The Norsonic range of Sound Level Meters

Norsonic

Whatever measurement application you might have that requires a sound level meter, Norsonic got the right tool for you. Choose from our ultra-compact Nor103 to the cutting-edge sound analyser Nor150.

We also offer a range of controlling, post processing and reporting software packages that helps you to measure according to procedures, calculate, evaluate and create reports, - easy and intuitive through pre-defined setups, or highly customizable with advanced functions if desired.

Our sound level meters are easy to use and are grouped in three technology platforms;

The Nor103, an ultra-compact simple to use class 1 instrument designed for noise at work and environmen-tal survey measurements.

The Nor13x and Nor140 series are all based on the same technology and same user interface, packed in a rugged, yet small and lightweight casing. Just push the START key and measure. There are only three buttons the operator needs to know to complete a measurement, clearly indicated by the orange colour: Power on, Calibration and Start measurement.

The Nor150 is the state of the art sound level meter fitted with a 4.3" large touch sensitive color screen. With its second channel enabled it's your perfect tool for sound intensity measurements, dual channel building acoustics or general dual channels measurement applications. Can also be remotely controlled when connected to a WiFi network.

All Norsonic products are supplied with individual calibration certificates and a 3 year warranty.

Nor150

With the Nor150 Sound and Vibration Analyser Norsonic takes the field instrumentation to another level not yet seen before, with sophistication and user friendliness normally found in laboratory instrumentation only.

Featuring a large 4.3" true colour touchscreen, the Nor150 provides the user friendliness of a smartphone. Further features include; two measurement channels, built in web server for remote App control, camera, GPS and advanced voice and text notes. Add photos and voice notes obtained on your smartphone or pad seamless integrated with markers to your noise data.

The Nor150 is a multi-tool covering a vast variety of applications.

Applications

- Environmental Noise assessments.
- Building acoustics with on board rating.
- Sound Intensity.
- Noise at workplace.
- Product development.
- Infrasound.
- Noise nuisance recorder.
- Front end for Nor850.
- General noise and vibration measurements.

Features

General

- Large colour touch-screen (4.3").
- Single and dual channel, including audio recording.
- Wide frequency range for vibration and low frequency measurements (0,4 Hz – 20kHz in 1/3 octave band).
- 120dB measurement range broadband and filter.
- Real keyboard for quick operation in challenging environments.
- Built in webserver makes your Nor150 available through the internet from anywhere in the world whether you configure it for LAN, USB, WLAN, GPRS, 3G or 4G communication.
- Voice and text notes, built in GPS and camera and notes help you document your measurements.
- Multi language support.
- Extensive help system.
- Intuitive user interface with graphical icons for selection of mode and custom made user setups.
- Seamless integration with all Nor850 software modules for Building Acoustics, Sound Power and Sound Intensity.
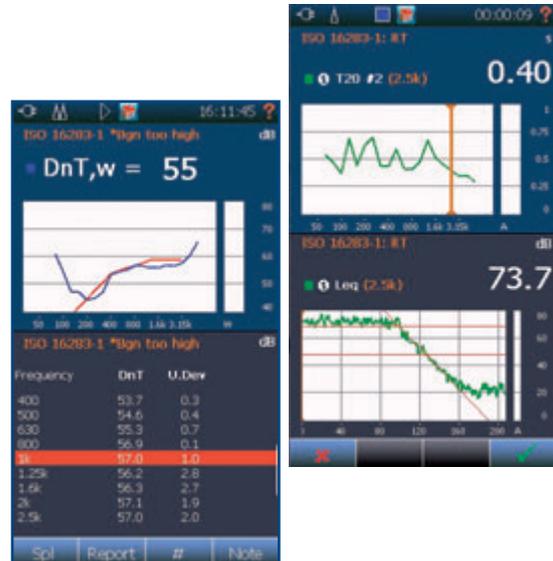- Easy integration to MS Excel

Noise Assessment / Environmental Noise

- Audio recording on trigger, soft key or external hand switch.
- You can immediately listen to recordings using a standard headset.
- Markers edited directly on the touch screen.
- Extensive trigger system for reports, audio recording and camera.
- Profile A report with trigger and resolution from 5ms.
- Profile B report with trigger and resolution from 1s.
- Profile Moving report with trigger possibility.
- Seamless integration with NorReview for further postprosesing and report generation.
- Remote control via PC, Pad or Smartphone using NorRemote.

