

TENMARS

DIGITAL CLAMP METER



TM-102



User's manual

HB2TM1020010



**EASTERN
ENERGY**

www.eastern-energy.net

Email: info@ete.co.th

CONTENTS

1. General Description & Specifications	1
2. Name and Functions	3
3. Calibration Procedures	6
4. Measurement Preparation	7
5. Operating precautions	7
6. Measurement.....	8

Thank you for using our Sound Level Meter. To ensure that you can get the most from it, we recommend that you read and follow the manual carefully before use.

This unit conforms to the IEC651 Type2, ANSI S1.4 Type2 for Sound Level Meters.


This Sound Level Meter has been designed to meet the measurement requirements of safety Engineers, Health, Industrial safety offices and quality control in various environments.

- Ranges from 30dB to 130dB at frequencies between 31.5HZ and 8 KHZ .
- Display with 0.1dB steps on a 4 digits LCD.
- With two equivalent weighted sound pressure levels, A and C.

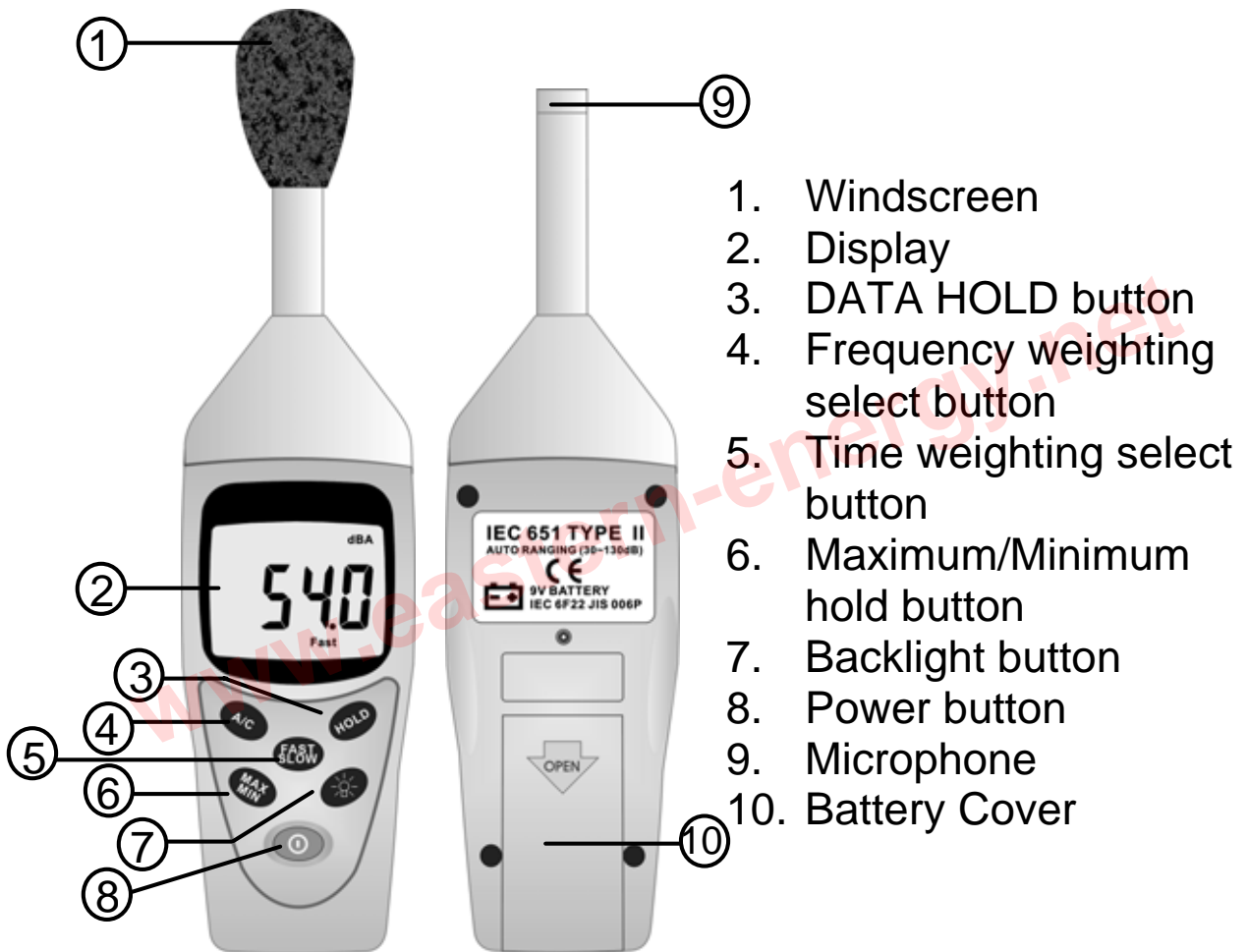
1. GENERAL DESCRIPTION & SPECIFICATIONS

- a. Display : 4 digits LCD with maximum/minimum, Resolution : 0.1dB, Display Update : 0.5 sec.
- b. Standard applied : IEC651 Type2, ANSI1.4 Type2.
- c. Frequency range : 31.5Hz~8KHz.
- d. Measuring level range : A Weighting 30 ~130dB. C Weighting 35~130dB.
- e. Frequency weighting : A/C.
- f. Microphone : 1/2 inch Electret condenser microphone.
- g. Time weighting : FAST(125mS), SLOW(1 sec).
- h. Level ranges : 30 ~130dB(Auto Range).
- i. Accuracy : ± 1.5 dB.
- j. Dynamic range : 50dB.

EN-1

- k. MAX/MIN : Hold readings for the Maximum and Minimum value.
- l. DATA HOLD : The reading data shown on LCD can be locked while pressing the button
