



# eS528L Software Manual

## Table of Contents

1. Overview.....	2
2. Software Installation.....	3
3. Software Interface and Menu .....	4
4. Device Settings.....	5
5. Downloading Data to your Computer.....	8
6. Data Graph .....	9
7. Data Summary .....	10
8. Data List .....	11
9. Report.....	11
10. Troubleshooting and FAQs .....	12

ennoLogic "Smart Logger" Software Manual

Version 1.7. Revised 3/4/2021

© 2021 ennoLogic®. All rights reserved.

<https://ennologic.com>

## 1. Overview

---

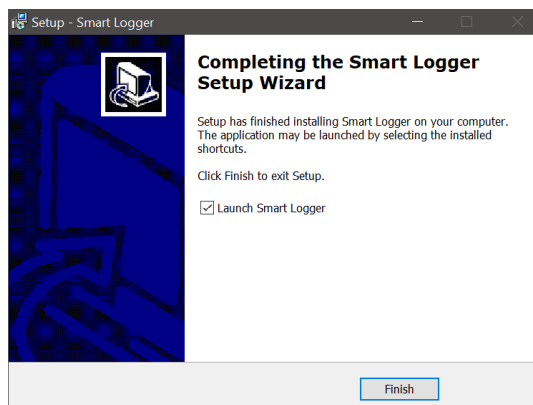
Before you start using the sound level meter, please read the instructions in this manual carefully. This overview section provides a brief summary of the steps involved in setting up your device for data recording (data logging), and how to download the data from the device to your computer.

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 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 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, after setup, or timing)
  - Select sampling points and sampling rate
  - Click the Setup button to 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 "After Setup" 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 icon to the left of your device in the Device List changes from a red X to a green checkmark. Then press the green download button in the toolbar, or select "Instrument" -> "Download" 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 table, or summary report. See sections 6 through 9 for more details.

## 2. Software Installation

---

1. The ennoLogic Smart Logger software supports Windows XP, Windows 2000 and 2003, Windows 7, 8, and 10 for both 32-bit and 64-bit operating systems. At least 78MB of hard disk space and 512MB of RAM are required. Only Windows based computers are supported at this time.
2. Insert the software CD that came with your product into your computer's CD drive or 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 your CD.
3. If installing from CD, go to the CD-ROM directory on your computer and double click the installation file "setup.exe" to install it. If using a downloaded version of the software, 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.
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, please download version 2020.11.20.0942 of this software from the ennoLogic website using [this link](#) and install it on a drive other than C:/ Make sure to uninstall any previous version of the software first and then restart your computer before installing the new version, otherwise you may not be given the option to choose your installation directory.
5. Select whether you want to create a shortcut (recommended).
6. Select whether you want to launch the software immediately.

