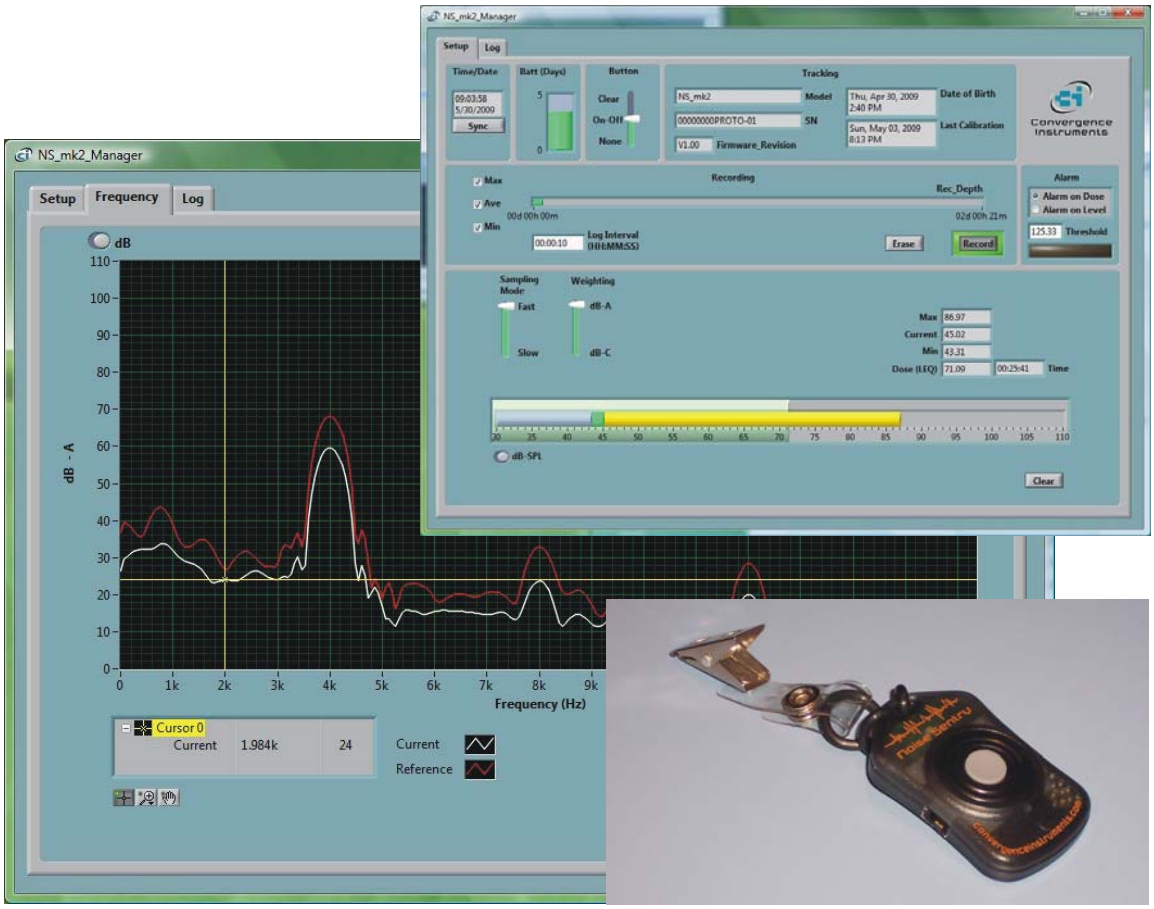
Convergence Instruments

Noise_Sentry

Data Sheet



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1 Product Description

The *Noise-Sentry* is a high-performance integrating Sound Level Meter and data logger. It includes a precision MEMS microphone, an accurate date/time clock and a non-volatile 52000-point recording memory. It can record sound levels and statistics for up to 10 days. Its very small size allows it to be clipped on a person, or embedded within monitored equipment.

