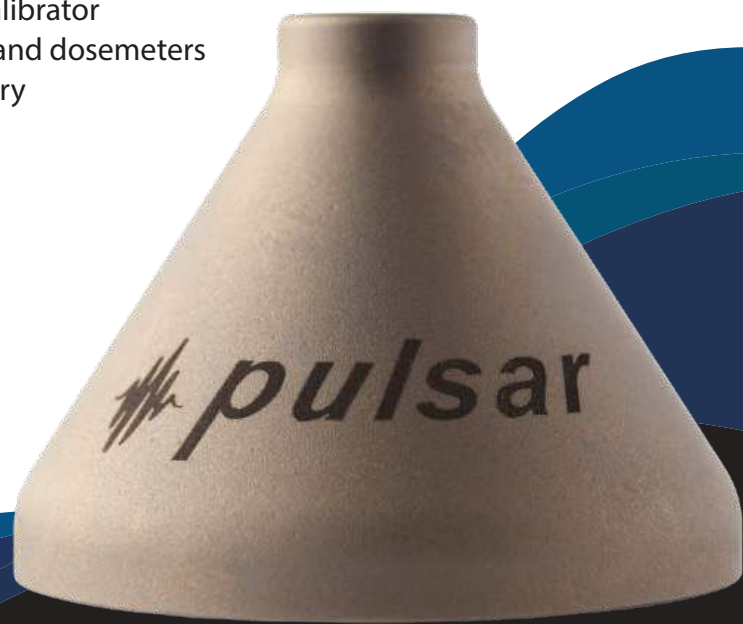


# NoiseBadge

## Noise Dosemeter Systems | Personal Noise Dosimetry

Remove barriers to accurately assessing the noise exposure of workers with the innovative Pulsar NoiseBadge dosemeter.

- Compact, extremely robust and lightweight
- No cables or controls, reducing the risk of damage, misuse or tampering
- Everything you need supplied in one user-friendly system package
- Ideal system for compliant assessment of workers' Industrial Noise exposure
- Small size and more innovative functional design
- Programmable for compliance with most worldwide regulations
- "Shake-to-Wake" function to extend battery life and operating time
- Ergonomic Reader Unit with Integral Acoustic Calibrator
- Infra-Red communication between Reader Unit and dosimeters
- Rechargeable Nickel Metal Hydride (NiMH) Battery



# NoiseBadge



**The Pulsar NoiseBadge dosimeter is a self-contained noise measurement device that is the ideal solution for measuring and monitoring the personal noise exposure of your workforce.**

**These dosimeters have no cables, displays or controls meaning they can't be tampered with during measurements. They also communicate with an infra-red Reader Unit which controls the NoiseBadge to programme, calibrate, start/stop, download and store measurements.**

**All key measurement parameters can be viewed on the large clear backlit screen of the Reader Unit, which also displays a time history graph of workers' daily noise exposure.**

**The Reader Unit contains an integral acoustic calibrator allowing the dosimeter to be calibrated prior to and following each measurement in accordance with international regulations.**

Worldwide Occupational or Industrial Noise Regulations require the typical daily exposure of an individual worker to be determined. The NoiseBadge automatically achieves this by computing the Daily Exposure for European Legislation or the Time Weighted Average for US-based Legislation.

Noise dosimetry measurements are only the beginning, our effective, user friendly software AnalyzerPlus allows users to quickly analyse and transform data into informative report formats, simplifying a potentially complex and time consuming process.

Full 'time history' information allows you to determine when key noise problems occur during a workers' day. The additional 'C' weighted Peak Time History allows you to fully assess risks from impulsive noise in the workplace.

## Applications

The Model 22 noise dosimeters are ideal for most applications as the preferred method of calculating personal daily noise exposures to ensure compliance with International Safety Legislation.

It is especially suitable for applications where workers are regularly moving from location to location, working with moving machinery, in difficult to reach areas, vehicle cabins, shift work or with unpredictable work patterns.