Building Acoustics

- Single or dual channel.
- On board rating in accordance to ISO, ASTM and various national standards.
- Built in Noise generator.
- Reverberation calculation based on Impulse or noise excitation.

Sound Intensity

- Sound Power measurements in accordance with ISO 9614, ANSI S12.12.
- Noise Mapping.
- Noise Source locations.
- Compliant to IEC 61043 Class 1.
- Full on-board support for ISO 9614.
- Unique phase correction allows measuring 25 Hz to 10 kHz with 12 mm spacer.
- Intuitive warning indicators.
- Measurement-based suggestions for improving results.
- Automatic measurement sequence.
- Pause and back-erase with graphical display.
- Full measurement edit support (segment exclusion, resize, retake).
- Add segment support.
- Export to Nor850 mapping and reporting software.
- Photo, text and voice annotation.
- NorRemote app for smartphone remote control.

Nor140

Our iconic Class 1 Sound Level analyser covers a vast range of applications including its unique full onboard building acoustics package. The many options available can be added to the instrument as the need arises. Its firmware is regularly updated to cover revised standards as well as adding new features. Norsonic guarantee that you own an up to date instrument even years after your purchase. Simply the perfect tool for acoustic consultants, R/D engineers and other highly professional users.

Applications

- Environmental noise assessments with markers and sound recording.
- Environmental monitoring.
- Building acoustics.
- Reverberation time measurments.
- Noise hazards in the workplace.
- Product development.
- Quality control.
- Noise mapping.
- Sound power.
- Speech intelligibility - STIPA.
- Vibration measurements.
- Noise nuisance recorder.
- HVAC noise with NC, NR, RC rating.
- Frontend for Nor850.

Nor139

A general purpose Class 1 Sound Level Meter for advanced noise assessments and noise logging, featuring event triggered sound recording and markers.

Nor139 delivered with 1/1- and 1/3-octave filters capable of logging multispectra with a vast number of measurement parameters with time resolution from 100ms. Fitted with removable SD-card for easy to store and import measurement data to a PC.

Applications

- Environmental noise assessments with sound recording and markers.
- Noise nuisance recorder.
- Noise source identification.
- HVAC noise with NC, NR, RC rating.
- Noise hazards in the workplace.
- Remote noise monitoring.
- Product development.
- Noise labelling.
- General purpose sound level meter.

Nor131

Class 1 Sound Level meter for occupational hygiene, general sound level measurements and noise assessments applications. Extendable with 1/1 and 1/3 octave real time filter bands, STIPA and reverberation calculation based on impulse excitation. Supplied with detachable IEPE preamplifier allowing use of extension cable.

Nor132

Class 2 Sound Level meter for occupational hygiene, general sound level measurements and noise assessments applications. Extendable with 1/1 and 1/3 octave real time filter bands, STIPA and reverberation calculation based on impulse excitation. Supplied with fixed IEPE preamplifier.

Applications

- Noise hazards in the workplace.
- Prescription of hearing protection.
- Environmental noise investigations.
- Product noise testing.
- Speech intelligibility - STIPA.
- Reverberation time measurement.
- Statistical analysis.
- HVAC noise with NC,NR, RC rating.
- General purpose sound level meter.

Nor135

Nor135 SoundBox is a front end featuring the same hardware and features as the Nor131.

The SoundBox can be used as a general frontend controlled via the USB port, but it was mainly designed to be used as a frontend for the NorConcertControl software. A software designed for reporting the sound level in discotheques, concerts and at outdoor events.

The NorConcertControlsystem conforms to the relevant parts of the EU regulative 2003/10/EC - Noise at work, DIN 15905-5 and the Swiss SLV 2007.

