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VTSYIQI VOM-7698

VTSYIQI 3D Vibration Meter VOM-7698 Instruction Manual

Model: VOM-7698

1. Product Overview

The VTSYIQI 3D Vibration Meter VOM-7698 is a portable instrument designed for precise measurement of vibration in machinery. It utilizes a piezoelectric transducer to measure three parameters: acceleration, velocity, and displacement, across three axes (X, Y, Z). This device is suitable for periodic measurements to detect mechanical faults such as imbalance and misalignment in rotating equipment, aiding in quality control, commissioning, and predictive maintenance.
Key features include:

- Simultaneous display of three parameters (velocity, acceleration, displacement) in one view.
- 3-dimensional or 1-dimensional measurement capability.
- Compliance with ISO 2954 standards for vibration measurement.
- High-quality piezoelectric accelerometer for accurate and repeatable results.
- Wide frequency range for various measurement needs.
- Bearing condition monitoring function.
- USB/RS-232 data output for PC connectivity and data analysis.

Figure 1: Front view of the VTSYIQI 3D Vibration Meter VOM-7698, showing the display and control buttons.

2. Package Contents

Please verify that all items listed below are present in your package:

- VTSYIQI 3D Vibration Meter (Main Unit)
- 3D Piezoelectric Accelerometer Sensor with Cable
- USB Data Cable
- Software (USB Drive)
- Instruction and Maintenance Manual
- Measurement Probes (pointed and flat types)
- Carrying Case

Figure 2: All components included in the VTSYIQI 3D Vibration Meter VOM-7698 package, neatly arranged in their carrying case.

Video 1: An unboxing and display video of the VTSYIQI 3D Vibration Meter, showcasing the main unit, sensor, cables, and accessories included in the package.

3. Setup

3.1 Battery Installation

1. Locate the battery compartment on the back of the main unit.
2. Open the battery compartment cover.
3. Insert two (2) AA 1.5V batteries, ensuring correct polarity as indicated inside the compartment.
4. Close the battery compartment cover securely.

Figure 3: Rear view of the VTSYIQI 3D Vibration Meter, highlighting the battery compartment and polarity markings.

3.2 Sensor Connection

1. Identify the sensor input port on the top of the main unit.
2. Connect the cable from the 3D piezoelectric accelerometer sensor to this port. Ensure a firm and secure connection.
3. For specific measurement applications, attach the appropriate measurement probe (pointed or flat) to the sensor head.

Figure 4: Close-up view of the 3D Piezoelectric Accelerometer Sensor, showing its connection point and axis indicators.

3.3 PC Connection (Optional)

To transfer data to a computer, use the provided USB data cable:

1. Connect one end of the USB data cable to the data output port on the meter (typically labeled RS-232 or USB).
2. Connect the other end of the USB data cable to an available USB port on your computer.
3. Install the provided software from the USB drive onto your computer to enable data communication and analysis.

Figure 5: Top view of the VTSYIQI 3D Vibration Meter, illustrating the sensor input and data output (RS-232) ports.

4. Operation

4.1 Power On/Off

- Press the **red power button** to turn the device on.
- Press and hold the **red power button** again to turn the device off.

4.2 Measurement Modes and Unit Selection

- Press the **A/V/D button** to cycle through Acceleration, Velocity, and Displacement measurement modes. The active mode will be displayed on the screen.
- Press the **UNIT button** to change the measurement units (e.g., m/s^2, ft/s^2, g for acceleration; mm/s, inch/s for velocity; mm, mil for displacement).

4.3 Axis Selection

- Press the **X/Y/Z / XYZ button** to switch between single-axis (X, Y, or Z) and three-axis (XYZ) measurement display. In XYZ mode, the device will show readings for all three axes simultaneously.

4.4 Data Hold

- During measurement, press the **HOLD button** to freeze the current readings on the display.
- Press the **HOLD button** again to release the hold and resume live measurement.

4.5 Volume Control (Optional)

- If using optional headphones as an electronic stethoscope, use the **VOL. button** to adjust the audio output level.

