wintact®

MODEL：WT63B

Instruction Manual of Vibration Meter

CONTENTS

A.Introduction

  This product is based on piezoelectric effect of artificially polarized ceramics. It is suitable for conventional vibration measurement of mechanical equipment, especially for rotating and reciprocating machinery. It can measure vibration displacement, velocity and acceleration, and is widely used in fields like machinery manufacturing, electric metallurgy and general aerospace.

B.Notice

1. Do not use the instrument in a flammable or explosive environment.
2. Keep away from dangerous voltage in case of injury.
3. Avoid strong impact, high temperature and water immersion.
4. Take out batteries if not in use for a long time.
5. Install batteries in correct polarity; replace batteries when the power is low.
6. Do not disassemble this meter or try to change internal parts.
7. Alcohol, diluent and so on are corrosive to the case, especially to the screen, so use a little water to clean the case.
8. Please operate the instrument carefully near rotating equipment. Do not leave wires and bands outside.

C. Functions

➤ Full display;

➤ Screen flipping;

➤ Switch acceleration measurement between high and low frequency; high frequency (1KHz~10KHz) /low frequency (20Hz~1KHz)

➤ Curve display;

➤ Store and view files;

➤ Power indicator;
➤ Double measurement button;
➤ Flashlight;
➤ Screen brightness;
➤ Select Chinese/English;
➤ Shutdown time setting;
➤ Machinery grade;

D.Technical parameters

Technical parameters	Technical indicators
Vibration acquisition	Piezoelectric ceramic accelerometer (shear type)
Measurement range	Acceleration：0.1~199.9m/s2 Velocity：0.1~199.9mm/s Displacement：0.001~1.999mm
Measurement accuracy	Vibration displacement：0.01~0.02mm, ≤±10%. ≥0.02mm,≤±5% Vibration velocity：0~2.0mm/s, ≤±10%.≥2.0mm/s,≤±5% Vibration acceleration：0~2.0m/s2, ≤±10%.≥2.0m/s2,≤±5%
Frequency range of acceleration measurement	High frequency：1KHz~15KHz (HI) Low frequency：20Hz~1KHz (LO)
Frequency range of speed measurement	20Hz~1KHz (LO)
Frequency range of displacement measurement	20Hz~1KHz (LO)
LCD display	color display
Shuffle interval of data display	1 second
Maximum groups of data storage	7 groups
Power supply	1.5V AAA battery*2
Temperature range for operation	0~40℃
Humidity range for operation	30~90%RH
Size	180x54x30mm
Weight	250G(with batteries)

E. Instruction of parts and interface display
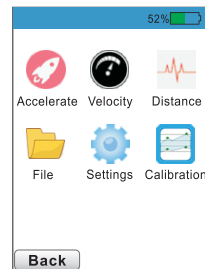
1) Body parts (as shown in picture)