The unit has a built in IEPE power for microphone and preamplifier assembly. Both type 1 and type 2 pre-polarised microphones can be used.
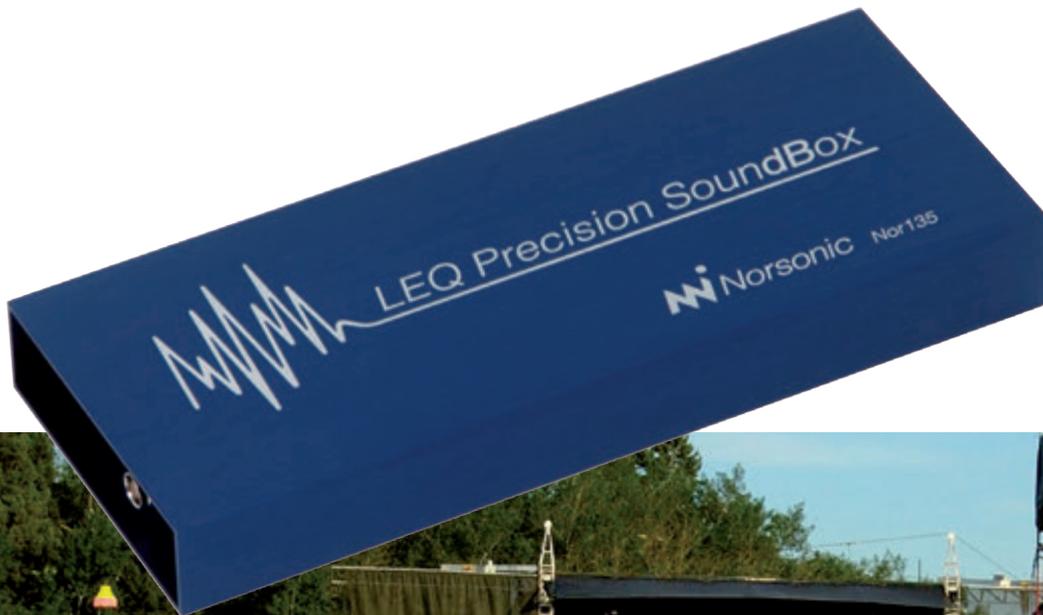
Nor1522

Nor1522 is our complete measurement system for monitoring and reporting the noise level in discotheques, concerts and outdoor events.

It is simple to use, just switch on the mains, calibrate, and the system is automatically measuring and reporting the needed noise parameters.

The system is based on the Nor135, the NorConcert control software, a tiny PC and a bright colour screen.

All hosted in a rugged case for easy storing and transport.

No hassle with cables and loose items.

Nor103

Being light weight and ultra-compact makes this the world's smallest class 1 instrument. It is extremely portable and will fit in your pocket. Yet it ensures you the same reliability and precision as other class 1 sound level meters on the market.

It features an easy interface with only 3 function keys, and a clean graphical screen displaying large fonts and a big graphical dB speedometer. The instrument will operate for up to 9 hours on just two AAA alkaline batteries. Delivered with a protective silicone cover and fitted with a tripod mounting thread.

Applications

- Noise hazards in workplace.
- Environmental noise survey testing.
- Product noise testing
- General purpose noise level meter.

Features

- Class 1 Sound Level Meter IEC61672-1, JIS C1509-1.
- Wide range 30 to 137 dB RMS without range switching.
- Peak range 68-140 dB.
- Measure L_p, L_{eq}, L_{max}, L_E and L_{Cpeak}.
- Frequency range: from 10 Hz to 20 kHz.
- Frequency weighting: A and C.
- Time weighting: Fast / slow.
- Measurement durations: 1, 5, 10, 60 min.
- Quick start up and easy operation.

Generating reports

Measuring sound is often more than just reporting an average dBA value. All legal measurements are made in accordance to a measurement standard, requiring a report often generated on a standard format. Norsonic offers a range of post processing programs to help you to evaluate the measured data and generate a proper measurement report.

