

# Power & Energy Loggers

## Models PEL 102 & PEL 103

(Battery for Cat. #'s 2137.51, 2137.52, 2137.61, 2137.62)

The **Power & Energy Loggers PEL 102/103** include an 8.4 V NiMH battery pack (Cat. #2137.81) for backup power. This battery can be replaced by the user. The battery should need to be replaced approximately every three to four years.



This battery is available for purchase directly on our storefront at: [www.aemc.com/store](http://www.aemc.com/store)



## **IMPORTANT WARNING!**



**The PEL battery replacement must be performed carefully and in strict accordance with the procedure described in this manual. Any deviation from the procedure could result in damage to the instrument and may void your warranty.**

***If you are unsure about performing this procedure, return the PEL to AEMC® Instruments for a factory battery replacement.***

### **Before You Begin**

To replace the battery in the PEL, you will need the following:

- ◆ A clean work surface free of debris, water, and other possible contaminants. This surface should be well-lighted and provide sufficient room to perform the steps below.
- ◆ 8.4 V NiHM battery pack.
- ◆ Torx T10 screwdriver (Torx-type screwdrivers are also known as “star” screwdrivers).
- ◆ Tape (masking, electrical, etc.)
- ◆ (Optional) A small, non-conducting implement, such as a drink stirring stick or toothpick.

Before starting this procedure, we recommend that you view the instructional video *AEMC® - PEL 102 103 Battery Replacement* on our [AEMC Instruments YouTube channel](#).

**Please note that the battery pack shown in the following illustrations may differ in color from your battery. However, the steps in the procedure are identical.**

## Battery Replacement Procedure

To replace the battery in the PEL 102/103, disconnect the instrument from all electrical sources and sensor probes. Then follow these steps:

1. Apply tape to the control buttons on the PEL front panel (see Figure 1). This tape will ensure that the buttons remain in place when you remove the PEL's front cover from the back cover.
2. Tape the PEL's endplates to the back cover (see Figure 2). This helps to ensure that the endplates remain attached to the back cover when you remove the front cover.



*Figure 1*



*Figure 2*

3. Turn the PEL over, and locate the six fastening screws on the back of the instrument.



Figure 3

4. Use a Torx T10 screwdriver to remove these fastening screws.
5. Carefully separate the front cover of the PEL from the back cover. Typically, the two covers fit together tightly, so it may be difficult to separate them at first.

One way to do this is to turn the instrument on its side, as shown in Figure 4, and then carefully separate each corner in turn starting with the bottom right corner. With your fingers on the bottom endplate, pull the covers apart while ensuring that the endplate remains attached to the back cover.

**CAUTION: Do not allow either the top or bottom endplate to separate from the back cover. This may cause damage to the input and connection terminals that would require the PEL to be sent to AEMC® Instruments for repair.**



