KUSAM-MECO

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KUSAM-MECO

VIBRATION METER

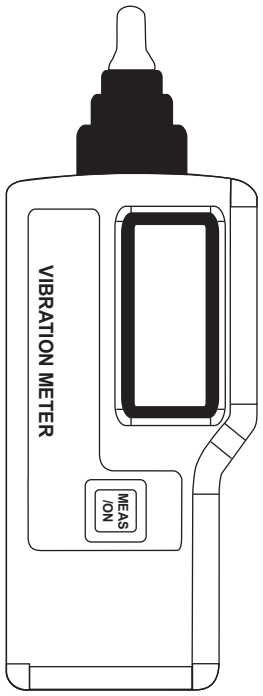
MODEL - KM 63

OPERATION MANUAL

KUSAM-MECO

VIBRATION METER

MODEL - KM 63



KUSAM-MECO

1. BEFORE USE :

Check-Up :

Carefully unpack your kit and ensure that you have the following items. In case that any item is missing or if you find any mismatch or damage, promptly contact your dealer.

- ✠ Vibration meter 1 PCS
- ✠ 9V battery 1 PCS
- ✠ English user's manual 1 PCS
- ✠ Warranty card 1 PCS
- ✠ Long probe 1 PCS
- ✠ Aluminum packing box 1 PCS

Introduction :

This product adopts piezoelectric effect of artificial polarized ceramic for design. It is suitable for monitoring of all kinds of vibrating mechanical facility, specially the vibration measurement of rotating and reciprocating machinery. The unit can measure acceleration, velocity and displacement, which is widely used in mechanical manufacture, electric power metallurgy and general aviation etc. field.

2. FEATURES :

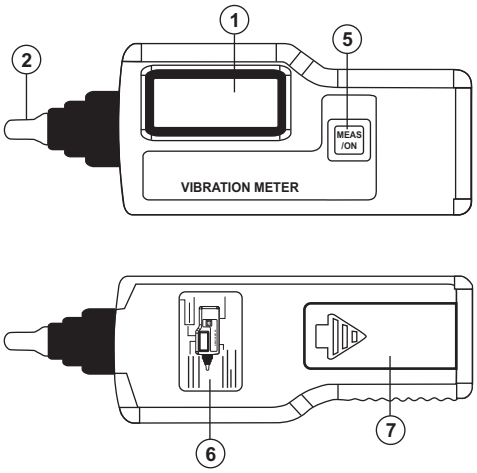
- ✠ Visually displays measurement value and state
- ✠ Acceleration, velocity and displacement measurement
- ✠ Different vibration frequency selection
- ✠ High sensitivity probe for accurate measurement
- ✠ Provides long and short probe head, each one is suitable for different situation measurement.
- ✠ Equipped with AC signal output interface
- ✠ Low power indication function
- ✠ Auto power-off function
- ✠ LCD backlight
- ✠ Simple to use, the structure is compact, portable for carrying along with measurement.

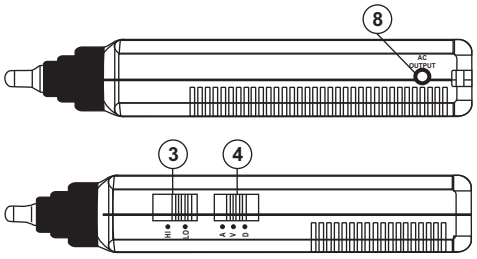
3. SPECIFICATIONS :

Technical parameter	Technical specification
Vibration pickup	Piezoelectric ceramic accelerometer (shear-type)
Measurement range of acceleration	0.1~199.9m/s² peak
Measurement range of velocity	0.1~199.9mm/s rms
Measurement range of displacement	0.001~1.999mm p-p Velocity & displacement range is limited by acceleration 199.9m/s²
Measurement accuracy	5% 2 digits
Measurement frequency range of acceleration	10Hz~1KHz(LO) 1KHz~15KHz (HI)
Measurement frequency range of velocity	10Hz~1KHz(LO)
Measurement frequency range of displacement	10Hz~1KHz(LO)
Displays update cycle	1 seconds
LCD display	3 1/2 digits display
Single output	AC output 2V peak (display full scale) Load impedance 10K or more earphones can be connected
Power supply	9V battery
Static current	≤20 A
Operating current	≤20mA
Battery life	20H continuous use
Auto power-off function	Turns off automatically after 60 seconds