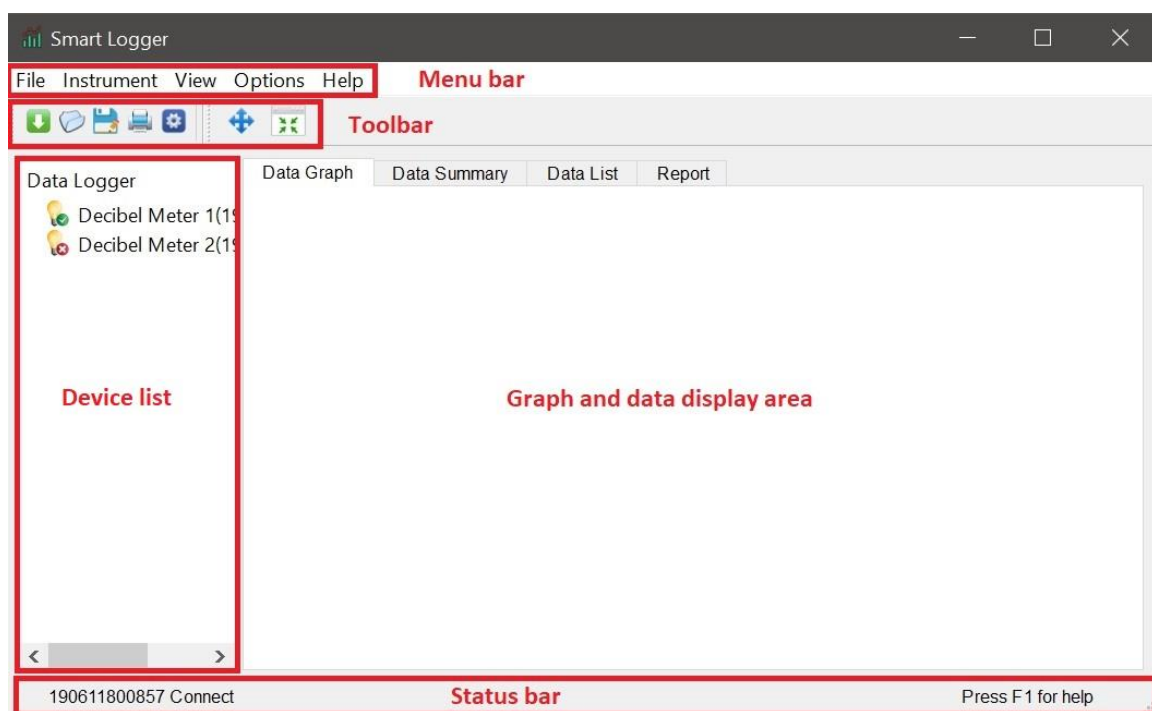


Depending on your operating system, a suitable USB driver for the sound level meter will be installed automatically when the device is plugged into the USB port, and installing a USB driver manually should not be needed. If your computer has trouble installing a driver for the sound level meter in Windows versions other than Windows 10, please download the following driver and install it separately: [https://ennologic.com/downloads/USBBridgeSetup\\_CA.zip](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](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.

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 "SmartLogger.exe" in the "Smart Logger" directory.

### 3. Software Interface and Menu



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

**Toolbar:** The toolbar provides quick access to frequently used functions. The icons of the toolbar represent the following functions (from left to right): "Download Data", "Open File", "Save File", "Print", "Device Settings", "Zoom" and "Reset Chart".

**Device list:** Lists the devices which have been added to the system in a hierarchical tree.

**Graph and data display area:** includes the tabs "Data Graph", "Data Summary", "Data List" and "Report".

**Status bar:** Indicates the selected data logger connection status.

#### Functions of Drop-Down Submenus:


No.	Menu	Functions
1	File -> Open	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 opened file to Excel file format
4	File -> Close	Close the currently opened file

5	File -> Print	Print the currently opened graph or data list
6	File -> Recent File	List of recently opened files
7	File -> Exit	Exit the Smart Logger program
8	Instrument -> Download	Download data from device
9	Instrument -> Device Settings	Set up the device
10	Instrument -> Device Management -> Add device	Add new devices to system
11	Instrument -> Device Management -> Remove device	Remove devices from system
12	View -> Toolbar -> Common	Add/Remove common function toolbar buttons
13	View -> Toolbar -> Plot Ctrl	Add/Remove graph control toolbar buttons
14	View -> Status bar	Show/Hide the Status bar
15	View -> Zoom	Zoom graph
16	View -> Reset Chart	Reset the graph to its initial status
17	View -> Background -> White	Set data graph background color to white
18	View -> Background -> Black	Set data graph background color to black
19	View -> Grid -> X-axis	Show/Hide X-axis grid on graph
20	View -> Grid -> Y-axis	Show/Hide Y-axis grid on graph
21	Options -> Comm Port Setup	Communication port settings
22	Options -> System Settings	Optional settings (line colors, download directory)
23	Options -> Calibration Adjustment	Calibration settings, not accessible to user
24	Options -> Real Time Monitoring	Shows current decibel data updated in real-time
25	Help -> User Manual	Link to eS528L User Manual at ennoLogic website
26	Help -> About	Software version and copyright information
27	Help -> Website	Link to ennologic website

## 4. Device Settings


---

In the device list window on the left, click on the name of the device you want to setup to highlight it, even

if you only have one device listed there. Then click the  icon on the toolbar, or choose the menu

command "Instrument" -> "Device Settings" to enter the device settings interface.

The Settings dialog box is shown below, followed by descriptions for each field.


