Sound Level Meter

Environment / machinery noise measurement · 99-reading memory

USER MANUAL



30~130 dB · A / C Weighting · 99-Reading Memory

CE RoHS

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1 Features

- Conforms to the **IEC 61672-1:2013 Class 2** and **ANSI S1.4 Type 2** sound level meter standards.
- Widely used to test the sound level of environment, machinery, vehicle, ship and other noise.
- Multi-functional: offers 3 measurement parameters — **Lp** (sound level), **Leq** (equivalent continuous A sound level) and **Lmax** (maximum sound level).
- Choice of **A / C** frequency weighting and **Fast / Slow** response times.
- Auto range and manual range selectable.
- Manual or automatic shutdown.

▪ Memorizes 99 groups of measurement results and measuring conditions for later use.

2 Specifications

Display	20 mm (0.78″) 4-digit LCD with backlight and analog bar graph
Parameters measured	Lp, Lmax, Leq
Measurement range	Lp: 30~130 dB (A); 35~130 dB (C)
	Leq: 30~130 dB (time setting up to 24 hours)
Manual ranges (6)	30~80 / 40~90 / 50~100 / 60~110 / 70~120 / 80~130 dB
Resolution	0.1 dB
Accuracy	±1.5 dB
Frequency weighting	A, C
Time weighting	Fast (125 ms) / Slow (1 s)
Microphone	12.5 mm electret condenser type
Memory	99 groups with measuring conditions
Frequency range	20 Hz to 12.5 kHz
Over range indication	UNDER / OVER
Low battery indication	Shown when the voltage is lower than 3.5 V
Power supply	3 × 1.5 V AAA (UM-4) batteries
Dimensions	165 × 60 × 30 mm
Weight	Approx. 125 g (without batteries)
Applicable standards	IEC 61672-1:2013 Class 2

2.2 Standard delivery

Main unit × 1, carrying bag × 1, operation manual × 1, windscreen × 1.

Contents are as listed on the packing slip.

3 Front panel descriptions

3.1 Display



Fig. 1 LCD display (callouts 3-1 to 3-15)

3-1	Display	3-9	Analog bar graph
3-2	Sound unit (dB)	3-10	UNDER range indication
3-3	Max hold	3-11	OVER range indication

3-4	Battery icon	3-12	Data memory indication
3-5	Time weighting	3-13	Data recall indication
3-6	LAp / LCp icon	3-14	Time setting hour icon
3-7	Leq icon	3-15	Memory data number
3-8	Range		

3.2 The meter and its keys



Fig. 2 Front panel (callouts 3-16 to 3-24)

3-16	LCD display	3-21	Function switching key
3-17	Microphone and wind screen	3-22	FAST / SLOW switching key
3-18	Power key	3-23	Data saving and up key
3-19	Max hold and data delete key	3-24	Data read and down key

3-20 Backlight key

4 Measuring procedure

4.1 Power on / off

Press the power key (3-18) to switch the meter on or off.

4.2 Choosing the measuring range

Auto range: the default setting is auto range; no need to switch ranges manually.

Manual range: press the data saving / up key (3-23) or the data read / down key (3-24) to switch among the 30~80 dB, 50~100 dB, 60~110 dB and 80~130 dB ranges.

4.3 Choosing the function

Press the function switching key (3-21) to choose the function. The default setting is Lp, weighting A, Fast.

- **LAp / LCp**: current sound pressure level.
- **Leq**: equivalent continuous A sound level, i.e. the arithmetically averaged value over the set period.

> With **A** weighting selected, the frequency response of the meter resembles the response of the human ear; it is commonly used for environmental or hearing conservation programmes such as OSHA regulatory testing and noise ordinance law. **C** weighting has a much flatter response and suits the sound level analysis of machines, engines, etc. Weighting A is selected automatically when measuring Leq.

4.4 Time weighting

Use the FAST / SLOW switching key FAST SLOW (3-22) to select a Fast (125 ms) or a Slow (1 s) response time. Select Fast to capture noise peaks and noises that occur very quickly; select Slow to monitor a sound source with a consistent noise level or to average quickly changing levels. Slow response suits most applications.