### Typical industries include:

- Manufacturing
- Construction
- Chemical
- Mining
- Transportation
- Fire and Police
- Highway Maintenance
- Food,
- Entertainment
- Educational Establishments.

## Operation

Our NoiseBadge is rechargeable, making it more economical, and is designed to run for an entire shift. The Reader Unit is used to setup and calibrate the dosimeters prior to use and to start the measurement.

The NoiseBadge logs and stores data throughout the period of measurement and a blue indicator shows when the unit is running. At the end of the measurement, data is downloaded from the dosimeter into the Reader Unit through the infra-red link, with the Reader Unit displaying your data.

The NoiseBadge dosimeter can be configured to meet a wide range of Occupational Noise Regulations and has been designed to meet the requirements of the EU Physical Agents (Noise) Directive as well as the requirements of OSHA. In addition to the overall noise levels the dosimeter also stores a one-minute sample and one-minute Peak(C) measurement.



## Measurements

The user can select from a range of preset configurations which will present the commonly used noise parameters, or a 'customised', user-defined setup can be programmed into the NoiseBadge by the Reader Unit.

### Overall Measurement Information

Overall Measurement Information data contains the most important and commonly used noise parameters. This data contains the Measurement Start Time and Date, Run Time, Calibration Information, Highest Peak(C) Level, 115dB(A) Maximum Sound Level Exceedence, Overload and Battery Level.

When set to the 3dB Exchange Rate, the NoiseBadge Overall Measurement Information contains Leq, LEX,8h (LEP,d), LAE (SEL), Exposure & Estimated Exposure in Pa2h, % Noise Dose and Estimated % Noise Dose.

When the dosimeter is configured to either 4dB or 5dB Exchange Rates, the Overall Measurement Information contains the LAVG, TWA, % Noise Dose and the Estimated % Noise Dose.

If the Time Weighting is set to Slow, or a Threshold is set, with any exchange rate (3dB, 4dB or 5dB) the Overall Measurement Information will be set to LAVG, TWA, % Noise Dose and the Estimated % Noise Dose.

### Time History Data

The NoiseBadge measures and logs noise levels during the measurement period. In addition to the overall noise levels, such as Leq or TWA, the instrument also logs a Time History or Noise Profile.

When the dosimeter is configured to 3dB (Q=3) with no Time Weighting or Threshold, this Time History data is stored as one-minute LAeq samples. For other configurations, the Time History data is stored as LAVG.

At the same time, the NoiseBadge also stores the highest Peak(C) level and the Battery level every minute. This data is available with the Time History data provided by using the supplied AnalyzerPlus software.

## Configuration of the NoiseBadge dosimeter

When used with the Reader Unit, the NoiseBadge can be configured to meet almost any current and planned occupational noise regulations and standards.

For example, in the European Union, the EU Physical Agents (Noise) Directive requires the measurement of noise exposure using a 3dB Exchange Rate and recording of LEX,8h and

Peak(C), whereas the American OSHA Regulations require the use of a 5dB Exchange Rate, a Slow Time Weighting and an 80dB Threshold.

The Pulsar NoiseBadge can be easily configured to meet any of these requirements and can be changed quickly and easily using the menu on the Reader Unit or by programming the Reader from the AnalyzerPlus software.

The dosimeter Reader Unit allows the following parameters to be configured quickly and easily:

Parameter	Available Configuration
Exchange Rate (Q)	3dB, 4dB, 5dB
Criterion Level	80dB, 85dB, 87dB, 90dB
Criterion Time	8, 12, 16, 18 hours
Threshold	None, 80dB, 85dB
Time Weighting	None or slow

## Software

The Pulsar dosimeter is supplied with our licence-free AnalyzerPlus software. This program uses a step-by-step wizard, which reassuringly guides the user through setup and download procedures, and allows measurement data to be viewed, analysed and printed.

Three pre-formatted report types are provided to present the measurement data. These reports can be printed or exported into a number of formats, including Word, Excel and PDF.

