

Pro'sKit®

MT-4618 Sound Level Meter



User's Manual

1st Edition, 2015

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Preface

Please read the operating manual carefully before using the product.

The Sound Level Meter is an instrument used to measure the ambient sound level, such as sound level around factories, workshops, schools, residential, offices, road, audio etc. It also can be appropriate for noise engineering, product quality control, health prevention and treatment, etc.

Safety instructions


Please use according to each specification of sound level meter.

Operating environment:

- Elevation <2000 m
- Relative humidity (RH) $\leq 80\%RH$
- Operating temperature 0 - 40°C

Storage and maintenance: Do not use alcohol or other solvents to clean the meter. If it is not to be used for a long time, remove batteries and keep the meter in a dry and clean environment.

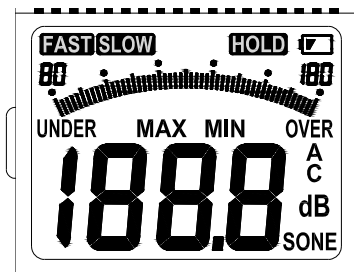
Safety symbols:


 Dual protection is used for the meter.



Comply with CE safety standard.

LCD display introduction



Display symbols	Description	Display symbols	Description
FAST	High speed	OVER	Over flow
SLOW	Low speed	A	A weighting mode
HOLD	Keep	C	C weighting mode
UNDER	Below	dB	Decibel
MAX	Maximum	SONE	Sound unit (sone)
MIN	Minimum		Battery power

Functional characteristics description

- This sound level meter complies with IEC651 Type 2 and ANSI S1.4 Type 2.
- Includes the measuring scope from 30 to 130 dB and automatic shifting function
- A and C weighting network selection
- High speed (FAST)/Low speed (SLOW) response rate selection

- Maximum (MAX) locking function
- Digital display, good anti-interference performance, power saving
- Includes the backlight feature, it is appropriate for gathering the sound data at night. To save power, backlight auto power off function is provided.
- Composite material injection molding process is adopted for casing with anti-drop structure design. It is not only extremely wear-resistant, but also elegant.
- Includes power saving and high-reliability circuit design, well-designed high-efficiency power supply circuit makes the batteries more durable.

V. Specifications


- Sound pressure accuracy: ± 1.5 dB (sound pressure standard, 94 dB @ 1KHz).
- Sound pressure accuracy: ± 5 dB (sound pressure standard, 94 dB @ 8KHz).
- Sound pressure frequency response: 30Hz - 8KHz.
- Dynamic range of sound pressure: 50 dB (for each measurement gear level).
- Sound pressure measurement scope: 30-130 dBA, 30-130 dBC.
- Sound pressure frequency weighting characteristics: A and C characteristics.
- Dynamic characteristic of sound pressure: FAST

125ms, SLOW 1sec

- Microphone: polarized capacitive microphone.
- Digital display: 4-digit, resolution: 0.1 dB, sampling rate: 2 times/sec.
- Analog bar display: Each analog bar represents 1 dB, sampling rate is 20 times/sec.
- Measurement gear level: 30-80 dB, 40-90 dB, 50-100 dB, 60—110 dB, 70—120 dB, 80-130 dB, 6 gear levels in total.
- Automatic shifting gear level: microcomputer will automatically select the best gear level in the range from 30 to 130 dB.
- Below or above limit prompt: indicated with “UNDER” or “OVER” display.
- Power supply: AAA x 4 batteries of 1.5V each
- Operating temperature: 0 ~+ 40 °C
- Operating temperature: 10 ~80%RH
- Storage temperature: - 10 ~+ 60 °C
- Storage humidity: 10 ~70% RH
- Outside measurement: 193 (L) × 60(W) × 29 (H) mm
- Accessories: Instruction manual, cotton ball

Preparations before use

1. Use a phillips head to open the battery cover on the back of the meter, and install AAA x 4 alkaline batteries

- of 1.5V each to the battery holder.
2. Return the battery cover and use a phillips head to tighten screw.
 3. When the battery is aging, “” symbol will appear on the LCD display, indicating that batteries don't have enough power to use, and should be replaced with new ones.

Basic usage methods

1. Press the power switch, the default measurement is auto range microprocessor of LCD display is 30~130 dB. And the measured onsite sound level will display within this range. If one of the “UNDER” or “OVER” icons displays on the LCD, it means that onsite sound is either lower or higher than the limit range. At this time, the measurement value is not accurate, you should click Up and Down key to set the measurement gear level of the instrument to get accurate measurement value.

