



General-PurposeVibration Meter

For Measurement of Acceleration, Velocity, Displacement

Measure and Evaluate Vibrations Detected with

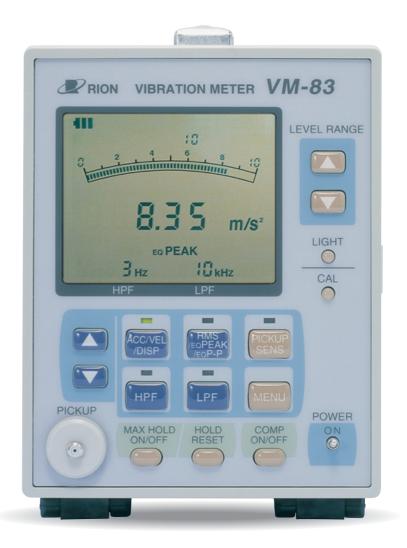
General-Purpose Vibration Meter



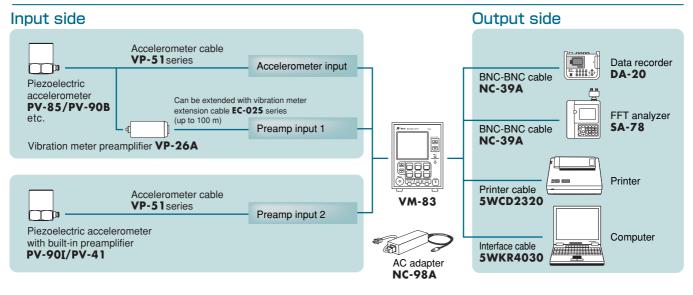
Four types of inputs and support for acceleration, velocity, and displacement measurements

Features

- Connectivity for various kinds of accelerometers enables a wide range of vibration measurements
- Comparator function with level evaluation output
- Versatile display characteristics including rms, equivalent peak, equivalent peak-topeak, maximum value hold, and peak hold
- AC and DC output connectors
- Serial interface for enhanced connectivity
- Data printout capability via serial interface
- VM-83 management software VM-83PB1 (Optional accessories)



VM-83 Connection Examples





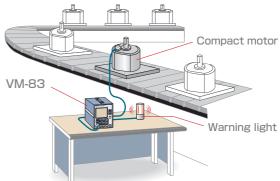
Piezoelectric Accelerometer



Application Examples

Product testing

Vibration meter allows detection of problems related to vibration phenomena. When vibrations above a certain threshold level continue for more than a preset time, an alarm signal is output by the built-in comparator. This allows automatic evaluation.

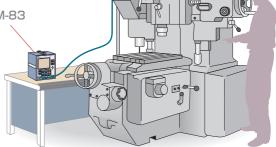


Equipment diagnosis

Detect various problem conditions of manufacturing equipment, ranging from low-frequency vibrations caused by unbalance or misalignment to highfrequency problems caused by bearing vibrations.

The comparator function can be used for pass/fail evaluation based on vibration values.

VM-83



VM-83 management software VM-83PB1 (OS:Microsoft Windows98/98SE/ME/2000/XP)

VM-83PB1 is a software package which allows controlling settings and measurement operation of the VM-83 from a computer. Measurement data downloaded from the VM-83 can be displayed on the computer and converted to CSV format for further processing and storage. The program also allows control over cutoff frequencies of filters in the VM-83 (user filter function).



