

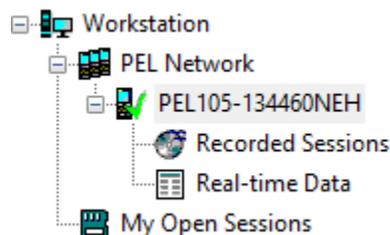
## Upgrading Firmware on PEL<sup>®</sup> Instruments

The firmware for the PEL series of power and energy loggers (PEL 102, 103, and 105) controls the features and functionality of each instrument model. AEMC provides firmware updates free of charge to download through our DataView PEL Control Panel software. The procedure for updating PEL firmware has been significantly upgraded, to provide a more streamlined user experience. The process of opening the AEMC Download web page, navigating to the PEL firmware downloads, checking the firmware revision number and comparing it to the version running on your instrument, and other tasks has been fully automated.

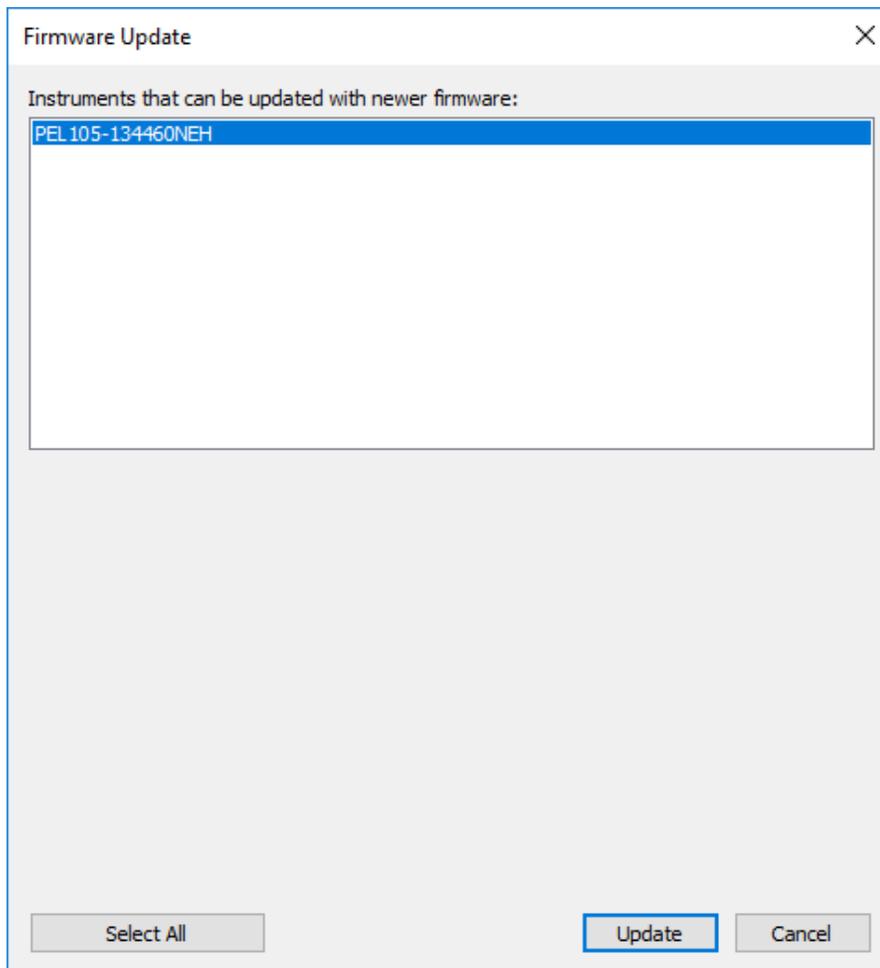
This short article explains the PEL firmware upgrade process. Before you begin, note that updating the firmware could reset the configuration and cause loss of stored data. As a best practice, we suggest you save the data to a computer before updating. Also ensure that an active recording is not running on the instrument.

