

# Original doseBadge®

## Heavy-Duty Personal Noise Dosimeter

For personal noise exposure monitoring in industrial environments

### What is the doseBadge?

The doseBadge is the world's first fully wireless personal noise exposure meter (also known as a personal noise dosimeter). It is a compact and lightweight device worn by individuals when you need to measure their occupational noise exposure.

### Applications

- Personal noise exposure monitoring in industrial environments such as construction sites, power plants, mines, oil platforms and manufacturing plants
- Measuring occupational noise exposure
- Compliance with occupational safety and health regulations

The doseBadge is a dual-channel instrument that measures, stores and calculates all of the data required for compliance with international health and safety regulations. These parameters include the average noise level ( $L_{Aeq}$  and  $L_{avg}$ ), the peak sound level ( $L_{CPeak}$ ) and the percentage dose of noise exposure experienced within a specific time frame (%Dose).

Combining an innovative robust and compact design with simple yet reliable operation, the doseBadge has become the world's most trusted noise dosimeter. You can have complete confidence in the data the doseBadge provides as we have designed it to be completely tamper-proof. With no cables, displays or controls, wearers cannot interfere with the results of the data it captures.

### Withstanding the harshest environments

We designed the doseBadge to withstand the toughest of environments. The strong aluminium casing protects all of components inside, meaning it can be stood on or dropped, and it will carry on working.

### Key features

- Measures and stores all essential noise at work parameters
- Simple operation
- Compact and robust design, weighing only 51 grams (1.8oz)
- No external controls, cables or displays for tamper-proof operation
- 90-minute typical charge time with 24-hour typical battery life
- Licence-free analysis software included as standard
- Comes with a standalone Reader Unit that controls and calibrates the badges
- Intrinsically Safe version available for use in hazardous environments



## Create noise measurement reports quickly and easily

We supply the doseBadge with our licence-free data analysis and reporting software, NoiseTools, as standard. With a simple-to-use interface and intuitive functions, NoiseTools is the comprehensive package you need to analyse your noise data without being complicated or complex.

Simply download your noise measurements directly from your doseBadges using the Reader Unit provided, and start analysing your data and creating reports for your organisation.

## Expand your capability with a measurement kit

You can purchase the doseBadge noise dosimeter as a measurement kit that contains everything you need for compliant noise exposure measurements. Each kit can carry up to 10 badges along with all your accessories, including your Reader Unit and

batteries, charging station, remote control key fob, and all the required cables. There's also room for a handheld sound level meter! So, why not expand your measurement capabilities and complete your kit by exploring our Optimus+ range of instruments?



# Technical specifications

### Applicable standards

IEC 61252: 1993 Personal Sound Exposure Meters

ANSI S1.25: 1991 Personal Noise Dosimeters Class Designation 2AS-90/80-5

doseBadge Reader Unit: Internal Acoustic Calibrator to IEC 60942: 2003 Class 2

### Measurement range (typical)

70dB(A) to 130dB(A) RMS, 120dB(C) to 140dB(C) Peak

### Measurement functions

#### Overall measurement data

doseBadge Configuration (Serial Number, Date & Time)

Calibration Record

Measurement Duration

Highest Peak(C) Sound Level during the measurement

Overload Exceedence

115dB(A) Maximum Sound Level Exceedence

Battery Status

#### 1 Minute Time History of:

LAeq (3dB) or LAVG (4dB or 5dB), Peak(C) Sound Pressure & Battery Level

#### For 3dB Exchange Rate:

LAeq, LEX, 8h/Lep.d, LAE, %Dose, Exposure (Pa2h), Estimated %Dose, Estimated Exposure (Pa2h)

#### For 4dB & 5dB Exchange Rates:

LAVG, TWA, % Dose, Estimated % Dose

### Frequency weightings

'A' for all RMS measurements

'C' for Peak Sound Pressure

### Configuration options

#### Channel 1: Independent user configuration of:

Exchange Rate: 3dB, 4dB or 5dB

Criterion Level: 80dB, 85dB, 90dB

Criterion Time: 8hrs, 12hrs, 16hrs, 18hrs

Threshold: None, 80dB, 90dB

Time Weighting: None, 'S' (Slow)

#### Channel 2: Preset to ISO/EU/UK

Exchange Rate: 3dB

Criterion Level: 85dB

Criterion Time: 8hrs

Threshold: None

Time Weighting: None

### Memory

#### doseBadge

Up to 24 hours of data in a single measurement

#### doseBadge Reader Unit

Up to 999 Individual doseBadge Measurements

### Power

#### doseBadge

Internal NiMH Battery. Typical Battery Life 24 hours @ 80dB

#### doseBadge Reader Unit

2 x AA/LR6 with auto-power switch off

### doseBadge Charging Dock

Mains power supply

### Output

#### doseBadge

Wireless Infrared to doseBadge Reader Unit

#### doseBadge Reader Unit

USB 2.0 (which also provides power to the unit)

### Dimensions

#### CR:110A doseBadge

Microphone Apex: dia 13.0mm (0.5")

Base: dia 7mm (0.2")

Height: 38mm (1.5")

Weight: 51g (1.8oz)

#### doseBadge Reader Unit

Weight: 400g (14oz)

### Environmental conditions

#### Temperature:

Operating -10°C

(14°F) to +50°C

(122°F),

Storage -20°C

(-4°F) to +60°C

(140°F)

#### Humidity:

Up to 95% RH

non-condensing

### Software

NoiseTools software supplied as standard with license free installation and free of charge upgrades available from the Cirrus Research website.

### Intrinsic safety certifications

The following certifications only apply to the Intrinsically Safe version of the doseBadge noise dosimeter.

#### Group I non-mining applications

UKEX BAS21UKEX0374

Ex II 1 G Ex ia IIC T4 Ga

(-20 °C ≤ Ta ≤ +60 °C)

Baseefa04ATEX0330

Ex II 1 G Ex ia IIC T4 Ga

(-20 °C ≤ Ta ≤ +60 °C)

IECEX IECEX BAS 06.0084

Ex ia IIC T4

(-20°C ≤ Ta ≤ +60°C)

EEx EEx ia IIC T4

(-20°C ≤ Ta ≤ +60°C)

FM IS / I / 1 / ABCD / T4 Ta ≤

+60°C; Type IP54

I / O / AEx ia / IIC / T4 Ta ≤

+60°C; Type IP54

#### Group II mining applications

UKEX BAS21UKEX0375X

Ex I M1 Ex ia I Ma

(-20 °C ≤ Ta ≤ +60 °C)

Baseefa04ATEX0331X

Ex I M1 Ex ia I Ma

(-20 °C ≤ Ta ≤ +60 °C)

IECEX IECEX BAS 06.0083X

Ex ia I (-20°C ≤ Ta ≤ +60°C)

EEx ia I (-20°C ≤ Ta ≤ +60°C)

MSHA MSHA Intrinsic Safety

Approval (No. 18-A060027-0)

IECEX SIM 07.0004X

Ex ia I -20°C ≤ Ta ≤ +60°C