NorXfer and NorConvert

The NorXfer and NorConvert are programs for downloading data from the Nor13x and Nor140 range of sound level meters. NorConvert is automatically downloading and converting measurement files to Excel. NorXfer is a program for downloading and converting to Excel too, but unlike the NorConvert you have a browser feature for full freedom of selecting the measurement files to transfer. Both programs are freeware.
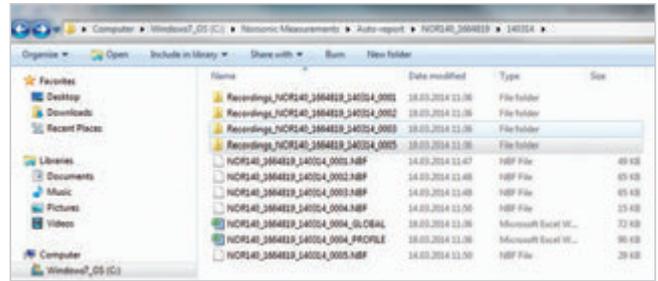
NorConnect

is a program for downloading data from a Nor150 to a PC. The program features a full browser environment and may convert the data to Excel for further data processing or report generation via NorReport. Connect via IP (LAN) and get access to the instrument remote any place in the world. Freeware.

NorVirtual

is a program for emulating the Nor13x, Nor140 and Nor150 on a PC. Whatever view the sound level meter has (graphs, menus, tables etc.), the same view is visible on the PC screen. The mouse can be used to operate the virtual keyboard. Freeware.
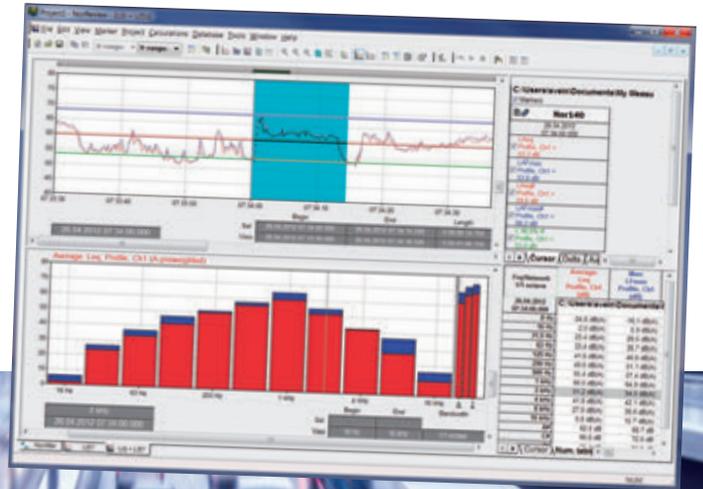
NorReport

A program for generating customized Excel reports based on templates. The program communicates seamlessly with NorXfer, NorConvert and NorConnect. Several templates are available for various applications adapted to local national standards.

NorReview

The NorReview is a flexible project oriented PC software package for presenting and post processing environmental noise data from Norsonic instruments. Each project may contain all kind of raw and post processed noise and weather data, audio recordings, voice notes, Microsoft® Word or Excel reports and other files such as digital photos and pdf-text files. It can quickly generate a single report or make advanced evaluations and complex project reports.

NorRemote

The Nor150's built in web server opens up a new world of remote communication and acquisition of data from a Sound level meter. Simply connect to your instrument via LAN, GPRS or WiFi using a web browser to control, download or view the measurement in real time. The program covers all applications from downloading files to full control of your analyser, to add markers, start a recording or just check the battery status.

Connect your smartphone, pad or PC to the Nor150 or a Nor140. Photos and voice notes obtained on your smartphone or pad are seamless integrated with markers into your noise data with markers in the time profile. The Nor140 needs an external tiny PC with web server while the Nor150 uses its internal web server.

Sound Power measurements

Norsonic offers various solutions for sound power measurements. The Nor140 has a built-in option for measuring sound power in accordance to ISO 3746. Two PC programs for more sophisticated reporting and measurement control are available; NorPower for single channel measurements and the Nor850 for single and multichannel control and use. Both programs are seamless integrated with Nor140 and Nor150.

Building Acoustics

Norsonic is known for our various solutions for building acoustic applications. The Nor140 has a built in option for survey measurements. Two PC programs for more sophisticated reporting and measurement control are available; NorBuild for single or dual channel measurements and Nor850 for single, multi-channel control and reporting. Both programs are seamlessly integrated with Nor140 or Nor150.