- m. Low Battery Indication: Replace battery as LCD display “”.
- n. Power Supply : 9V NEDA 1604 , IEC 6F22, JIS 006P battery×1pcs.
- o. Power Life : About 50 hrs (alkaline Battery).
- p. Operation height : 2000M under the elevation above sea level.
- q. Operation temperature & Humidity : 5 ~40 , below 80 % RH.
- r. Storage Temperature & Humidity : -10 ~60 , below 70 % RH.
- s. Dimension: 200mm(L)x55mm(W)x38mm(H).
- t. Weight: About 170g. (Including batteries)
- u. Accessories: User’s manual、 carrying case 、 9V Battery, windscreen.

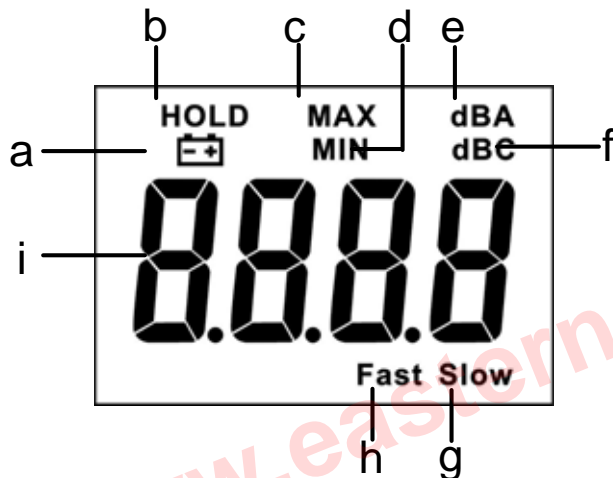
2. NAME AND FUNTIIONS



1. Windscreen

If you operate at wind speed over 10m/sec, please put protective accessories-windscreen in front of the microphone.

2. Display



- a. Low battery indication
- b. DATA HOLD indication
- c. Maximum indication
- d. Minimum indication
- e. A-Weighting
- f. C-Weighting
- g. Slow response
- h. Fast response
- i. Sound level read out

3. Power button.

The key for 1sec to turn the sound level meter ON or OFF. The auto power will be off automatically after 5 minutes idle time

4. MAX/MIN hold button

4.1 Press it to select the maximum, minimum or current reading. Press for more 1 second to return normal measurement.

4.2 **The MAX/MIN function will be disable if:**

The MAX/MIN is pressed for more than 1 second. Turn off the meter.

5 Frequency Weighting select button.

A : A-Weighting. For general sound level measurements. C : C-Weighting. For checking the low-frequency content of noise.(If the C-Weighted level is much higher than the A-weighted level, then there is a large amount of low-frequency noise)