Device Connect
✕

### Basic Settings

Current Time: 08/07/2019 19:29:12
☒ Use System Time

Logger Name: Decibel Meter 1

Work Mode: ☒ Recording ☐ Only Realtime Monitoring

Start Mode: By Button Time For Start: 08/07/2019 19:33:22

Sampling Points: Unlimited Sampling Rate: 2S

Recording Time: 1 Day 12 Hours 6 Minutes

### Alarm Settings

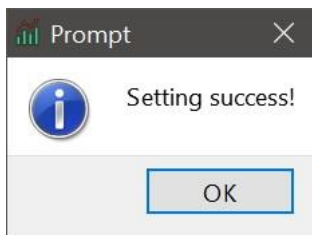
Sound Level Low Level: 40.0 dB High Level: 100.0 dB

Default Setup Cancel

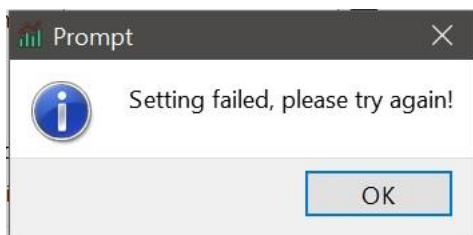
Parameters	Description
Current Time	You can manually set the date and time that is used for logging data. By default, the system date and time (from your computer) is used.
Use System Time	If checked, the data logger will use the system date and time, displayed by "Current Time". Uncheck it to set the date and time manually.
Logger Name	Use this field to give your device a name that is easy to remember. Particularly useful when managing multiple devices.
Work Mode	Select "Recording" if you want the device to log data according to your settings (sampling rate, sampling points and start mode). If you select "Only Real-time Monitoring", the device will only display real-time readings, but not record data.
Sampling Points	Specify the total number of sampling data points to be recorded. When the set number of samples has been reached, the device will stop recording automatically. Choose "Unlimited" to use the entire memory of 32,000 data points.
Sampling Rate	Set the sampling rate used for recording (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, 24hr
Recording Time	The software will calculate the total recording time automatically based on the selected sampling rate and sampling points. Make sure it is greater than your desired duration of data recording.
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 "After Setup" is chosen, recording will start automatically as soon as the settings have been sent to the device. "Timing Start" allows you to set a time in the future at which recording will start.

Time for Start	If you selected "Timing Start" as Start Mode (see above), you can use this field to specify the time when data recording is to be started.
Alarm Low Level and High Level	These fields allow you to 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.

Click the "Setup" button to send the settings to the device. If the meter received and processed them successfully, the following dialog box will pop up.



If not, the following dialog box will pop up. In that case, please try again. If you continue to see "Setting failed" after pressing the "Setup" button, please try using another USB port, ideally the one you used when initializing the meter for the first time.



Click the "Default" button to return all settings to factory defaults.

Click the "Cancel" button to abort the device setup process.


## Warnings:

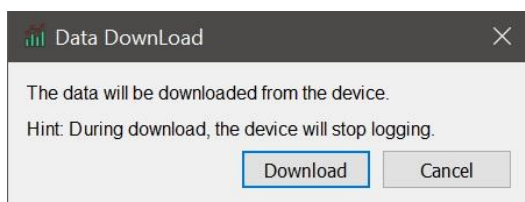
- 1) When setting up the device, any data stored in the data logger will be permanently erased. To ensure any previously recorded data is not lost, please download and save the data first. Click the "Cancel" button to close the setup dialog and return to the main window. Then click the green download icon to retrieve any data still stored in the device.
- 2) The data logger will stop working if it runs out of battery power. Use a fresh battery for longer recordings. 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. Downloading Data to your Computer

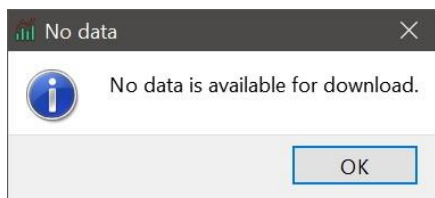
---

Follow these steps to download the stored data from your device to your computer:

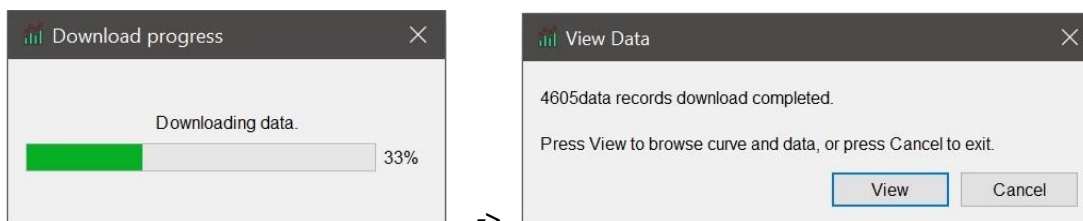
- 1) Plug the data logger into a USB port on your computer.
- 2) Open the Smart Logger software if it's not already running.
- 3) In the device list window on the left, click on the name of the data logger you want to download data from, even if you only have one device listed there.
- 4) Click the  icon on the toolbar or select the menu command "Instrument" -> "Download".
- 5) The following dialog box will appear. Click the "Download" button to start downloading data from the device.



If there is no data stored in the device yet, the following message will appear:



Otherwise, data download will start, a progress bar will appear, and when all data has been downloaded a message will be displayed.



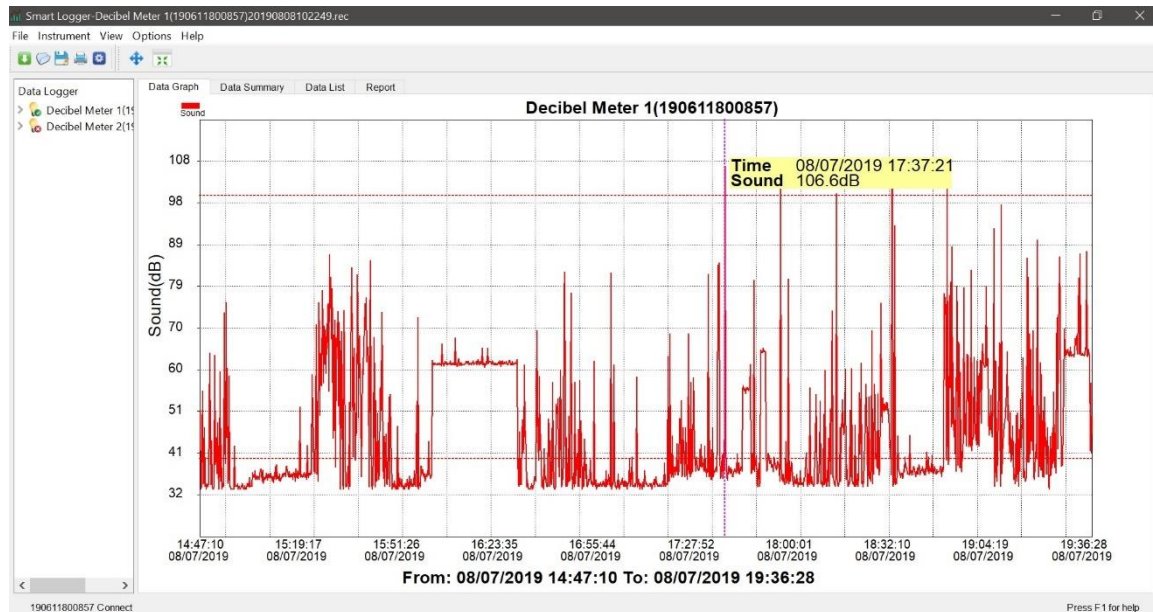
Click on the "View" button to display the downloaded data in a graph (see next section for details).

Or click on "Cancel" to return to the main window. The downloaded data will still be saved as \*.rec file. The name of the file will automatically be generated from the date and time of the data download. It will be placed in a folder with the name of your device.

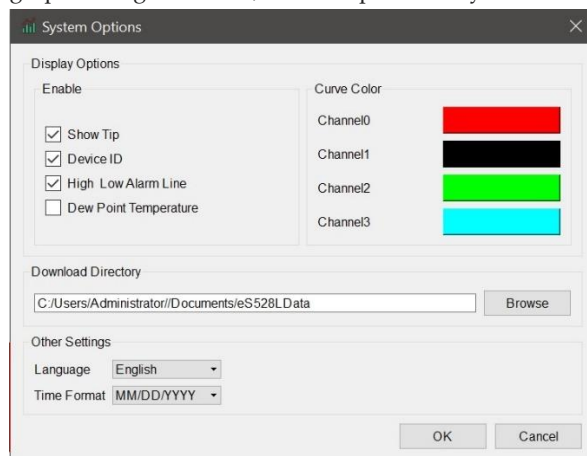


## 6. Data Graph

The data graph displays the downloaded sound level data (decibels) over time.



