# CEL-360 Logging Dosimeter

## Introduction

The CEL-360 data logging noise dosimeter is the most versatile noise-sampling instrument in the CEL range of personal noise meters. It is the ideal instrument for the professional occupational hygienist who wants to know whether the overall limit was exceeded during a working day. The data logging time history profile function adds the vital information to the run data by storing the changing pattern of noise levels to show exactly when significant events occurred.

*CEL-360 logging noise dosimeter*

## Key Benefits

- Comprehensive data logging function for complete results
- Easy to start and collect data
- Large non-volatile memory
- Up to 50 separate runs saved in non-volatile memory
- Up to 220,000 data points stored in time history memory
- Up to 10 key parameters stored for each interval
- Delayed start and stop times for automatic operation
- Pre-programmed setups to quickly start up and go
- Flexibility to customize units

## Applications

The CEL-360 data logging noise dosimeter is very well suited to OSHA, ACGIH and ISO style workplace noise measurements in noise exposure assessments. It comes preprogrammed with 7 setups that suit almost all the world's major measurement protocols and has the capacity to be specifically configured by the user for special requirements if needed. The key to the usefulness of the CEL-360 is the comprehensive data logging function that stores up to 10 noise parameters at regular intervals during a run.

In this way the changing noise climate can be studied such that the noisiest times can be quickly seen in the graphical report and solutions targeted in the right area. This makes checking for OSHA compliance very much more useful since the CEL-360 answers the questions 'when' and 'how' did the noise exposure occur. The data logging measurements can be started immediately or they can be preprogrammed up to 1 month in advance so that runs can begin and end automatically without the need for onsite supervision.

Site boundary surveys can be easily accomplished at low cost using the enormous memory capacity of the CEL-360 to save up to 2 weeks data at 1-minute intervals. Transportation noise studies and construction site noise surveys can be tackled and further noise indices calculated once the profiled results are transferred to the CEL software package dB12, included with all CEL-360 dosimeters. The CEL-360 tackles all types of investigations of steady state or cyclical noise problems in the workplace or outdoors.

## Operation and use

For standard measurements to the most popular protocols just turn on the CEL-360, perform an acoustic calibration, select the data logging mode and go. The instrument remembers the last used settings and remains ready to reuse them without needing to set them again. At the end of the run these stored results can be brought back to the display and data can be read from the instruments memory by simply cycling through the different screens. For a quick and simple summary the CEL-360 can be connected to an office printer to get a single page hard copy.

For more extensive manipulation of the logged results every CEL-360 comes with a copy of the latest version of the graphical software package, dB12. This allows the time history profiles to be viewed and a variety of further calculations to be carried out to perform "what if" analyses.

# Technical Specifications for CEL-360 Logging Noise Dosimeter

| International standards | | Parameters measured | |
|---|---|---|---|
| Acoustic accuracy | ANSI S1.25-1992 Type 2<br>IEC 61252:1993 | Displayed parameters | Lp, LAeq, LAE, LeqI, Lav, Lmx, Lmn, 5 x LN%, actual noise dose%, 8 hr projected noise dose%, TWA (at both threshold levels), LEPd, duration of run, current date, time, run #, pause, run in progress, battery voltage, security level |
| Electro-magnetic | EN 50081-1:1992,<br>EN 50081-2:1993,<br>EN 50082-1:1992,<br>EN 50082-2:1995 | | |
| Measurement ranges (for rms. levels) | High range 70 – 140 dB<br>Med range 50 – 120 dB<br>Low range 30 – 100 dB | | |
| Peak ranges | Top 40 db of each range | | |
| Measurements stored | | | |
| Separate runs | Maximum 50 stored | Data per profile interval | Up to maximum of 10 |
| Max time history size | > 220,000 data points | Physical characteristics | |
| Factory setups | 7 - OSHA, MSHA, DoD, ACGIH, ISO85, ISO90, METER | Battery pack | 1 9V radio battery Duracell MN 1604 |
| | | Battery life | 50 hours (approx.) |
| User setups | 13 – programmed from pc | Size | 4.8 x 2.6 x 1.2 in,<br>120 x 65 x 30 mm |
| Delayed start/stops | Up to max 16 pairs | | |
| Threshold levels (dB) | 2 (from 70 to 90 dB) | Weight | 11 oz,<br>300 gm |
| Criterion level (dB) | 1 (from 80 to 90 dB) | | |
| User selectable day | Up to 23:59 for TWA calc. | Microphone assembly | Rugged Electret ¼ in microphone on 32 in cable with locking plug, field replaceable item |
| Frequency weightings | A, C for rms.<br>C, Lin for peak | | |
| Time weightings | Slow, Fast, Impulse, peak | | |
| Exchange rates | 3, 4, 5, 6 dB doubling | Optional stalk mic. | Electret ¼ in stalk, 3.1in |

## Ordering Information

| | |
|---|---|
| CEL-360 | Single CEL-360 logging noise dosimeter with CEL-6681 cable microphone assembly (includes CEL-6704 dB12 Windows software and C6671 RS232 cable) |
| CEL-282 | ANSI Class 2 acoustic calibrator and microphone adaptor |
| CEL-6704 | dB12 version 2.x control and download software for Windows (32 bit program) |
| C6671 | RS232 interface cable from dosimeter to pc |
| CEL-6225 | Small foam windscreen for use outdoors or in strong air flows |
| CEL-6682 | Single instrument kit case with space for standard items |
| CEL-360/K1 | Single noise dosimeter complete instrument kit with all above items in carrying case |
| CEL-6679 | Multiple instrument kit case for up to 10 dosimeters and accessories |
| CEL-6648 | Nylon belt pouch to protect instrument in dirty or oily environments |
| CEL-425 | Optional stalk microphone assembly to convert standard CEL-360 noise dosimeter to hand-held CEL-360S sound level meter |
| CEL-360X | Standard CEL-360 noise dosimeter less cable and download software |

## Standard Multiple Instrument Kits

| | |
|---|---|
| CEL-360/K5 | 5 pack kit of dosimeters including 5 CEL-360X logging noise dosimeters, 1 CEL-282 acoustic calibrator, 1 C6671 interface cable, 1 copy of dB12 version 2 Windows software for setup and download, 5 CEL-6225 foam windscreens, 1 CEL-6679 kit case |
| CEL-360/K10 | 10 pack kit of dosimeters including 10 CEL-360X logging noise dosimeters, 1 CEL-282 acoustic calibrator, 1 C6671 interface cable, 1 copy of dB12 version 2 Windows software for setup and download, 10 CEL-6225 foam windscreens, 1 CEL-6679 kit case |