

# SLM-500 SPL METER



- Digital sound level meter
- Dedicated LCD
- Electret condenser microphone cartridge
- Measuring range from 30-130 dB
- Max Hold function
- A and C weighting
- Slow and fast measuring mode
- Additional outputs for via 3.5 mm jacks
- Operation via 4 x 1.5 V batter or 6 V power supply unit
- Incl. windscreen and batteries



## INTRODUCTION

Thank you for having chosen an OMNITRONIC product. If you follow the instructions given in this manual, we are sure that you will enjoy this device for a long period of time. Please keep this manual for further needs.



### CAUTION!

**Keep this device away from rain and moisture!**



**For your own safety, please read this user manual carefully before your initial start-up.**



**This user manual is valid for the article: 10360600. You can find the latest update online: [www.omnitronic.de](http://www.omnitronic.de)**

Every person involved with the installation, operation and maintenance of this device has to

- be qualified
- follow the instructions of this manual
- consider this manual to be part of the total product
- keep this manual for the entire service life of the product
- pass this manual on to every further owner or user of the product
- download the latest version of the user manual from the Internet

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# SAFETY INSTRUCTIONS

**Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems.**

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this user manual.

Please make sure that there are no obvious transport damages. Should you notice any damages on the casing, do not take the device into operation and immediately consult your local dealer.

If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.

We recommend a frequent cleaning of the device. Please use a moist, lint-free cloth. Never use alcohol or solvents. Disconnect from mains before starting maintenance operation!

There are no serviceable parts inside the device. Should you have further questions, please contact your dealer.

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# OPERATING DETERMINATIONS

The SLM-500 serves for sound level measurement. It operates with four 1.5 V batteries or a 6 V power supply unit.

This device falls under protection class III. The unit was designed for indoor use only. The ambient temperature must always be between  $-5^{\circ}\text{C}$  and  $+45^{\circ}\text{C}$ . Keep away from direct insulation (particularly in cars) and heaters. The relative humidity must not exceed 100 % with an ambient temperature of  $25^{\circ}\text{C}$ . This device must only be operated in an altitude between -20 and 2000 m over NN.

Please consider that unauthorized modifications on the device are forbidden due to safety reasons! If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock etc.



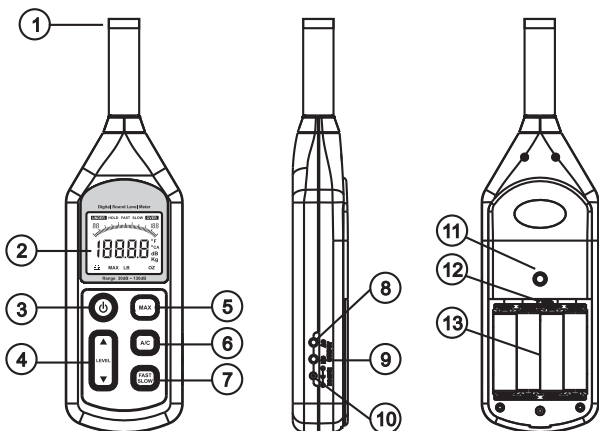
## CAUTION!




Danger of explosion when battery is replaced improperly. Only replace by the same type. Please dispose of old and used batteries properly. Batteries are hazardous waste and should not be disposed of with regular domestic waste!

Batteries are hazardous waste which needs to be disposed of appropriately. If the device is to be disposed, the batteries have to be removed first. Make sure that the poles are correct when inserting the battery. Never let batteries lying around openly as there is the danger that these can be swallowed by children or domestic animals. Immediately consult a doctor when batteries are swallowed!

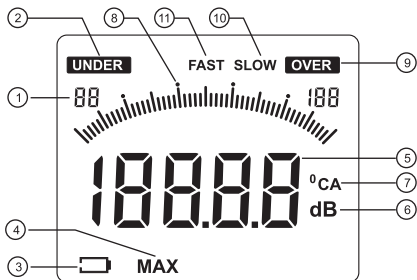
Leaking or damaged batteries can cause irritations when getting into contact with the skin. In this case use appropriate protective gloves. Make sure that the batteries cannot be short-circuited, thrown into the fire and be charged. There is a danger of explosion. Never spill any liquids on the device. Should any liquid enter the device nevertheless, remove the batteries immediately. Please let the device be checked by a qualified service technician before you operate it again. Any damages caused by liquids having entered the device are not subject to warranty!