Technical parameter	Technical specification
LCD backlight function	7 seconds
Operating temperature range	0~40°C
Operating humidity range	30~90%RH
Low battery indication	6.9V 0.2V
Dimensions	67 30 183mm
Weight	147g (not including battery)

4. DIAGRAM OF THE MAIN UNIT :



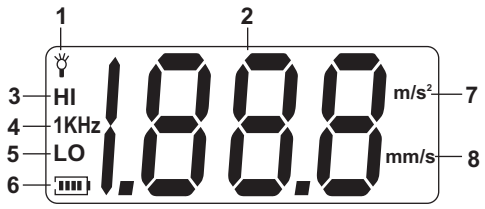


1. LCD screen
2. Probe
3. **LO/HI :** Frequency feature selection SWITCH (only in acceleration measurement)
4. **A/V/D :** Measurement mode (acceleration / velocity / displacement) selection SWITCH
5. MEAS /ON Power on and measurement key, press one to start the unit, you should keep pressing during the measuring process, release to hold the data.
6. Quick instruction label
7. Battery door
8. AC signal output jack

Note :

Above key function descriptions just are simply introduction, for details please read operation instructions part in this manual.

5. LCD DISPLAYS :



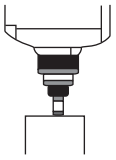
1. Backlight indication, the backlight will be active for 7 seconds upon the button operations.
2. Measurement data
3. **HI** High frequency indication
4. **1KHz** 1KHz indication
5. **LO** Low frequency indication
6. Battery mark shows current residual battery power. Has following 5 levels :
   - : battery is sufficient
   - : battery is comparative sufficient
   - : battery is nearly deficient
   - : battery is nearly exhausted, need to have a replacement
   - : battery is exhausted completely.

7. **m/s²** When measurement of acceleration, the LCD displays the acceleration unit : m/s²
8. **mm/s** When taking measurement of velocity, the LCD displays the velocity unit : mm/s;
   When taking measurement of displacement, the LCD displays the displacement unit : mm.

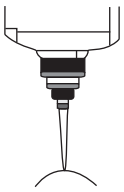
6. OPERATION :

1. Selecting measurement probe tip :
   Measurement tip is used as following 3 conditions, please select according to actual condition.

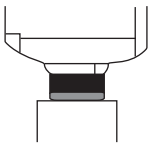
a. Measurement with short (S) probe tip :
   This probe head is factory default installment, adapts in wide scope vibration measurement and obtains good response value, as shown in following figure :



b. Measurement with long (L) probe tip :
This probe tip is packing inside the carry box, mainly adapts in narrow objects or special objects field, the unit will response quickly, as shown in following figure :



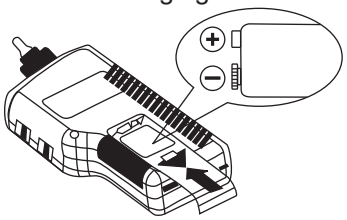
c. Measurement without probe tip :
Adapts in smooth object surface measurement to get stable value, as shown in following figure :



Battery Installment :

- Grip tightly the unit body with your left hand; hold down the battery door with your right hand thumb to open it according to the arrow referring direction, as shown in following figure :

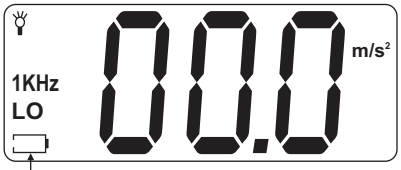
- Insert the 9V battery into battery compartment, note the battery polarity, and then close the battery door, as shown in following figure :



- Turn on the unit and check-up battery.