To update the firmware, your computer must be running DataView with the PEL Control Panel (V2.2.9665 or later). In addition, the Control Panel option “Check automatically for new firmware for connected instruments upon start of program” must be selected, as it is by default. Then proceed as follows:

1. Power ON the instrument using external power, to ensure the instrument remains ON throughout the update procedure. Also ensure that the battery is at least 50% (and ideally fully) charged. **Do not perform an update with the instrument running on battery power, or with low battery charge. If the instrument turns OFF while firmware updating is in progress, it could become inoperative and require you to send it back to AEMC for repair. External power with a sufficiently charged battery for backup helps minimize the risk of power interruptions during updating.**
2. Connect the PEL instrument to the computer:
  - PEL 102/103: Connect via the provided USB cable
  - PEL 105: Connect via any supported connection type other than Bluetooth or IRD
3. Launch the DataView PEL Control Panel.
4. Ensure the instrument is listed in the PEL Network navigation tree. If it is, skip this step and go to step 5 below. If not, click **Instrument** in the menu bar and select **Add an Instrument**, then connect the instrument using the Add an Instrument Wizard. (Press F1 if you need assistance.)
5. Ensure the instrument is listed with a green check next to its name, indicating it is connected. If not, select the instrument and click **Instrument > Reconnect Instrument**.

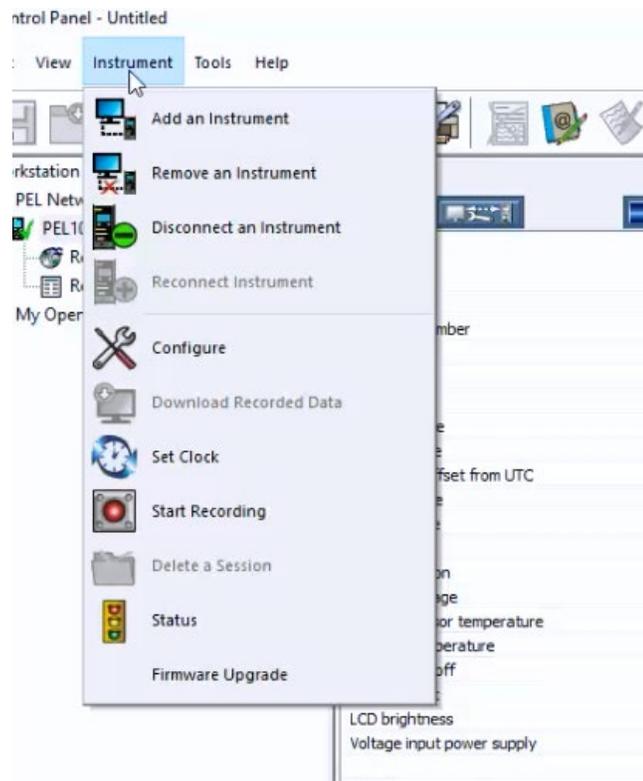


6. By default, the PEL Control Panel automatically checks the connected instrument's firmware. If it is out of date, the Firmware Update dialog box appears, listing the instrument and any others running out-of-date firmware.



Click **Update** (or **Select All** to update multiple instruments). This displays the Firmware Upgrade dialog box listing the latest firmware revisions for the PEL DSP and microprocessor; proceed as instructed in Step 7 below.

If the PEL Control Panel option “Check automatically for new firmware for connected instruments upon start of program” has been previously de-selected, the automatic firmware check does not occur. In this case, click **Instrument** in the menu bar. This includes the option **Firmware Upgrade**.



If the selected instrument is running the latest firmware, this option is grayed out and inactive. If the instrument is not running the latest firmware, click **Firmware Upgrade** to display the **Firmware Upgrade** dialog box.

7. Click the **Start** button to begin the update. During this process, status bars display the progress of the DSP and microprocessor firmware updates. (Note that if only one of these requires updating, only its status bar appears.)
8. When the firmware update is complete, click the **Close** button to exit.