



eS528L Software Manual for “Smart Logger 2” Software

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ennoLogic “Smart Logger 2” Software Manual

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<https://ennologic.com>

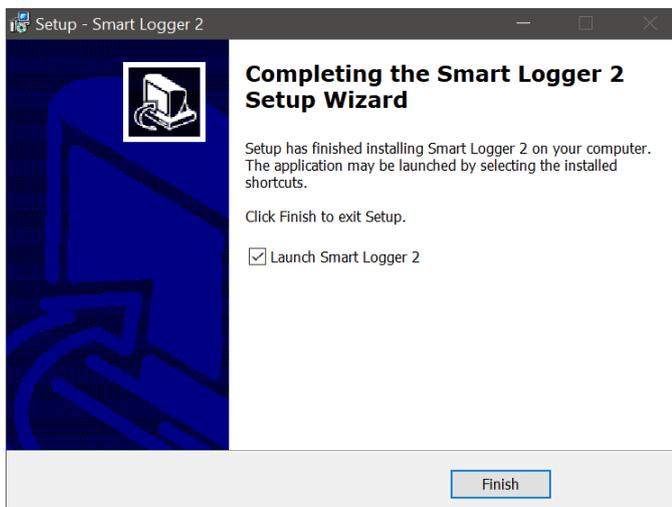
1. Overview

Before you start using the sound level meter, please read the instructions in this manual carefully. This overview section provides a brief summary of the steps involved in setting up your device for data recording (data logging), and how to download the data from the device to your computer.

1. Open the battery cover at the backside of the meter and install a fresh 9V battery. If the battery is already installed and the device has previously been used, it will be difficult for you to estimate if the remaining battery life will be enough to support your recording session. If in doubt, power the meter through its USB port with the included data cable connected to a standard USB power adapter that converts outlet power to 5V USB (not included). Also see eS528L User Manual.
2. Install the "Smart Logger 2" software (see section 2 of this software manual).
3. Connect the sound level meter to a USB port of your PC using the included cable. The computer will detect the device and install the hardware driver.
4. Double click the "Smart Logger 2" shortcut icon on your desktop to launch the software.
5. Follow the steps below to set up the device and start recording (see section 4 of this software manual):
 - Name your data logger
 - Select the appropriate start mode (button, immediate start or scheduled start)
 - Select sampling period and number of sampling points to record
 - Program your meter with the new settings
6. Unplug the device from your computer. Place it at the location where you want to measure and record sound level data.
7. If you selected "Immediate Start" as start mode during setup, your sound level meter is already recording data at this point. If you selected "By Button", you need to press the "REC" button on the meter to start recording.
8. To download data, reconnect the device to your computer's USB port. Wait until the orange "Offline" indicator in the bottom left corner of the software changes to a green "Online". Then click on "Download Recorded Data" in the main window, or select "Options" -> "Download Recorded Data" from the menu. See section 5 of this manual for more details.
9. After data has been downloaded, you can review it as a graph, data list, or summary report. See sections 5 and 6 for more details.

2. Software Installation

1. The ennoLogic Smart Logger 2 software supports Windows XP, Windows 2000 and 2003, Windows 7, 8, and 10 for both 32-bit and 64-bit operating systems. At least 60MB of hard disk space and 512MB of RAM are required. Only Windows based computers are supported at this time.
2. Download the software at the ennoLogic website using this [direct link](#). The version on the website may be a later version than the one on the CD included with the product.
3. Extract (unzip) the downloaded file first, it will contain one file: setup.exe. Double click on setup.exe after extracting it from the zip file. If installing from CD, go to the CD-ROM directory on your computer and double click the installation file "setup.exe" to install it.
4. Follow the instructions displayed by the dialog boxes. Make sure to select the installation directory where you want the software to be installed. If you want to be able to share access to the program with non-admin users on your computer, simply install it in a directory that other users can access as well. The installation file of this software does not limit access to administrators. If you only want one user of your computer to have access to it, install the software into this user's folder so other users cannot see it or access it. Also, make sure to uninstall any previous version of the software first and then restart your computer before installing the new version.
5. Select whether you want to create a shortcut (recommended).
6. Select whether you want to launch the software immediately.

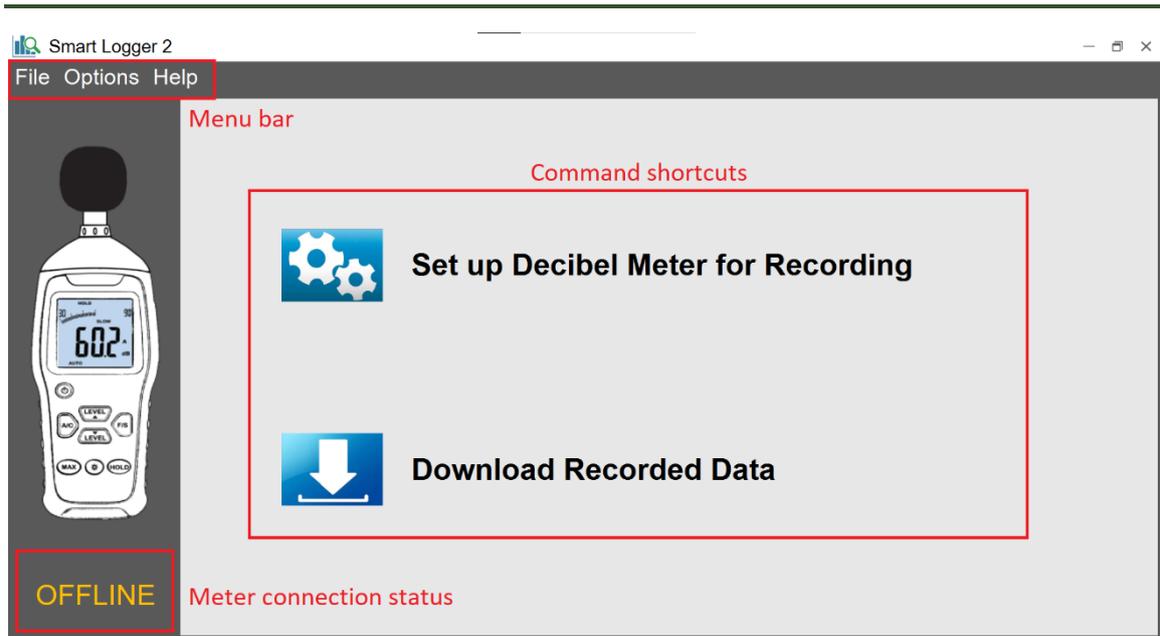


Depending on your operating system, a suitable USB driver for the sound level meter will be installed automatically when the device is plugged into the USB port, and installing a USB driver manually should not be needed. If your computer has trouble installing a driver for the sound level meter in Windows versions other than Windows 10, please download the following driver and install it separately: https://ennologic.com/downloads/USBBridgeSetup_CA.zip. Unzip the downloaded file, then double click on USBBridgeSetup_CA.exe to run the installer. When asked to select the product type, choose "USB to UART Bridge" and click "Next". Choose an installation directory (the default provided is usually fine), click "Next" and then "Install". Click "Finish" to exit the setup. Plug in the sound level meter and check if the USB initialization succeeds. If Windows encounters a problem installing the "Holtek USB to UART Bridge" driver and says "A problem was encountered while attempting to add the driver to the store.", you need to disable Driver Signature