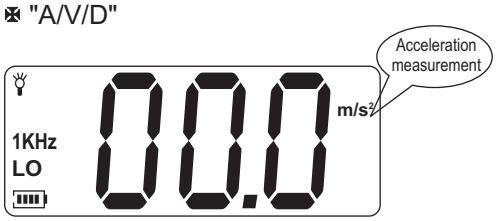
✠ Press the MEAS /ON key to turn on the unit, as shown in following figure :

✠ After the entire screen displays for 1 second, the default state is acceleration mode, if on the LCD displays the symbol ▭ or ▭ , please promptly replace the battery, as shown in following figure :



Low battery indication

✠ "A/V/D"



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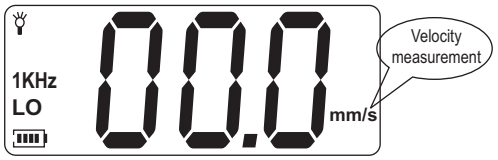
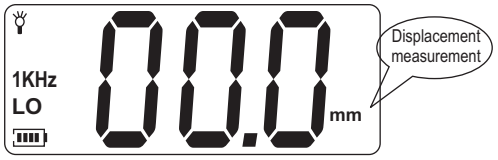


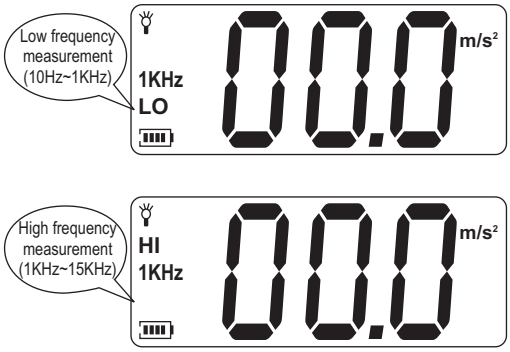
✠



Selcting high/low frequen ment mode :

✠ **High frequency :** "HI" is only for acceleration measurement mode.

✠ Slide the "LO/HI" switch select high frequency (HI) measurement or low frequency (LO) measurement, as shown in following figure :

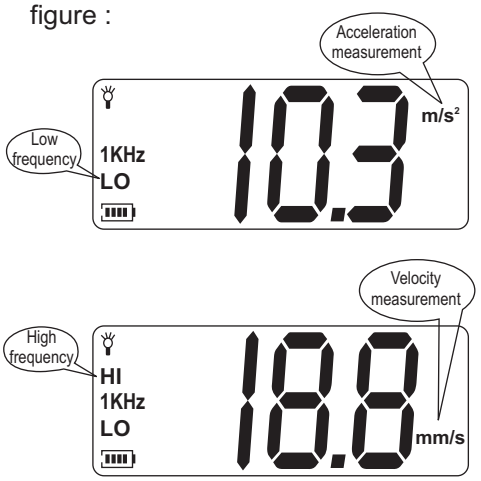


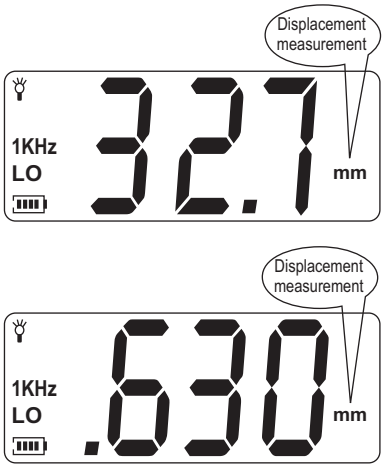
Note :

High / low frequency selection is only available in acceleration measurement.

7. MEASUREMENT :

1. As per the to-be-measured and frequency of vibration structure, select corresponding measurement mode (Acceleration/ Velocity / Displacement) and frequency (HI / Lo frequency). Keep the "MEAS /ON " key depressed with your right thumb, press the vibration meter against the measurement object at a of 500g to 1kg, the result is displayed on the LCD screen. Release the key & the result is kept on the LCD screen. As shown in following figure :





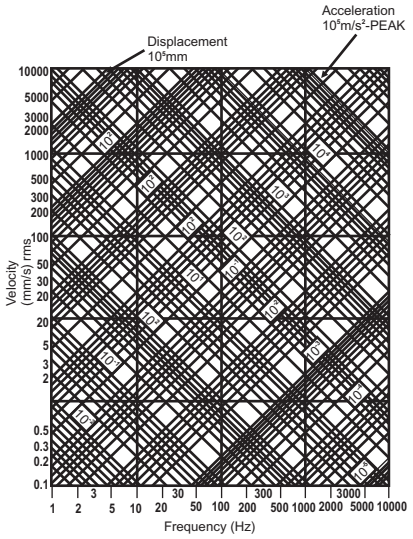
2. When the MEAS /ON key is pressed again, the current value will be cancelled, and a new measurement can be preformed.

