

Advanced doseBadge⁵

High-Performance Personal Noise Dosimeter

For personal noise exposure monitoring in the workplace

What is the Advanced doseBadge⁵?

The fifth generation of Cirrus Research's iconic instrument, the Advanced doseBadge⁵ is a high-performance personal noise exposure meter (also known as a noise dosimeter). It is designed for the measurement of an individual's noise exposure in the workplace and to help businesses and organisations comply with international health and safety legislation.

Applications

- Personal noise exposure monitoring in any industry, including manufacturing, entertainment and education
- Measuring and controlling occupational noise exposure
- Compliance with occupational safety and health regulations

As standard, the Advanced doseBadge⁵ measures, stores and calculates all the data that is required for compliance with various international health and safety regulations. These parameters include the average noise level (L_{Aeq} and L_{avg}), the peak sound level (L_{CPeak}), the percentage dose of noise exposure experienced within a specific time frame (%Dose), and 1:1 octave band data for the selection of hearing protection.

The Advanced doseBadge⁵ can measure noise using four independent channels simultaneously, which means that any combination of international regulations can be measured using one instrument.

Key features

- Measures and stores all essential noise at work parameters
- Simple operation
- Compact design means it can be worn comfortably all day
- No external controls, cables or displays for tamper-proof operation
- 180-minute typical charge time with 20-hour typical battery life
- Licence-free analysis software included as standard
- 1:1 octave band filters as standard, for the selection of hearing protection
- Pre-programmable measurement timers for user-free operation
- Remote operation either through the doseBadge⁵ remote control (wand) or a compatible smartphone/tablet with Bluetooth® connectivity



Create noise measurement reports quickly and easily

We supply the Advanced doseBadge⁵ 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.

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

Expand your capability with a measurement kit

You can purchase the Advanced doseBadge⁵ noise dosimeter as a measurement kit that contains everything you need for compliant noise measurements. Each kit can carry up to five badges

along with all your accessories, including your acoustic calibrator, docking station 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 +AMD1:2000
IEC 61252 Ed 1.1 (2002-03)
ANSI S1.25:1991 (R2017)
Octave Bands (63Hz to 8kHz where enabled)
IEC 61260-1:2014 Class 2, ANSI S1.11-2014 Class 2

Measurement range (typical)

RMS range: 60dB(A) to 140dB(A)
Peak range: 80dB(C) to 143dB(C)
RMS frequency weighting: A, C or Z
RMS time response: None, F or S
Peak frequency weighting: A, C or Z
Linear operating range: 65dB(A) to 140dB(A)
1:1 Octave Bands (where enabled)
RMS Range: 70dB to 140dB

Measurement functions

Overall measurement data

Measurement duration
Start time and date
Instrument serial number and name
Calibration information (field and factory calibration)
Overload and tamper sensor detection
For each integrator channel
Average integrated sound level (Leq/L_{AVG})
Time-weighted average (LEP,d/LEX,8/LEPB,h/TWA)
Sound exposure and estimated sound exposure
%Dose and estimated %Dose

ULT duration

SPL max level and time
SPL min level
For each peak channel:
Overall L_{Peak} level
Time history data
1 second or 1 minute time history data (user-selectable)
For each integrator channel:
Integrated sound level (Leq/L_{AVG})
For each peak channel:
Peak sound pressure

Configuration options

Integrator channels
Channel name: Pre-set or user-defined
Exchange rate: 3, 4 or 5dB
Criterion level: 80dB to 100dB in 1dB steps
Threshold level: None, 70dB to 100dB in 1dB steps
Time weighting: Fast, Slow or none
Frequency weighting: A, C or Z
ULT level: 70dB to 140dB in 1dB steps
ULT time weighting: None, Fast or Slow
ULT frequency weighting: A, C or Z
SPL max time weighting: Fast or Slow
SPL max frequency weighting: A, C or Z
LED threshold trigger: User-selectable channel with user-selectable %Dose trigger levels 75% to 100% in 5% steps

Peak channels

Frequency weighting: A, C or Z

Measurement control

Manual

Manual start, stop and pause via the doseBadge⁵ remote control (wand) or the dBLink app
Manual start and stop via NoiseTools

Automatic scheduled measurements

Timed start, pause and stop of measurements
Three time periods per day
Lunch break pause
Day-by-day control

Shock/tamper sensor

Internal accelerometer with Off/Low/Medium/High sensitivity settings to detect impact and tampering. Detected impacts marked on time history data.

Calibration

Automatic detection of external acoustic calibration.
User-configurable calibration level (typically 114dB or 94dB).

Memory

Up to 80 hours of time history data (6 channels)
Up to 40 individual measurements
Maximum duration of any single measurement: 24 hours

Power

Internal NiMH battery
Typical battery life: >20 hours (>10 hours with octave band filters activated)
Typical charge time: 3 hours from empty

Dimensions

66mm (2.5") x 43mm (1.6") x 53mm (2") (excluding clips)

Weight

85g (2.9oz)

Communication

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Bluetooth to the doseBadge⁵ remote control (wand)
Bluetooth to the dBLink app (Android or iOS)
USB download to NoiseTools via the doseBadge⁵ charging dock

dBLink app

Bluetooth to the doseBadge⁵

Environmental conditions

Temperature: Operating -10°C to +50°C,
Storage -20°C to +60°C
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.