Mikrosize®

iVibra-6380 3-Axis
Vibration Tester Instruction Manual

Video

iWeb:www.mikrosize.com   Email:mikrosize@mikrosize.com

Mikrosize®

Product Features and Application

Product Features

●Uses piezoelectric acceleration transducer to convert vibration signal.

●In accordance with ISO 2954,GB13823.3, used for periodic measurements, to detect out-of-balance,misalignment and other mechanical faults in rotating machines.

●Specially designed for easy on site vibration measurement of all rotating machinery for quality control, commissioning, and predictive maintenance purposes.

●3 accelerators in 1 sensor for 3-axis vibration measurement.

●3 same parameters in one display for 3 dimensional measurement or 1 dimensional measurement specified, showing 3 different parameters of velocity, acceleration and displacement in 1 display.

●Bearing condition monitoring function.

●LCD digital display with back light.

●Lightweight and easy to use.

●Wide frequency range (10Hz.~10kHz.)

●Automatic power shut off to conserve power.

●AC output socket for headphones and recording.

●Optional headphones for use as electronic stethoscope.

●Optional software and cable for RS232C.

Product Application

●Used for maintenance of mechanical equipment, such as fault diagnosis of bearings and gearboxes

●By plotting trend charts based on vibration parameters, it predicts fault times in advance, maximizes equipment utilization, and facilitates production by ordering spare parts and formulating maintenance plans simultaneously

●Monitor the vibration conditions of buildings, bridges, and other structures to ensure their structural safety and stability

Mikrosize®

3D VIBRATION TESTER

Mikrosize®
MS-6380

1.Liquid Crystal Display (LCD) Screen	2.A/V/D Button	3.HOLD Button
4.Power Button	5.VOL Button	6.X/Y/Z/XYZ Button	7.UNIT Button

1.Liquid Crystal Display (LCD) Screen

2.A/V/D Button: Selects and toggles between three measurement parameters. The parameter selection function of this button is only valid in the three-axis measurement mode.
●ACC indicates "Acceleration Measurement Mode"
●VEL indicates "Velocity Measurement Mode"
●DISP indicates "Displacement Measurement Mode"

3.HOLD Button: Maximum value hold function, which locks the maximum measured value. Press the HOLD button lightly once, and the symbol 'Max' will appear on the display, indicating that the maximum value lock state is activated. Press it again lightly, and the 'Max' symbol on the display will disappear, indicating that the maximum value lock state is deactivated.

**4.Power Button:** Press lightly to turn the device on or off.

5.VOL Button: When a headset stethoscope (optional) is connected, the VOL button can be used to adjust the volume, with a total of 8 levels from 1 to 8, where level 1 is the lowest and level 8 is the highest. To adjust the volume, press the button quickly and consecutively. Release the button when the desired volume level is reached, and the device will automatically exit the volume adjustment mode. When the headset stethoscope is not connected, pressing and holding the VOL button can turn the auto power-off function on or off. The presence of "SV" on the display indicates that the auto power-off function is enabled; otherwise, it is disabled.

6.X/Y/Z/XYZ Button: Press the "X/Y/Z/XYZ" button lightly to select the coordinate axis to be measured. The device offers four coordinate axis options for vibration measurement: single-axis X, single-axis Y, single-axis Z, and three-axis XYZ. When a single-axis measurement is selected, the display can simultaneously show three measurement parameters (velocity, acceleration, and displacement) for the selected axis direction. When three-axis vibration measurement is selected, the display can simultaneously show one measurement parameter for all three axis directions.

7.UNIT Button: This button toggles between measurement units. The corresponding measurement units for different parameters are as follows:

FUNCTION	UNIT	NOTE
VEL (RMS)	mm/s	millimeters per second
	Inch/s	inch/s inches per second
ACC (Peak)	m/s 2	meter per second squared
	g	g-force
	ft/s 2	feet per second squared
DISP (Peak-Peak)	mm	millimeters
	mil	one thousandth of an inch