## NoiseBadge Dosimeter Measurement Systems

Measurement kits contain dosimeter Model 22 units and fixing mounts, a Model 22-R Reader Unit, CHR22 Charger Unit, PS 22 Power Supply, K3 Hard Attache Case, USB Cable, Software, Batteries, User Manuals and Certificates of Calibration.

## Optional Accessories

### RK1 Keyfob remote control

Allows the Pulsar NoiseBadge to be started and stopped without the Model 22-R Reader Unit. This is useful in situations where there is risk of damage to the Reader Unit or additional control units are required.

### WS22 Windshield

The WS22 Windshield protects the dosimeter from dust, moisture and other contaminants. It also reduces the noise generated by 'spurious' events.

# Specification

## Applicable Standards

### Pulsar NoiseBadge dosimeter

IEC 61252:1993 Personal Sound Exposure Meters

ANSI S1.25:1991 Personal Noise Dosimeters

Model 22-R Reader Unit

Internal Acoustic Calibrator to

IEC 60942:2001 Class 2

## Measurement Range (Typical)

70dB(A) to 130dB(A) RMS

120dB(C) to 140dB(C) Peak

## Measurement Functions

Dosebadge Configuration, Calibration  
Record, Measurement Duration, Highest Peak(C)  
Sound Level, Overload Exceedence, Battery Status,  
115dB(A) Maximum Sound Level Exceedence

### One-Minute Time History of:

LAeq (3dB) or LAVG (4dB or 5dB)

Peak(C) Level

Battery Level

### For 3dB Exchange Rate

LAeq, LEX,8h, LAE, % Dose, Exposure (Pa2h),

Estimated % Dose,

Estimated Exposure (Pa2h)

### For 4dB & 5dB Exchange Rates

LAVG,TWA, % Dose, Estimated % Dose

## Weightings

### Frequency

'A' for all RMS measurements

'C' for Peak Sound Pressure

## Pulsar NoiseBadge Configuration

Independent User Configuration of:

### Exchange Rate

3dB, 4dB or 5dB

### Criterion Level

80dB, 85dB, 87dB, 90dB

### Criterion Time

8hrs, 12hrs, 16hrs, 18hrs

### Threshold

None, 80dB, 85dB, 90dB

### Time Weighting

None, 'S' (Slow)

## Memory

The Model 22-R Reader Unit can store the following measurement data:

Up to 93 measurement 3 of 8 hours duration

Up to 64 measurements of 12 hours duration

Up to 33 measurements of 24 hours duration

## Power

Internal NiMH Battery with intelligent charging system

Model 22-R Reader

2 x AA/LR6 with Auto Power Switch Off

Chargers Units

PS22 Mains Power Supply

## Output

Pulsar NoiseBadge (Model 22) dosimeter

Infrared to Model 22-R Reader Unit

Pulsar NoiseBadge (Model 22-R) Reader

USB 2.0 (which also provides power to the 22-R Reader)

## Dimensions

Microphone Apex Ø13.0mm, Base Ø47mm, Height 38mm

## Weight

Model 22 dosimeter 45gms (1.6oz)

Model 22-R Reader 400gms (14oz)

## Environmental

Operating Temperature -10°C to +50°C

Storage Temperature -20°C to +60°C

Humidity up to 95% RH Non-Condensing

## Software

AnalyzerPlus supplied as standard

## Ordering Codes

The Pulsar NoiseBadge dosimeter can be provided as a complete measurement system with the following order codes:

Model 22-1 Measurement System with 1 dosimeter

Model 22-2 Measurement System with 2 dosimeters

Model 22-5 Measurement System with 5 dosimeters

Model 22-10 Measurement System with 10 dosimeters

The measurement kits contain the Model 22 dosimeters and fixing mounts, a Model 22-R Reader Unit, CHR22 Charger Unit, PS 22 Power Supply, K3 Hard Attache Case, USB Cable, Software, Batteries, User Manuals & Certificates of Calibration.