The sound level meter includes the following features:

- All-digital design
- Individual digital frequency correction and calibration
- Frequency spectrum display
- dB-A and dB-C weighting functions.
- Measures and records max, average (LEQ) and min levels over adjustable intervals.
- An alarm function activates on the instantaneous peak level or the integrated dose.
- Fast and Slow sampling modes.
- Can monitor and record acoustic levels for up to 10 days on a small coin battery.
- Non-volatile memory. In case of battery failure, all recorded data is preserved.
- *Noise_Sentry_Manager* application to setup operating and recording parameters, download, visualize and export the recorded data. The application can also be used to monitor acoustic levels in real time.

2 Applications

- Measurement and data-logging of acoustic dose.
- Monitoring of safe working conditions.
- Activity detection and recording.
- Long-term measurement and recording of acoustic levels for environmental impact studies.

3 Specifications

Bandwidth	20Hz to 20 kHz
Dimensions	3.4 cm x 5.7 cm (1.35 x 2 ¼ in)
Weight	20 g (0.7 oz)
Measurements	Max Acoustic Level (linear-Pa or dB-SPL) Min Acoustic Level (linear-Pa or dB-SPL) Average Acoustic Level (*LEQ*) (linear-Pa or dB-SPL)
Weighting Functions	A C
Alarms	Max Instantaneous Level Max Integrated Level (Dose)
Battery life	10 Days (Slow-Mode) 5 Days (Fast Mode)
Battery type	CR2032 lithium battery
Operating temperature range	-20 degC to 70 degC (-4 degF to 158 degF)
Storage temperature range	-30 degC to 80 degC (-22 degF to 176 degF)
Noise Floor	39 dB (typical)
Saturation Level:	110 dB (typical)

Resolution	0.1dB
Recorded Resolution	1 dB
Precision	+-2 dB (50 Hz – 8 kHz) (typical) +-5 dB (20 Hz – 20 kHz) (typical)
Sensor Type	MEMS Microphone
Recording interval	Adjustable 1s to 12H, with 1s resolution
Recording memory type	Non-Volatile
Recording/erasure cycles	More than 10 000
Recording memory Depth	52 000 individual measurement points

