



Sound Level Meters

Nor131 & Nor132

Applications

- Noise hazards in the workplace
- Prescription of hearing protection
- Environmental noise investigations
- Product noise testing
- Noise labeling

Features

- Single measurement range
- Parallel LAeq and LCpeak
- Real-time octaves
- Large internal memory
- Clock synchronized measurements



Norsonic AS, known as a high quality manufacturer of advanced sound analysers for more than 40 years, are proud to present a new range of sound level meters. We have taken the unique technology from our more advanced analysers into a new simple sound level meter - to give the users a reliable low cost SLM with the well-known Norsonic quality. Thereby, our complete range of sound level meters is expanded to cover any need from simple dB(A) measurement to advanced sound analysis.

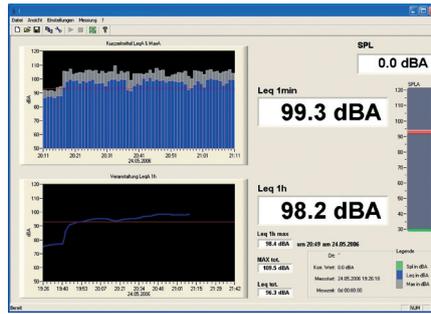
Developed
and manufactured
by Norsonic AS
Norway



A more detailed analysis may be performed by adding the level vs. time option (option 3). This allows a level vs time resolution of 1 sec.

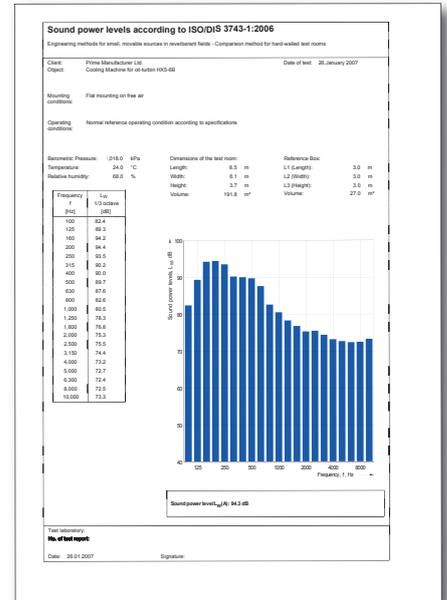
The acquired data can be further analysed and reported generated by use of the post processing program NorReview.

The Nor130 series of instrument may also be used as a front end in reporting the sound level in discotheques, concerts and outdoor events using the NorConcertControl monitoring and reporting program



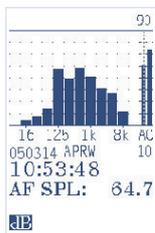
Sound Power measurements

The Nor130 series of instruments together with the Sound Power post processing and reporting program NorPower is a powerful and budget friendly tool for CE noise labelling a machine according to the EU directive 2000/14/EC and the ISO 3740 series of standards



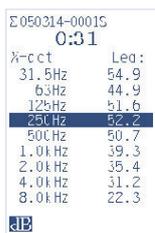
Frequency analysis (Option1 and 4)

The Nor130 series of SLM's may be extended with digital real-time 1/1-octave or 1/3-octave filters. This feature is available through the installation of option 1 for 1/1 octave and covers 12 frequency bands in the range from 8Hz to 16kHz. Or option 4 for 1/3 octave, covering 36 frequency bands from 6,3Hz to 20kHz



The 1/1-octave spectrum may be viewed with a A-preweighting feature

Within each band, the instrument will measure the SPL, L_{eq} , L_{Max} , L_{Min} and L_E functions. Additionally, if the Option 2 Statistical analysis is installed, 8 different L_N -percentiles are calculated within each 1/1-octave band.



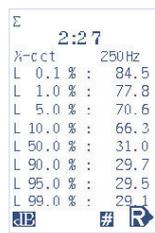
The 1/1-octave table is scrolled up and down for all measured functions

Statistical analysis (Option 2)

For environmental noise evaluation, statistical analysis with the L_N -percentiles are often used. By installing the option 2, the Nor130 instruments offer these functions as well.

The statistical analysis are calculated based on 0.2 dB class widths covering the entire 120 dB dynamic range. 7 fixed LN-percentiles are calculated ($L_{1\%}$, $L_{5\%}$, $L_{10\%}$, $L_{50\%}$, $L_{90\%}$, $L_{95\%}$, and $L_{99\%}$), plus one user-defined L_N -percentile which may be set to any N-value with 0.1% resolution.

If option 1 or 4, real-time filters are installed, the LN-percentiles are available for each individual frequency band as well.