Verification Enforcement on your computer since this driver is not digitally signed. To do that, please follow the instructions in this video: https://www.youtube.com/watch?v=71YAlw7_-kg. After you disabled driver signature enforcement, plug in the sound level meter again and this time the driver installation should succeed. Please note that these step should only be necessary in Windows versions other than Windows 10.

7. Start the software using the shortcut icon that was placed on the desktop. If you chose not to create a shortcut, you may start the software by opening the file "SmartLogger2.exe" in the "Smart Logger 2" directory.

3. Software Interface and Menu



Menu bar: Main menu items from left to right are "File", "Options" and "Help." There are drop-down submenus below each main menu item. These functions are introduced in the table below.

Command shortcuts: The two most frequently used functions are accessible via shortcuts on the main window: "Setup Decibel Meter for Recording" and "Download Recorded Data". To access them, simply click on either the icon or the descriptive text to the right of the icon.

Meter connection status: Indicates the decibel meter's connection status (Online = active USB link between meter and computer, Offline = computer is unable to communicate with meter via USB).

Functions of Drop-Down Submenus:

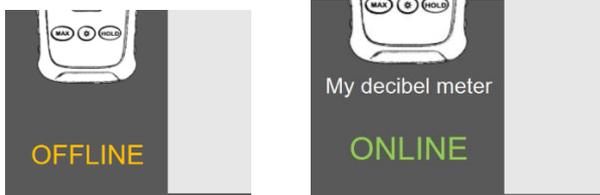
No.	Menu	Functions
1	File -> Open data file	Open a data record (.rec) file for display
2	File -> Save as	Save the currently opened file as a txt, pdf or csv file (numeric data only, no graph)
3	File -> Export to Excel	Export the currently open file to Excel file format (summary and data in separate worksheets)
4	File -> Export to PDF	Export the currently open file to Excel file format (device info, data summary, chart, and list)

5	File -> Print	Print the currently open chart, data list, or summary report
6	File -> Exit	Exit the Smart Logger 2 program
7	Options -> Setup Decibel Meter for Recording	Set up the decibel meter for a recording session
8	Options -> Download Recorded Data	Download all data that was recorded by the decibel meter
9	Options -> System Settings	Chart display options, language and time format
10	Options -> Meter Status	Display status of decibel meter
11	Help -> Manual	Display this manual
12	Help -> About	Software version and copyright information
13	Help -> Website	Link to ennoLogic website

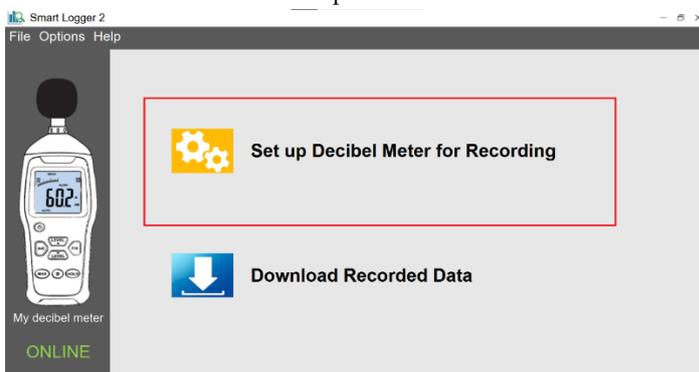
4. Setup Decibel Meter for Recording

Before your decibel meter can record data, you have to set it up for a recording session and choose a few parameters such as sampling period and number of data points to record. You also use this setup process to choose one of three modes of how data recording will start.

Connect the decibel meter to a USB port on your computer using the included USB cable. Then open the Smart Logger 2 software if it's not already running. After a few seconds you should see the "Offline" indicator in the bottom left corner change to "Online". Make sure it says "Online" before proceeding.

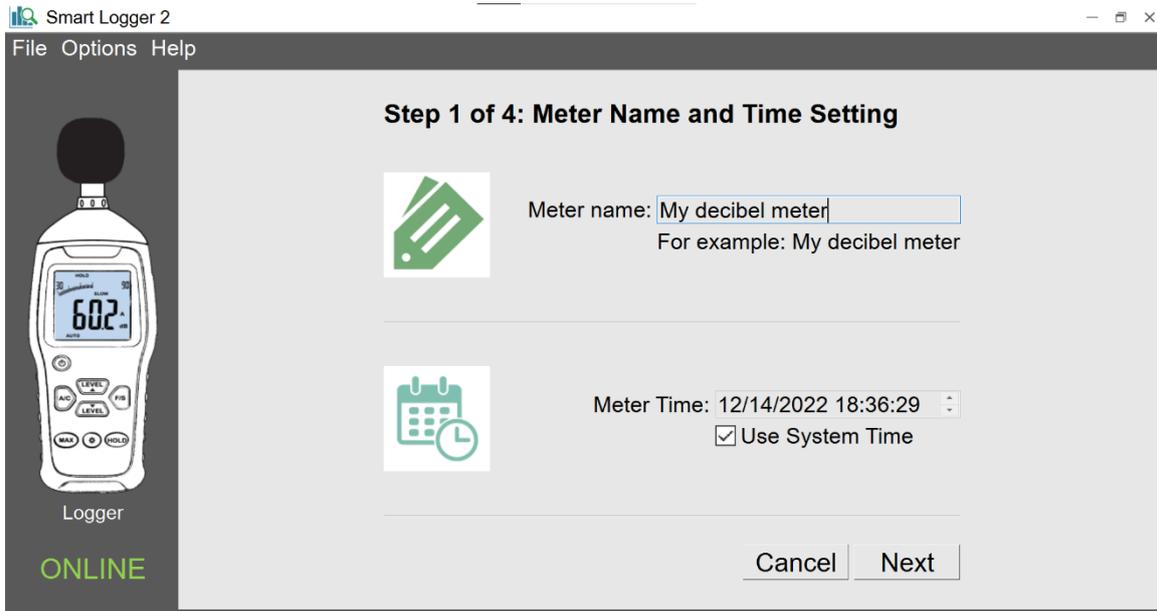


In the main window, click on the command shortcut "Setup Decibel Meter for Recording", or alternatively, access this command via the Options menu.

