CSI 2130 Machinery Health Analyzer

- *Data collection, vibration analysis, alignment and balancing in a single unit*
- *Embedded intelligence unlocks powerful technology solutions*
- *Compact, rugged design holds up to any plant environment*
- *Intuitive operation shortens the learning curve for faster implementation*
- *Modular format allows you to add capabilities as your needs change*
- *Upload data to AMS™ Suite for a single view of machinery health*

The Route application in the CSI 2130 uses pre-defined settings to provide instant feedback about machinery health in an easy-to-read color bar graph.

Overview

Maintenance departments today are asked to run with fewer staff and smaller budgets than ever before. In this do-more-with-less environment, maintenance personnel can't afford to continuously chase the next breakdown. They need to quickly and accurately identify developing faults and find the root cause of the machinery problem so that it can be fixed.

An effective technology solution must be simple to operate—reducing training requirements—while providing fast, actionable information to help you prioritize maintenance activities. Emerson's CSI 2130 Machinery Health Analyzer was developed with these requirements in mind.

EMERSON. Process Management

The CSI 2130 stands alone as the industry-leading vibration data collector. In addition, the CSI 2130 can provide:

- Advanced vibration analysis
- Cross-channel analysis
- Transient analysis
- Dynamic balancing
- Laser shaft alignment
- Motor monitoring

Complex data from vibration signals is condensed into machinery health information and presented in an easy-to-understand bar graph format. Details are available at the push of a button.

Routine data and corrective maintenance jobs can be uploaded to AMS Suite: Machinery Health Manager for analysis and reporting. AMS Machinery Manager integrates data from multiple technologies, including vibration and oil analysis, thermography, and alignment and balancing into a singe database. Alerts generated by AMS Machinery Manager can be exported automatically to AMS Suite: Asset Portal™, where they are combined with alerts from other plant assets to provide a unified view of your plant's health. These predictive diagnostics power PlantWeb® by enabling plant personnel to improve plant availability and reliability.

Monitor More Machines in Less Time

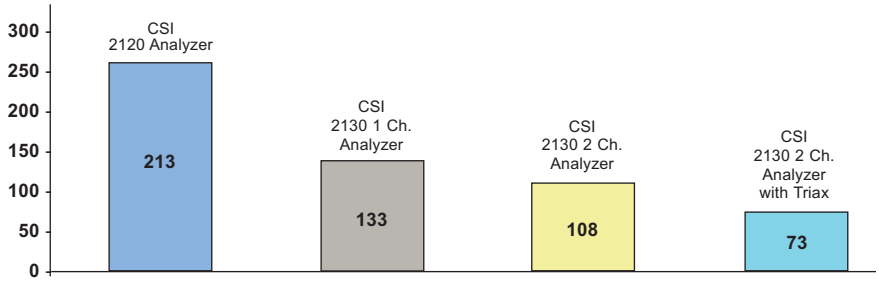
As shown below, data collection time is reduced by as much as 60% compared to the CSI 2120, and even more when compared to other instruments. Faster data collection translates into more machines monitored and more time dedicated to machinery analysis.

Portable and Durable

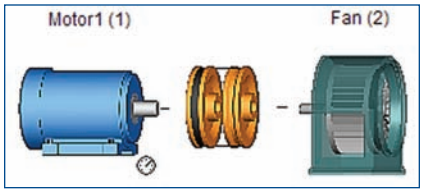
The durability of this unit makes it ideal for field work in a wide variety of industrial applications.

- Large Color Display: backlit VGA display for use anywhere.
- Small and Lightweight: easily carried on long routes
- In-Field Reports: color-coded alarm report for each point.
- Industrial Design: IP 65 rated with optional safety rating.

Relative Data Collection Time in Seconds



Times are based on a 1600-line resolution motor/fan machine train, which has a total of 16 points, spectrum, waveform and 10 parameter trend points collected on each measurement.



Increase Productivity with the Dual-Channel Option

The CSI 2130 is available with either one or two channels for vibration analysis. The dual-channel option not only enables advanced analysis options, but also brings significant efficiency improvements. Emerson's patented dual-channel data collection technique slashes measurement time by an additional 20% to 45%. This increase in productivity translates into a complete return on investment within the first year.