NorProtector

Calculates all the required results for the noise deafness risk assessments. With a quick drag & drop operation measurements from the SLM are imported. The user only needs to specify the duration of work at each position, and the values exceeding the action level are highlighted in colour. Individual data for each person may be entered. The software includes a database for selection of the most effective personal hearing protector.

Norsonic offers a complete range for Building Acoustics; Nor276 and Nor275 Loudspeakers, Nor277 Tapping Machine and Nor280 Power Amplifier.

Outdoor microphones

Our outdoor microphones Nor1216, Nor1217 and Nor1218 are well proven durable microphones fulfilling the rain and dust environmental class IP55. The Nor1216 is a measurement microphone for all-weather conditions designed for use with the Nor140 or Nor150. It features SysCheck verification and a heated preamplifier. It is intended for permanent outdoor applications. A semi-permanent version of the Nor1216 is the Nor1217 which features the same weather protection and SysCheck. It is designed for use with the standard preamplifier and microphone supplied with the Sound Analyser Nor140 or Nor150, making the Nor1217 in combination with the sound level meter a cost-effective choice. Nor1218 is similar to the Nor1217, but is adapted to use the Nor1207, IEPE preamplifier supplied with the Nor131/Nor139 sound level meters.

Enclosures

Several types of weather proof enclosures are available, both for permanent and portable applications.

The Nor1506B is a waterproof portable case with space for the sound level meter, two 22Ah Li-Pol batteries for powering the sound level meter and 3G/4G modem. Several options may be added such as the detachable microphone rod. The Nor1531 is a weather protected enclosure for permanent installations. It features a 2,2Ah backup battery and mains power with space for the sound level meter and optionally modem and power for weather station.

Nor1216, Nor1217 and Nor1218 outdoor microphones.

Nor1506B waterproof portable case and Nor1531 weather protected enclosure.

Calibrators

Class 1 Sound Calibrator Nor1251

Nor1251 is a small battery-operated precision class1 microphone calibrator conforming to IEC60942 and ANSI S1.40 generating a level of 114dB @ 1000Hz. The reference microphone and control circuit together maintain a constant sound pressure level inside the calibration coupler and automatically adjust for changes in load volume, temperature, humidity, and barometric pressure. It is supplied with individual accredited calibration certificate. Self compensating precision class 1 acoustic calibrator!

- Conforms to EN/IEC 60942 (2003) Class 1, and ANSI S1.40–2006.
- Ultra-stabile silicone reference microphone.
- Self-compensated for static pressure, humidity and temperature.
- Sound pressure independent of microphone equivalent volume.
- Robust, compact and battery operated.
- Output level 114 dB @ 1000 Hz.
- Accepts 1", ½" and ¼" cartridges by means of adaptors.
- Individual accredited calibration certificate.

Class 1 Sound Calibrator Nor1256

Nor1256 is a small battery-operated precision class1 microphone calibrator conforming to IEC60942 and ANSI S1.40. The combination of two different levels and two different frequencies allow both level linearity and frequency linearity to be verified. In addition the sound calibrator measures the environmental conditions; air pressure, temperature and humidity. The all-digital design with a quartz controlled signal generator ensuring a frequency stability not yet seen in any calibrator on the market today. The reference microphone and control circuit together maintain a constant sound pressure level inside the calibration coupler and automatically adjust for changes in load volume, temperature, humidity, and barometric pressure.

- Conforms to EN/IEC 60942 (2003) Class 1, and ANSI S1.40–2006.
- Ultra-stabile silicone reference microphone.
- All-digital quartz controlled signal generator.
- Self-compensated for static pressure, humidity and temperature.
- Sound pressure independent of microphone equivalent volume.
- Robust, compact and battery operated.
- Twin output level and frequency; 114 and 94 dB @ 1000 and 250 Hz.
- Built in display.
- Measurement of humidity, temperature and static pressure.
- Accepts 1", ½" and ¼" cartridges by means of adaptors.
- Individual accredited calibration certificate.