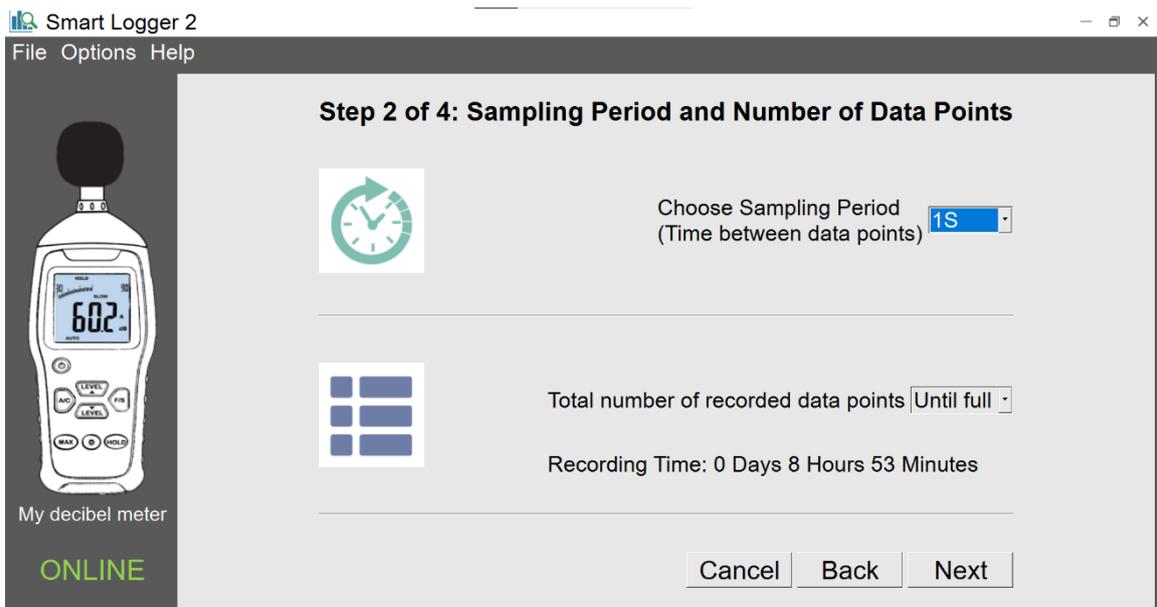


Setting up the meter for a recording session will erase all previously saved data, so make sure you download any data first. After acknowledging that the following setup procedure will clear all existing data, the software will guide you through the setup steps.

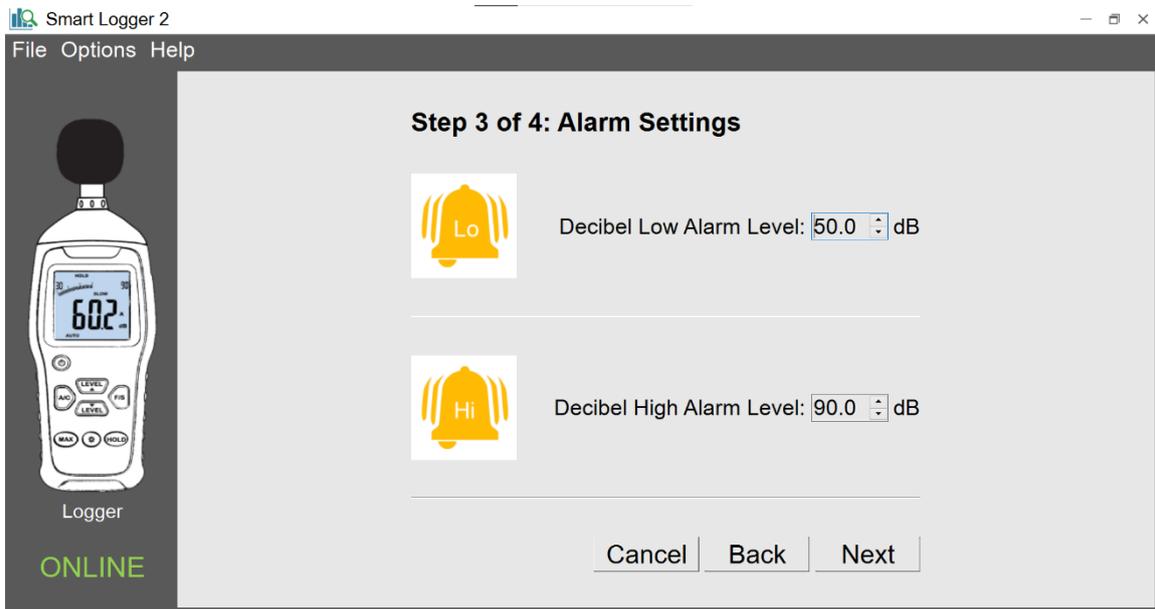
In the first step, choose a custom name for your decibel meter, and choose to set the internal clock of the meter either using the time of your computer (preselected default), or enter the current time and date manually.