Easy Operation

The CSI 2130 requires only minimal training for effective operation. In addition to collecting data, the CSI 2130 converts data into actionable information about machinery health. For example, it can automatically distinguish between an imbalance and a bearing fault. The user is instantly notified about the nature of developing faults at the time of measurement, so that you can focus your attention on critical machine issues immediately.

The full VGA screen displays standard and PeakVue data at the same time. The PeakVue plot (bottom right) provides clear indication of a rolling element bearing fault that is not visible in the standard reading (bottom left).

Embedded Intelligence

The ability to perform additional diagnostic tests at the machine site transforms simple data collection into an effective machinery health program. In today's demanding work environment, it is difficult to find the time to acquire advanced analysis skills. Embedded diagnostics enable even a novice user to conduct sophisticated tests with the touch of a button. The bottom line impact is that users can quickly harness the full power of the CSI 2130 in the field, immediately impacting your botton line.

Detect the Earliest Sign of Bearing and Gear Wear

Detecting imbalance or misalignment is simple with most data collectors but the CSI 2130 can also detect developing faults on bearings and gears.

Emerson's patented PeakVue® processing applies digital technology to detect stress waves - the earliest sign of bearing and gear wear. Demodulation and other analog technologies typically can not detect such faults until much later – after the machine is already damaged.

PeakVue processing not only offers the earliest warning of developing faults, it also provides an indication of severity. Measurements can be translated into reliable trends to determine the optimal timing for maintenance.

With PeakVue, machinery faults are clearly visible in the waveform, opening up new options for fault detection and diagnosis.

Filtered orbits are displayed and transferred back to AMS Machinery Manager. Orbits provide information about the health of sleeve bearing machines.

Full Spectrum of Measurement

Another unique feature of the CSI 2130 is its exceptional frequency range. Using Emerson's patented Slow Speed Technology (SST), the CSI 2130 can accurately measure signals on critical low speed equipment that would be out of range for other vibration analyzers. The CSI 2130 also boasts the highest frequency range in the market. It can measure signals up to 80,000 Hz, which is important for accurate diagnosis of centrifugal compressors and other high speed machinery.

Variable Speed Analysis

Variable speed analysis is essential to any effective machinery health program because most critical pieces of equipment must be operated at varying speeds to accommodate the changing production demands. While most vibration systems do not take variable speed into account during data collection, the CSI 2130 automatically adapts all of its diagnostic tools to variable turning speeds during routine data collection. This provides an accurate evaluation of developing problems in the field.

Predict Catastrophic Failure

Many online monitoring systems installed in plants today serve as nothing more than a shutdown switch in the case of a catastrophic condition. By collecting the signals from these systems with the CSI 2130, you can add predictive capabilities by identifying faults before a catastrophe occurs. Orbit plots can be generated to identify problems such as misalignment and shaft rubs. Trending data also helps to uncover developing cracks and other types of structural faults.

Monitoring Trouble Spots

The CSI 2130 can also serve as a temporary online monitor. With line power, it is possible to monitor machine health for longer spans up to a month. It can automatically acquire and store data such as the overall vibration, fault frequencies associated with specific fault types, or even the complete spectrum over an extended period of time. You can capture the break-in period for new equipment or to ensure that a machine with a known fault can make it to the next outage.

Capture Machine Shutdowns
For analysis of transient events, the CSI 2130 collects a series of machine vibration snapshots during startup, coastdown or process changes. These spectra can then be viewed individually or in a Cascade plot.

Correlate Vibration and Process Variables to Identify Machine Problems
Use the dual-channel feature of the CSI 2130 to correlate machinery vibration with process variables. This is accomplished by inputting the process information as a volt signal into one channel, while monitoring vibration on the other.

Unsurpassed Versatility
The CSI 2130 incorporates a modular design so that it can be configured to specifically address your current needs. As your needs evolve, the CSI 2130 can be easily and affordably expanded to enhance your capabilities while protecting your initial investment. This versatile unit can be purchased as a single- or dual-channel analyzer – with or without route measurement capability, as a dedicated field balancer, or as a laser alignment calculator. Put together any combination of capabilities to match your requirements. Additional modules are also available for transient and structural analysis.

The Cascade application captures machine vibration during startup, coast-down, or over an extended period of time. Top half of screen shows spectra individually; bottom half of screen shows cascade plot.

