

***SD Card real time data recorder
4 in 1, + Photo tach., IR Temp., Type K Temp.***

VIBRATION METER

Model : VB-8227SD

ISO-9001, CE, IEC1010



LUTRON ELECTRONIC

The Art of Measurement

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VIBRATION METER

Model : VB-8227SD

FEATURES

* Multi-function ,4 in 1 one meter combine : 1. Vibration meter, 2. Photo Tachometer. 3. IR Thermometer. 4. Type K, Thermometer.
* 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 measurement.
* RMS, Max hold, Peak value 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 white backlight (ON/OFF).		
Measurement	Velocity, Acceleration, Type k/J Thermometer, IR Thermometer , Photo tachometer		
Function	Acceleration, Velocity : RMS, Peak, Max Hold. Type k/J Thermometer , IR Thermometer , Photo tachometer		
Unit	Measurement	Metric	Imperial
* <i>Vibration</i>	Acceleration	meter/s ² , g	ft/s ² , inch/s
	Velocity	mm/s, cm/s	
Vibration	10 Hz to 1 KHz		
Frequency	* Sensitivity relative during the frequency range meet ISO 2954		
Frequency range			
Circuit	Exclusive microcomputer circuit.		
Peak	Acceleration, Velocity :		
Measurement	To measure and update the peak value.		
	Displacement : To measure and update the peak to peak (p-p) value.		
Max Hold	Acceleration, Velocity :		
Measurement	To measure and update the max. peak value.		
Zero Button	Under Acceleration (RMS) measurement, sensor motionless , press two(▼,▲)Buttons (3-5, 3-6, Fig. 1) >3 seconds.		
Max. Hold Reset Button	Under Max. hold measurement, press two(▼,▲) Buttons (3-5, 3-6, Fig. 1) >3 seconds.		
Datalogger	Auto	1 second to 3600 seconds @ Sampling time can set to 1 second, but memory data may loss.	
Sampling Time	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.	
Setting range			
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* Set vibration unit * Set sampling time * Set Temp. unit * SD memory card F* Set Thermocouple Type		
Data error no.	≤ 0.1 % no. of total saved data typically.		
Data Hold	Freeze the display reading. * Only available for the RMS function.		
Memory Recall	Maximum & Minimum value. * Only available for the RMS function.		
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.		
Sampling Time of Display	Approx. 1 second.		
Operating Temperature and Humidity	0 to 50 ℃. 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 : 360 g/ 0.79 LB. Probe with cable and magnetic base : 99 g/0.22 LB.		

* Appearance and specifications listed in this brochure are subject to change without notice.

Dimension	Meter : 182 x 73 x 47.5 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 * Photo tachometer reflecting tape.....
Optional Accessories	SD Card (4 G) AC to DC 9V adapter. USB cable, USB-01. RS232 cable, UPCH-02. Data Acquisition software,SW-U801-WIN.

ELECTRICAL SPECIFICATIONS (23± 5 ℃)

VIBRATION

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 % + 5 d) reading @ 160 Hz, 80 Hz, 23 ± 5 ℃
Calibration Point	50 m/s ² (160 Hz)

Unit	G
Range	0.05 to 20.39 G
Resolution	0.01 G
Accuracy	± (5 % + 5 d) reading @ 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 % + 5 d) reading @ 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 % + 5 d) reading @ 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 % + 5 d) reading @ 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.

Type K thermometer

Sensor Type	Resolution	Range	Accuracy
Type K	0.1 ℃	-50.0 to 1300.0 ℃	± (0.4 % + 0.5 ℃)
		-50.1 to -100.0 ℃	± (0.4 % + 1 ℃)
	0.1 ℉	-58.0 to 2372.0 ℉	± (0.4 % + 1 ℉)
		-58.1 to -148.0 ℉	± (0.4 % + 1.8 ℉)

IR thermometer

Emissivity	0.95 fixed value
Spectral response	6 to 14 μ m (wavelength)
Field of View D/S	D/S = Approx. 6:1 ratio (D = distance, S =spot)

Unit	Range	Resolution	Accuracy
℃	-30 to 305 ℃	0.1 ℃	± 3% of reading or ± 3 ℃
℉	-22 to 581 ℉	0.1 ℉	± 3% of reading or ± 5 ℉

PHOTO Tachometer

Measurement & Range	5 to 99,999 RPM.
Resolution	0.1 RPM (< 1,000 RPM). 1 RPM (≥ 1,000 RPM).
Accuracy	± (0.05% + 1 digit).
Photo Tachometer detecting distance	50 to 150 mm/2 to 6 inch. (typical max. 300 mm/12 inch, depending upon ambient light). * Spec. of detecting distance are that under the size of reflecting tape is 10 mm square & the measuring RPM value is 1,800 RPM. The max. & min. detecting distance may change under different environment, different reflecting tape or the measuring RPM beyond 1800 RPM.

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