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".

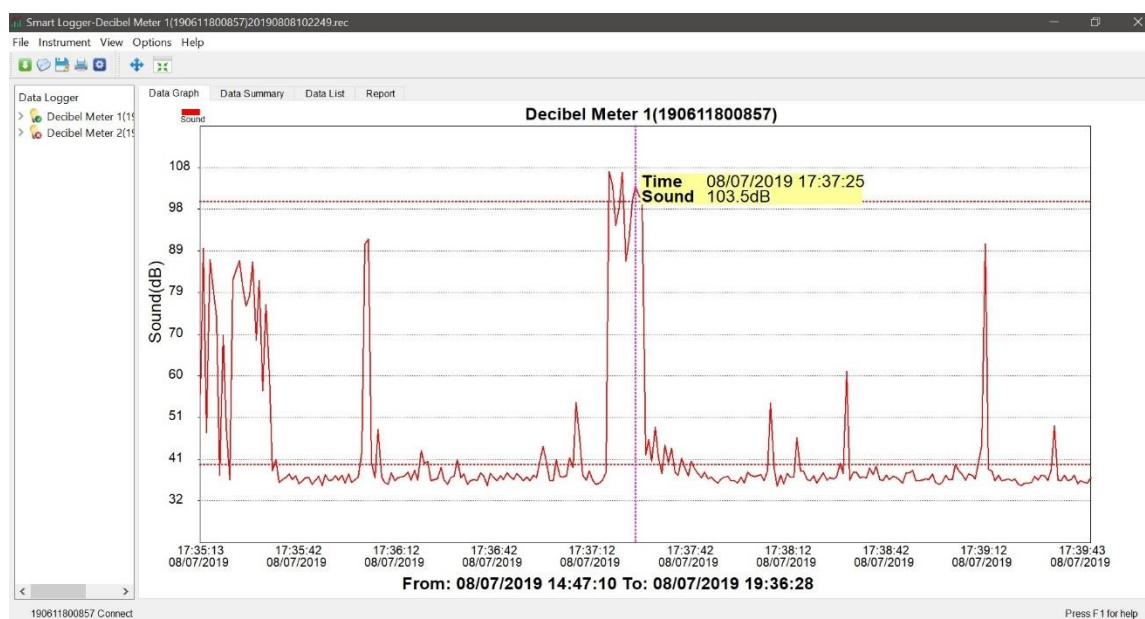


Check the box "Show Tip" to see numeric data as you hover the cursor over a point on the graph. Enable "High Low Alarm Line" to show the high and low alarm levels that you specified at setup as dotted horizontal lines. You can also change the color of the data curve. The eS528L only has one channel (Channel 0). Ignore the "Dew Point Temperature" checkbox, this option is not used for this device.

Using the same dialog, you can also change the directory the downloaded files are stored in, or change the language and time format.

You can also customize the chart window. To change the background color from white to black, choose menu item "View" -> "Background" -> "Black". To turn on a grid for the X and Y axes, select "View" -> "Grid" -> "X-axis" and/or "View" -> "Grid" -> "Y-axis".

To zoom into a section of the graph, click on the blue crosshair icon in the toolbar, or select menu item "View" -> "Zoom". Then use the mouse wheel to zoom in or out. After zooming in, you can pan the graph by pressing the left mouse button and dragging the graph window to the left or right.



To reset the graph to its fully zoomed-out state, select "View" -> "Reset Chart".

## 7. Data Summary

The "Data Summary" tab provides a quick overview of the collected data record, including the number of records (data points), start and end time, maximum, minimum and average values, and the difference between maximum and minimum.