Advanced Cross-Channel Analysis
Standard data collection serves as an excellent base for identifying developing machinery faults, but cross-channel analysis is often required to identify the root cause of the fault. Expand the vibration analysis application of the CSI 2130 with the cross-channel module to determine the actual movement of the shaft during operation and to identify structural faults such as cracks and resonances. While the dual-channel CSI 2130 can display orbits for turbomachinery analysis, the optional Advanced Cross-Channel application expands these capabilities to include impact testing and other types of cross-channel analysis.

As a further enhancement, the ODS/Modal application (Operational Deflection Shapes) makes structural analysis simple by automatically configuring the required series of cross-channel tests.

Cross-channel data can also be analyzed in the VibPro module of AMS Machinery Manager, or exported to specialized ODS/Modal analysis software.

The Advanced Transient Analysis application records the vibration signature from machine startup, coastdown or during process disruptions for advanced analysis.

Expand the Power of Your CSI 2130 with Transient Analysis

The Advanced Transient Analysis application expands the power of a single- or dual-channel CSI 2130 to record the raw vibration signal over a prolonged period of time for post-processing and analysis. This is essential for diagnostics of turbomachinery, startup and coastdown or machines with short, repetitive duty cycles. This data can be examined directly on the CSI 2130 or in AMS Machinery Manager.

Field Balancing

The Advanced Balancing application allows you to use the CSI 2130 as a powerful field balancer. This application combines advanced technology with simple, straightforward operation for a fast, effective solution to your balancing problems. The graphical user interface automatically guides you through the balance checklist so that only minimal training is required for effective operation. The application offers a basic mode for simple one- or two-plane balancing and an advanced mode for more complex jobs. Full job documentation can be printed or stored in AMS Machinery Manager.

The Advanced Balancing application offers two solutions to the typical challenges of field balancing:

Vector Averaging - This technique systematically removes background vibration that would otherwise contaminate the calculated solution.

Balancing Watchdog - This patented technology automatically checks the vibration data on the machine while you perform the balance job. The Watchdog is able to identify and alert you of severe structural faults (such as looseness or resonance) that would otherwise make the job difficult or impossible to complete. The user can take corrective action to remove the structural fault, balance the rotor, and leave the machine in reliable operating condition.

Laser Alignment

The Advanced Laser Alignment application offers a graphically-driven user interface and wireless operation to quickly and easily complete alignment jobs. Emerson's advanced laser system uses built-in dual inclinometers to automatically determine the shaft position, so you simply rotate the shaft and the solution is plotted on the screen. The Live Move option updates the change in alignment condition during the machine move. Full job documentation

Applications for Advanced Balancing and Alignment make it possible to detect and correct machinery faults with the same CSI 2130.

is available in AMS Machinery Manager.

The Laser Alignment Expansion Pak adds this important capability to any CSI 2130.

CSI 9210 Machinery Health Transmitter

With the 9200 Link application, the CSI 2130 can be used to retrieve high-resolution spectral data and PeakVue data from a CSI 9210 Machinery Health Transmitter. The CSI 9210 is an intelligent field device that can be deployed on essential motor-pump combinations. The CSI 9210 will alert plant operators when a problem is detected in the monitored machine. Upon an alert condition, rich spectral data will be stored in the CSI 9210.

Once the data is retrieved by the CSI 2130, it can be placed in a job format and stored in AMS Machinery Manager for detailed analysis. The addition of the 9200 Link application extends the reach of your vibration analysis program.

Motor Current Analysis

Together with the MotorView® module in AMS Machinery Manager, the CSI 2130 performs non-intrusive analysis of the rotor and stator condition in induction motors. This can be accomplished with a standard current clamp or Emerson's patented flux monitoring.

Industrial Ratings

Designed for use in industrial environments, the CSI 2130 has received an IP 65 rating certifying that it is dust- and splashwater—tight. It also complies with international safety standards for hazardous areas in the United States, Canada and Europe.

Accessory Options

Speed Detection

Accurate detection of the shaft turning speed is critical to effective machinery health analysis. The CSI 430 Laser Speed Sensor allows you to determine shaft speed without requiring reflective tape or specific markings on the machine.

Triaxial Accelerometer

The Model A0643TX is a revolutionary new triaxial sensor. This sensor can be magnet mounted to the machine and still provide high-quality readings in all three directions.

Proximity Probe Connections

To measure orbits on a protection system, use BNC-type cables and the dual-volt adapter. The phase reference can be read using the generic tach cable.

