

CEL-360S Logging Sound Level Meter

Introduction

The CEL-360S is a fully functional data logging sound level meter that doubles as a personal noise dosimeter. It can be used in a wide variety of applications that require the time history variation of the noise levels to be investigated. Up to 10 different noise parameters can be stored for every interval with a resolution of 1 second to 1 hour. Results can be downloaded to the included software program to view the temporal changes and allow for a full understanding of the noise climate.



CEL-360S sound level meter

Applications

The CEL-360S can be used for many types of noise surveys that require a comprehensive understanding of the time history of the source. These can include workplace noise investigations, site boundary monitoring studies, vehicle pass-by measurements and even compliance checking against local city community noise ordinances. Understanding how the noise levels vary can quickly aid the user reach the most appropriate conclusions.



equivalent (average) noise level display on CEL-360S meter

Operation and use

The CEL-360S meter is very straightforward to use with a simple navigational keypad and matching icons in the display that prompt even the inexperienced user. Select the simple sound level meter mode shown by the SLM icon in the bottom left of the display and use the up and down arrow buttons to cycle through the various noise parameters to reach the required unit of measurement. All sound level meter settings are saved for instant use next time.



keypad on CEL-360S

Key Benefits

- Data logging of time history changes
- Up to 24 hours capture at 1 second resolution
- Over 220,000 points stored
- Lightweight and easy to use
- Convertible to logging noise dosimeter with different microphone assembly
- Dual mode operation allows simple point and shoot or data storage measurements
- Long battery life
- All the key noise parameters measured and saved
- Download of recordings to pc

Measured Parameters

Sound level meter mode displays the following parameters,

- Instantaneous sound level, L_p
- Duration of run, hh:mm:ss
- Maximum sound level, L_{mx}
- Minimum sound level, L_{mn}
- Equivalent continuous noise level, L_{eq}
- Sound exposure level, L_E
- Time average level, L_{av}
- Peak sound level, L_{pk}

The average and max values can be reset using the Stop button in the bottom center of the keypad and the Pause button at the bottom left allows unwanted noise to be excluded from the measurement until the user wishes to continue. Any noise occurring during the "pause" time is automatically removed from the ongoing result ensuring the integrity of the overall measurements taken using the CEL-360S instrument.

Technical Specifications for CEL-360S Logging Sound Level Meter

International standards		Parameters measured and stored	
Acoustic accuracy	ANSI S1.4-1983 Type (S)2 ANSI S1.43-1997 IEC 60651:1979 type 2I IEC 60804:1980 type 2	Displayed parameters	
		Sound level meter mode (SLM non storing)	Lp, Dur, Lmx, Lmn, Leq, LE, Lav, Lpk
		Noise dosimeter/data mode (DATA storing)	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	Maximum 50	Data per profile interval	Up to maximum of 10
Max time history size	> 220,000 data points	Physical characteristics	
Factory setups for data storage modes	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
Delayed start/stops	Up to max 16 pairs	Weight	11 oz, 300 gm
Threshold levels (dB)	2 (from 70 to 90 dB)		
Criterion level (dB)	1 (from 80 to 90 dB)	Microphone assembly	Electret ¼ in stalk 3.1 in
Frequency weightings	A, C for rms. C, Lin for peak	Optional convertible noise dosimeter 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		

Ordering Information

CEL-360S	Single CEL-360S sound level meter with CEL-425 stalk microphone assembly (includes CEL-6702 dB12 Windows software and C6671 RS232 cable)
CEL-110/2	ANSI Class 2 acoustic calibrator and CEL-4627 ¼ in to ½ in 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-360S/K1	Single sound level meter complete instrument kit with all above items in carrying case
CEL-360XS/K1	Single sound level meter complete instrument kit (less software and download cable)
CEL-6679	Multiple instrument kit case for up to 10 sound level meters/dosimeters and access.
CEL-6648	Nylon belt pouch to protect instrument in dirty or oily environments
CEL-6681	Optional cable microphone assembly to convert hand-held CEL-360S sound level meter to standard CEL-360 personal noise dosimeter
CEL-360XS	Standard CEL-360S sound level meter less cable and download software

Standard Multiple Instrument Kits

CEL-360/K5	5 pack kit inc. 5 CEL-360XS, 1 CEL-110/2, 1 C6671, 1 dB12, 5 CEL-6225, 1 CEL-6679
CEL-360/K10	10 pack kit inc. 10 CEL-360XS, 1 CEL-110/2, 1 C6671, 1 dB12, 10 CEL-6225, 1 CEL-6679