Sound Level Meter selection chart	Nor150	Nor140	Nor139	Nor131/132	Nor103
General Sound Level Meter	√	√	√	√	√
Number of measurement channels	1 & 2	1	1	1	1
1/1 & 1/3 octave band	0,4Hz - 20k	0,4Hz - 20k	6,3Hz - 20k	6,3Hz - 20k	
+10 dB extended measurement range	√	√			
Reference spectrum	√	√			
Statistical calculations	√	√	√	√	
Parallel Time constants (F/S/I)	√	√	√		
Weighting networks	A/C/Z	A/C/Z	A/C/Z	A/C/Z	A/C
One measurement range - no gain setting	√	√	√	√	√
Dynamic range (RMS) (dBA)	17 - 137 dB	17 - 137 dB	17 - 137 dB	17/25 - 137 dB	30 - 137 dB
Dynamic range Peak C	45 - 140 dB	45 - 140 dB	45 - 140 dB	45 - 140 dB	68- 140 dB
Occupational & Industrial hygiene	√	√	√	√	√
LAeq in parallell with PeakC	√	√	√	√	√
LAeq - LCeq	√	√	√	√	
Compatible with NorProtector		√	√	√	
Reverberation table based on impulse excitation	√	√		√	
Environmental Noise Assessments	√	√	√	√	
Level vs time resolution incl. multispectra	≥ 5ms	≥ 25ms	≥ 100ms	≥ 1 sec	
Graphical L/t curve	√	√	√		
1/1 & 1/3 octave band multispectrum	√	√	√		
Audio recording	√	√	√		
Support for SYSCHECK of microphones	√	√			
Support for heating of Nor1216 microphone	√	√			
Compatible with NorReview	√	√	√	√	
Compatible with NorMonit		√	√		
Noise Nuisance Recorder with remote trigger	√	√	√		
Building Acoustics	√	√			
Noise and impulse based RT with graphical curve	√	√			
Noise generator	√	√			
Swept sine	√	√			
Calculation of rating curves	√	√			
Dual channel in addition to single channel	√				
Sound Intensity	√				
Audiometer calibration		√			
FFT		√			
STIPA		√		√	
Survey Sound Power measurements according to ISO 3746		√			
Compatible with Nor850 software	√	√			
GPS and internal camera	√				
LAN / WLAN interface	√				
USB interface	√	√	√	√	via adapter
High speed RS 232 interface	√	√	√		
SD-card for storage of measurement and audio recordings	√	√	√		
Huge internal memory storing up to 10 000 measurements		√	√	√	

Norsonic is one of the world's leading manufacturers of precision measurement instruments for sound and vibration applications. Since 1967, the specifications for our successful instruments have been based on the requirements of regulations found in the EU, North American and other industrialised countries.

By careful attention to the user's requirements at the design stage, it has been possible to increase the complexity of the instrument yet preserve a user interface that is convenient and easy to understand. Our products have been developed in close consultation with our customers in more than 35 countries around the world.

It is by listening to our customers' needs that keep Norsonic at the forefront of the world market for sound and vibration instrumentation. Our vision is to supply our customers with the most innovative sound instrumentation of the highest quality.

Norsonic offer 3 year warranty. Our quality philosophy permeates the whole lifecycle of a product. It starts with the design, continues with internal design tests, and ends with pattern evaluation for legal metrology at international laboratories such as the PTB in Germany.

Our products have for decades been type approved in order to secure that the produced measurement results are accurate and within the given specifications.

All our sub-contractors are carefully selected and frequent quality audits assure that they keep a high quality standard.

Full test and calibration in accordance with relevant international standards, such as IEC61672, are carried out before the products leave the factory.

Norsonic Calibration Laboratory (NCL) is an international accredited laboratory. Products producing absolute levels, such as acoustical calibrators, tapping machines and reference sound sources are supplied with accredited calibration certificates as a part of the delivery.

Norsonic uses a minimum of 20% of its turnover in research and development. A great portion of this amount is used to design new features in existing products. We are active member of the international standardisation work to ensure that you as a Norsonic customer keep your products up to date for many years after your initial purchase.

Our R/D department has close cooperation with collaborating partners in order to take advantage of special technology not offered by internal resources.

At Norsonic, we are proud to serve our customers and listen to their needs. All our products are developed in close cooperation with customers by listening to their needs and wishes.

For more detailed information visit us at:
www.norsonic.com

Norsonic

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2017 - September