

CEL-6760

Outdoor Kit case for CEL-360 & 460 Logging Dosimeters

Introduction

The CEL-6760 case is used to protect the CEL-360 & 460 Logging Noise Dosimeters when used for short to medium term monitoring in exposed locations. The system is powered from a rechargeable battery that can provide up to 6 days continuous operation. Larger capacity batteries may be used to extend this logging time if required. The logging capability of the CEL-360 & 460 enables a low cost environmental logger to be realized with regular data being saved to memory for later analysis using standard CEL-6704 (dB12) Windows compatible software programs.

The CEL-360 & 460 Dosimeter can be programmed from a PC using either CEL dB10 or dB12 Windows Analysis software. A measurement run can be selected which will store the overall results for the whole of the run. In addition short time interval profiles can be set to enable the time history to be viewed when the data are downloaded to a PC. These profiles can be the time average level, Leq or the maximum or minimum level for intervals of under 1 minute. For intervals of 1 minute or above the CEL-360 & 460 will save statistical parameters such as the LN10%, LN90% as well as the Leq. Any valid combination of up to 10 parameters may be chosen in a CEL-360 to suit the particular measurement requirement (up to 2 in a CEL-460).

List of standard parts

The description CEL-6760 Mini Environmental Case consists of the weatherproof case that houses the CEL-360 or 460 Logging Dosimeter, the tube for the microphone and cable, the preamplifier assembly adaptor and the C6759 power supply cable. The CEL-16038 rechargeable battery pack is also available which is rated at 12V 3.2 Amp hour (Ah) capacity and a CEL-4672 foam windshield. All of these items can be located in the custom designed foam inside the case for easy transportation to and from site. A CEL-16029 charger unit and C6646 charging cable must be ordered separately to recharge the CEL-16038 battery pack. The CEL-6760 Case is normally used with the standard CEL-360/K1 Logging Noise Dosimeter kit which includes the CEL-282 Acoustic Calibrator and the CEL-6704 (db12) software. The CEL-6704 (dB12) Graphical presentation software package allows for the display and recalculation of downloaded results at the end of a Run.

Assembly

Open the CEL-6760 Mini Environmental Case (MEC) using the special key provided and take out the microphone tube. Remove the front layer of foam and connect the spade tags of the C6759 power cable to the terminals of the rechargeable battery pack (CEL-16038) taking care to observe the correct polarity. Pass the other end of the cable through the foam so that it becomes available for connection the flying lead in the dosimeter. Make sure that the CEL-360 or 460 Dosimeter is switched OFF. Remove the 9V battery (LR6, PP3) from the CEL-360 or 460 dosimeter and connect the power lead from the internal rechargeable pack in the case. This should be done as quickly as possible to prevent the dosimeter from loosing its setup information regarding the forthcoming run. There is a backup power supply in the dosimeter that will maintain the settings for about 5 to 10 minutes after which time the dosimeter may loose its internal settings if left un-powered.

Carefully screw it to the brass connector on the top of the case taking care not to cross the threads. If not already fitted, place the microphone adaptor in the end of the tube and drop the plug of the microphone cable down the tube so that the cable drops into the top of the case. Feed the microphone cable through the cutout in the foam so that it appears in the top of the space for the body of the CEL-360 or 460 dosimeter. Plug the microphone cable into the top of the dosimeter and switch the CEL-360 or 460 ON. Any excess cable can be looped carefully and positioned in the cutout for the windshield to stop it getting tangled.

Calibrating the system

Allow the CEL-360 or 460 dosimeter to finish the self-test routine. Place a CEL-282 or other suitable calibrator over the microphone making sure that the CEL-4725 coupler is seated correctly on the top of the microphone. Switch the calibrator on and allow it to stabilize. Press the center Menu button twice to show OPTION in the bottom right of the LCD screen and the CAL prompt will become available. Press the SET/ENTER button to allow changes to the displayed level and use the UP or DOWN buttons to adjust the level to that of the calibrator. Check the calibration level on the dosimeter and adjust according to the CEL-360 or 460 handbooks if required. Press the SET/ENTER button again when the correct level is displayed. The new calibration data will be saved by the CEL-360 or 460 and will appear on the printouts and results after the unit is downloaded.

Making a measurement

Fit the CEL-4672 windshield over the microphone at the top of the tube and secure it in place over the microphone adaptor. The CEL-360 or 460 will startup according to the selected Default Power Up selection chosen in the dB10 or dB12 software. Press the RUN button on the front keypad of the CEL-360 or 460 to either start a Run immediately or to allow the unit to Wait until the pre-programmed start time. In this case the unit will then start to record until the stop time is reached or the STOP and SET/ENTER buttons are pressed.