Mikrosize®
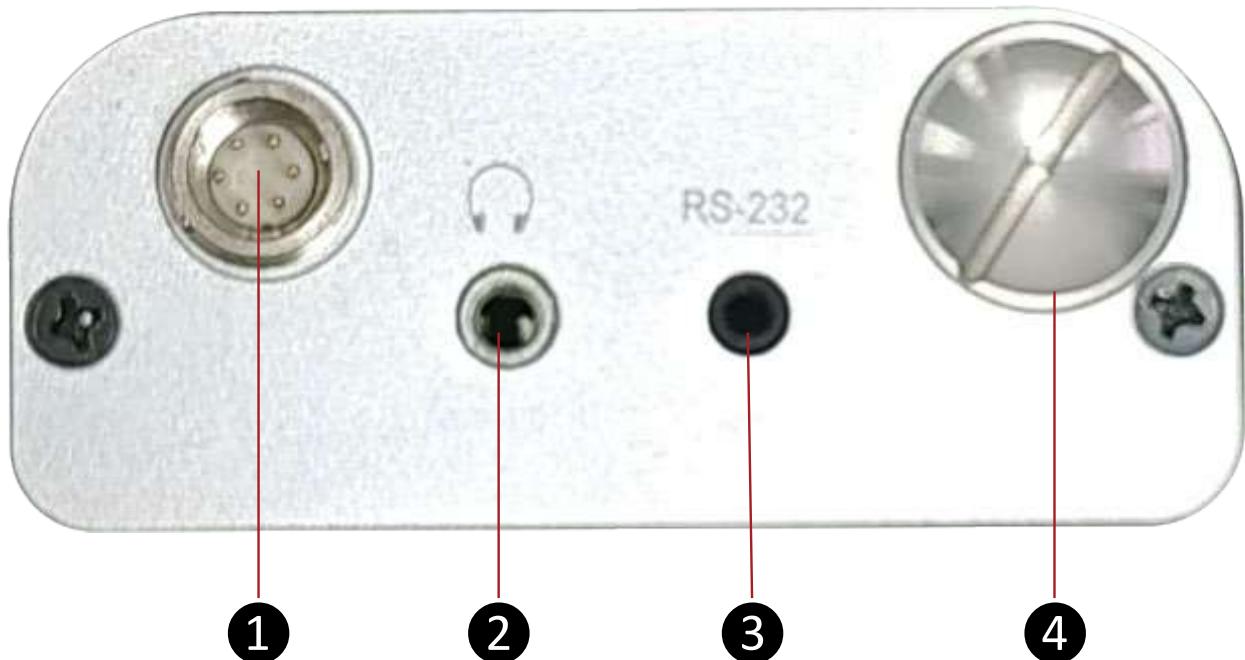
1.Sensor Interface
3.RS232C Interface

2.Headphone Stethoscope Interface
4.Battery Cover

1.Sensor Interface: Used to connect the main unit and the vibration sensor.
2.Headphone Stethoscope Interface: Used to connect the main unit with a headphone stethoscope (optional).
3.RS232C Interface: Connects to a PC computer via dedicated data acquisition software and an optional USB communication cable for data collection, storage, and statistical analysis on the PC.
4.Battery Cover: After unscrewing, it allows for the insertion of batteries. Two batteries are required, which need to be prepared by the user.
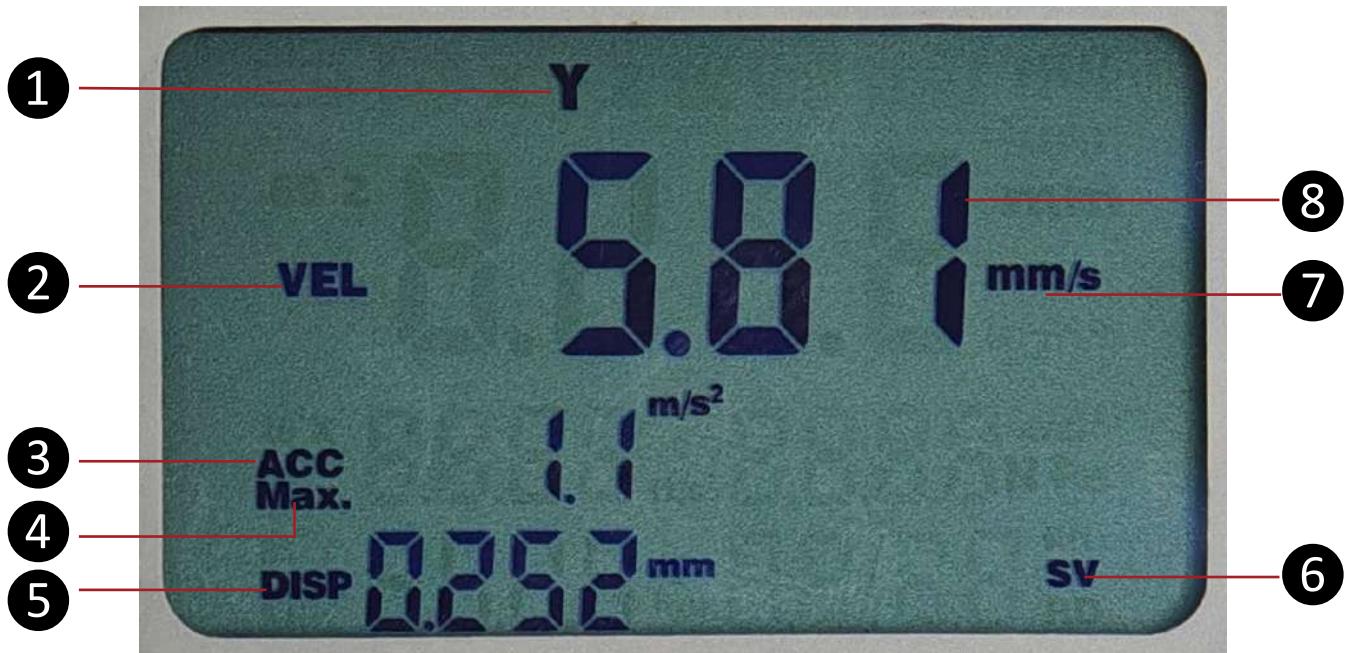
Mikrosize®