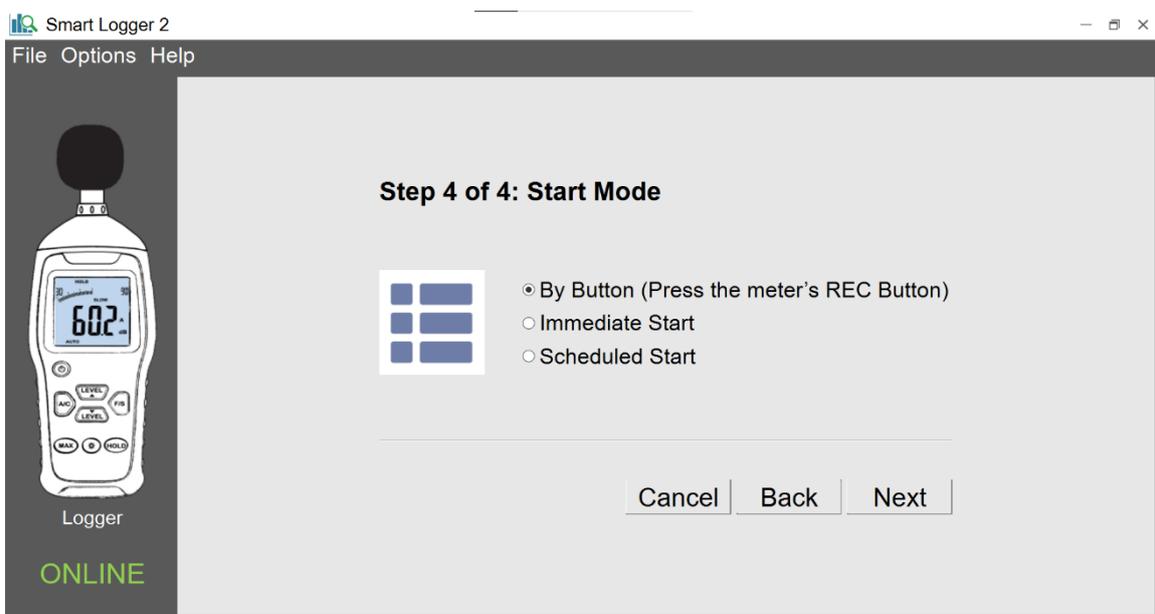
In Step 2, choose the sampling period you want the meter to use when recording data (i.e. how often a sample is recorded to memory). Available options are 1s, 2s, 5s, 10s, 20s, 30s, 1min, 2min, 5min, 10min, 30min, 1hr, 2hr, 6hr, 12hr, and 24hr. You can also choose the total number of data points you want to record. By default, this is set to "Until full", meaning the meter will record decibel data until its memory of 32,000 data points is full. Alternatively, you may choose to only record a predefined number of data points. Every time you make changes to either the sampling period or number of recorded data points, the software will update the displayed recording time automatically. Make sure it is greater than your desired duration of data recording.



In Step 3, you can specify a low and high “alarm” sound level. The eS528L does not have the ability to sound or display an alarm when these levels are hit, but you will be able to see them in the graph of downloaded data as horizontal lines, making it easy to visually detect whether a decibel threshold of interest has been exceeded.

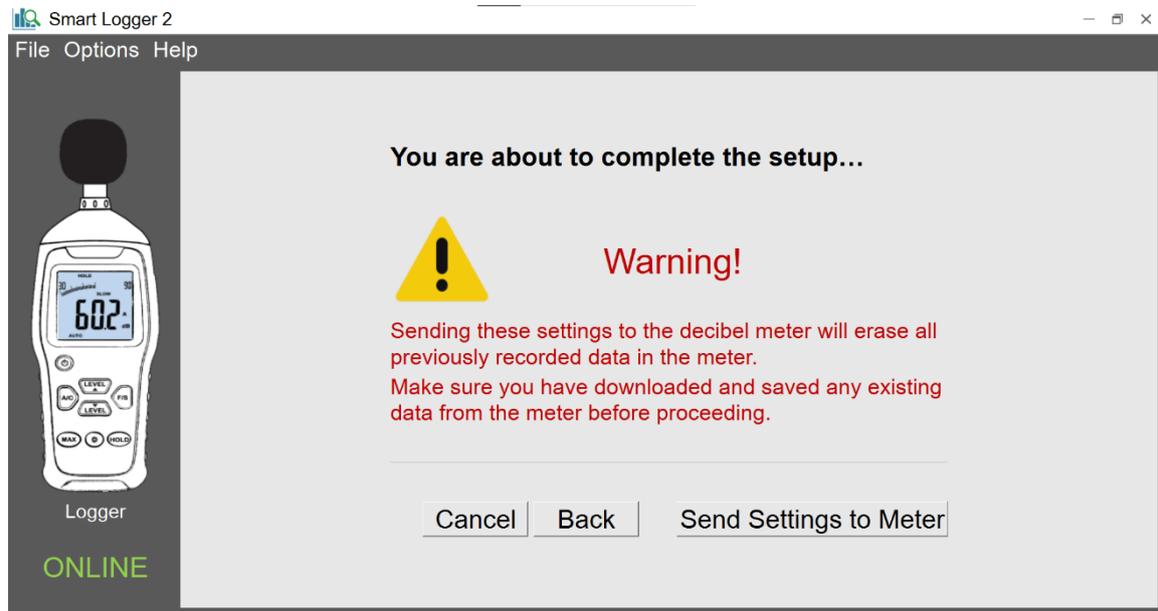


And finally, in Step 4, you can choose when the meter will start recording data (“Start Mode”). There are three ways you can start recording: By Button press, After Setup and Timing Start. When the Start Mode is set to “By Button”, recording can be started by briefly pressing the “REC” button on the device. If “Immediate Start” is chosen, recording will start automatically as soon as the settings have been sent to the device. “Scheduled Start” allows you to set a time in the future at which recording will start.