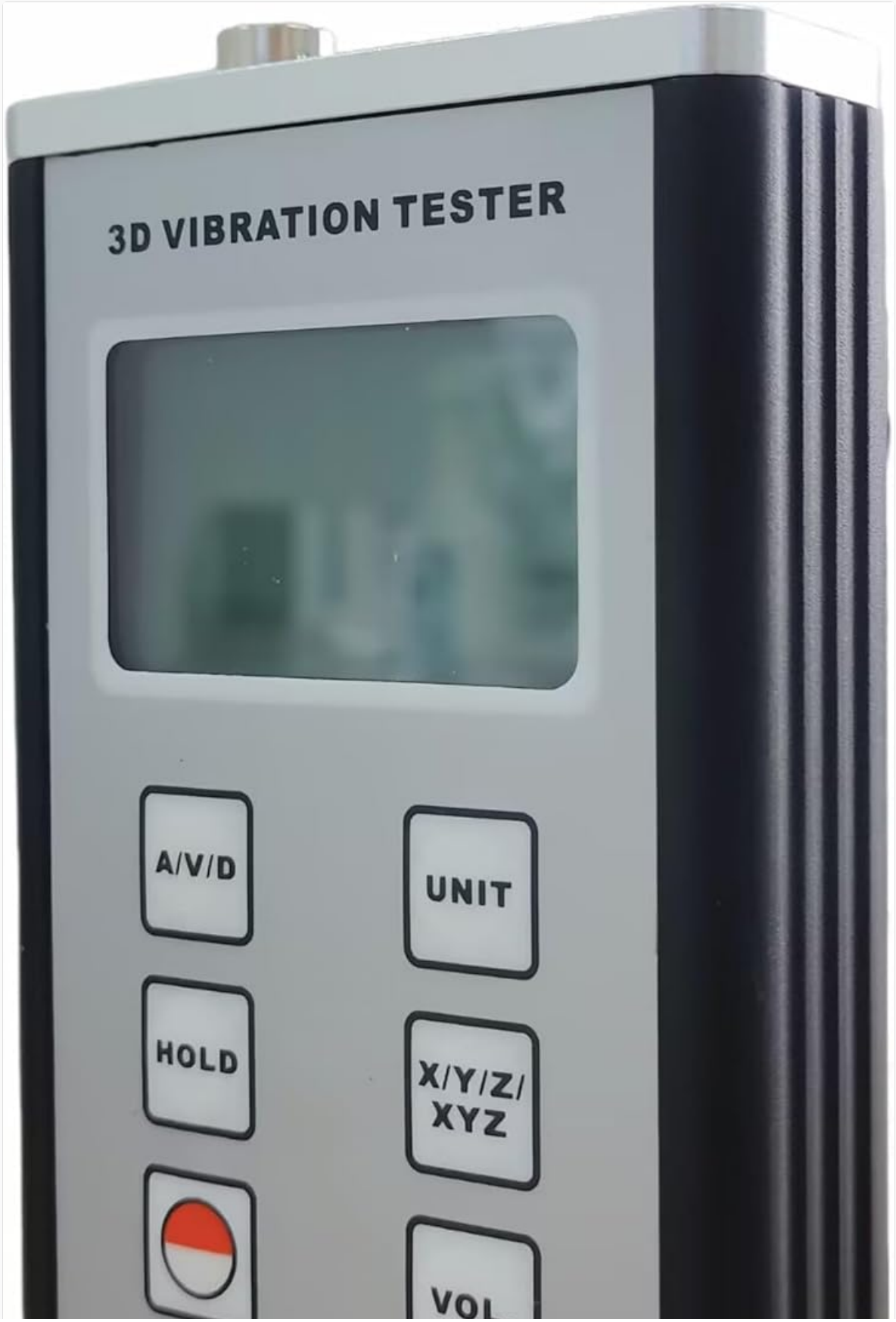

Figure 6: The meter's display showing various measurement parameters and units, illustrating its 'Portable 3D Vibration Analyzer' capabilities.

5. Maintenance

- **Cleaning:** Wipe the device and sensor with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the meter and its accessories in the provided carrying case in a cool, dry place when not in use.
- **Battery Replacement:** Replace batteries promptly when the low battery indicator appears on the display to ensure accurate readings and prevent data loss. Remove batteries if the device will not be used for an extended period.
- **Sensor Care:** Handle the piezoelectric sensor with care. Avoid dropping it or subjecting it to excessive force, as this can affect its calibration and accuracy.

6. Troubleshooting

6.1 Device Does Not Power On

- Check if the batteries are correctly installed with the proper polarity.
- Replace the batteries with new AA 1.5V batteries.

6.2 Inaccurate Readings

- Ensure the sensor is securely connected to the main unit.
- Verify that the sensor is properly attached to the object being measured.
- Check for any visible damage to the sensor or its cable.
- Ensure the measurement mode (Acceleration, Velocity, Displacement) and units are correctly selected for your application.

6.3 Data Transfer Issues

- Confirm the USB data cable is securely connected to both the meter and the computer.
- Ensure the data transfer software is correctly installed on your computer.
- Check your computer's device manager to see if the meter is recognized.

7. Specifications

Parameter	Value
Sensor	Piezoelectric Transducer
Accuracy	±5% of Reading + 2 digits
Operating Temperature	0°C to 50°C (32°F to 122°F)
Operating Humidity	<90% RH
Measuring Range - Acceleration	0.1~400 m/s² (0.3~1312 ft/s², 0.0~40 g Equivalent Peak)
Measuring Range - Velocity	0.01~400 mm/s (0.004~16.0 inch/s True RMS)
Measuring Range - Displacement	0.001~4.0 mm (0.04~160.0 mil Equivalent Peak-peak)
Frequency Range - Acceleration	10 Hz ~ 10 kHz
Frequency Range - Velocity	10 Hz ~ 1 kHz
Frequency Range - Displacement	10 Hz ~ 1 kHz
Power Supply	2x AA 1.5V Batteries
Data Output	USB / RS-232
Item Weight	4.4 pounds (approx.)
Package Dimensions	11.81 x 7.87 x 3.94 inches (approx.)
Material	Plastic
Color	Black

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Related Documents - VOM-7698

	Calibration Guide and Relative Humidity Data for VTSYIQI Water Activity Meters Detailed calibration procedure for water activity meters using saturated salt solutions, including comprehensive tables of relative humidity data at various temperatures for multiple salts. Essential reference for HeFei Vetus Electronic Technology Co., Ltd. products.

	[Water Activity Meter Operation Guide] Step-by-step instructions for operating a VTSYIQI Water Activity Meter, including sample preparation and measurement procedures for food testing.
User Guides Smart Water Activity Meter Model: HD–6 Operating instruction for Water Activity Meter	[Smart Water Activity Meter HD-6 User Manual and Operating Instructions] Comprehensive user manual for the HD-6 Smart Water Activity Meter by VTSYIQI. Covers technical specifications, installation, operation, calibration, software setup, troubleshooting, and important notices for accurate water activity measurement.
	[VTSYIQI Water Activity Meter: User Guide and Measurement Best Practices] This guide provides essential instructions for operating the VTSYIQI Water Activity Meter, including models VTS-160A and WA-18CA. Learn about proper cassette placement, ensuring a sealed measurement environment, and interpreting results for accurate water activity testing in food products.