Smart Logger-Decibel Meter 1(190611800857)20190808102249.rec

File Instrument View Options Help

Data Graph Data Summary Data List Report

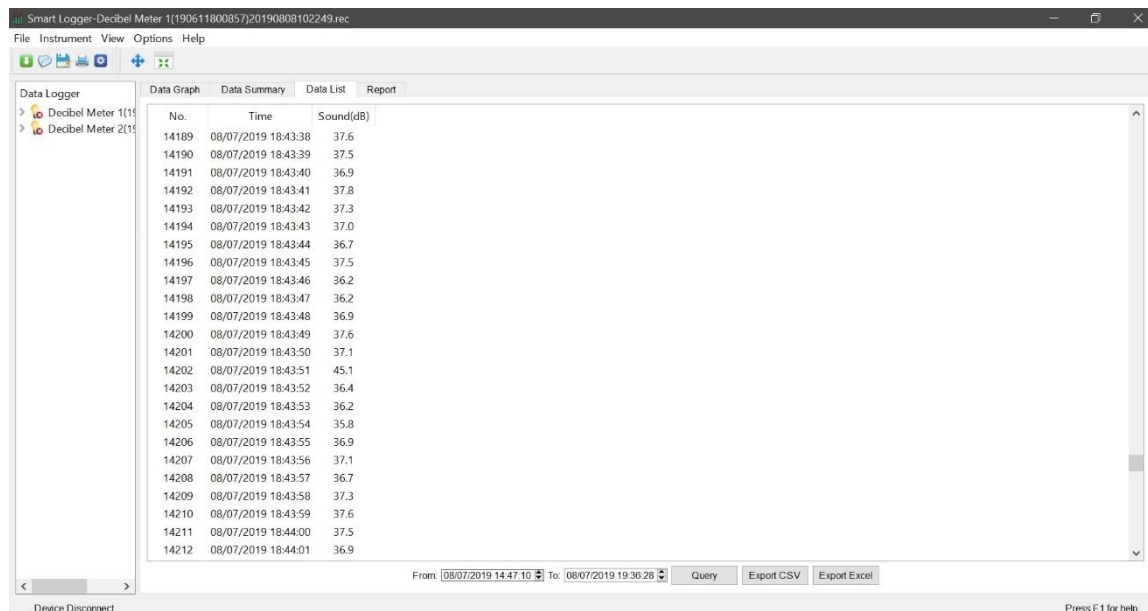
Decibel Meter 1(190611800857)20190808102249.rec

Total Record: 17359 Start Time: 08/07/2019 14:47:10 End Time: 08/07/2019 19:36:28

Channel	Name	Unit	Maximum Value	Maximum Value Time	Minimum Value	Minimum Value Time	Average	Difference
Channel0	Sound	dB	107.4	08/07/2019 17:55:17	32.2	08/07/2019 14:58:06	45.5	75.2