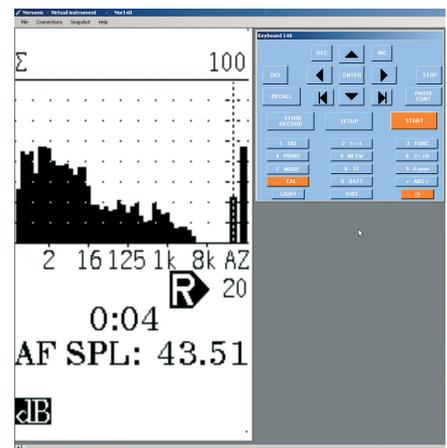


The LN percentage table contains 7 fixed and one user-defined percentile

Virtual Instrument.

A virtual sound level meter is included in the delivery of the Nor130 series of instruments. This PC program allows the user to remotely control the sound level meter and simultaneously get a display of the instrument screen on the PC monitor.

Included in the delivery is also the PC data transfer program NorXfer. This program transfers data from the instruments internal memory via the USB interface to the PC. It can also automatically convert the data into a Microsoft Excel workbook.

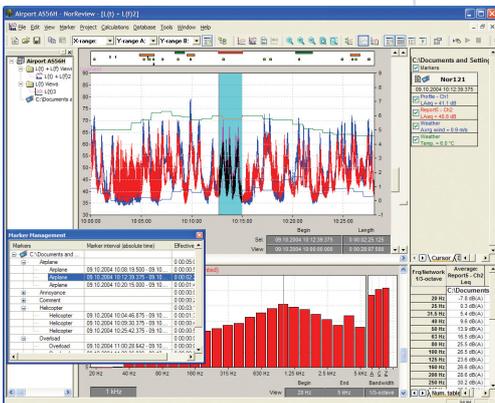


Level versus time measurements (Option 3)

Option 3, level vs. time enables the instrument to log the time profile like the classic level recorders used to do. The time profile is measured by dividing the total measurement into smaller periods of time, all having the same duration. The period length can be set from 1 second and upwards in 1 second steps. The logged parameters are L_{Aeq} , L_{Amax} , L_{Amin} and L_{Cpeak} .

The level vs. time measurement is made in parallel with the basic sound level meter functions for the overall level; the global level for the entire measurement period. If any of the frequency analysis option is installed, the frequency spectrum is reported as a global spectrum in addition to the level vs. time too!

The level vs. time data are not display, only stored in the instrument memory. The data can easily be exported to a PC and automatically converted to excel format or further analysed in the post processing and reporting program NorReview.



SPECIFICATIONS:

(Common for both models unless noted.)

The Nor130 series of SLM fulfil the following standards: IEC60651, IEC60804, IEC61672, IEC61260, ANSI S1.4, ANSI S1.11, and ANSI S1.43.

The Nor131 instrument meets the Class1 requirements while the Nor132 instrument is to the Class 2 requirements.

Measured Parameters:

Simultaneous measurement of SPL, L_{eq} , L_{Max} , L_{Min} , L_E and L_{Peak} (plus the T_{max5} for Germany only).

Time weighting functions:

Fast, Slow, or Impulse.

Spectral weighting functions:

Simultaneously measurement of A and C or Z-weighting. Additionally the 1/1 octave real time filters covering all bands from 8 Hz to 16K Hz (option 1) or 1/3-octave covering all bands from 6,3Hz to 20kHz.

Statistical calculations (option 2)

7 fixed percentiles $L_{1\%}$, $L_{5\%}$, $L_{10\%}$, $L_{50\%}$, $L_{90\%}$, $L_{95\%}$, and $L_{99\%}$, plus one user defined value (f.ex. $L_{0.1\%}$). The statistical calculation is in real time also within each frequency band if the filter option 1 is installed.

Measurement range:

One range covering 120dB without any range changing

Self noise measured with microphone: 17dBA (25dBA for Nor132)

Maximum RMS level 137dBA

Maximum Peak level 140dB PeakC

Battery / power consumption:

4 IEC LR6 (AA sized). Separate display showing battery voltage and time on battery since last battery change. Nominal operation time on one set of batteries is >8 hours. Nominal 11-15V external DC voltage. If supply drops below 9 volt it switches uninterrupted to internal batteries.

Datastorage:

5MB internal memory equals to 2.5 million values which typically holds all measured functions from up to 10,000 individual measurements.

Datatransfer:

Data transfer via USB 2.0 interface.

Microphone and preamplifier:

Detachable ICP preamplifier on Nor131 which allows up to 30 meter of extension cable to be used. Nor132 has a fixed ICP preamplifier. The microphones are free field electret types. A build in random incidence correction network can be selected. A built in optional correction network for the windscreen can also be selected.

Analogue output:

AC output, 100mV for full scale deflection.

Specifications subject to changes without notice.