Model 1910 Spectrum Analyzer

- *Personal computer interface*
- *Compact and lightweight to minimize physical fatigue*
- *Easy to use, powerful analysis in a cost-effective package*
- *Optional printer interface to permit printouts on the job-site*
- *Advanced low power consumption circuitry to provide 8-hour continuous field life between charges*

Introduction

CSI Machinery Analyzers are the benchmark in industries worldwide, with a reputation for speed, dependability, flexibility, and upgrade capability that is unmatched by any other machinery analyzer line. Complementing the CSI Machinery Analyzer family is the Model1910, the perfect tool for corporations seeking maximum price performance to address their real-time field analysis needs.

The CSI 1910 Machinery Analyzer enables you to capture and display an 800 line spectrum in less than a second. When used with UltraMgr software, data can be transferred to a computer for reporting, plotting, and archiving. Emerson's engineers were careful to design the 1910 with low power consumption circuitry to extend its life in field to 8 hours between charges.

The 1910 is designed with easy-to-use menus, screen displays and a minimum number of keys for easy and efficient use. We made it compact and light-weight to minimize physical fatigue and maximize portability. The analyzer is a powerful instrument that incorporates in a cost-effective package many of the built-in analysis features of CSI's 2100 series Machinery Analyzers. The 1910 has the ability to constantly monitor time waveforms and spectral data in a real-time mode.

The 1910 continues the Emerson tradition of providing customers with the fastest, most durable, and most versatile machinery analyzers on the market.

Autoranging: *The Model 1910 automatically scans the input signal for each measurement. It sets the input range to maximize the dynamic resolution, while maintaining the dynamic range of the A/D converter at 72dB. Full-scale ranges from 21V to 8 microvolts are supported. Noise floor is typically less than 3mV for a 400-line spectrum taken using a 1,000 Hz maximum frequency.*

FrequencyAnalysis

Range: *DC-10 Hz (minimum) DC-20 kHz (maximum). Range is* ***continuously adjustable.***

Response: *Low frequency response is flat to DC for nonintegrated signals. The signal may be used singly or doubly integrated with a low frequency break at 3.5 Hz for each stage of analog integration or selectable break for digital integration.*

A/D Converter: *12 bits of accuracy*
Dynamic Range: *72dB or greater*
Number of Averages: *1 to 5,000*
Resolution: *100, 200, 400, 800*
Anti-aliasing: *7-pole elliptical filter*

Data Analysis Time

Autoranging: *1.0-3.0 sec*
100 line: 8.7 avg/sec *200 line: 4.5 avg/sec*
400 line: 2.2 avg/sec *800 line: 1 avg/sec*
Real Time Rate: *800 Hz*
(Real Time Rate is for a 400-line spectrum with range of 2,000 Hz at 67% overlap.)

Input Signals: *Two milliamp ICP type power supply inside the instrument powers sensors such as accelerometers. Power supply provides 2 milliamp constant current at 20 volts nominal. ICP power may be used or bypassed depending upon type of input selected.*

ICP Used: *+9 volts*
ICP Bypassed: *+21 volts*
Input Impedance: *Greater than 150 k ohms*
Full scale vibration level depends on the type of sensor used and its sensitivity. Full-scale vibration level is 90 g's when using an accelerometer with a sensitivity of 100mV/g.

Output

Serial port communication with Host Computer: *#300 to 76,800 baud, user selectable.*

Display

Type: *LCD, supertwist liquid crystal display*
Display size: *2.75 x 50 inches (70 x 127 mm)*
Text: *8 lines x 42 characters, different font sizes*
Contrast: *User adjustable*
Backlight: *Yes*
Pixels: *128x 256*

Analyzer Capabilities

Dynamic Analysis: *Spectra, waveform, overall level*
Frequency: *Hz, CPM, Order*
Units: *Metric or English, acceleration, velocity, displacement, or user programmable*
Scaling: *Linear or log, in both X and Y axes*
Windows: Hanning or uniform
Cursor: *Single or harmonic*
Integration: *None, single, or double*

Memory Capacity

Standard Memory: *.5 Megabyte*
Number of Spectra Stored:
Overall level plus six narrow bands

Data Type	*No. Stored*
100 line spectra	*500*
200 line spectra	*360*
400 line spectra	*190*
800 line spectra	*100*

Physical Data

Height: *8.63 inches (219 mm)*
Width: *6.75 inches (170 mm)*
Depth: *1.6 inches (42 mm)*
Weight: *3.1 lbs. (1.41 kg)*

Operating Data

Temperature: *15 to 120º F (-10 to 50ºC)*
Humidity: *0-95 percent noncondensing*
Safety: *Consult factory*

Power Supply

Battery: *NiCad*
Capacity: *1,400 ma-hr*
Voltage: *7.2 V*
Battery life: *8 hours min. for constant use (10 hr. typical)*
Features: *Data are not lost in the event of low battery voltage.*

Quality Assurance

Shake test based uponANSI/EIA STD.RS364-28A. 72 hour burn-in operating at 50º C, equivalent of 1,000 hours at 25V C. Calibrated using equipment traceable to NIST.

Standard Accessories

8 ft. coiled cable (CSI part #65021)
Battery charger (120v CSI part #9312, 220v CSI part #9313)
Accelerometer (CSI part #720-GP)
Super magnet (CSI part #906)
Soft analyzer case (CSI part #23761)
Hard carrying case (CSI part #23762)
Technical manual

Optional Accessories

PrinterAdapter
Ultra Manager Host PC software
639 Computer to Analyzer Cable

Machinery Health™ Management

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

EMERSON. Process Management