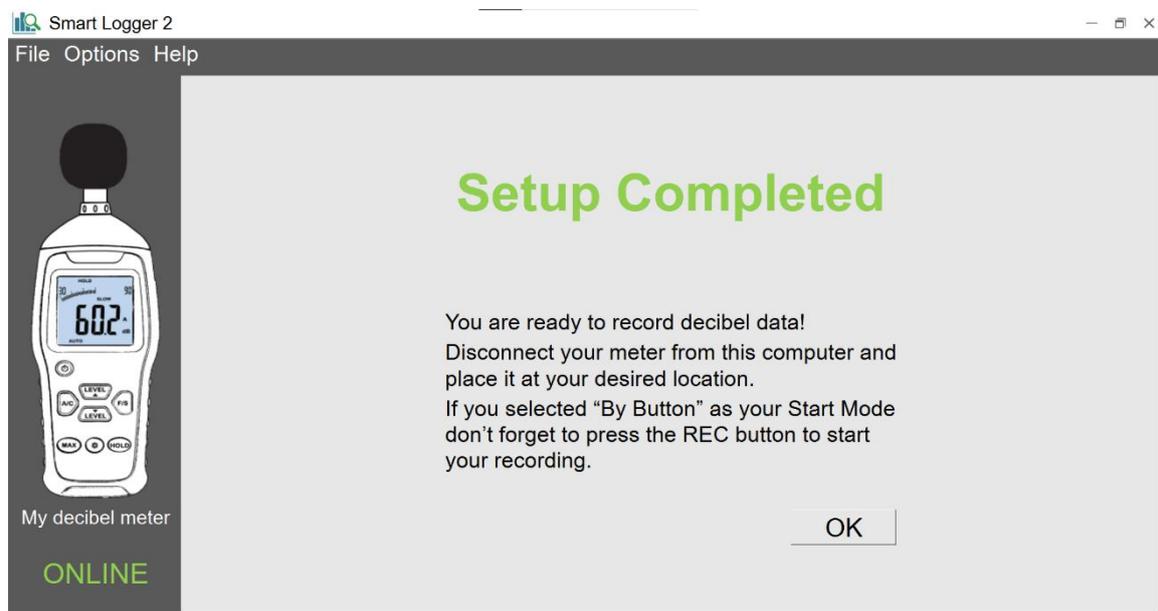


Next, you will be given one more chance to abort the setting process before sending these settings to the meter. Clicking “Send Settings to Meter” will erase any previously recorded data in the decibel meter and

program the chosen settings for a new recording session. Press “Cancel” if you have data stored in your device that you want to download first. Otherwise, press the “Send Settings to Meter” button to complete the setup and erase all previously stored data. (By the way, this setup process is the only way to erase data in the meter, there is no “Erase” command.)



After the new settings have been successfully sent to the meter, you will see the following confirmation message.



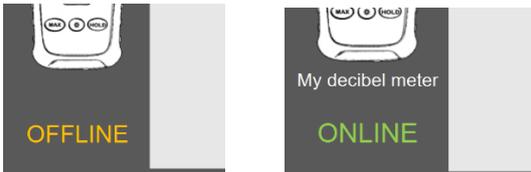
Disconnect the decibel meter from your computer and take it to your desired recording location. Press the REC button if you selected “By Button” for your Start Mode.

Important Note: The decibel meter will stop recording if it runs out of battery power. For longer recordings of several hours make sure to either use a fresh 9V battery (which lasts about 7-8 hours), or power the device with a standard USB power adapter (not included) and the included USB data cable. If the device is powered through the USB port, the internal 9V battery will not be used.

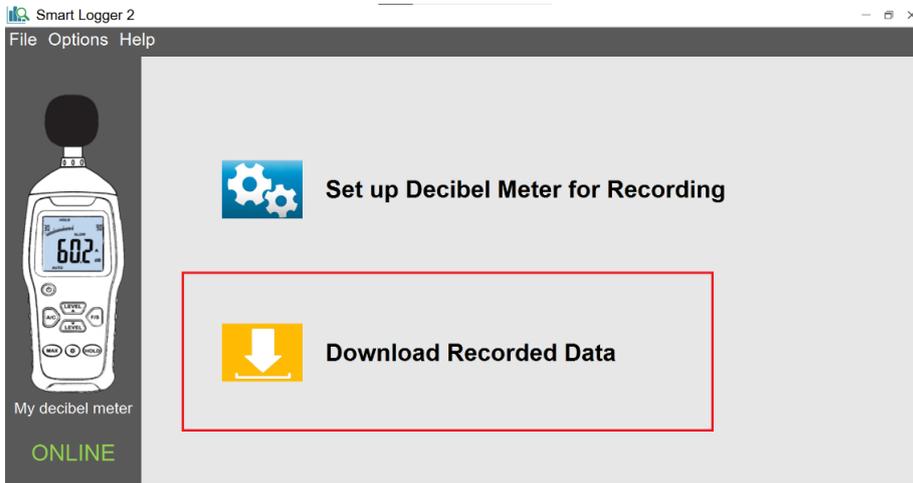
5. Download Recorded Data

Follow these steps to download the data stored in your decibel to your computer:

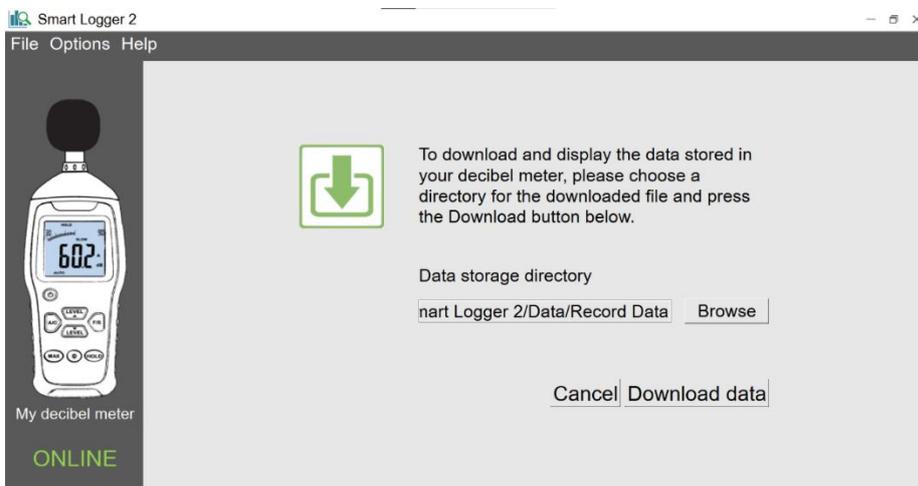
Connect the decibel meter to a USB port on your computer using the included USB cable. Then open the Smart Logger 2 software if it's not already running. After a few seconds you should see the "Offline" indicator in the bottom left corner change to "Online". Make sure it says "Online" before proceeding.



