

## Sound Level Meter

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## Sound Level Meter in a working process

Excessive noise at the enterprises and the environment may have very grave results and influence the health of the workers (hearing loss). Special committees that follow and monitor the level of noise and its influence have been created in every country. It is a duty of the employer to minimize the risk to the health of people engaged in the working process and how much all the norms and regulations are followed is always checked carefully by the health control organizations. The EU Directive (2003) comprises all the necessary factors to consider when creating the correct working environment.



Noise is dangerous with a specific equivalent level of 90 dB (A) (Leq). Assessment period is 8 hours per day (one shift). Hearing damage may occur already at 85 dB (A). According to the current scientific knowledge the hearing test in the inner ear depends on its sound level, given as equivalent level (Leq) in dB (A). The LEQ-noise meter is used for measurements. Auditory acuity and other physiological functions can be initiated by the machine noise influences. This can bring to the hearing loss.

One of the simplest and effective methods to check the level of sound is to use the device that has been created for monitoring and documenting the level of sound, which is called Sound Level Meter.



It is important to measure both, not only the average level of sound, but also how high its magnitude is when it reaches its peak, to check how often sound (noise) happens and with which regularity. Not only a long-lasting noise influence, but even a very strong impulse that lasts for a short time can cause damage and bring to the hearing loss. There are legal limits which indicate that maximum point which the sound must not exceed. Depending on the sound level (80 dB(A), 85 dB(A) or 87 dB(A)) strict measures of precaution should be taken to guarantee the protection of the workers. As a rule it goes about the 8 hours – duration of the standard working day. The possible changes that should be carried out can vary from providing workers with the ear defenders to changing the technology, slowing the speed of the machines in operation down etc.

To keep the noise / sound in work areas or workplaces in accordance with the regulations, it is necessary not only to monitor the noise level over a period of time, but also to follow the personal sound dose. For this purpose Sound level with data storage and real time clock is used. These are worn by the workers on their body and save the noise load for 8 hours (90 dB for 8 hours = 100% noise dose). The noise measurements can later be selected and displayed on the PC. Based on the noise measurements the sound insulating measures or actions for the protection of the workers can then be conducted.

For noise measurement in industrial enterprises the sound meters Class II can be used. This noise measurement device in a portable form allows the operating officer to measure the noise on machines accurately and precisely and to store data. Sound level measuring instruments are perfectly suitable, for example, for determining the noise during the start, the operation and the shutoff phase of machines and for documenting that. Also for the release of the new machines, we recommend the Sound Level Meter class 2.

