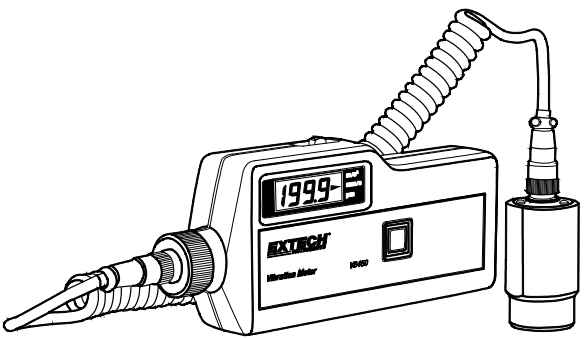
EXTECH **USER MANUAL**

Vibration Meter
Model VB450



Introduction

Thank you for selecting the Extech VB450 Vibration Meter.

The VB450 measures vibration displacement, speed (intensity) and acceleration in mechanical equipment such as fans, pumps, compressors, and motors.

This device is shipped fully tested and calibrated and, with proper use, will provide years of reliable service.

Please visit the Extech to check for the latest version of this user manual and customer Support.

Safety Notes

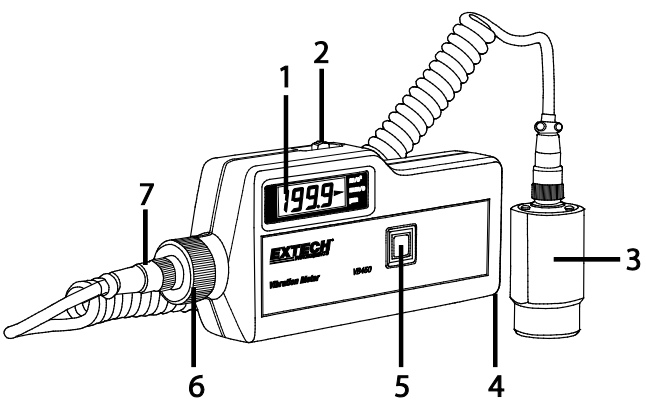
Warning: Use extreme care when testing mechanical devices. Damage to the meter and injury to people can occur if this meter is used in a manner not specified in this user manual or if nominal, preparatory safety measures are not taken.

- Do not take measurements on devices when the range is known to be, or expected to be, outside the specified measurement range of this device.
- Do not use this device if its housing appears cracked, chipped, or otherwise damaged.
- Do not use this device if the sensor or its cable appears damaged or compromised.
- Replace the battery as soon as the low battery symbol appears.
- Remove the battery if the device is stored > 60 days.
- Never dispose of batteries in a fire. Batteries may explode or leak.
- Do not attempt to charge the battery. The supplied battery is not rechargeable. This device was not designed to use rechargeable batteries.
- If this device operates abnormally, stop testing and have it serviced.
- Never use the device in a wet environment or in an atmosphere of combustible or explosive gas.
- Do not open the device housing; there are no user-serviceable parts.
- Protect the LCD from shock and vibration; allow only the magnet and sensor to touch the device under test.

Meter Description

1. Display (LCD type)
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 counterclockwise to loosen)

Note: Battery compartment on rear of meter



Operation

Battery Installation and Replacement

Replace the battery when the battery symbol appears.

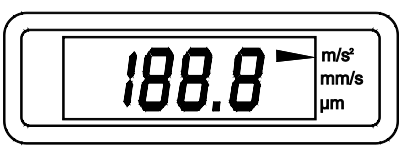
Remove the rear battery compartment door by sliding in the direction of the arrow. Install or replace the 9 V battery (observe polarity) and replace the cover.

Please recycle used batteries, do not put used batteries in household waste. Do not incinerate used batteries.

Do not dispose of this instrument in household waste. Take end-of-life devices to a designated collection point for the disposal of electrical and electronic equipment.

Selecting units of measure

Long press 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.



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

Measurements

Attach the sensor to the device under test using the magnet or hold the sensor to the device 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 switch OFF.

Specifications

General Specifications

Display	3.5-digit LCD (1999)
Sensor	Accelerometer (magnetic base)
Cable length	7.9 in. (0.2 m)
Low battery indication	Battery symbol
Power supply	9 V battery
Battery life	20 hours (approx.) 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 in. (185 x 68 x 30 mm)
Weight	10.6 oz. (300 g) including battery
Safety	GB 4793, 1-2007; for indoor use only

Range and Accuracy

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

Two-year Warranty

Teledyne FLIR warrants this Extech brand instrument *to be free of defects in parts and workmanship for* ***two years*** *from date of shipment. To view the full warranty text please visit: https://www.flir.com/support-center/warranty/instruments/extech-product-warranty/*

Calibration and Repair Services

Teledyne FLIR offers calibration and repair services *for the Extech brand products we sell. We offer NIST traceable calibration for most of our products.*

Customer Support

Local Telephone Support List: *https://support.flir.com/contact*

Return Material Authorization (RMA):
https://customer.flir.com/Home

Customer Service: *https://support.flir.com/ContactService*

Technical Support: *https://support.flir.com*

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