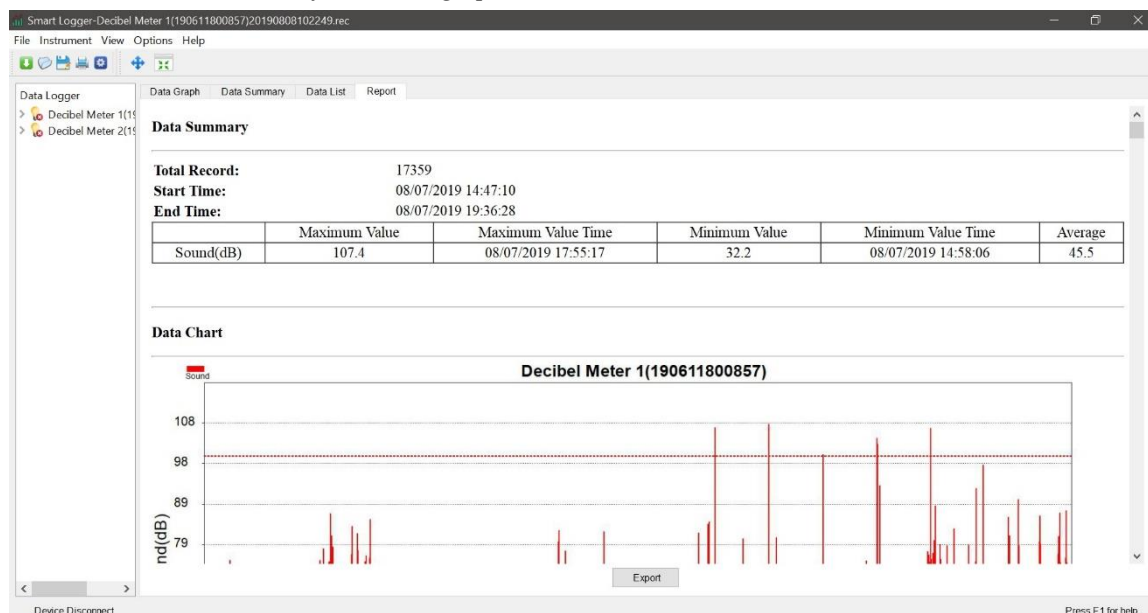
## 8. Data List

The "Data List" tab displays the downloaded data in a table. You can select a time range to display only a portion of the data, and also export the data to a CSV or Excel file.



## 9. Report

The "Report" tab generates a summary of the downloaded data that can be exported as a pdf file. It includes device information, summary data, data graph, and a table of all numeric data.

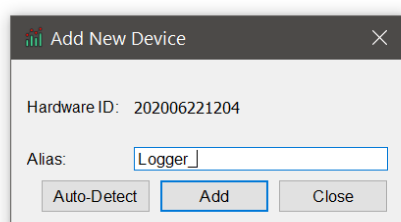
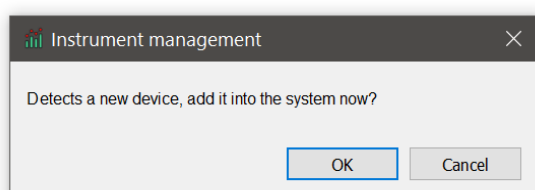


## 10. Troubleshooting and FAQs

---

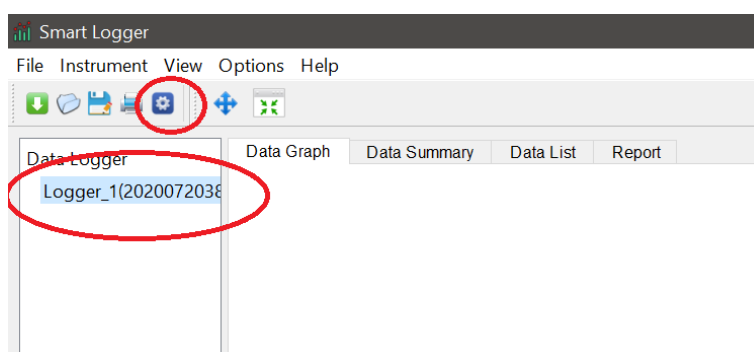
**Q: I'm having trouble with the setup step. When I click "Setup" a prompt pops up that says "Setting failed, please try again!" I tried again several times, but the setup procedure keeps failing.**

**A:** In this case, the software is not able to communicate with the sound level meter through the USB port. First, we have to make sure the software has detected the sound level meter and added it to its list of known devices. Launch the software first, without the meter connected to the USB port. After the software is running, connect the meter. A few seconds later, the software should pop up with a message saying that it detected a new device, click "OK", give it a name, and click "Add":



If you don't see it pop up with this message, disconnect and reconnect the device from the USB port again, or disconnect, close and restart the software and then plug in the device again. It should detect that a device was plugged in and then let you add it.

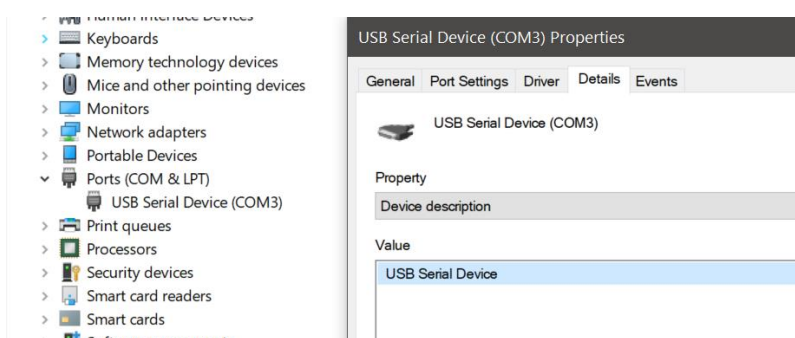
Now the device shows up in the window on the left, under "Data Logger". Before you click the "Device Settings" button, **you must click on the device name to highlight it**. This is a step that is not intuitive, especially when the list of devices contains only one device, your sound level meter. After you click on the device name to highlight it (see screenshot below), start the setup as you did before by clicking the setup icon (the blue and white gear wheel):



