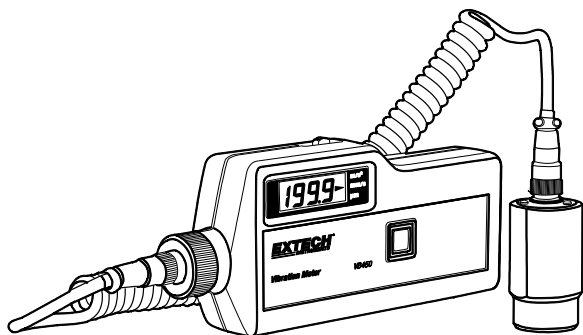


Vibration Meter

Model VB450



Introduction

Thank you for selecting the Extech Instruments Model VB450.

The VB450 is a portable vibration meter consisting of an acceleration sensor and a digital measurement display circuit.

It can be used to measure vibration displacement, speed (or intensity) and acceleration of mechanical equipment.

Equipment such as fans, pumps, compressors, motors, etc. can be tested.

This device is shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Please visit our website (www.extech.com) to check for the latest version of this User Guide, Product Updates, Product Registration, and Customer Support.

Safety Notes

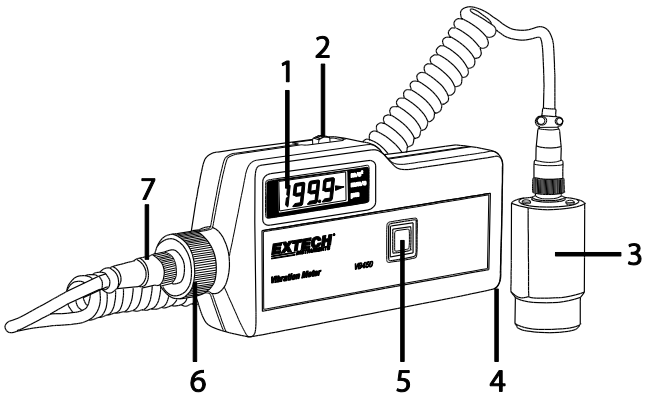
Warning: Use extreme care when using this vibration meter to test mechanical devices. Damage to meter and injury to persons can occur if this meter is used in a manner not specified in this User Guide or if nominal, preparatory safety measures are not taken. Please refer to, and follow, the safety directives below.

- Do not take measurements on devices where the range is known to be, or expected to be, outside the specified measurement range of this device.
- Do not use this instrument if its housing appears cracked, chipped, or otherwise damaged.
- Do not use this instrument if the sensor or its cable appears damaged or compromised in any way.
- Replace the battery as soon as the low battery symbol appears on the meter display.
- Remove the battery if the device is to be stored for > 60 days.
- Never dispose of batteries in a fire. Batteries may explode or leak.
- Do not attempt to charge the 9V battery. The supplied 9V battery is not rechargeable. This meter was not designed to use rechargeable batteries.
- If the meter operates abnormally, stop testing and have the unit serviced before further use.
- Never use the meter in a wet environment or in an atmosphere of combustible or explosive gas.
- Do not open the meter housing; there are no user-serviceable parts. Contact Extech Instruments directly or contact point-of-sale personnel for service inquiries.
- Protect the meter's LCD from shock or vibration; allow only the magnet and sensor to touch the devices under test.

Meter Description

1. LCD Display
2. Three-position switch (selects measurement units)
3. Sensor and magnet
4. Lanyard
5. Power and Data Hold button
6. Service access nut (do not loosen; for service use only)
7. Sensor secure nut (turn counter-clockwise to loosen)


Battery Compartment on rear of meter



Operation

Battery Installation and Replacement

Remove the rear battery compartment door by sliding in the direction of the arrow. Install or replace 9V battery (observe polarity) and replace the cover.

During operation, if the  symbol appears in the display the battery needs to be replaced.

