

Acceleration, Velocity, Displacement. RS232 interface.

VIBRATION

Model : VB-8100

ISO-9001, CE, IEC1010

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The Art of Measurement

VIBRATION

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FEATURE

- * 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.

GENERAL 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	<i>Acceleration, Velocity</i> :RMS, Peak, Max Hold. <i>Displacement</i> :p-p (peak-peak), Max Hold p-p.		
Unit	<i>Measurement</i>	<i>Metric</i>	<i>Imperial</i>
	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 * <i>Sensitivity relative during the the frequency range meet ISO 2954 Refer to table 1, page 21</i>		
Circuit	Exclusive microcomputer circuit.		
Peak Measurement	<i>Acceleration, Velocity</i> :To measure and update the peak value. <i>Displacement</i> :To measure and update the peak to peak (p-p) value.		
Max Hold Measurement	<i>Acceleration, Velocity</i> : To measure and update the max. peak value.		
	<i>Displacement</i> : 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. <i>* Only available for the RMS function.</i>
Memory Recall	Maximum & Minimum value. <i>* Only available for the RMS function.</i>
Data Output	RS 232/USB PC computer interface. <i>Connect the optional RS232 cable UPCB-02 will get the RS232 plug.</i> <i>Connect the optional USB cable USB-01 will get the USB plug.</i>
Sampling Time of Display	Approx. 1 second.
Operating Temperature and Humidity	0 to 50 °C. 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) : <i>Approx. DC 15 mA.</i> When SD card save the data and LCD Backlight is OFF) : <i>Approx. DC 36 mA.</i>
Weight	<i>Meter :360 g/ 0.79 LB.</i> <i>Probe with cable and magnetic base : 99 g/0,22 LB</i>
Dimension	<i>Meter :182 x 73 x 47.5 mm</i> <i>Vibration sensor probe: Round 16 mm Dia. x 37 mm. Cable length : 1.2 meter.</i>
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 °C)

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 °C
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 °C
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 °C
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	$\pm(5\% + 5d)$ reading @ 160 Hz, 80 Hz, $23 \pm 5\text{ }^{\circ}\text{C}$
Calibration Point	50 mm/s (160 Hz)

Unit	cm/s
Range	0.05 to 19.99 cm/s
Resolution	0.01 cm/s
Accuracy	$\pm(5\% + 5d)$ reading @ 160 Hz, 80 Hz, $23 \pm 5\text{ }^{\circ}\text{C}$
Calibration Point	50 mm/s (160 Hz)

Unit	inch/s
Range	0.02 to 7.87 inch/s
Resolution	0.01 inch/s
Accuracy	$\pm(5\% + 5d)$ reading @ 160 Hz, 80 Hz, $23 \pm 5\text{ }^{\circ}\text{C}$
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	$\pm(5\% + 5d)$ reading @ 160 Hz, 80 Hz, $23 \pm 5\text{ }^{\circ}\text{C}$
Calibration Point	0.141 mm (160 Hz)

Unit	inch
Range	0.078 inch
Resolution	0.001 inch
Accuracy	$\pm(5\% + 5d)$ reading @ 160 Hz, 80 Hz, $23 \pm 5\text{ }^{\circ}\text{C}$
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.

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

VB-8100+230412

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