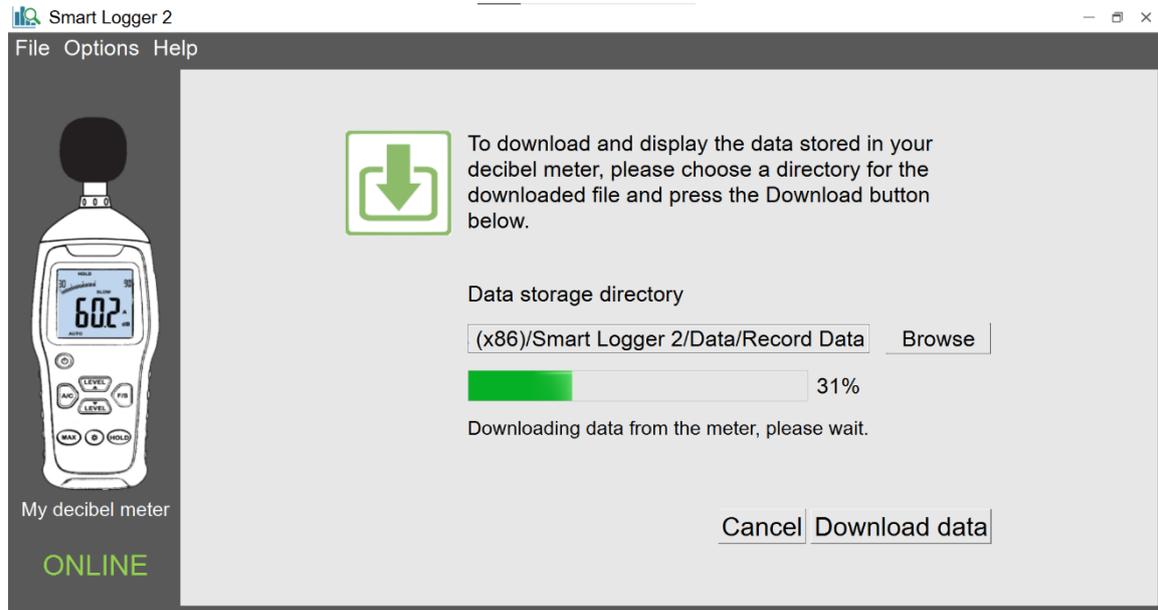
In the main window, click on the command shortcut "Download Recorded Data", or alternatively, access this command via the Options menu.



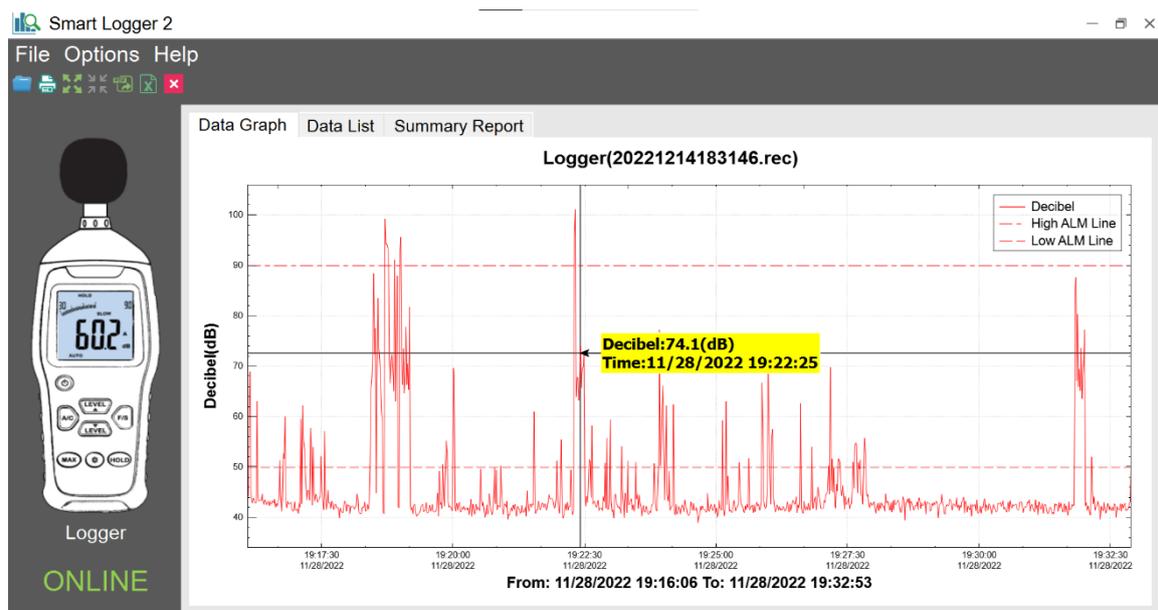
In the next step, you can choose the directory the downloaded data file will be saved in. Either keep the displayed default directory, or click on Browse to choose a different one. Then click the "Download data" button.



The download process will start and progress will be displayed by a progress bar.



After downloading has finished, the downloaded decibel data will be displayed in a chart (Data Graph):



Above the chart, there are 3 tabs: "Data Graph" (the default view after data has been downloaded), "Data List" (a table of all recorded data points), and "Summary Report" (a report that includes the device information, recording parameters, chart and data table and that can be exported to a pdf file.)

Data List View:

No.	Time	Decibel(dB)
1	12/14/2022 18:39:38	51.2
2	12/14/2022 18:39:39	65.9
3	12/14/2022 18:39:40	55.0
4	12/14/2022 18:39:41	37.3
5	12/14/2022 18:39:42	51.7
6	12/14/2022 18:39:43	56.2
7	12/14/2022 18:39:44	43.4
8	12/14/2022 18:39:45	42.9
9	12/14/2022 18:39:46	46.3
10	12/14/2022 18:39:47	35.9
11	12/14/2022 18:39:48	42.7
12	12/14/2022 18:39:49	39.8
13	12/14/2022 18:39:50	36.3
14	12/14/2022 18:39:51	36.7
15	12/14/2022 18:39:52	42.7
16	12/14/2022 18:39:53	57.7

From: 12/14/2022 18:39:38 To: 12/14/2022 19:18:15 Query Export CSV Export Excel

You can use the date/time fields and query button at the bottom of the list to limit the number of displayed data points to a range of interest. You can also export this list as a csv or Excel file by clicking on the “Export CSV” or “Export Excel” buttons respectively.

Summary Report:

Summary Report

Create Time: 12/14/2022 18:41

Device Information

Meter Name: My decibel meter
 Device ID: 202106113264
 Sampling Rate: 1S
 Recording Time: 0 Day 0 Hours 2 Minutes
 Start Mode: By Button
 Low Alarm(Decibel): 50.0dB
 High Alarm(Decibel): 90.0dB