# OPERATING ELEMENTS



- |   |   |
|---|---|
| 1 | Measuring microphone with electret condenser microphone capsule. If you operate at wind speed over 10 m/sec, please use the protective windscreen included in the delivery.   |
| 2 | Display   |
| 3 | Button  for switching on and off.  |
| 4 | Level buttons   for selecting the measuring range 30-80 dB, 40-90 dB, 50-100 dB, 60-110 dB, 70-120 dB, 80-130 dB or 30-130 dB. Basic setting after switching on: 40-90 dB. The display indicates the lower value on the left side and the higher value on the right side. |
| 5 | Button MAX to activate/deactivate the measurement of the maximum level; with the function activated, MAX is indicated on the display.   |
| 6 | Button A/C selects the weighting filter. A = the measurement corresponds to the auditory sensation of the human ear; C = the measurement corresponds to the physical sound level.   |
| 7 | Button FAST/SLOW for selecting the dynamic measuring mode. After switching on, the display indicates the basic setting FAST for sound levels changing fast. Press the FAST/SLOW button to switch to SLOW for sound levels changing slowly.  |


8	AC output for picking up a microphone signal for further analysis.
9	DC output for picking up a DC voltage proportional to level for further analysis.
10	Power input for operating the SLM-500 with a power supply unit.
11	6.3 mm thread for mounting the SLM-500 on a stand.
12	Calibration control
13	Battery compartment



1	Measuring range
2	Reading under maximum range
3	Batteries exhausted
4	Maximum level
5	Measuring value
6	Measuring unit
7	Filter
8	Bargraph of the measuring value
9	Reading over maximum range
10	Slow measuring mode
11	Fast measuring mode

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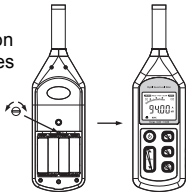
# MEASURING

- 1 Insert four 1.5 V batteries as indicated in the battery compartment or connect a 6 V power unit. Then switch on the meter with the  button. An indication is displayed. If the display indicates the battery symbol, the batteries are exhausted and must be replaced.
- 2 For measuring, hold the device horizontally with the microphone pointing to the sound source.
  - The sound level measured largely depends on the distance of the meter from the sound source. When measuring, observe a defined distance (e.g. 1 m for speaker measurements) or state the distance at which the measurement was made.
  - The level measured also depends on the angle to the sound source. It may be necessary to measure the levels at different angles - but at the same distance - to determine the sound radiation behavior of sound source.
- 3 After switching on, the measuring range 40-90 dB is always selected. Seven measuring ranges can be selected: 30-80 dB, 40-90 dB, 50-100 dB, 60-110 dB, 70-120 dB, 80-130 dB, 30-130 dB. Adjust the range with the **LEVEL** buttons. If the measuring range e.g. is 40-90 dB and values under 40 dB are measured, the display indicates "UNDER". In this case, adjust a lower range with the LEVEL buttons. If values over 90 dB are measured, the display indicates "OVER". In this case, adjust a higher range with the LEVEL buttons.
- 4 After switching on, the dynamic measuring mode is set to sound levels changing fast. The display indicates "FAST". For measuring sound levels changing slowly, press the FAST/SLOW button until the display indicates "SLOW".
- 5 After switching on, weighting filter A is selected for measuring the sound level in accordance with the auditory sensation of the human ear. The display indicates "A". Press the A/C button to select filter "C" for physical sound level measurement. The display indicates "C".
- 6 To determine the maximum level occurring, press the MAX button. The display indicates "MAX". Now the level value of the highest volume occurring after pressing MAX will be held. Press MAX again to deactivate the function.
- 7 Always switch off the unit after operation to extend battery life. If the device will not be used for a longer period of time, remove the batteries in order to avoid battery leakage.

# CALIBRATION

The unit was calibrated before leaving the factory. The suggested adjustment cycle is one year. A calibration tool is available as accessory.

- 1 Remove the battery cover and make the following settings: weighting filter A, measuring mode FAST, measuring range 60 to 110 dB.
- 2 Place the microphone of the SLM-500 as far as possible into the calibrator's calibration chamber.
- 3 Switch on the calibrator and check the indication on the SLM-500's display. If the indication varies by more than 0.5 dB from 94 dB, the SLM-500 has to be readjusted. Use a screw driver to adjust the trimming control until the display indicates 94.0 dB



# TECHNICAL SPECIFICATIONS

Power supply:	4 x 1.5 V battery
	or 9 V DC, 100 mA via power unit (max. 9 V DC)
Battery life:	approx. 30 hrs.
Measuring ranges:	30-80 dB, 40-90 dB, 50-100 dB, 60-110 dB, 70-120 dB, 80-130 dB, 30-130 dB
Accuracy:	±1.5 dB at 94 dB, 1 kHz
Frequency range:	31.5 Hz - 8.5 kHz
Level weighting:	A or C
Microphone:	electret condenser microphone
AC output:	0.707 V RMS, 600 ohms
DC output:	10 mV, 100 ohms
Dimensions (LxWxH):	145 x 110 x 60 mm
Weight:	0.6 kg
Accessory:	
SLM calibration tool	No. 10360611