Structural Analysis

For advanced structural analysis, use the modally-tuned hammer listed at the bottom of page 11.

See pages 10 -12 for additional accessory listings.

General Specifications

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

Key Pad
- Oversized, easy to press keys, 12 soft function keys, context sensitive help key

Dinensions:
- 8" (203 mm) high, 1.88" (48 mm) deep, 10.25" (260 mm) wide

Weight
- 4.5 lbs (2.04 kg)

Operating Conditions

Moisture
- Sealed enclosure, IP-65 rated

Temperature
- 15 to 113 ºF (-10 to 50 C)

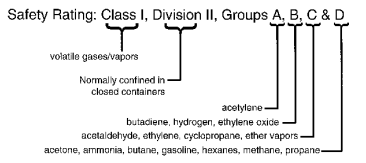
Power Supply

Battery
- NiMH
- 4.5 amp hours
- 7.2 V
- Over 8 hours typical use (longer with backlight off). Data saved in the event of low battery voltage.
- Discharge/Fastcharge/Trickle charge "Smart Charger". Also functions as a continuous power supply.
- 3 hours recharge time

Quality Assurance
- NIST Traceable calibration. Safety rated versions available, approved to Class I, Division II rating for Groups A,B,C, & D. Performance specifications for safety rated version are identical to standard model.

The CSI 21302Q is approved for use in the following areas:

- **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



NOTE: Partial listing of gases is meant as a guideline only. Refer to applicable safety code to classify a specific site.

Analyze & Route Specifications

Analysis Experts

Interactive data acquisition setups for the following analysis types:

High Frequency, High Resolution, Bearing/Gear Fault analysis, Low Frequency, Order Tracking, Synchronous Time Averaging, Bump Test (on and off-line), Coastdown (peak-hold and peak/phase), Turning Speed Detection (vibration and laser), Rotor Fault Detection, Cross-Channel Phase*, and Orbit Analysis*.

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

Dual-Channel*
- Fully matched, independently configurable. Simultaneous dual channel collection. Filtered Orbit analysis.

Cross-Channel*
- Synchronized cross channel Phase and Coherence (Full Spectrum or Single Frequency)

Dynamic Analysis
- Overall, Spectra, Waveform, 12 analysis parameters, 1/3 Octave, A-weighting, Phase, Bode/Nyquist

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. True Zoom provides effective resolution of up to 300,000 lines.

Averaging
- Normal, Exponential, Peak Hold, Order Tracking, Synchronous Time, and Negative Averaging

Number of Averages
- 5,000 in route mode, 10,000 in Job mode, unlimited in Monitor mode

Integration
- None, Single, Double (Analog or Digital)

Trigger
- Vibration level, Pretrigger, Tach, Pretach

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
- 256 MB for data storage (expandable with off-the-shelf flash cards).
- Secure digital memory card slot

Signal Input

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
- TTL 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

Output
- Communication with host computer with USB, ethernet, serial, or emailable data files
- USB data stick file transfer

*applies to dual-channel models

Balancing Specifications

Basic Mode offers:

- Pre-configured jobs for single and two plane balancing
- Full calculator mode

Advanced Mode adds:

- Up to 4 planes
- Up to 8 sensor inputs
- Up to 6 different speeds
- Automatic unit conversion
- Automatic weight splitting
- Trial weight estimation

Special Features:

Vector Averaging
- Eliminates background vibration

Balancing Watchdog
- Automatically detects secondary machinery faults

Graphic User Interface
- Provides data stability indicator
- Displays live imbalance vector
- Eliminates confusion about weight placement

Alignment Specifications

Basic Mode offers:

- Auto sweep (includes partial sweep)
- Manual 4 point
- Soft foot detection
- Thermal growth compensation
- Live machine moves
- Jackshaft applications
- Record notes and observations
- Store and recall jobs

Advanced Mode adds:

- QuickSpec alignment checker
- Manual sweep
- Dual pass mode (uncoupled shafts)
- Vertical machine alignment
- C-face alignment
- Straightness measurement
- Enhanced soft foot detection
- Data averaging
- Custom machine configuration
- Custom tolerance values
- Additional live move options
- Upload jobs to software

CSI 8225 Laser Heads

Communication:

- Standard via cables
- Cableless measurement
- Optional RF (where permitted)

Special Features:

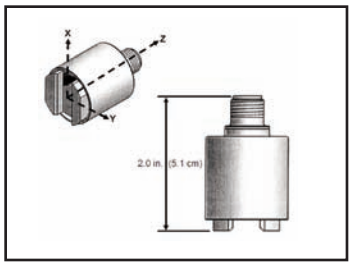
- Dual built-in inclinometers
- Dual axis position sensors
- On-board signal processing
- Better than 1 µ precision

Part No.	Description	Application						Vib.		S/W	Ratings		
		Route	Analyze	Cascade	Balance	Basic Align	Adv. Align	1 ch.	2 ch.	Ultra Mgr	FM	CSA	ATEX
A2130D1	1 ch. collector	✔											
A2130D1Q	Safety-rated 1ch. collector	✔									✔	✔	✔
A2130A1	Std. 1 ch. Route/Analyze/Cascade	✔	✔	✔				✔					
A21301Q	Safety-rated 1 ch. Route/Analyze/Cascade	✔	✔	✔				✔			✔	✔	✔
A2130A2	Std. 2 ch. Route/Analyze/Cascade	✔	✔	✔					✔				
A21302Q	Safety-rated 2 ch. Route/Analyze/Cascade	✔	✔	✔					✔		✔	✔	✔
A8130Z1	1 ch. Vibration Analyzer Package		✔	✔				✔					
A8130Z2	2 ch. Vibration Analyzer Package		✔	✔					✔				
A8130B1	1 ch. Adv. Balance Analyzer Package				✔			✔		✔			
A8130EZ-IN	Basic Laser Align Pkg / 8215 cabled heads					✔							
A8130EZ	Basic Laser Align Pkg / 8215 RF heads					✔							
A813015-IN	Adv. Laser Align Pkg / 8215 cabled heads						✔			✔			
A813015-CU	Adv. Laser Align Pkg / 8215 RF heads						✔			✔			
A813025-IN	Adv. Laser Align Pkg / 8225 cabled heads						✔			✔			
A813025-CU	Adv. Laser Align Pkg / 8225 RF heads						✔			✔			

Description	Part Number
CSI 2130 Packages:	
1-channel safety-rated CSI 2130 with std accessories	A2130D1Q
1-channel CSI 2130 collector with std accessories	A2130D1
1-channel CSI 2130 with std accessories	A2130A1
1-channel safety-rated CSI 2130 with std accessories	A21301Q
2-channel CSI 2130 with std accessories	A2130A2
2-channel safety-rated CSI 2130 with std accessories	A21302Q
1-channel vibration only with std. accessories	A8130Z1
2-channel vibration only with std. accessories	A8130Z2
1-channel balance only with std. balance accessories	A8130B1
Basic Laser Align Package with 8215 cabled heads	A8130EZ-IN
Basic Laser Align Package with 8215 RF heads	A8130EZ
Advanced Laser Align Package with 8215 cabled heads	A813015-IN
Advanced Laser Align Package with 8215 RF heads	A813015-CU
Advanced Laser Align Package with 8225 cabled heads	A813025-IN
Advanced Laser Align Package with 8225 RF heads	A813025-CU
Firmware Applications:	
Route/Analyze/Cascade applications	A2130S0
Analyze application	A2130S2
Advanced Analyze application	A2130S3
Advanced Transient application	A2130S4
ODS/Modal application	A2130S5
Advanced Balancing application	A2130S7
Basic Laser Alignment application	A2130S8
Advanced Laser Alignment application	A2130S9
9200 Link Application for connecting a CSI 2130 to a CSI 9210	A2130-9200
Standard Accessories:	
CSI 2130 protective rubber jacket	D24642
USB communications cable	A063902
CSI 2130 hand strap - qty 2	D24899
CSI 2130 hand pad - qty 2	D24834
Shoulder strap for vibration meters	D24933
Hardshell carrying case	D24892
Power supply	93140
Power cord	65010
Screen protector starter pack - Reorder using P/N 91411	91413
Vibration Measurement Accessories:	
Accelerometer	A0760GP
Magnet	A090835
Cable, 2-pin MIL to BNC, blue, 4'	A6121BL
Cable, 2-pin MIL to BNC, red, 4'	A6121RD
Coiled accelerometer cable, 2-pin to Turck, 8' extended	D24844
Dual-channel accel adapter, 25-pin to 2 BNC	A06280A