Data Summary

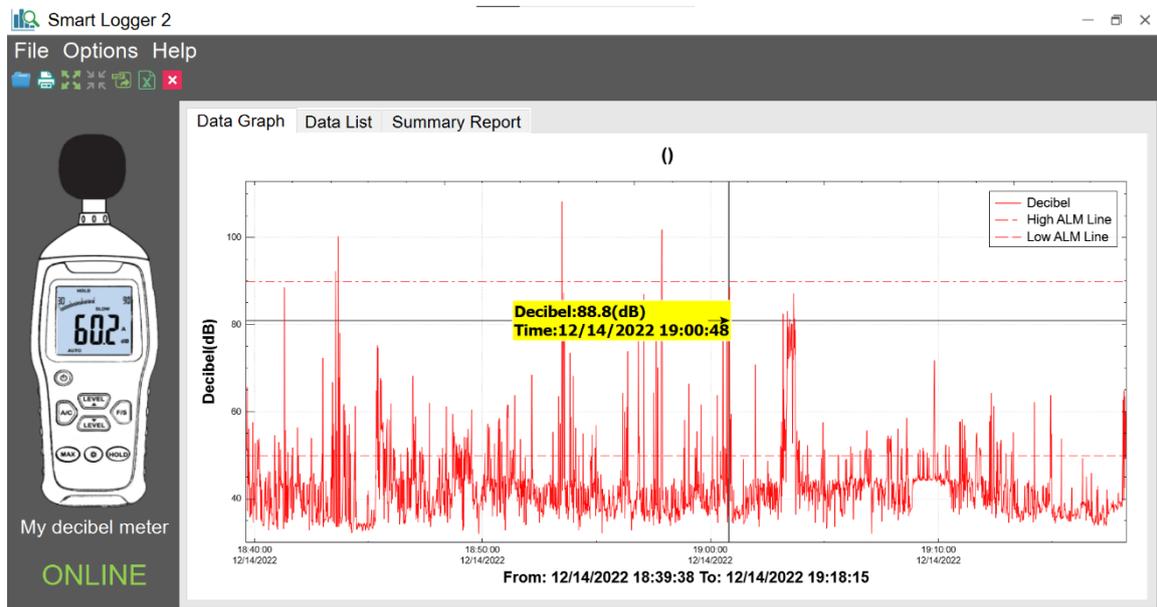
Total Record: 120
 Start Time: 12/14/2022 18:39:38

To save the displayed summary report as a pdf file, choose the menu item “File -> Export to PDF”.

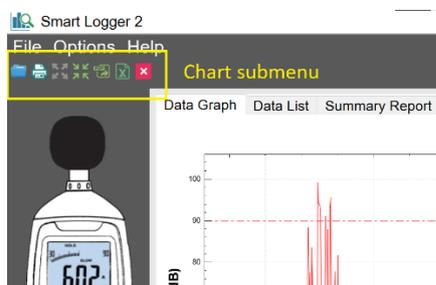
- File
- Options
- Help
- Open data file
- Save as
- Export to Excel
- Export to PDF
- Print
- Exit

6. Data Graph

The data graph displays the downloaded sound level data (decibels) over time. If alarm levels were defined during setup, these levels will be displayed as dashed horizontal lines, indicating when the recorded decibel data exceeded these levels.



When the data graph is displayed, you have access to a few additional commands (icons below the main menu).



The icons highlighted above access the following commands:

-  **Open data file** – Open a previous saved data file (.rec file) to be displayed in the graph/data list window. This will replace the currently displayed data file.
-  **Print** – Print the currently displayed data graph, data list or summary report.
-  **Zoom** – Zoom in or out on the data graph. Use the left mouse button to click onto a point of interest on the graph, and while continuing to hold the left mouse button down scroll the mouse wheel up or down to zoom in or out respectively. You can also click on either the X axis or Y axis and then use the mouse wheel to zoom in or out along the X or Y axis only, without changing the scale of the other axis. To reset the graph to the original zoomed-out state, click the “Revert” button (see next).
-  **Revert** – To reset the graph to the original zoomed-out state, click this button.



Export to PDF – Export the currently displayed data graph, data list of summary report as a PDF file.

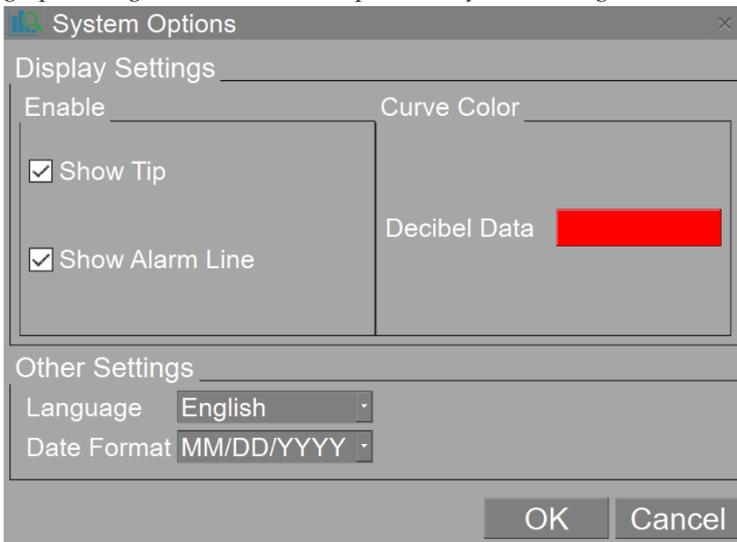


Export to Excel – Export the currently displayed to Excel. Data will be saved in two worksheets, one for the summary and the other one containing all data points in two columns (time stamp and decibels).



Close graph windows – Exit this view and return to the main menu.

You can change the color of the curve, show or hide the high and low alarm levels that were specified during setup and show a tooltip to display the numeric data as you hover the cursor over a point on the graph. Using the menu, select "Options -> System settings".

