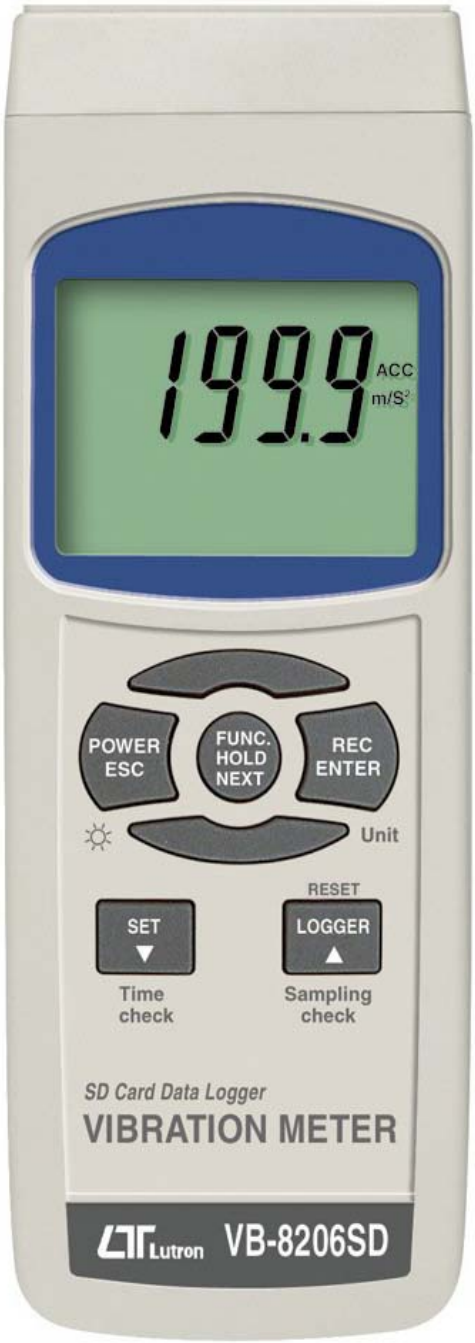
SD Card, real time data logger, Patent

VIBRATION METER

Model : VB-8206SD *ISO-9001, CE, IEC1010*



Lutron

LUTRON ELECTRONIC

The Art of Measurement

Acceleration, Velocity, Displacement
SD Card real time data logger

VIBRATION METER

Model : VB-8206SD

FEATURES

* Applications for industrial vibration monitoring : All industrial machinery vibrates. The level of vibration is a useful guide to machine condition. Poor balance, misalignment & looseness of the structure will cause the vibration level increase, it is a sure sign that the maintenance is needed.
* Frequency range 10 Hz - 1 kHz, sensitivity relative meet ISO 2954.
* Professional vibration meter supply with vibration sensor & magnetic base, full set.
* Metric & Imperial display unit
* Acceleration, Velocity, Displacement measurement.
* RMS, Peak value, Max. hold measurement.
* Max. Hold reset button, Zero Button.
* Wide frequency range.
* Data hold button to freeze the desired reading.
* Memory function to record maximum and minimum reading with recall.
* Separate vibration probe with magnetic base, easy operation.
* Real time SD memory card Datalogger, it Built-in Clock and Calendar, real time data recorder , sampling time set from 1 second to 3600 seconds.
* Manual datalogger is available (set the sampling time to 0), during execute the manual datalogger function, it can set the different position (location) No. (position 1 to position 99).
* Innovation and easy operation, computer is not need to setup extra software, after execute datalogger, just take away the SD card from the meter and plug in the SD card into the computer, it can down load the all the measured value with the time information (year/month/date/ hour/minute/second) to the Excel directly, then user can make the further data or graphic analysis by themselves.
* SD card capacity : 1 GB to 16 GB.
* LCD with green light backlight, easy reading.
* Can default auto power off or manual power off.
* Data hold, record max. and min. reading.
* Microcomputer circuit, high accuracy.
* Power by UM3/AA (1.5 V) x 6 batteries or DC 9V adapter.
* RS232/USB PC COMPUTER interface.