1 Y

8

2 VEL

5.8 I

7 mm/s

m/s²

3 ACC

4 Max. I.I

6 SV

5 DISP 0.252 mm

1.Currently Measured Axis   **2.Velocity Parameter**   **3.Acceleration Parameter**
4.Maximum Value Hold   **5.Displacement Parameter**   **6.Auto Power-Off Indicator**
7.Unit of Measurement   **8.Measured Value**

1.Currently Measured Axis: Select the desired axis for measurement by lightly pressing the X/Y/Z/XYZ button.

2.Velocity Parameter

3.Acceleration Parameter

4.Maximum Value Hold: Lightly press the HOLD button to enter and exit the maximum value hold state.

5.Displacement Parameter

6.Auto Power-Off Indicator: Press and hold the VOL button to turn on or off the auto power-off feature. Once enabled, the machine will automatically shut off after 5 minutes of inactivity.

7.Unit of Measurement: Lightly press the UNIT button to select the desired unit.

8.Measured Value

Mikrosize®

Main Function

Multiple Measurement Axes

1.Single-Axis Measurement

During single-axis measurement, the screen simultaneously displays three measurement parameters: velocity, acceleration, and displacement.

2.Three-Dimensional Measurement

During three-axis vibration measurement, the display can simultaneously show one measurement parameter for all three axis directions. The measurement parameter can be toggled by lightly pressing **the A/V/D button.**

Mikrosize®

Main Function

Selectable Measurement Units

Switching between different units can be achieved by pressing the UNIT button lightly.

Two displacement units: mm and mil

Two velocity units: mm/s and inch/s

Three acceleration units: m/s2, ft/s2, g

Mikrosize®

Main Function

Maximum Value Hold

Press **the HOLD button** lightly to enter the maximum value hold state, and the "Max" indicator will appear on the screen. In this state, the device will record the maximum value of the measurement parameters during the measurement process.

Please note that the units of acceleration in g and speed in inch/s do not support maximum value hold measurement.

Mikrosize®

Technical Parameters

Model		iVibra-6380
Vibration Sensor		3-Axis Piezoelectric accelerometer
Display		4 digit LCD backlit
Axial Vibration		any one axis of X , Y, Z or 3 axes of XYZ
Accuracy		±(5%n+2) digits
Measurement Range	Displacement	0.001-4.000mm Equivalent Peak-Peak; 0.04-160.0 mil
	Acceleration	0.1-400.0 m/s Equivalent Peak; 0.3-1312 ft/s; 0.0-40g
	Velocity	0.01-400.0 mm/s True RMS; 0.04-16.00 inch/s
Frequency Range	Displacement	10Hz. ~ 1kHz.
	Acceleration	10Hz. ~ 10kHz
	Velocity	10Hz. ~1kHz.
Analogue Output		AC output 0~2.0V peak full scale(load resistance: above 10k)
		With Max. value hold and low battery indication
		Metric/ Imperial conversion
PC interface		RS232C (Cable and software is not included)
Power off		Manual off at any time or auto power off is enabled by user
Operating conditions	Temperature	0-50 °C
	Humidity	below 95% RH
Power supply		2x1.5vAA (UM-3)Battery
Size		130x70x30mm
Weight		305g (Not including Batteries)

Standard Delivery

Name	Qty	
Powerful rare earth magnet	1	
3 Piezoelectric accelerometers in 1 sensor	1	
Carrying case	1	
Stinger probe (Cone)	1	
Stinger probe (Ball)	1	
Operational instruction manual	1	
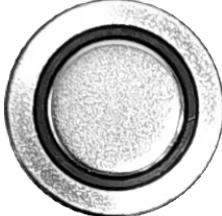
Mikrosize®

Name	Qty
Headphones for use as electronic stethoscope	1
Cable and software for RS232C or USB	1
Bluetooth	1