Fixing the MEC to a suitable surface

The case is provided with two methods of connection to a support. Either the metal bar can be screwed to the top holes in the back of the case or the unit can be screwed to a wall or a fence as appropriate. Alternatively, pass the plastic tie wrap through the slots in the end of the mounting bracket and secure it around a pole or other suitable structure and place at a suitable measurement position. In either situation the accuracy of the measurements may be affected by the placement of the case in respect to the surrounding structures. For example a large flat surface such as a wall or fence panel may cause an increase in measured levels because of the effect of reflections on the microphone capsule. If not already done press the RUN button on the CEL-360 or 460 and then close the door and lock it with the special key. The box may be mounted upside down to protect the microphone from rain if it is likely to happen during the measurement duration.

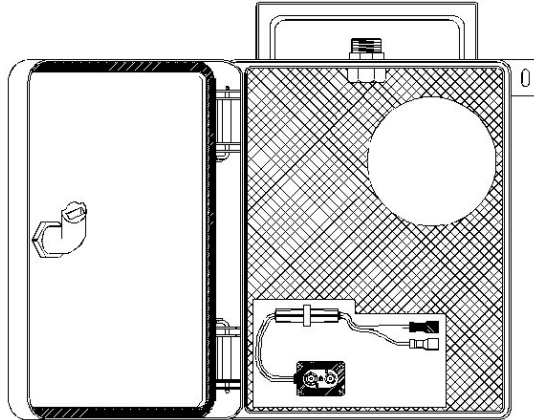
Retrieving results at the end of a run

When a run has finished open the case and press the STOP and SET/ENTER button to halt the measurement manually. Otherwise wait until the stop time has been reached if using the automatic Delay Start/Stop timers. If no more measurements are to be taken disconnect the lead from the rechargeable battery pack and reconnect the supplied 9V battery. Be careful to make the change as quickly as possible to prevent data loss. The backup power supply will maintain the memory results for up to about 5 minutes. If the measurement Run is to be downloaded to a laptop PC on site then disconnect the microphone cable and connect the C6724 cable to the serial port of the laptop PC running either dB10 or dB12 software. If the CEL-360 or 460 is to be connected to a desktop PC in the office the simply switch the meter OFF and return it to the PC there to carry out the download procedure.

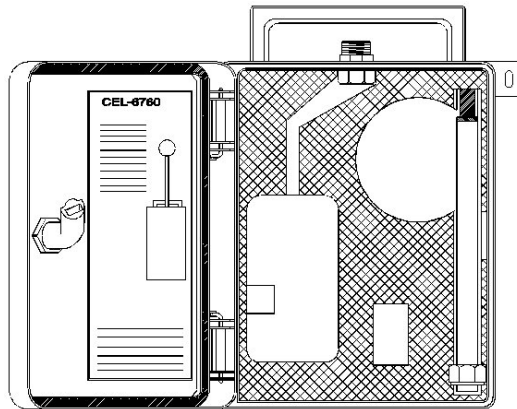
In either dB10 or dB12 choose the menu item *Instrument\Download from CEL-360 or 460* and follow the on-screen prompts to transfer the results to the PC. A filename must be entered into the Target File in the Download Dialog box together with a valid path for the destination file. It is recommended that downloaded runs be saved in the \DATA directory of the associated program, for example C:\db12\data\filename.dta.

Data can either be viewed in the CEL dB10 software package in the form of lists of text. The preferred dB12 software package allows the user to view the time history profiles on screen in graphical format and has twin cursors to allow further recalculations to be made on user selected sections of the run. In addition the time history profiles can be exported to a Lotus 1-2-3 compatible format file that can then be imported into a standard Windows spreadsheet program such as Microsoft Excel or Lotus 1-2-3.

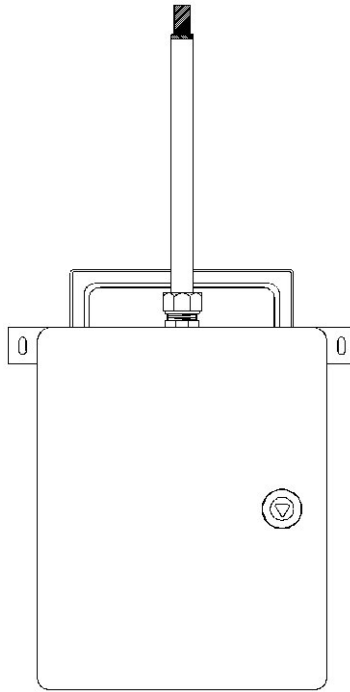
CEL-6760 Mini Environmental Case showing cutout for windshield and rechargeable battery pack



CEL-6760 Mini Environmental Case showing cutout for CEL-360 or 460 and microphone mast



CEL-6760 Mini Environmental Case with microphone mast in position



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Last updated 01 February 2003

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CEL-6760 HB issue 01