 analysis parameters, 1/3 Octave, A-weighting, Phase
Signal Range	Autoranging maintains optimum dynamic range. 16 bit A/D Converter has 96 dB Dynamic Range (coupled with analog integration provides better than 120 dB for typical applications).
Frequency Range	740 ranges from DC-10 Hz to DC-80 kHz
Low Frequency Response	DC coupling on non-powered inputs allows flat response to DC for non-integrated signals.
Resolution	1/3 Octave, 100, 200, 400, 800, 1600, 3200, 6,400, 12,800 lines
Averaging	Normal, Peak Hold, Order Tracking, and Synchronous Time
Number of Averages	5,000 in Route mode
Integration	None, Single, Double (Analog or Digital)
Trigger	Tach
Anti-Aliasing	Filters attenuate all alias components to below noise floor.
Amplitude Units	Metric or English, acceleration, velocity, displacement, or user programmable
Frequency Units	Hz, CPM, Orders
Scaling	Linear or Log, both X and Y axes
Windows	Hanning or Uniform
Cursor	Single, Harmonic, Moving Harmonic, Sideband
Memory	
512 MB internal memory	Secure Digital (SD) card for unlimited memory
Signal Inputs	
Powered Inputs	2 mA, +20 V ICP power supply, +/- 15 V
Non-Powered Inputs	+/- 24 V range
Input Impedance	Greater than 125 k ohms
Tach	NTTL input, built-in conditioning for non TTL signals, adjustable trigger
Pseudo Tach	Generates tach pulses for hidden shafts
Triaxial	Internal multiplexer for automatic sequencing of triaxial measurements

Technical Specifications

Output	
	Communication with Host Computer with USB, Ethernet, Serial, or Email data files.
Physical Data	
Color Display	5.75" x 4.25" (146 mm x 108 mm)
	Transflective (for indoor or outdoor use)
	Liquid crystal display
	Built-in backlight
	640 x 480 pixel
Height	8" (203 mm)
Depth	1.88" (48 mm)
Width	10.25" (260 mm)
Weight	4.5 lbs (2.04 kg)
Operating Conditions	
Moisture	Sealed enclosure, IP-65 rated
Temperature	15 to 122 ºF (-10 to 50 C)
Power Supply	
Battery	NiMH Capacity: 4.5 amp hours
Voltage	7.2 V
Battery Life	8 hours typical use. Data saved in the event of low battery voltage.
Charger	Discharge/Fast charge/Trickle charge "Smart Charger." Also functions as a continuous power supply.
Recharge Time	3 hours
Standard Accessories	
	1 Accelerometer
	1 Coiled sensor cable
	1 Magnet mount
	Power supply
	USB Communication cable
	Firmware/instructional CD
	Storage case
Localized Languages	
	The CSI 2130 Collector is available in: English, Spanish, French, German, Russian, Finnish, Swedish, Turkish, and Chinese.

Technical Specifications

Safety and Industrial Ratings	
	Designed for use in industrial environments, the CSI 2130 Collector has received a IP65 rating certifying that it is dust- and splash water tight. It is also certified to comply with international safety standards in the United States, Canada, and Europe for hazardous areas. Safety rated versions A2130D1Q and A2130D1Q-CU are available for the following hazardous environments:
FM	Class I, Division 2, Groups A, B, C and D, Temperature Code T4A @ Ta = 50C, CLI, Zone 2, IIC, Non Incedive, T4
CSA	Class I, Division 2, Groups A, B, C and D, Temperature Code T4A @ Ta = 50C Ex nA IIC, T4 @ Ta = 50C
ATEX	CE EX II 3 G
	Ex nL IIC T4

Upgrade Matrix for Model A2130D1

Model	Description
A2130D1-UP-A1	Upgrade package from A2130D1 to A2130A1
A2130V2	Add Second Channel*
A2130S3	Add Advanced Cross Channel Firmware*
A2130S4	Add Transient Firmware*
A2130S5	Add ODS/Modal Firmware*
A2130S7	Add Balancing Firmware
A2130S8	Add Basic Alignment Firmware
A2130S9	Add Advanced Alignment Firmware
A8730EZ	Basic Laser Expansion Pak with 10x10 targets and RF communication
A8730EZ-IN	Basic Laser Expansion Pak with 10x10 targets and cabled communication
A873015-CU	Advanced Laser Expansion Pak with 10x10 targets and RF communication
A873015-IN	Advanced Laser Expansion Pak with 10x10 targets and cabled communication
A873025-CU	Advanced Laser Expansion Pak with 20x20 targets and RF communication
A873025-IN	Advanced Laser Expansion Pak with 20x20 targets and cabled communication

* Second Channel, Advanced Cross Channel, Transient, and ODS/Modal options require an upgrade to the CSI 2130 Analyzer.

Emerson Process Management
Asset Optimization Division
835 Innovation Drive
Knoxville, TN 37932
T (865) 675-2400
F (865) 218-1401
www.EmersonProcess.com

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