Balancing Accessory Package:	
4-channel multiplexer	A648
1 - 20K RPM Infrared Phototach Kit, including: ■ A040801 - Phototach power supply ■ A403 - Reflective tape (3 rolls) ■ 24862 - Phototach cable	A0404P1
Hard shell suitcase	D24786
Standard Laser Accessories:	
Mounting posts (4)	D23465
Super-fast smart charging station	A8211
Tape measure	A8AA10
Direct connect cable	A821510
Screwdriver	99451
Hard shell suitcase	D24492
Quick mount brackets & chains (2) - Basic Package only	A8AA55
Standard mount brackets (2) - Adv. Package only	B821007
Standard mount chains (2) - Adv. Package only	B8210-CHN
Hex ball driver- Adv. packages only	99510
Extension Blocks (2) - Adv. packages only	B8100-EXT2
Pass Mode Cable - RF packages only	A8215C2-PM
RF adapter - RF packages only	B8000RF
Expansion Paks:	
Balance Expansion Pak for 2130	A1730B1
Basic Laser Expansion Pak - 10x10 mm cabled heads	A8730EZ-IN
Basic Laser Expansion Pak - 10x10 mm RF heads	A8730EZ
Adv. Laser Expansion Pak - 10x10 mm cabled heads	A873015-IN
Adv. Laser Expansion Pak - 10x10 mm RF heads	A873015-CU
Adv. Laser Expansion Pak - 20x20 mm cabled heads	A873025-IN
Adv. Laser Expansion Pak - 20x20 mm RF heads	A873025-CU
Phototachs, Strobes, and Speed Sensors:	
SpeedVue laser speed sensor package for 2130	A0430L3
404B IR Phototach for 2130	A0404B1
404B IR Phototach for 2130 with external power	A0404P1
Computerized strobe light package for 2130	A444003
Special Vibration Sensors:	
Low frequency accel, top connect, 2 pin	A0120LF
High frequency accel, top connect, 2 pin	A0220HF
60 kHz high freq. accel, top connect, stud mount	A0222H1
60 kHz high freq. accel, top connect, epoxy mount	A0222H2
SST kit for low frequency measurements	A0623SS
Triaxial Accelerometer:	
Triax accelerometer for CSI 2130	A0643TX
Mounting pad for A0643TX	D24826
Cable for A0643TX	D25064
Modally-Tuned Impact Hammer:	
1 lb Small Modal Force Hammer	A034701
3 lb Mini-Sledge Modal Force Hammer	A034703
12 lb Sledge Modal Force Hammer	A034712

CSI 430 Laser Speed Sensor



Emerson's patented triaxial sensor with integral magnet

Adapters:	
Dual-channel volt adapter, 25-pin to 2 BNC	A06290V
Dual-channel accel adapter (Turck connectors)	A06280A
4-channel accelerometer input multiplexer for 2130	A648
Current Clamps:	
Clip-on AC current clamp (1.0 to 600 Amp AC)	A341B
Clip-on AC current clamp (50 mA to 150 Amp AC)	A341C
Clip-on AC current clamp (0.05 mA to 1000 Amp AC)	A341D
Cables:	
CSI 2130 Volts straight cable, BNC to Turck, 4' long	D24859
CSI 2130 tach cable, 404B connector to blue Turck, 2 m	D24861
CSI 2130 tach cable, BNC to blue Turck, 4'	D24862
CSI 2130 SpeedVue cable, LEMO to Turck, 18" long	D24863-1
CSI 2130 SpeedVue cable, LEMO to Turck, 6 ft. long	D24863-2
CSI 2130 accel/hammer straight cable, BNC to Turck, 6.5' (2m)	D24973
SpeedVue cable for 2120A (6 ft. long)	D24809-2
Ext. cable for Turck accel connector, 6' 5"	65116
Ext. cable for Turck accel connector, 19' 8"	65117
Ext. cable for Turck tach connector, 6' 5"	65118
Ext. cable for Turck tach connector, 19' 8"	65119
Battery Pack:	
Battery Pack for A2130A2	D24777
Battery Pack for A21302Q	D24974
Other Accessories:	
Folding desk stand for CSI 2130	A0130FS
CSI 2130 Adhesive screen protectors (10 pack)	91411
SpeedVue mounting strap for 2130	D24937
CSI 2130 printed user manual	97017

Current Clamps

Note: Descriptions are for illustrative purposes only. Packages and part numbers are subject to change without notice.

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