GENERAL SPECIFICATIONS

Circuit	Custom one-chip of microprocessor LSI circuit.		
Display	LCD size : 52 mm x 38 mm LCD with green backlight (ON/OFF).		
Measurement	Velocity, Acceleration, Displacement		
Function	*Acceleration, Velocity :* RMS, Peak, Max. Hold. *Displacement :* p-p (peak-peak), Max-hold p-p.		
Unit	*Measurement*	*Metric*	*Imperial*
	Acceleration	meter/s^2,G	ft/s^2,
	Velocity	mm/s, cm/s	inch/s
	Displacement	mm	inch
Frequency range	10 Hz to 1 KHz ** Sensitivity relative during the the frequency range meet ISO 2954 Refer to table 1, page .*		
Circuit	Exclusive microcomputer circuit.		
Peak Measurement	*Acceleration, Velocity :* To measure and update the peak value. *Displacement :* To measure and update the peak to peak (p-p) value.		
Max. Hold Measurement	*Acceleration, Velocity :* To measure and update the max. peak value. *Displacement :* To measure and update the max. peak to peak (p-p) value.		
Zero Button	Under Acceleration (RMS) measurement, sensor motionless , press Logger Button > 5 seconds.		
Max. Hold Reset Button	Under Max. hold measurement, press Logger Button > 5 seconds.		
Datalogger Sampling Time Setting range	Auto	1 second to 3600 seconds *@ Sampling time can set to 1 second, but memory data may loss.*	
	Manual	Push the data logger button once will save data one time. *@ Set the sampling time to 0 second.* *@ Manual mode, can also select the 1 to 99 position (Location) no.*	
Memory Card	SD memory card. 1 GB to 16 GB.		
Advanced setting	* Set clock time (Year/Month/Date, Hour/Minute/ Second) * Decimal point of SD card setting * Auto power OFF management * Set beep Sound ON/OFF * Set sampling time * SD memory card Format		
Data Hold	Freeze the display reading.		
Memory Recall	Maximum & Minimum value.		
Sampling Time of Display	Approx. 1 second.		
Data Output	RS 232/USB PC computer interface. ** Connect the optional RS232 cable UPCB-02 will get the RS232 plug.* ** Connect the optional USB cable USB-01 will get the USB plug.*		
Operating Temperature	0 to 50 ℃.		
Operating Humidity	Less than 85% R.H.		
Power Supply	***.Alkaline or heavy duty DC 1.5 V battery (UM3, AA) x 6 PCs, or equivalent.		
	***.DC 9V adapter input. (AC/DC power adapter is optional).		

Power Current	Normal operation (w/o SD card save data and LCD Backlight is OFF) : *Approx. DC 15 mA.*
	When SD card save the data and LCD Backlight is OFF) : *Approx. DC 36 mA.*
Weight	*Meter :* 515 g/ 1.13 LB.
	Probe with cable and magnetic base : 99 g/0,22 LB
Dimension	*Meter :* 203 x 76 x 38 mm
	Vibration sensor probe: Round 16 mm Dia. x 37 mm. Cable length : 1.2 meter.
Accessories Included	* Instruction manual.....1 PC * Hard carrying case, CA-06.....1 PC * Vibration sensor with cable.....1 PC * Magnetic base.....1 PC
Optional Accessories	SD Card (2 G) AC to DC 9V adapter. USB cable, USB-01. RS232 cable, UPCB-02. Data Acquisition software,SW-U801-WIN.

ELECTRICAL SPECIFICATIONS (23± 5℃)

Acceleration (RMS, Peak, Max Hold)

Unit	m/s^2
Range	0.5 to 199.9 m/s^2
Resolution	0.1 m/s^2
Accuracy	± (5 % reading + 5 d) *@ 160 Hz, 80 Hz, 23 ± 5 ℃*
Calibration Point	50 m/S^2 (160 Hz)

Unit	G *@ 1 G = 9.8 m/s^2*
Range	0.05 to 20.39 G
Resolution	0.01 G
Accuracy	± (5 % reading + 5 d) *@ 160 Hz, 80 Hz, 23 ± 5 ℃*
Calibration Point	50 m/S^2 (160 Hz)

Unit	ft/s^2
Range	2 to 656 ft/s^2
Resolution	1 ft/s^2
Accuracy	± (5 % reading + 5 d) *@ 160 Hz, 80 Hz, 23 ± 5 ℃*
Calibration Point	50 m/S^2 (160 Hz)
Remark : *RMS : To measure the true RMS value.* *Peak : To measure and update the peak value.* *Max. Hold : To measure and update the max. peak value.*	

Velocity (RMS, Peak, Max Hold)

Unit	mm/s
Range	0.5 to 199.9 mm/s
Resolution	0. 1 mm/s
Accuracy	± (5 % + 5 d) reading *@ 160 Hz, 80 Hz, 23 ± 5 ℃*
Calibration Point	50 mm/s (160 Hz)

Unit	cm/s
Range	0.05 to 19.99 cm/s
Resolution	0. 01 cm/s
Accuracy	± (5 % reading + 5 d) *@ 160 Hz, 80 Hz, 23 ± 5 ℃*
Calibration Point	50 mm/s (160 Hz)

Unit	inch/s
Range	0.02 to 7.87 inch/s
Resolution	0.01 inch/s
Accuracy	± (5 % reading + 5 d) *@ 160 Hz, 80 Hz, 23 ± 5 ℃*
Calibration Point	50 mm/s (160 Hz)
Remark : *RMS : To measure the true RMS value.* *Peak : To measure and update the peak value.* *Max. Hold : To measure and update the max. peak value.*	

Displacement (p-p, Max Hold p-p)

Unit	mm
Range	0.014 - 1.999 mm
Resolution	0.001 mm
Accuracy	± (5 % reading + 5 d) *@ 160 Hz, 80 Hz, 23 ± 5 ℃*
Calibration Point	0.141 mm (160 Hz)

Unit	inch
Range	0.001 - 0.078 inch
Resolution	0.001 inch
Accuracy	± (5 % reading + 5 d) *@ 160 Hz, 80 Hz, 23 ± 5 ℃*
Calibration Point	0.141 mm (160 Hz)
Remark : *p-p :* *To measure the Peak to Peak value.* *Max. Hold p-p :* *To measure and update the max. Peak to Peak value.*	

PATENT	CHINA : ZL 2008 2 0189918.5 ZL 2008 2 0189917.0 Germany : Nr. 20 2008 016 337.4 JAPAN : 3151214