CASELLA USA

CEL-320 Noise Dosimeter

Introduction

The CEL-320 Noise dosimeter is a low cost simple to use instrument specifically designed for monitoring the noise exposure of an individual at work.

Many different worldwide measurement protocols are currently in operation and the CEL-320 dosimeter is able to satisfy them all using built-in setups.

Simply select the setup required for the measurement, press the run button and the instrument takes care of all the rest for you.

Applications

Whenever simple straight-forward noise measurements are required on individuals at work the CEL-320 is ready to go. By default, the instrument starts with the most popular OSHA measurement setup with all the correct parameters such as the A frequency and Slow time weighting already selected. The 5 dB exchange rate and 90 dB criterion level are programmed into the unit so it is only required to switch the meter on, perform an acoustic field calibration and start the run. The instrument takes care of everything else.

Operation and use

Every CEL-320 noise dosimeter comes with the CEL-6702 (dB10) Windows software package that allows the user to customize the instrument to take account of special circumstances or for special measurement require-ments. It is possible to turn off the functions that are not needed from a run to simplify operation and avoid later confusion.

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The instrument selects the high measurement range from 70 to 140 dB to include all the likely harmful noise levels typically encountered in the workplace. The signal from the microphone is sampled and all subsequent noise parameters are calculated from these samples taken at 100 times a second. This ensures that no data, however short, is missed from the overall results. The data can be recalled and read from the display at any time. The results stored in memory can be directly printed or downloaded to a computer.

The CEL software package (dB10) currently supplied with each unit allows for the overall results from runs to be downloaded one at a time or in batches to the hard disk. Runs may be archived after the details of the wearer have been added and saved along with any specific notes about the conditions during the run.

Key Benefits

- Light weight and rugged
- Pre programmed with the most important setups
- Make OSHA, MSHA, DoD, ACGIH style measurements by simple selection from menu
- Configure the dosimeter for specific measurements if needed
- Calculate the overall results for up to 50 separate runs
- Store % noise dose, 8 hour projected dose, max, min, peak and average levels
- Two thresholds and single criterion level

CEL-320 dosimeters are available in single kits that include an acoustic calibrator for on-site verification of the meter, a small foam windscreen to protect the microphone when used outdoors, setup and download software an cable all housed in a stylish kit case. Multiple kits are also available in popular 5 or 10 packs that expand the usefulness of the instrument for larger organizations wanting to get the job done in the least possible time. A single copy of the CEL dB10 software serves all meters in the kits.

Run data may be recalled to the customized LCD screen using the intuitive keypad or the instrument can be connected to a standard office printer and output as a single pre-formatted page. This printout shows all the relevant information about the run including the calibration details before and after the measurement has taken place.

Technical Specifications for CEL-320 Noise Dosimeter

International standards		Parameters measured	
Acoustic accuracy	ANSI S1.25-1992 Type 2 IEC 61252:1993	Displayed parameters	Lp, LAeq, LAE, Leql, 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, EN 50081-2:1993, EN 50082-1:1992, EN 50082-2:1995		
Measurement ranges (for rms. levels)	High range 70 – 140 dB Med range 50 – 120 dB Low range 30 – 100 dB		
Peak ranges	Top 40 db of each range		
Measurements stored			
Separate runs (events)	Maximum 50	**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, 120 x 65 x 30 mm
Threshold levels (dB)	2 (from 70 to 90 dB)	Weight	11 oz, 300 gm
Criterion level (dB)	1 (from 80 to 90 dB)		
Frequency weightings	A, C for rms. C, Lin for peak	Microphone assembly	Rugged Electret ¼ in microphone on 32 in cable with locking plug, field replaceable item
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-320	Single CEL-320 personal noise dosimeter with CEL-6681 cable microphone assembly (includes CEL-6702 dB10 Windows software and C6671 RS232 cable)
CEL-282	ANSI Class 2 acoustic calibrator and microphone adaptor
CEL-6702	dB10 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-320/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-320 noise dosimeter to hand-held CEL-320S sound level meter
CEL-320X	Standard CEL-320 noise dosimeter less cable and download software

Standard measurement Kits

CEL-320/K5	5 pack kit of dosimeters including 5 CEL-320X noise dosimeters, 1 CEL-282 acoustic calibrator, 1 C6671 interface cable, 1 copy of dB10 version 2 Windows software for setup and download, 5 CEL-6225 foam windscreens, 1 CEL-6679 kit case
CEL-320/K10	10 pack kit of dosimeters including 10 CEL-320X noise dosimeters, 1 CEL-282 acoustic calibrator, 1 C6671 interface cable, 1 copy of dB10 version 2 Windows software for setup and download, 10 CEL-6225 foam windscreens, 1 CEL-6679 kit case