Acceleration, Velocity, Displacement.

RS232 interface.

VIBRATION

Model : VB-8100   *ISO-9001, CE, IEC1010*

LUTRON ELECTRONIC

The Art of Measurement

economic type
Acceleration, Velocity, Displacement.
VIBRATION
Model : VB-8100

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, 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.
* 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.

Electrical Specification

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
	Accele	m/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 21*
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 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.

Advanced setting	* Set clock time (Year/Month/Date, Hour/Minute/ Second) * Auto power OFF management * Set beep Sound ON/OFF * Set sampling time
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

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
Optional Accessories	AC to DC 9V adapter.

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 % + 5 d) reading *@ 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 % + 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.

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

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

Unit	inch
Range	0.078 inch
Resolution	0.001 inch
Accuracy	±(5 % + 5 d) reading *@ 160 Hz, 80 Hz, 23 ± 5 ℃*
Calibration Point	0.141 mm (160 Hz)

 į *Remark :*
p-p :
   To measure the Peak to Peak value.
Max. Hold p-p :
   To measure and update the max. Peak to Peak value.

* Spec. tested under the environment RF Field Strength less than 3 V/M & frequency less than the 30 MHz only.