Sensor

Flashlight

Display screen

Buttons

Battery door
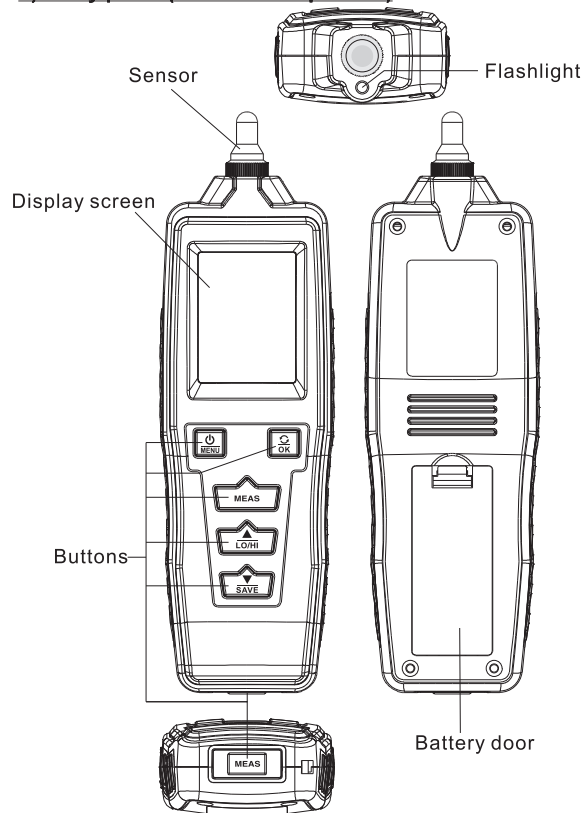
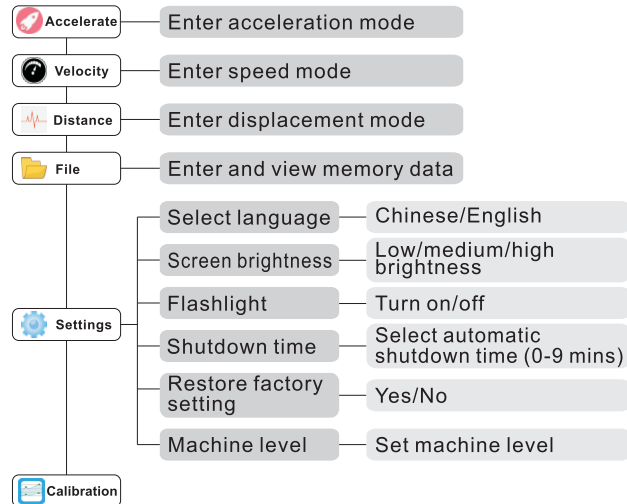| Buttons	Names of parts	Function Description
	Power on/off/menu button	Short press to turn on the meter, long press to turn it off; after powering on, short press to switch menu or return
	Rotate/OK button	During measurement, short press to rotate screen setting and confirm selection
	Measurement button	Long press to start measurement
	Up/frequency button	During measurement, short press to switch between high and low frequency settings and make selection.
	Down/save button	During measurement, press to save selection settings and make selection.
	Measurement button on the bottom	Short press to start measurement

2) Instruction of full display interface

- Battery indicator
- Acceleration measurement value
- Speed value
- Displacement value
- Vibration intensity
- Menu selection
- High/low frequency mode
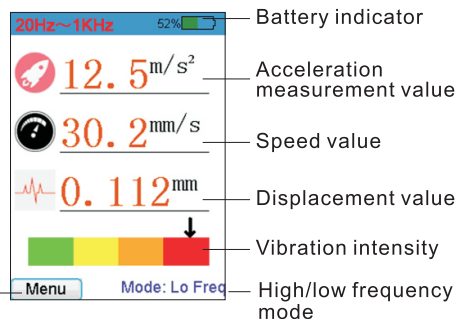
3) Menu interface description / divergence diagram of menu

a. Divergence diagram of menu functions:

Accelerate	Enter acceleration mode
Velocity	Enter speed mode
Distance	Enter displacement mode
File	Enter and view memory data

Settings	Select language	Chinese/English
	Screen brightness	Low/medium/high brightness
	Flashlight	Turn on/off
	Shutdown time	Select automatic shutdown time (0-9 mins)
	Restore factory setting	Yes/No
	Machine level	Set machine level

Calibration

F.Preparation for measurement

1. Install batteries;

Put batteries into battery compartment correctly, paying attention to the polarity of battery.
Press " 🔴 " button to turn on the meter, after powering on, check battery status. If power is low, please replace battery in time.

2. Select probe for measurement;

Based on measurement requirements, users can select different probes. Measuring with different probes may yield different evaluations on measurement results.
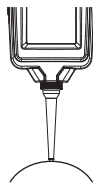
a. Measure with short (S) probe:

This probe is installed randomly and suitable for a wide range of vibration measurements with better response values.
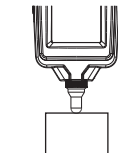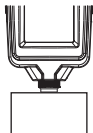
Short (S) probe measurement

b. Measure with long (L) probe:

This probe is an accessory in the package and is mainly used on narrow or special objects with faster response.

Long (L) probe measurement

c. Remove hardware probe to measure: this way is for measurement on flat object surface with stable data.

Remove hardware probe measurement

# G.Operation instruction

1.Power on / off

Short press " 🔴 "button to power on, long press" 🔴 "button to shut down.
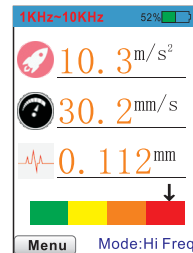
2. Screen rotation

After powering on, press " 🔄 " button to rotate screen. Only acceleration measurement, speed measurement, displacement measurement and full display interface support screen rotation. Each rotation will clear cached data.