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Specifications

Preamplifier input 2For connection of piezoelectric accelerometers w preamplifier; voltage and current supply: 18 V, 2 fMeasurement modesAcceleration (ACC)m/s²Velocity (VEL)mm/sDisplacement (DISP)Displacement rangePiezoelectricAcceleration0.3, 1, 3, 10, 30, 100, 300, 1 000Velocity3, 10, 30, 100, 300, 1 000Velocity3, 10, 30, 100, 300, 1 000 (HPF 1 Hz)Displacement0.3, 1, 3, 10, 30, 100, 300, 1 000 (HPF 1 Hz)Displacement0.3, 1, 3, 10, 30, 100, 300, 1 000 (HPF 1 Hz)Displacement0.3, 0.1, 0.3, 1, 3, 10, 30, 100 (MPF 1 Hz)Displacement0.3, 0.1, 0.3, 1, 3, 10, 30, 100 (MPF 1 Hz)Displacement0.3, 0.1, 0.3, 1, 3, 10, 30, 100 (MPF 1 Hz)Displacement0.3, 0.1, 0.3, 1, 3, 10, 30, 100 (MPF 1 Hz)For accelerometer sensitivity 0.030 to 0.999 pC/ multiply above figures by 10Vibration frequency rangeFor accelerometer sensitivity 1.0 to 99.9 pC/ multiply above figures by 1/10Vibration frequency rangePiezoelectricAcceleration1 Hz to 20 kHz ± 5 %Displacement1 Hz to 3 Hz ± 10 %, 3 Hz to 3 kHz ± 5 %Displacement1 Hz to 3 Hz ± 20 %, 3 Hz to 500 Hz ± 10 %FiltersPiezoelectricHigh-pass filter (LPF)100, 300, 1 k, 3 k, 10 kHz (-10 % point, 3rd-order)Low-pass filter (LPF)100, 300, 1 k, 3 k, 10 kHz (-10 % point, 3rd-order)Low-pass filter (LPF)100, 300, 1 k, 3 k, 10 kHz (-10 % point, 3rd-order)Low-pass filter (LPF)100, 300, 1 k, 3 k, 10 kHz (-10 % point, 3rd-order)Low-pass filter (MPF)1, 3, 10, 20, 50	t charge 30 000 pC piezoelectric accelerometers via preamplifier VP-26A of piezoelectric accelerometers with integrated Itage and current supply: 18 V, 2 mA sensitivity 1.00 to 9.99 pC/ (m/s ²) 0, 100, 300, 1 000 100, 300, 1 000 100, 300, 1 000 (HPF 1 Hz) 0, 100, 300, 1 000 (HPF 3 Hz) 1, 3, 10, 30, 100 (HPF 10 Hz or higher) eter sensitivity 0.030 to 0.999 pC/ (m/s ²), figures by 10 eter sensitivity 10.0 to 99.9 pC/ (m/s ²), figures by 10 eter sensitivity 10.0 to 99.9 pC/ (m/s ²), figures by 10 eter sensitivity 10.0 to 99.9 pC/ (m/s ²), figures by 10 eter sensitivity 10.0 to 99.9 pC/ (m/s ²), figures by 170 et								
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laken at 100 ms intervals, display updated every 2 se	ntervals, display updated every 2 seconds)		taken at 100 ms intervals, display updated every 2 seconds)						
Measurement mode Display characteristics, filter, battery capacity (3-sta	eristics, filter, battery capacity (3-stage indication)	Measurement mode							
Calibration		Calibration	·						
Accelerometer sensitivity 0.030 to 0.999 pC/ (m/s ²), 1.00 to 9.99 pC/ (m/s ²), 10.0 to	(m/s ²), 1.00 to 9.99 pC/ (m/s ²), 10.0 to 99.9 pC/ (m/s ²)	Accelerometer sensitivity	0.030 to 0.999 pC/ (m/s ²), 1.00 to 9.99 pC/ (m/s ²), 10.0 to 99.9 pC/ (m/s ²)						
Calibration output Signal for external equipment calibration									
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	V + 2 %								
	· /0	AC	80 Hz + 2 % 2 V + 2 %						
1)(2) $2 V + 2 %$			80 Hz ± 2 %, 2 V ± 2 % 2 V ± 2 %						

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				Range full-scale 2 V, output impedance 600 Ω , BNC connecto							
	Output volta	0	-								
		electrical characteristics, 80 Hz)									
Acceleration			Range full-scale ± 2 %								
	Veloci	Range full-scale ± 3 %									
	Displa	Range full-scale ± 5 %									
DC	C output		Rang	e full-sca	ale 2 V,	outp	ut impe	danc	ce 600 Ω, E	BNC connecto	
	Output volta	ge accura	асу								
	Piezoele	electri	electrical characteristics, 80 Hz)								
	Accele	eration	Rang	je full-so	ale ± 2	%					
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oise	level (typical)									
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	Displacemer			1 H 10 F		_	DFF DFF	RMS		0.015 mm 0.0003 mm	
	Displacemen	10.0	13	TUP	12	C	JFF	RMS		0.0003 mm	
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	type	Acceleratio		0.3	OFF					0.0034 m/s ²	
	PV-85	Velocity		3	10 Hz	2	OFF		RMS	0.004 mm/s	
		Displaceme		0.03	10 Hz		OFF		RMS	0.0002 mm	
		Acceleratio	n	3	OFF				0.133 m/s ²		
	PV-90B	Velocity Displaceme	vot	30 0.3	10 Hz 10 Hz		OFF OFF		RMS RMS	0.17 mm/s 0.007 mm	
		Displaceme	5110	0.5		<u>.</u>			RIVIƏ	0.007 1111	
iterfa	ace										
Se	erial interface		For d	lata outp	out and	rem	ote con	trol o	of VM-83		
Printer output Fo				For printing of measurement data (on CP-10, CP-11, DPU-414							
ower requirements IEC				EC R14 (size D) batteries \times 4, or AC adapter (NC-98A, option							
Current consumption App				Approx. 190 mA (varies depending on measurement conditions							
Continuous operation on Ap				Approx. 20 hours using alkaline batteries							
	tteries .	-									
mbient conditions for use -10				-10 to 50 °C, 20 to 90 % RH (no condensation)							
imensions and weight 171 (71 (H) × 120 (W) × 234 (D) mm, approx. 1.8 kg							
				Storage case × 1							
				0		terie	es × 4 (i	man	ganese)		
Opt	ional acces	sories		,	,		,		- /		
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Various VP-26A

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5WKR4030 DPU-414

EC-02S series (3 m and up)

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