ACOUSTIC INDICATOR

WA-2

Instruction manual

PPUH SONOPAN sp. z o.o.
ul. Ciołkowskiego 2/2, 15-950 Białystok, Polska
tel./fax: 85 742 36 62
email: poczta@sonopan.com.pl
http://www.sonopan.com.pl

July 2016

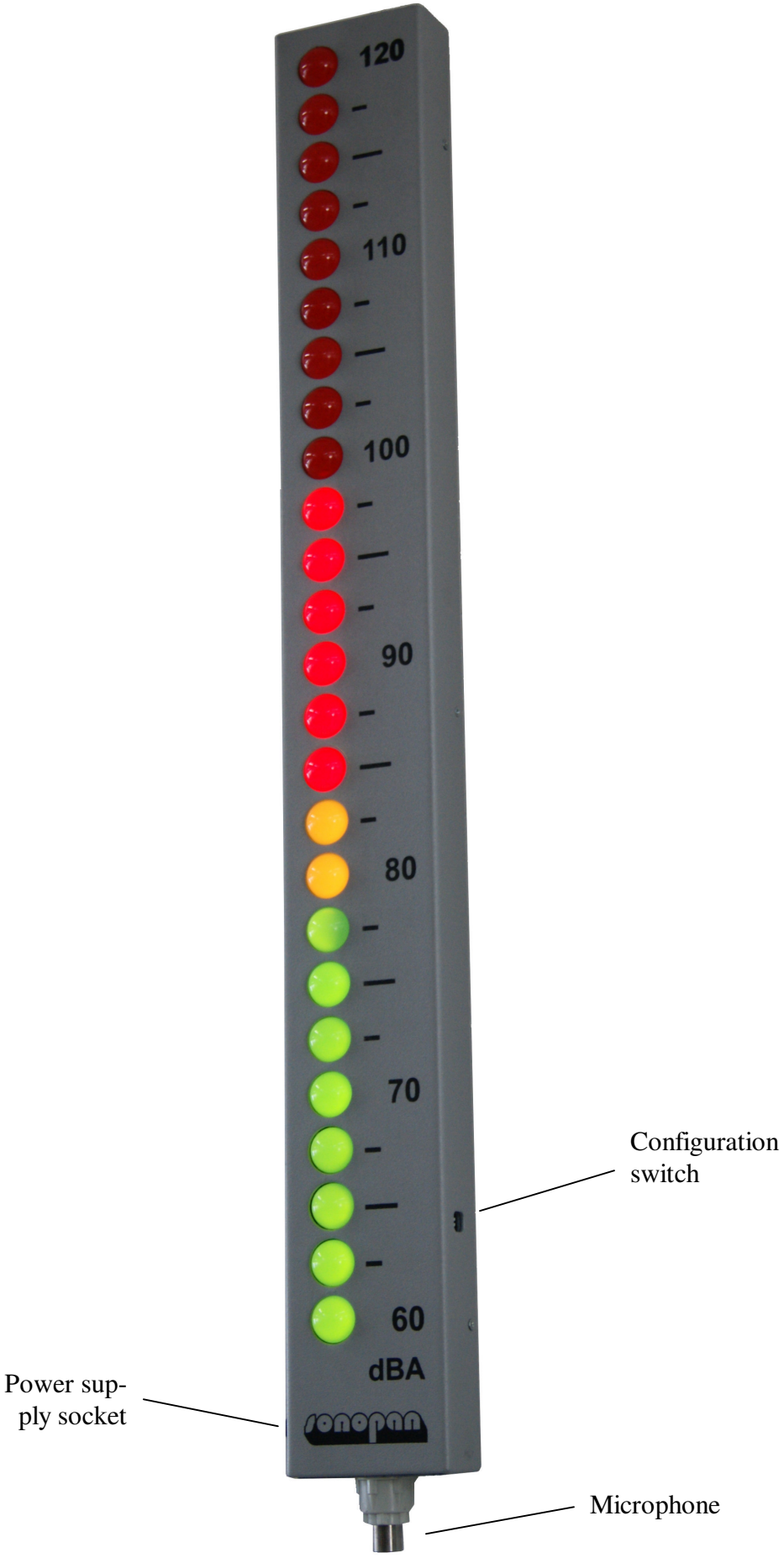


Fig. 1. WA-2 acoustic indicator – general view.