2. Setting measurement gear level:

Press the Level▲ or ▼ keys to select appropriate gear level to measure the current sound level, when the “UNDER” character appears, it means that the gear level of the instrument is too high. You should press Level▼ to set a lower gear level until the “UNDER” character disappears. When the “OVER” character appears, it


means that the gear level of the instrument is too low. You should press Level▲ to set a lower gear level until the “OVER” character disappears.

3. Selecting the weighting mode:

To measure the sound level within the human audible range, select A weighting mode (simulate the hearing characteristics of human ears) mode, press the A/C key, click to select A, click again C. To measure the actual sound level, select C weighting mode.


4. To read real-time sound level, select FAST (high speed). To obtain the average sound level, select SLOW (low speed). Press FAST/SLOW key to select FAST or SLOW.

5. To obtain the maximum sound level, press “MAX” function key and you can read the maximum sound level reading value, press MAX key again to return to the normal measurement mode.

6. To light up the backlight of LCD when measuring at night, press  key.

Notes

1. Do not use the meter in hot, humid environment.
2. If the meter is not to be used for a long time, remove the batteries to avoid electrolyte leakage damaging the instrument.

3. Auto range (30-130 dB) is not suitable for measuring transient impact noise.
4. When you measure sound level outside, the anti-wind ball should be installed on the microphone head to avoid blowing directly into the microphone and generating airflow noise.
5. If “” symbol displays on the LCD, it means that the battery voltage is too low. You should immediately replace batteries. It is recommended that you use alkaline batteries.

MT-4618 數位噪音計 使用說明書

安全聲明

小心或注意

“小心”或“注意”標誌表示會對儀錶或設備造成損壞的狀況和操作。

它要求在執行此操作時必須小心，如果不正確執行此操作或不遵循此操作步驟，則可能導致儀錶或設備損壞。在不滿足這些條件或沒有完全理解的情況下，請勿繼續執行小心標誌所指示的任何操作。

警告

“警告”標誌表示會對用戶造成危險的狀況和操作。

它要求在執行此操作時必須注意，如果不正確執行此操作或不遵守此操作步驟，則可能導致人身傷害或傷亡。在不滿足這些條件或沒有完全理解的情況下，請勿繼續執行警告標誌所指示的任何操作。

使用本儀錶前，請仔細閱讀說明書並請注意有關安全警告資訊。

安全須知：

請依照聲級計各項規格使用。

使用環境條件：

- 海拔高度 < 2000 米
- 相對濕度 ≤ 80%RH

- 操作溫度 0 - 40°C

保存及維護：請勿使用酒精等溶劑清潔本表。如果長期不使用，請將電池取出，並將儀錶放置在乾燥潔淨的環境。

安全符號：



電錶採用雙重保護。



符合歐洲 CE 安全規範。

概述

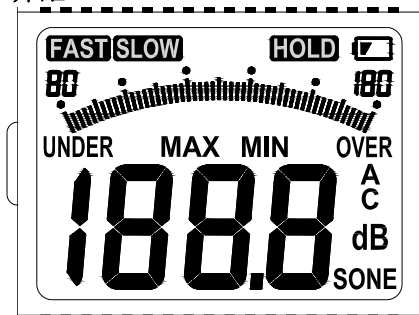
聲級計是用來測量環境聲音等級的儀器：如工廠、車間、學校、住宅、辦公區、交通道路、音響等各種場合的聲音等級。也適用於噪音工程，產品品質控制，健康防治等。

功能特性說明

- 本聲級計符合國際委員會 IEC651 Type 2 和美國國家標準 ANSI S1.4 Type2。
- 測量範圍 30~130 分貝和自動換檔功能。
- A 和 C 加權網路選擇。
- 快速 (FAST) / 慢速 (SLOW) 反應速率選擇。
- 最大值 (MAX) 鎖定功能。
- 數位顯示，抗干擾性能好、省電的優點。

- 設計有背光照明，適用於夜間採集聲音資料使用。為了省電,設計了自動關閉背光功能。
- 外殼採用複合材料注塑工藝，防摔結構設計，不僅堅固耐磨，而且美觀大方。
- 省電型和高可靠性電路設計，高效率電源電路使電池更加耐用。