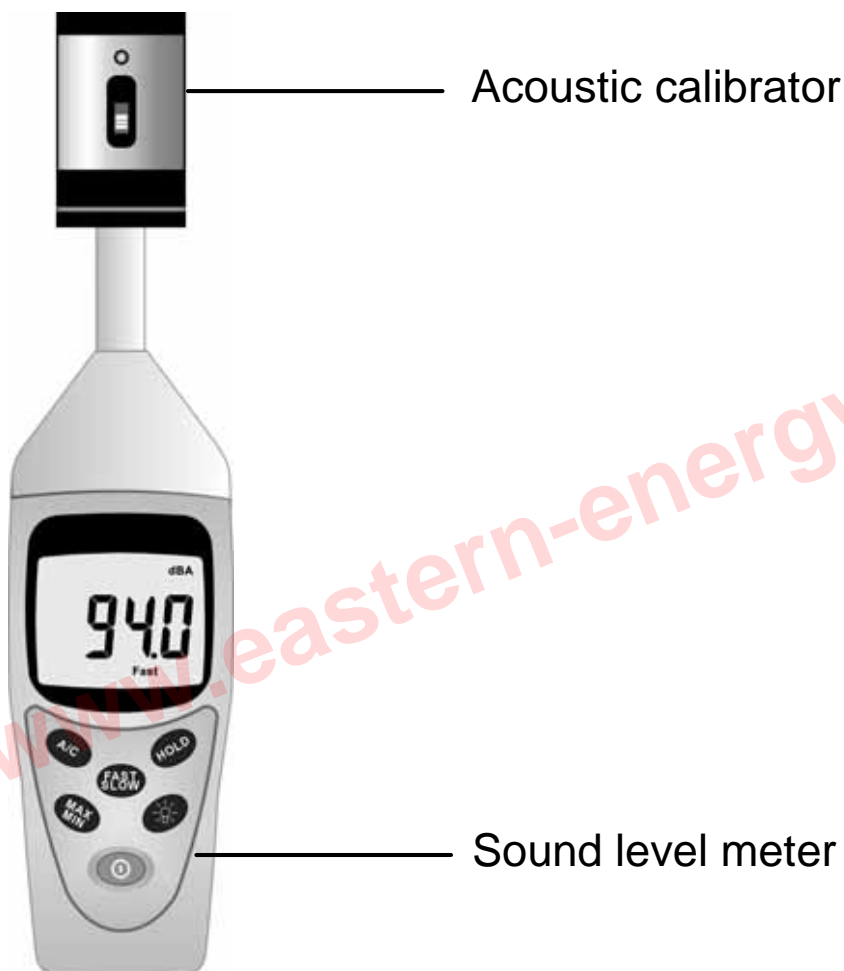
6 Time weighting select button.

FAST : for normal measurements.

- SLOW : for checking average level of fluctuation noise.
- 7 HOLD button.
The reading data shown on LCD can be locked while pressing the button.
- 8 Backlight button.
Press the button you enable the display backlight to easy readings in dark environments. Press more than 1 second to disable backlight, which however it automatically OFF after 15 seconds.
- 9 Microphone
1/2 inch Electret Condenser microphone.
- 10 Battery cover

3. CALIBRATION PROCEDURES

Using a standard Acoustic Calibrator(94dB,1KHz Sine wave)




1. Make the button settings. Display : dBA
Time weighting : FAST
2. Insert the Microphone nozzle carefully into the insertion hole of the calibrator.
3. Press A/C button then press the HOLD button, hold the 2 buttons at the same time more than 1 second. LCD will be blinking to confirm calibration.
4. When LCD blinked, release the A/C and the HOLD buttons. The sound level meter will display 94.0 dBA . The calibration is done.

EN-6

5. The 94 dB calibration process can be repeated until the meter reads 94.0 dB. Recalibration cycle : 1 year.

4. MEASUREMENT PREPARATION

1. Battery Loading
Remove the battery cover on the back and put in one 9V Battery.
2. Battery Replacement When the battery voltage drops below the operating voltage, the mark  appears. If it appears, battery should be replaced with new one.

5. OPERATING PRECAUTIONS

1. Wind blowing across the microphone would bring additional extraneous noise. Once using the instrument in the presence of wind, it is necessary to mount the windscreen preventing to pick up undesirable signals.
2. Calibrate the instrument before operation if the instrument was not in use for a long time or operation at bad environment.
3. Do not store or operate the instrument at high temperature and high humidity environment.
4. Keep microphone dry and avoid severe vibration.
5. Please take out the battery and keep the instrument in low humidity environment. When it is not in use.

6. MEASUREMENT

1. Open battery cover and install a 9 Volt battery in battery compartment.
2. Turn on power and select the desired response time and weighting. If the sound source consists of short bursts or only catching sound peak, set response to FAST. To measure average sound level, use the slow setting. Select A weighting for general noise sound level and C weighting for measuring sound level of acoustic material.
3. When MAX/ MIN (maximum, minimum hold) mode is chosen. The instrument captures and holds the maximum or minimum noise level . Press once to select MAX value. Press again to select MIN value, Press again to exit the MAX/MIN mode. “MAX” or ”MIN” symbol disappears.
4. Turn off the instrument and remove the battery when it is not in use.