

Technical Specifications: CR120A

doseBadge⁵
The new generation of noise dosimeter

DOSEBADGE⁵

Technical specifications

Applicable standards

IEC 61252:1993 +AMD1:2000 Personal Sound Exposure Meters
ANSI S1.25:1991 (R2007) Personal Noise Dosimeters

Measurement range (typical)

RMS range 60 dB(A) to 140 dB(A)
Peak range 80 dB(C) to 143 dB(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)

Visual indication of status

Four colour LED to show instrument status and measurement activity

Measurement functions

The doseBadge⁵ provides, simultaneously, the following measurement channels: Four independent Integrator channels and two independent Peak channels

Configuration of the integrators and peak channels can be chosen from a pre-set list, for example ISO (LAeq), ISO (LCeq), OSHA HC, OSHA PEL, ACGIH or user configured as needed.

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/LAVG)
Time weighted average (LEP,d/LEX,8/TWA)

Sound exposure & estimated sound exposure
% dose and estimated % dose
ULT duration
SPL max level and time
SPL min level

For each peak channel

Overall LPeak level

Time history data

1 second or 1 minute time history data (user selectable)

For each integrator channel

Integrated sound level (Leq/LAVG)

For each peak channel

Peak sound pressure

Configuration Options

Integrator channels

Channel name Pre-set or user defined
Exchange rate 3, 4 or 5 dB
Criterion level 80 dB to 100 dB in 1 dB steps
Criterion time 1 hr to 24 hrs in 1hr steps
Threshold Level None, 70 dB to 100 dB in 1dB steps
Time weighting Fast, Slow or None
Frequency weighting A, C or Z
ULT level 70 dB to 140 dB in 1 dB steps

ULT time weighting None, Fast or Slow

ULT frequency weighting A,C, or Z

SPL max time weighting Fast or Slow

SPL max freq 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 & pause via the dB Control or the dBLink App
Manual start and stop via NoiseTools

Automatic scheduled measurements

Timed start, pause and stop of measurements
Three timed 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) for use with 1/2" acoustic calibrators such as the Cirrus CR:514 (94dB) or CR:518 (114dB).

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 >22 hours (typically > 10 hours with octave band filters activated)
 Typical 3 hours charge time from empty

Communication

CR:120A doseBadge5

Bluetooth® to the dB Control
 Bluetooth® to the dBLink app (Android and iOS)
 USB download to NoiseTools via the doseBadge5 Dock
dBLink App
 Bluetooth® to the doseBadge5

Weight & Dimensions

66 mm x 43 mm x 53 mm (excluding clips)
 2.53" x 1.69" x 2.01" (excluding clips)
 85 g/2.9 oz

Operating temperature -10°C to +50°C (+14°F to +122°F)
Storage temperature -20°C to +60°C (-4°F to +120°F)
Humidity Up to 95% RH Non-Condensing

Software

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

Octave Bands

The doseBadge5 provides for the measurement of 1:1 octave bands from 63Hz to 8kHz.
 Enabling the Octave measurement option in NoiseTools will allow the doseBadge5 to measure, log and download the octave band measurement data.

Preset integrators on the doseBadge⁵

Name	Exchange Rate (Q)	Time Weighting	Frequency Weighting	Threshold Level	Criterion Time	Criterion Level	ULT Level
ISO LAeq	3	None	A	None	8 hours	85 dB	115 dB
ISO LCeq	3	None	C	None	8 hours	90 dB	115 dB
OSHA HC	5	Slow	A	80 dB	8 hours	90 dB	115 dB
OSHA PEL	5	Slow	A	90 dB	8 hours	90 dB	115 dB
OSHA HC/C	5	Slow	C	80 dB	8 hours	90 dB	115 dB
MSHA HC	5	Slow	A	80 dB	8 hours	90 dB	105 dB
MSHA PEL	5	Slow	A	90 dB	8 hours	90 dB	105 dB
ACGIH	3	Slow	A	80 dB	8 hours	85 dB	115 dB

Why choose Cirrus Research?

- 1) Providing sound solutions since 1970
- 2) UK-based in-house team of experts on-hand to offer help, support, guidance and training
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*software capabilities are dependent on the functionality of your sound level meter

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