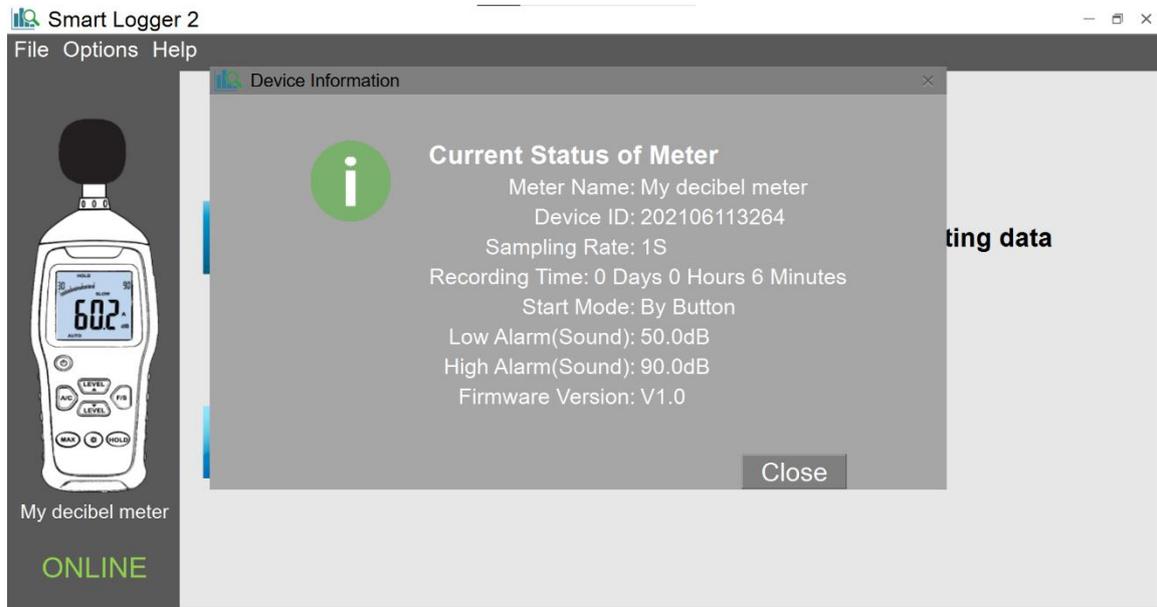


Check the box “Show Tip” to see numeric data as you hover the cursor over a point on the graph. Enable “Show Alarm Line” to show the high and low alarm levels that you specified at setup as dotted horizontal lines. You can also change the color of the data curve. The eS528L only has one channel (Channel 0). Ignore the other channels, they are not used for this device.

Using the same dialog, you can also change the language and date format.

7. Meter Status

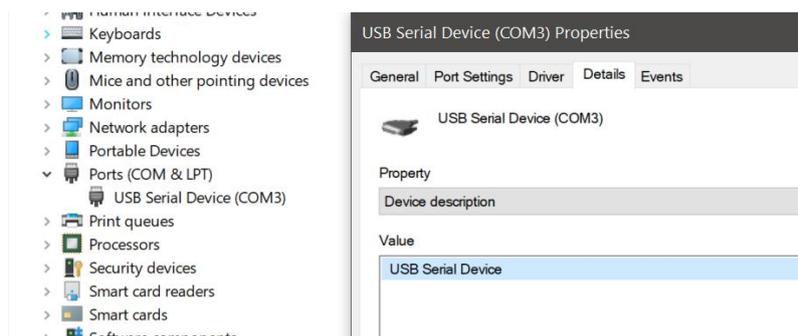
To display the parameters that are currently being used by your decibel meter to record data, select the menu item "Options" -> "Meter Status", or click on the "Online" indicator in the bottom left corner. The following window will display the recording parameters and, if the meter is actively recording data, the length (duration) of the already recorded data.



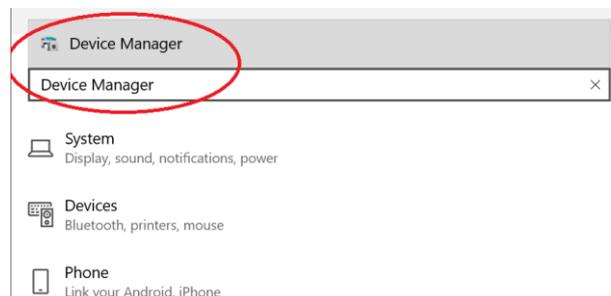
8. Troubleshooting and FAQs

Q: The software does not detect my sound level meter. What could be the problem?

A: Check if Windows has properly initialized the sound level meter and installed the correct USB driver. In Windows 10, that driver is `C:\Windows\System32\drivers\usbser.sys`, which is a driver that comes with Windows 10 (not with the sound level meter software). If the sound meter is properly recognized, you should see it show up as a serial port in Device manager:



(If you are unfamiliar with “Device Manager”, here is how you access it in Windows 10: Click the Windows Start button, then click on “Settings” and start typing “Device Manager” in the search box. Windows will suggest “Device Manager” above the search box, click on it to launch the app.):



If you see an exclamation mark next to the device entry under “Ports”, then the driver has not been installed correctly. Try installing it manually by right-clicking on the device name inside Device Manager and selecting “Update driver” in the popup menu. Then browse and select `C:\Windows\System32\drivers\usbser.sys` as the driver for this device.

If your computer is not running Windows 10: If you are running an older version of Windows, download the following driver and install it separately: https://ennologic.com/downloads/USBBridgeSetup_CA.zip. Unzip the downloaded file, then double click on `USBBridgeSetup_CA.exe` to run the installer. When asked to select the product type, choose “USB to UART Bridge” and click “Next”. Choose an installation directory (the default provided is usually fine), click “Next” and then “Install”. Click “Finish” to exit the setup. Plug in the sound level meter and check if the USB initialization succeeds. If Windows encounters a problem installing the “Holtek USB to UART Bridge” driver and says “A problem was encountered while attempting to add the driver to the store.”, you need to **disable Driver Signature Verification Enforcement** on your computer since this driver is not digitally signed. To do that, please follow the instructions in this video:

https://www.youtube.com/watch?v=71YAIw7_kg. After you disabled driver signature enforcement, plug in the sound level meter again and this time the driver installation should succeed. Please note that these step should only be necessary in Windows versions other than Windows 10.

Q: How do I delete the data stored in the sound level meter?

A: Data stored in the meter will be cleared when you set up the meter for a new recording session.

Q: Will the meter lose its data when the battery runs out?

A: No, the data is stored in non-volatile memory, which means it will not lose its data when the 9V battery runs out or (if powered through its USB port) USB power is removed.

Q: I click the download button and the progress bar never moves from 0%. What would resolve this?

A: Make sure the noise level meter is powered on when you are downloading its data. If it's connected but turned off, you may see the download process getting stuck at 0%. In this case, close the software and launch it again, also disconnect and reconnect the USB cable of your decibel meter and make sure to turn the decibel meter on. You should then see the "Offline" indicator change to "Online".

Q: I cannot download data from my sound level meter. What troubleshooting steps can I try?

- A:**
1. Make sure the data logger is turned on.
 2. Make sure you use the USB cable that came with the product. There are many Micro USB cables used by other products that can only be used for charging and not for data communications.
 3. Try using the same USB port that you used when setting up the data logger for the first time.
 4. Launch Device Manager on your computer (Open Settings and search for Device Manager) and verify under "Ports (COM & LPT)" that the sound level meter is showing up as a "USB Serial Device (COMxx)". If you're using Windows 10, try updating the driver. If you're using older versions of Windows, re-install the "USB to UART Bridge" driver as explained in the software manual.
 5. Uninstall the software, reboot your computer and reinstall it.