3. Full display measurement

Press " 🔴 " to turn on the meter, full display interface appears after powering on; short press" 🔼 " to switch between high frequency and low frequency mode. Long press" MEAS "button or short press " MEAS " button to start automatic measurement, short press again to exit measurement. When cached data is over 0, press" 💾 "to save and window prompt pops up to indicate successful operation, then press " 🔄 "button to OK storage.
(The cache can hold up to 20 data, and the first data will be automatically removed if the cache is more than 20; the maximum data storage is 7 groups, and there will be a prompt when storage is full.)

20Hz~1KHz	52%
🚀 $12.8^{m/s^2}$	
⏱ $30.2^{mm/s}$	
〰 0.112^{mm}	↓
Menu	Mode:Lo Freq
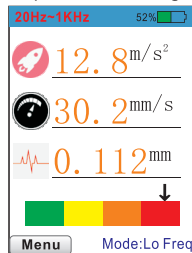
Full display interface (low frequency mode)

1KHz~10KHz	52%
🚀 $10.3^{m/s^2}$	
⏱ $30.2^{mm/s}$	
〰 0.112^{mm}	↓
Menu	Mode:Hi Freq

Full display interface (high frequency mode)

Success prompt of data storage
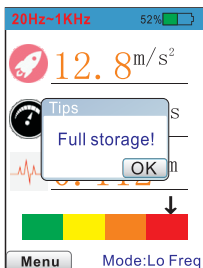
Indicator of full memory

4. Menu

Full display interface appears after powering on, press " ⏻ " button to enter menu interface, press up/ down button to select, press" ⟳OK " button to enter the corresponding interface. Short press" ⏻ " button again to return to the previous screen.

5. Acceleration measurement

Enter menu interface, press up/ down button to select acceleration measurement, press " ⟳OK " button to enter the interface. This interface also has graph analysis function.
Short press " LO/HI " to switch high/low frequency mode measurement, short press " SAVE " to save data and short press " ⏻ " to return to the previous interface.
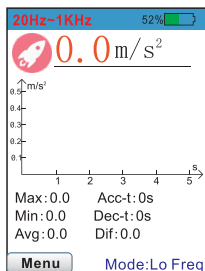
Acceleration interface

6. Speed measurement

Enter menu interface, press up/ down button to select speed measurement, press" ⟳OK " button to enter the interface. This interface also has graph analysis function. Short press" LO/HI " to switch high/low frequency mode measurement, short press" SAVE " to save data and short press " ⏻ " to return to the previous interface.

7. Displacement measurement

Enter menu interface, press up/ down button to select displacement measurement, press" ⟳OK " button to enter the interface. This interface also has graph analysis function. Short press" LO/HI " to switch high/low frequency mode measurement, short press" SAVE " to save data and short press " ⏻ " to return to the previous interface.

8. View files

Enter menu interface and select file item, the saved data can be viewed under file interface; press up/down button to scroll, long press for fast r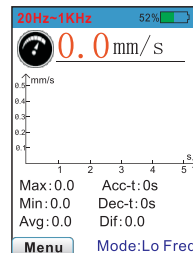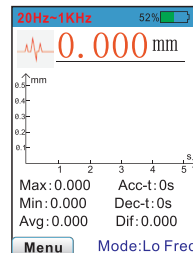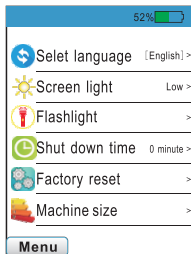eading. Press OK button, a window showing up with operations like delete this line/delete this group/delete all/view acceleration line chart/view speed line chart/view displacement line chart, and memory margin is displayed on the lower right corner.

Line	Group	ACCELER ATE	Velocity	Distance
1	1	0.9	17.3	0.939
2	1	7.9	21.3	0.863
3	1	7.8	17.9	0.889
4	2	0.9	18.3	0.937
5	2	7.3	20.2	0.939
6	2	7.8	17.9	0.883
7	2	2.9	5.0	0.330
8	2	6.9	14.3	0.690

20Hz~1KHz   52%   View the storage   Menu   Remain 56%

Options:
- Delete current row
- Delete current group
- Delete all data
- View accelerate chart
- View velocity chart
- View distance chart
- Close

9. Settings

Enter menu interface and select setting item. Language setting / screen brightness / flashlight / shutdown time / restoring factory setting / machine level are displayed under setting interface, among which settings of language switching, screen brightness and shutdown time can be memorized.