Application

WA-2 acoustic indicator is used to show the noise level in a protected zone. Indicates instantaneous noise level in decibels. Possibility of seeing what we hear is of great educational and psychological importance.

People working efficiently, safely and without personal protection in the indicator's green zone. The yellow zone indicates that the noise level exceeds the threshold of 80dBA – employee has the right to voluntary use of personal hearing protection. The noise level in the red zone reminds about the need to work in hearing protectors. The degree of protection depends on the scale exceeding the maximum permissible sound level.

Specifications

Measured quantity	L_{AS} - current RMS sound level
Frequency weighting	A
Time weighting	SLOW
Indication range	60 – 120dBA
- green zone	< 80dBA
- yellow zone[*)]	≥ 80dBA ... < 85dBA
- red zone	≥ 85dBA
Reference level	94dB
Power supply	12V, 600mA
Dimensions (without microphone)	660 x 75 x 30 mm

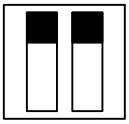
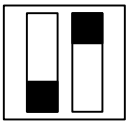
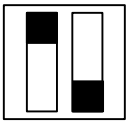
[*)] the range of yellow zone depends on hardware version

Installation

The indicator has a grip for hanging it on a wall. It should be placed in a conspicuous place at such a height that the microphone is at the employees' ears level. The microphone can be used with the extention cable (max. 3m), allowing placing the indicator at the more visible place.

Configuration

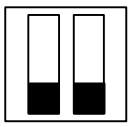
Configuration switch, presented on Fig. 1, should be used for indicator setup. It defines a correction added to result arising from the location of the indicator.

Switch	Correction [dB]	Localization
 1 2	0dB	1. Indicator suspended at a distance greater than 1 m from the wall. 2. Microphone with the extension cable, located at least 1m from the reflecting surface (e.g. wall).
 1 2	-3dB	1. Indicator suspended at a distance of less than 1 m from the wall. 2. Microphone with the extension cable, placed at the distance of less than 1m from the reflecting surface (e.g. wall).
 1 2	-6dB	1. Indicator placed on the wall. 2. Microphone with the extension cable, placed at the distance of less than 5cm from the reflecting surface (e.g. wall).

Calibration

Calibration is an operation necessary to proper gain adjustment of the measuring circuit using acoustic calibrator. A proper calibration improves accuracy and allows to diagnose indicator malfunction. Calibration perform is recommended at least 2 times a year, but it is not necessary essential - the unit is factory calibrated.

To conduct an acoustical calibration, an acoustic calibrator with 94dB nominal level and frequency of 1000Hz is needed (class 2 or better). The calibrator should be coupled with the microphone (if the indicator is hanging on the wall, it is necessary to take it off) and turned on. Then turn off the power supply of moise indicator, put it in calibration mode using the configuration switch, the location of which is shown in Fig. 1. The switch should be set to position:



Then turn on the power and observe the indicator. First, all the LEDs light up, then LED in the middle starts flashing. This means starting the calibration process. A positive result of the calibration is indicated by lighting green LEDs, the negative – reds. In the case of a failed calibration, the last good calibration factor is used. The reason of failure can be turned off or malfunctioning acoustic calibrator, unstable reading (caused for example high background noise, vibrations or other disturbances of the substrate) or damage of the device. Such calibration should be repeated after eliminating the cause of an error.

NOTE! During calibration, indicator and calibrator must not be exposed to noise level higher than the nominal level of used calibrator and the vibration of the substrate.

If the calibration is successful, turn off the indicator's power, and then set the configuration switch according to the location of the instrument (see section Configuration). The indicator is calibrated and ready to work.

CE marking and conformance to EU Council directives

CE The product described in this instruction conforms to following EU Council directives: 2004/108/EC Electromagnetic compatibility. The conformance to above-mentioned requirements is confirmed by CE mark.

The product cannot be thrown away with household waste. Deposit the product in an authorized electrical and electronic waste collection area for recycling. Contact local Municipal Bureau or nearest waste disposal company to get more detailed information.