4 Frequency Response (typical)

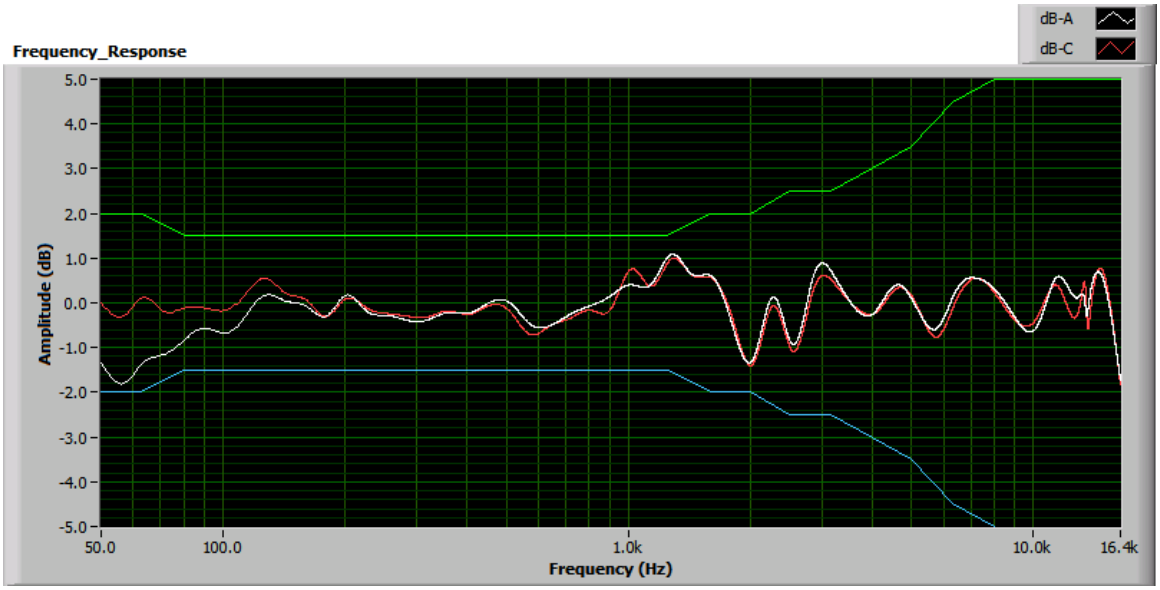

Figure 5: Typical frequency response error in dB-A and dB-C

5 Dynamic Range and Linearity

The dynamic range typically extends from 40 dB SPL to 110 dB SPL Due to its all-digital design the linearity is excellent within the whole dynamic range.

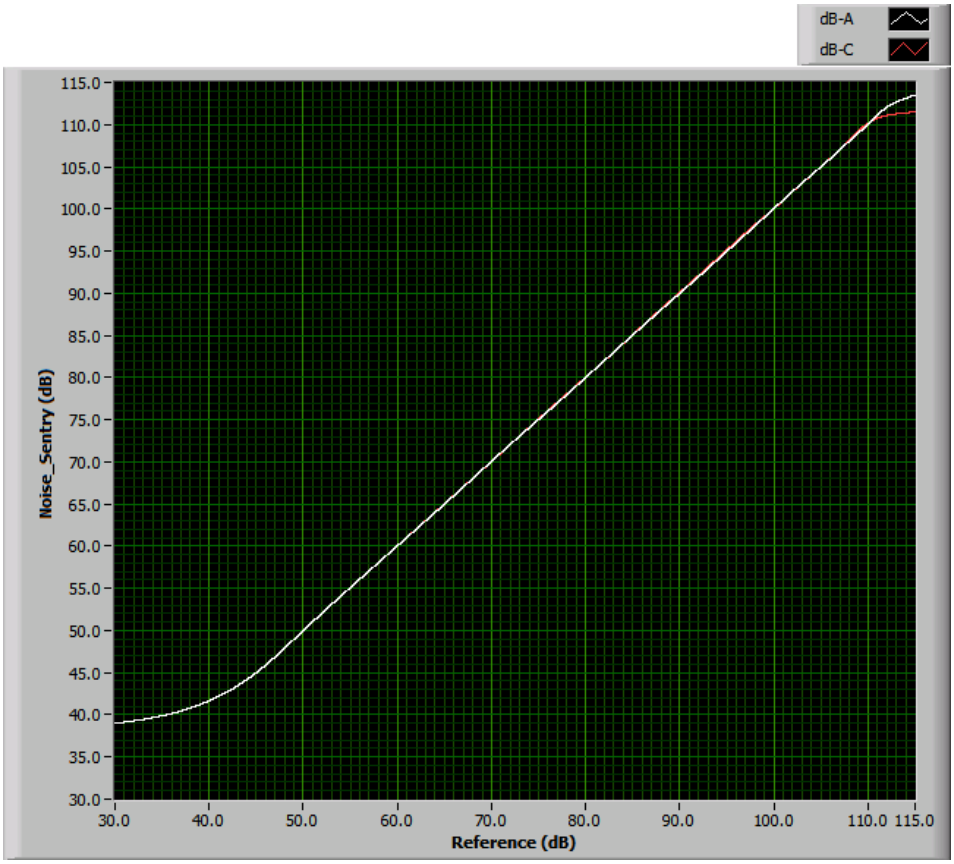

Figure 6: Linearity

6 Specifications of *Noise_Sentry_Manager* Software

- Windows XP and Windows Vista compatible
- Real-time display of measurements.
- Displays frequency spectrum
- Complete instrument configuration, including date/time, alarms, values recorded and recording rate.
- Collect and displays data while recording.
- Auto-scale, zoom and pan on all graphs
- Export recorded data to Excel format.