

## CEL-254 Digital Impulse Sound Level Meter

### Introduction

The CEL-254 Digital sound level meter is very simple to use and provides an ideal first time instrument for the newcomer to noise measurements.

It can be used for a wide variety of tasks including simple noise surveys in factories for OSHA compliance and basic noise control work.

The CEL-254 measurement kit provides all the items needed for a complete noise survey where simplicity is the key requirement.

### Applications

The CEL-254 sound level meter is able to tackle many types of noise sources to provide an accurate measurement of the source level.

The large digital display is updated 3 times a second and shows the noise level in dB to a resolution of 0.1dB.

Both steady noises and variable noises with single impacts in them can be measured with the CEL-254 using the included maximum hold function to capture the highest level of a source.

Indicators are provided that warns of any errors caused by overloads or low battery supply.

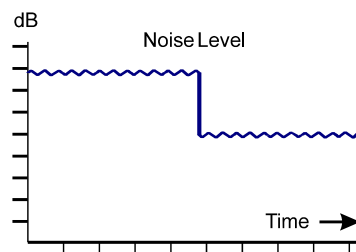
### Ordering Information

CEL-254	Digital Impulse Sound Level Meter
CEL-110/2	Acoustic calibrator type 2 with CEL-4627 calibration adaptor for 1/4" microphones
CEL-4672	3 1/2" foam windscreen for outdoor measurements
CEL-5894	Carrying case for meter and accessories
CEL-254/K1	Complete measurement kit with all items above

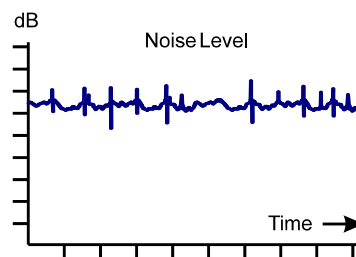


### Key Benefits

- Lightweight and slim design fits in the pocket
- Two wide measurement ranges cover all noise levels between 30 and 135 dB(A)
- Slow, Fast and Impulse responses available
- 'A' and 'C' frequency weightings cover most applications
- Long battery life using 4 AAA alkaline cells
- Overload and battery voltage checks provided
- AC and DC outputs provide analog signals to other pieces of equipment



steady noise levels



impulsive noise levels

The 'A' weighted noise level is used for most readings with the CEL-254 but it also is fitted with the 'C' frequency weighting circuit. This allows the meter to be used for assessments of the basic frequency distribution of the noise for the appropriate assessment of hearing protectors in industrial situations. The Slow response setting is most suitable for steady noise sources since it smoothes the fluctuations and makes the readings easier to view. The Fast setting more closely follows the variability of more rapidly changing noise levels and the Impulse setting can be used for specialists applications that require a faster response for impact noise studies.

TECHNICAL SPECIFICATION - GENERAL	
Accuracy	±1 dB under IEC 651, 804 Type 2 and ANSI S1.4 Type 2 ref. conditions
Microphone	¼" Electret microphone capsule with fixed preamplifier
Reference Conditions	114 dB SPL, free field perpendicular incidence, 1 kHz, 20°C, 65% RH
Operating Temp. Range	-10°C to +50°C operating (-20°C to +60°C storage)
Effect of Humidity	<0.5 dB 30% to 90% RH
Batteries	4 x AAA Manganese Alkaline Cells
Battery Life	20 hours typical (low battery indicator)
Dimensions	258 mm x 70 mm x 21 mm, 10.2 x 2.8 x 0.8 in
Weight:	230 grams, 8 oz (with batteries)

TECHNICAL SPECIFICATION - PERFORMANCE	CEL-254
30 – 135 dB(A) measurement range for instantaneous sound level	√
70 dB overall dynamic range in 2 sub-ranges: 30 - 100 dB and 65 – 135 dB	√
Frequency Weighting "A"	√
Frequency Weighting "C"	√
Time Weightings "Slow" and "Fast"	√
Time Weightings "Impulse"	√
Measurement of "Maximum Hold"	√
Pre-weighting overload detector	√
Compliance with ANSI S1.4 Type 2A Standard	√
Compliance with IEC 651 Type 2 (Impulse for CEL-254)	√
3½ digit Display, 12.7 mm high character LCD	√
Low battery indicator in display	√
Manual battery voltage check during measurement	√
AC Conditioned 7.25 V RMS FSD Auxiliary Output. Minimum load impedance 39 kΩ	√
DC Log RMS output nominally 25 mV/dB. Minimum load impedance 27 kΩ	√

Typical accessories for CEL-254 Sound level meter	
 <p>CEL-254 sound level meter</p>	 <p>matching CEL-110/2 acoustic calibrator</p>
 <p>CEL-4672 foam windscreen on microphone</p>	 <p>typical instrument kit</p>