4.5 Max hold

The reading is the peak value while the max icon appears on the display, and an instantaneous value when it does not. The max symbol is controlled by pressing the max hold and data delete key MAX DEL (3-19) during measurement.

5 Storing and recalling readings

5.1 Data saving

Press the data saving / up key SAVE (3-23) to save the reading together with its measuring conditions. The indication changes to **M** automatically and the number of memorized readings increases by 1. Up to 99 groups can be saved; when the memory is full, data must be deleted manually before new data can be stored.

5.2 Data reading

Press the data read / down key READ (3-24) to read the memorized data. The browsing state is marked **R** on the display; press the data saving / up key SAVE (3-23) or the data read / down key READ (3-24) to recall all memorized readings one by one.

5.3 Data deleting

Enter the browsing state and locate the reading, then press and hold the max hold and data delete key MAX DEL (3-19) to delete it. When the data number shows 00, there is no more reading to delete.

6 How to set the Leq time

Leq is used to assess the rms average noise level over a preset period. To take a Leq measurement, the period must be set in advance. The longer the measurement time, the more accurate the Leq reading will be.



Fig. 3 Setting the Leq time: hour H (up to 24) / minutes Min (up to 59) / seconds S (up to 59)

How to set the measurement time:

1. Press the function switching key Lp (A/C) Leq (3-21) to switch to Leq measurement. H stands for hour, Min for minutes, S for seconds.
2. Press the data saving / up key SAVE (3-23) or the data read / down key READ (3-24) to set the value; press the FAST / SLOW switching

key FAST SLOW (3-22) to confirm each digit. The meter starts the Leq measurement once the seconds setting is finished.

7 Auto power off

The factory default auto power off time is 10 minutes: the meter switches off 10 minutes after the last key operation. This function is disabled in Leq measurement mode, where the meter can only be switched off manually.

8 Calibration

The standard method to calibrate the meter requires a calibrator and a screwdriver.

a. Turn the meter on.

b. Put the meter in the **A** weighting mode.

c. Put the meter in the **Slow** response mode.

d. Place the microphone into the calibrator and turn the calibrator on.

e. Adjust the meter's CAL potentiometer to match the reading to the output of the calibrator, 94 dB or 114 dB.

9 Considerations

9.1 Wind blowing across the microphone increases the noise measurement. Use the supplied wind screen to cover the microphone when applicable.

9.2 Do not attempt to dismantle the meter yourself. There are no user-serviceable parts inside.

10 Battery replacement

10.1 When the battery voltage is lower than 3.5 V, the battery icon (3-4) appears and the batteries must be replaced.

10.2 Install the batteries correctly into the battery compartment.

10.3 If the instrument is not to be used for an extended period, remove the batteries.

11 Warranty

This product is warranted for **1 year** from the date of purchase.

- Under normal use, failures caused by defects in materials or workmanship will be repaired or the defective parts replaced free of charge within the warranty period.
- Unauthorised repair or modification, or use of batteries and accessories that do not meet the specification, is not covered.
- Misuse, use contrary to this manual and accidental damage are not covered.
- Return freight is borne by the customer.

The manufacturer reserves the right to change specifications without prior notice.

12 Compliance

12.1 Waste disposal and environmental protection (WEEE)

Waste electrical and electronic equipment must be collected separately. Do not dispose of it with household waste. Remove the batteries and dispose of them in accordance with local regulations.

12.2 Restriction of hazardous substances (RoHS)

This product is certified to **CE** and **RoHS**, and complies with the restriction of the hazardous substances listed in the EU RoHS Directive 2011/65/EU and its amendment (EU) 2015/863.

12.3 Applicable standards

Category	Standard
Sound level meter	IEC 61672-1:2013 Class 2
	ANSI S1.4 Type 2
Hazardous substances	RoHS 2011/65/EU

This instrument complies with the standards stated above.

Notes

For calibration dates, test results and service history. Version V1.0