Setting menu:
- Selet language 〔English〕>
- Screen light   Low >
- Flashlight   >
- Shut down time   0 minute >
- Factory reset   >
- Machine size   >
- Menu

a. Language selection;

　Users can choose English/Chinese interface.

b. Screen brightness;

　Users can choose low brightness / medium brightness / high brightness.

c. Flashlight;

　Users can choose to turn flashlight on/off.

d. Shutdown time;

　Users can set automatic shutdown time from 0 min to 9 mins.

　0 min means that automatic shutdown is prohibited.

e. Restore factory settings;

　Users can choose whether to restore factory settings.

f. Machine grade;

　four levels to choose from:

I : Small（P<15kW）

II : Medium（15KW<P<=75KW）

III : Large hard base（P>75KW）

IV : Large soft base（P>75KW）

10. Calibration

a. Select calibration interface to enter.

b. Press up/down button to select item and press OK button

　to enter.(Note: There is no order for calibration)

　Item 1: Zero calibration,0m/s2，0Hz

　Item 2: Acceleration calibration，50m/s2，160Hz

　Item 3: Speed calibration, 50mm/s，160Hz

　Item 4: Displacement calibration,0.2mm，160Hz

　Item 5: High frequency calibration, 10m/s2，2000Hz

c. (Optional) Short press measurement button 1 to flip the page.
d. Select start item and press OK to initialize with "S1: ADC" showing up. At this time, the first three items read "Number--Number", the right side represents ADC value, and the left side represents the converted vibration value.
e. Display under different calibration items:
 (1) Press again to perform zero calibration with "S2: Zero" showing up, and wait until progress bar reaches 100%.
 (2) Adjust the output of vibrating machine to a stable state corresponding to the condition above. Press OK button again to calibrate slope value with "S2: Slope" showing up, and wait until progress bar reaches 100%.
 (3) If calibration is successful, "success" is displayed above progress bar, otherwise "Fail" shows up. The same is for the other calibration items.
f. After completing the required calibration, press Menu button to return.
g. If calibration value is wrong, users can restore factory setting in the settings.

H. Other notices

1. When viewing data, converted values are displayed according to the set frequency (high or low).
2. When the amount of data is large, it will take some time to enter file interface and operation also needs some response time. It is recommended to delete some unnecessary data.
3. When acceleration value is beyond measurement, try to switch frequency.
4. The meter will automatically shut down when the battery is low.

5. Machine level is represented by green, yellow, orange, red status bar in the full display measurement interface. Refer to the figure below for details.

Vibration intensity (ISO 10816-1)				
Machinery	Class I small machine	Class II medium machine	Class III large hard base	Class IV large soft base
mm/s				
0.28	Good	Good	Good	Good
0.45	Good	Good	Good	Good
0.71	Good	Good	Good	Good
1.12	Satisfactory	Good	Good	Good
1.80	Satisfactory	Good	Good	Good
2.80	Unsatisfactory	Satisfactory	Satisfactory	Good
4.50	Unsatisfactory	Unsatisfactory	Satisfactory	Satisfactory
7.10	Unacceptable	Unsatisfactory	Unsatisfactory	Satisfactory
11.20	Unacceptable	Unacceptable	Unsatisfactory	Unsatisfactory
18.00	Unacceptable	Unacceptable	Unacceptable	Unsatisfactory
28.00	Unacceptable	Unacceptable	Unacceptable	Unacceptable
45.90	Unacceptable	Unacceptable	Unacceptable	Unacceptable

(Left vertical label: Vibration speed Vrms)

Comparison table for vibration intensity

WARRANTY:
1. Please refer to warranty card provided for your warranty.
2. If the user disassembles our products and for damages caused by improper transportation, improper storage after purchase, and failure to operate according to instruction, and for anyone who smears warranty card or does not possess purchase certificate, our company does not guarantee warranty.

Specific Declarations:
Our company shall hold no any responibility resulting from using output from this product as an direct or indirect evidence.
We reserves the right to modify product design and specification without notice.