Selecting units of measure

Press and hold the power button. The display will illuminate and an arrow will indicate the units selected. Slide the function switch on the top of the meter to select the units desired.




m/s^2	Acceleration	Meters per second squared	PEAK
mm/s	Velocity	Millimeters per second squared	RMS
μm	Displacement	micrometers	Peak to Peak

Measurements

Attach the sensor to the device to be measured with the magnet or hold the sensor for nonferrous materials. Press and hold the power button to display the results. Release the power button to freeze the results in the display. After 60 seconds the meter will automatically shut off.

Specifications

General Specifications

Display	3 ½ digit LCD (0~1999)
Sensor	Accelerometer (magnetic base)
Cable Length	7.9" (0.2m) coiled cable
Low battery indication	 symbol
Power supply	9V Battery
Battery life	Approx. 20 hours (alkaline)
Operating conditions	32 to 104°F (0 to 40°C) <90% RH
Storage conditions	32 to 104°F (0 to 40°C) <80% RH
Dimensions	7.3 x 2.7 x 1.2" (185 x 68 x 30mm)
Weight	10.6 oz. (300g) including battery
Safety Standards	GB 4793, 1-2007 For indoor use only

Range and Accuracy

Function	Acceleration (Peak)	Velocity (RMS)	Displacement (Peak to Peak)
Range	0.1 to 199.9m/s ²	0.1 to 199.9mm/s	1 to 199.9µm
Frequency Response	10 to 1500Hz	10 to 1500Hz	10 to 500Hz
Accuracy	0 to 2.0m/s ² ±(10%+ 1 digit) >2.0m/s ² ±(5%+ 1 digit)	0 to 2.0m/s ±(10%+ 1d) >2.0m/s ±(5%+ 1d)	0 to 2.0µm ±(10%+ 1 digit) >2µm ±(5%+ 1 digit)

Warranty

*FLIR Systems, Inc. warrants this Extech Instruments brand device to be free of defects in parts and workmanship for **one year** from date of shipment (a six month limited warranty applies to sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department for authorization. Visit the website www.extech.com for contact information. A Return Authorization (RA) number must be issued before any product is returned. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. FLIR Systems, Inc. specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. FLIR's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.*

Calibration, Repair, and Customer Care Services

FLIR Systems, Inc. offers repair and calibration services for the Extech Instruments products we sell. NIST certification for most products is also provided. Call the Customer Service Department for information on calibration services available for this product. Annual calibrations should be performed to verify meter performance and accuracy. Technical support and general customer service is also provided, refer to the contact information provided below.

Support Lines: U.S. (877) 439-8324

International: +1 (603) 324-7800

Technical Support: Option 3; E-mail: support@extech.com

Repair & Returns: Option 4; E-mail: repair@extech.com

Product specifications are subject to change without notice

Please visit our website for the most up-to-date information

www.extech.com

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USA

ISO 9001 Certified

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FLIR Systems, Inc. offre des services de calibrage et de réparation pour les produits Extech Instruments que nous commercialisons. Nous fournissons également une certification NIST pour la plupart des produits. Contactez notre service client pour toute information sur les services de calibrage disponibles pour ce produit. Un calibrage doit être effectué chaque année pour vérifier les performances et la précision du mètre. Nous offrons également une assistance technique et un service à la clientèle. Veuillez vous reporter aux coordonnées fournies ci-dessous.

Lignes d'assistance: États-Unis (877) 439-8324

International: +1 (603) 324-7800

Service d'assistance technique : Option 3 ; E-mail : support@extech.com

Réparations et retours : Option 4 ; E-mail : repair@extech.com

Les spécifications produit sont sujettes à modifications sans préavis.

Pour les toutes dernières informations, veuillez visiter notre site Web.

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Líneas de soporte: EE.UU. (877) 439-8324

Internacional: +1 (603) 324-7800

Soporte Técnico Opción 3; correo electrónico: support@extech.com

Reparación / Devoluciones: Opción 4; correo electrónico: repair@extech.com

Las especificaciones del producto están sujetas a cambios sin aviso

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