Note :

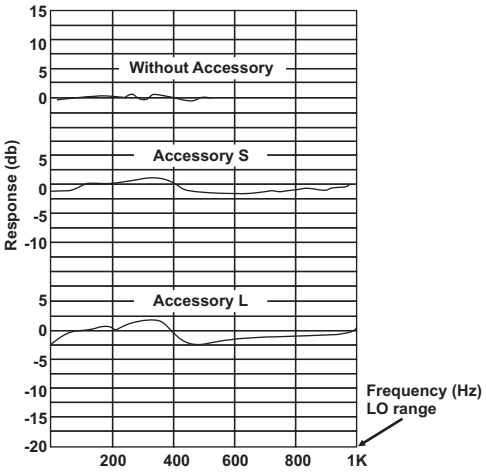
a. Using short Probe (S) can take measurement of vibration both in high (HI) and low (LO) frequency.
b. Long Probe (L) is only suitable for low frequency measurement. When taking velocity measurement, also the frequency is over 1KHz, please replace with the short probe.

c. When switching acceleration (HI high frequency) measurement mode to velocity or displacement mode, the high frequency (HI) will be change to low frequency (LO) automatically.
d. Power turns off automatically after 60 seconds without any operation.
e. The backlight closes down after 7 seconds without any operation.

Vibration Conversion Chart :



Contact resonance in acceleration measurement :
(worked with FFT signal analyzer)



8. OTHER ITEMS :

Attentions :

⚠ Warning

When making measurements on exposed rotating parts or power train parts of machinery, proceed with utmost care to prevent accident due to getting caught in the machinery.

⚠ Caution

If the unit shook excessively, the receiver may produce extremely high sound pressure that hurts human ear, be careful in process of using the signal output plug.

9. MAINTENANCE :

Replacement and upkeep of battery :

After power on, if an icon ▭ appears on the LCD, you need to replace the battery immediately, for details please refer figures and contents on page 9 of this manual

KUSAM-MECO

MUMBAI

TEST CERTIFICATE

VIBRATION METER

This Test Certificate warrantees that the product has been inspected and tested in accordance with the published specifications.

The instrument has been calibrated by using equipment which has already been calibrated to standards traceable to national standards.

MODEL NO. **KM 63**

SERIAL NO. _____

DATE: _____

ISO 9001
REGISTERED

QC
KUSAM-MECO
PASS

KUSAM-MECO

WARRANTY

Each "KUSAM-MECO" product is warranted to be free from defects in material and workmanship under normal use & service. The warranty period is one year (12 months) and begins from the date of despatch of goods. In case any defect occurs in functioning of the instrument, under proper use, within the warranty period, the same will be rectified by us free of charges, provided the to and fro freight charges are borne by you.

This warranty extends only to the original buyer or end-user customer of a "KUSAM-MECO" authorized dealer.

This warranty does not apply for damaged Ic's, fuses, burnt PCB's, disposable batteries, carrying case, test leads, or to any product which in "KUSAM-MECO's" opinion, has been misused, altered, neglected, contaminated or damaged by accident or abnormal conditions of operation or handling.

"KUSAM-MECO" authorized dealer shall extend this warranty on new and unused products to end-user customers only but have no authority to extend a greater or different warranty on behalf of "KUSAM-MECO".

"KUSAM-MECO's" warranty obligation is limited, at option, free of charge repair, or replacement of a defective product which is returned to a "KUSAM-MECO" authorized service center within the warranty period.

THIS WARRANTY IS BUYER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. "KUSAM-MECO" SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE WHATSOEVER.

All transaction are subject to Mumbai Jurisdiction.