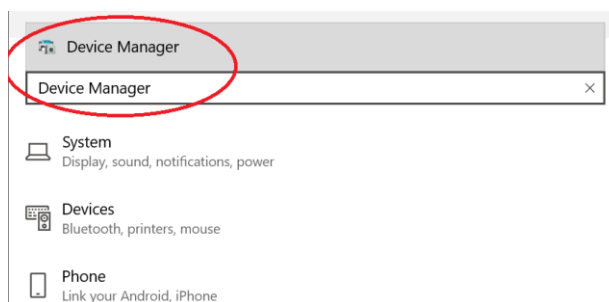
If you still get the Setting Failed message, **try a different USB port**. On some computers, only the USB port that you initially plugged the device into works, and it has trouble connecting to it when a different port is used. But usually this should not be an issue. If no USB port works, check if the USB driver was installed correctly (see the next FAQ).

**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.):



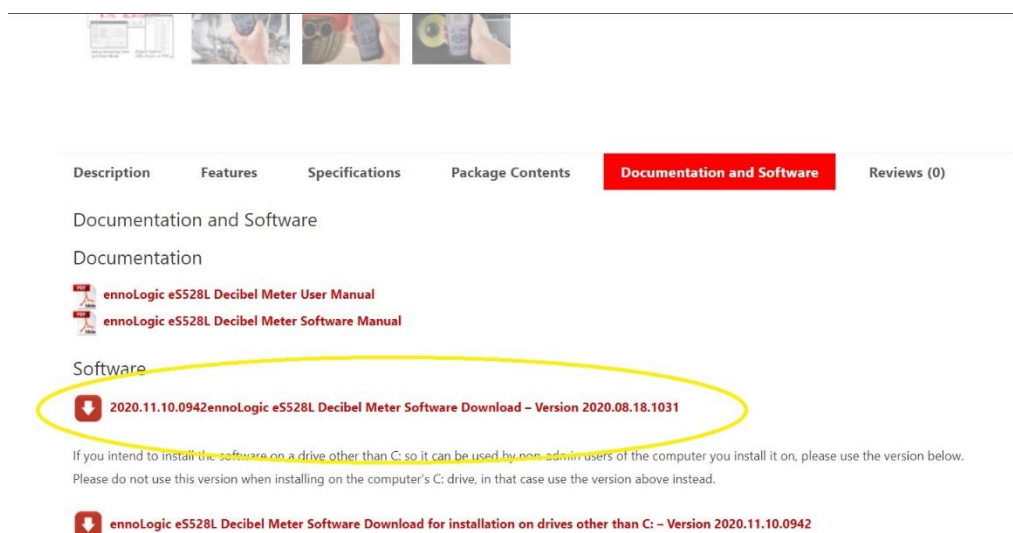
If you see an exclamation mark next to the device entry under “Ports”, then the driver has not been installed correctly. Try installing it manually by right-clicking on the device name inside Device Manager and selecting “Update driver” in the popup menu. Then browse and select C:\Windows\System32\drivers\usbser.sys 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](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](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: I'm struggling with the software. Everything looks right with the Data Graph, Data Summary, and Data List, but the Report tab is empty.**

**A:** This may be the result of an issue we had with software version 2020.11.10.0942. Please uninstall this version, reboot your computer, and install version 2020.08.18.1031 which is available [on our website](#) (see screenshot below).



**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 dialogue box 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%.

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

- A:**
1. Make sure the data logger name is highlighted in the device list on the left before pressing the Download button.
  2. Make sure the data logger is turned on.
  3. 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.
  4. Try using the same USB port that you used when setting up the data logger for the first time.
  5. If you installed the software on your C: drive, make sure the version is the latest version of the main release (currently Version 2020.08.18.1031)
  6. 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.
  7. Uninstall the software, reboot your computer and reinstall it.