液晶顯示介紹




顯示符號	說明	顯示符號	說明
FAST	快速	OVER	溢出
SLOW	慢速	A	A加權模式
HOLD	保持	C	C加權模式
UNDER	低於	dB	分貝
MAX	最大	SONE	響度單位（宋）
MIN	最小		電量提示

規格

- 聲壓準確度： $\pm 1.5\text{dB}$ (音壓標準， $94\text{dB}@1\text{KHz}$)。
- 聲壓準確度： $\pm 5\text{dB}$ (音壓標準， $94\text{dB}@8\text{KHz}$)。
- 聲壓頻率回應：30Hz — 8KHz。
- 聲壓動態範圍：50 dB (每一個測量檔位)。
- 聲壓測量範圍：30—130dBA、35—130dBC。
- 聲壓頻率加權特性：A 和 C 特性。
- 聲壓動態特性：FAST 125ms, SLOW 1sec
- 麥克風：極化電容式麥克風。
- 顯示：4 位數，解析度 0.1dB，取樣率 2 次/秒。
- 類比條顯示：取樣率 20 次/秒。
- 測量檔位：30—80 分貝、40—90 分貝、50—100 分貝、60—110 分貝、70—120 分貝、80—130 分貝，共 6 個檔位。
- 自動換檔：微電腦在 30~130 分貝範圍內自動選擇最佳測量檔位。
- 低於或超越量限提示：採用“UNDER”和“OVER”、字元表示。
- 電源：1.5V AAA 電池 4 個。
- 工作溫度：0 ~+ 40°C。
- 工作濕度：10 ~80%RH。
- 儲存溫度：- 10 ~+ 60°C。

- 儲存濕度：10~70%RH。
- 外形尺寸：193 (長) × 60(寬) × 29 (高) mm。
- 附件：說明書、海棉套。

使用前準備事項

1. 使用十字螺絲刀打開儀錶背面的電池蓋，裝上 4 枚 AAA 1.5V 電池於電池盒。
2. 蓋回電池蓋並鎖緊螺絲。
3. 當顯示“”符號，表示此時電池已欠壓，必須更換新電池。

基本使用方法

1. 按下電源開關，液晶顯示幕顯示微處理器默認的自動測量檔位 30~130dB 檔。並顯示測量到的現場聲音等級。如果顯示幕出現“UNDER”或“OVER”字元，表明現場的聲音低於或高於測量檔位的量限，此時的測量值是不準確的，您需要通過按上、下鍵對儀器的測量檔位元進行正確的設置。才能得到準確的測量值。
2. 設置測量檔位：
按下▲ 或 ▼ 鍵 選擇合適的檔位測量現在的聲級，當出現“UNDER”字元時，提示儀器現在的測量檔位元太高，您需要按動▼ 鍵設置較低的檔位，直到不出現“UNDER”符號為止。當出現


“OVER”字元時，提示儀器現在的測量檔位元太低，您需要按動▲ 鍵 設置較高的檔位，直到不出現“ OVER ”符號為止。

3. 選擇加權模式：

要測量以人為感受的聲級請選擇 **A** 加權（模擬人耳的聽覺特性）模式，按 **A/C** 鍵，按一下選擇 **A**，再按一下為 **C**。要測量實際的聲級請選擇 **C** 加權模式。

4. 要讀取即時的聲級請選擇 **FAST**(快速)，如要獲得當時的平均聲級請選擇 **SLOW**(慢速)。按 **FAST/SLOW** 鍵選擇 **FAST** 或 **SLOW**。


5. 要測量聲級的最大值可按 **MAX** 鍵。即可讀到最大聲級讀值，再按 **MAX** 鍵進入正常測量模式。

6. 如要在夜間測量時點亮顯示幕的背光，可按  鍵。

注意事項

1. 請勿置於高溫、潮濕的地方使用。
2. 長時間不使用請取出電池，避免電解液漏出損傷本儀錶。
3. 自動檔（30—130dB）不適合測量瞬間的衝擊性噪音。
4. 在室外測量聲級的場合，請在麥克風頭裝上防風

球，可避免麥克風直接被風吹到而產生氣流雜音。

5. 如果顯示幕出現“”符號，表明電池電壓過低，您必須立即更換電池，建議您使用鹼性電池。

Pro'sKit[®]

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