*Figure 4*

6. With the front cover removed, locate the battery pack.

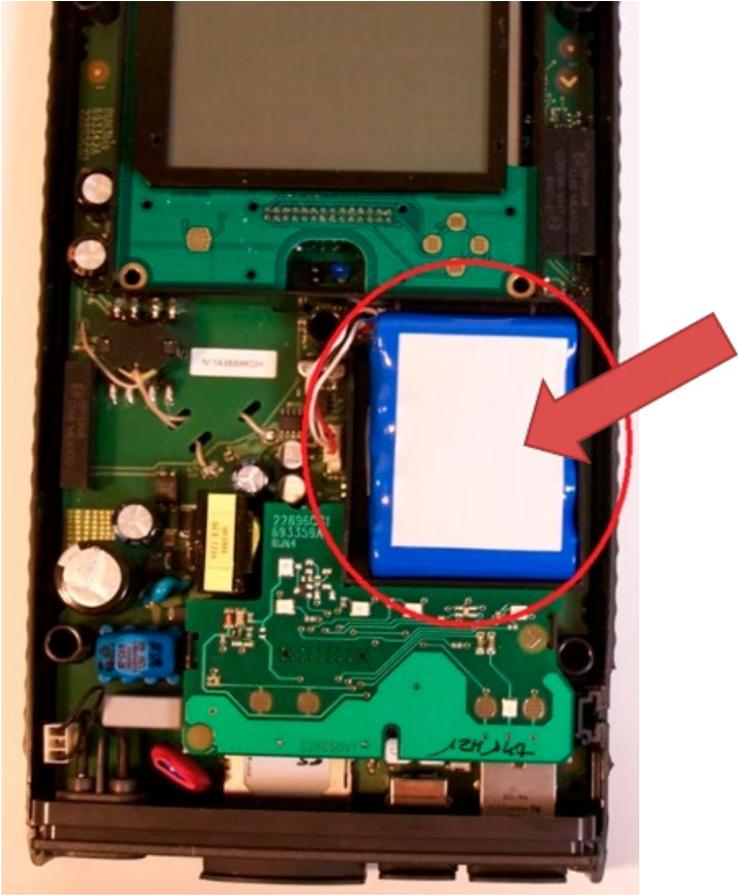
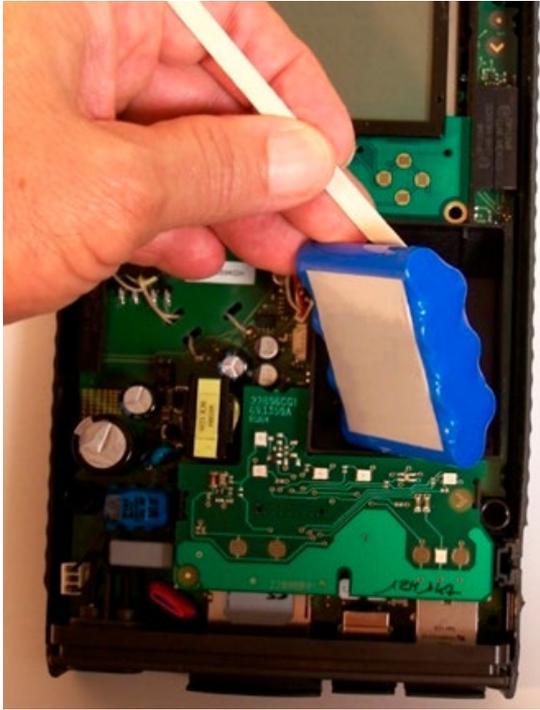


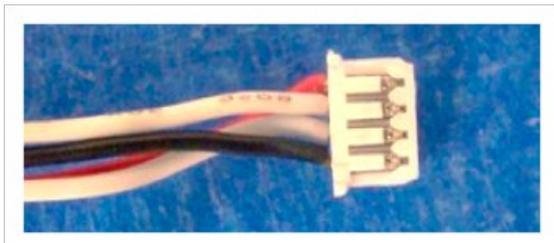
Figure 5

7. Gently remove and unplug the battery from the PEL. A small non-conductive implement such as a drink stirring stick (shown below) can be useful for this step.



*Figure 6*

8. Inspect the plug of the replacement battery back, and note the position of the connector pins.



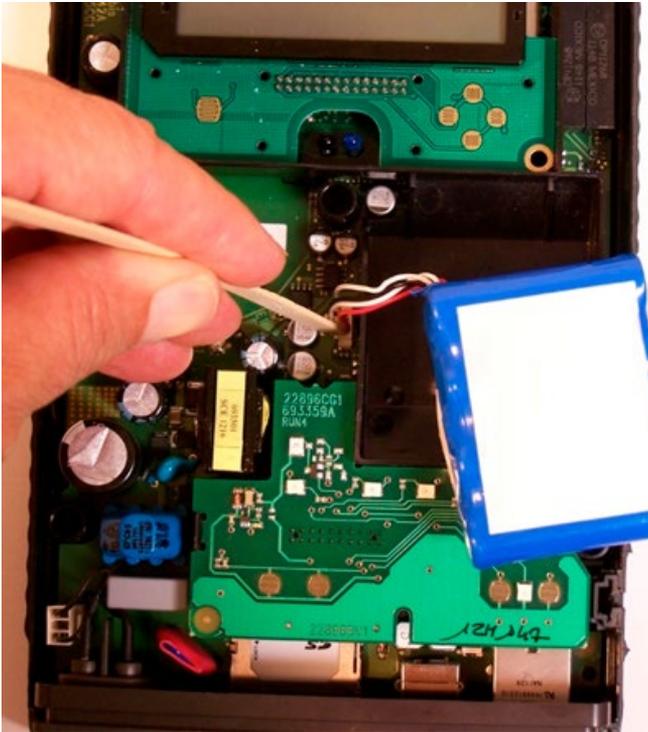
*Figure 7*

9. Position the plug with the connector pins facing away from the battery pack compartment. In the illustration below, the pins are facing towards the left. Then, very carefully insert the plug by gently pushing it into the socket within the PEL. There is very little room for this procedure, so a non-conducting implement, such as a stirring stick or toothpick, may be helpful in ensuring the plug is securely inserted.



**WARNING! The PEL instrument will likely turn on when you plug in the connector. Please ensure that you do not touch exposed circuitry as it is now energized and can pose a shock or damage hazard.**

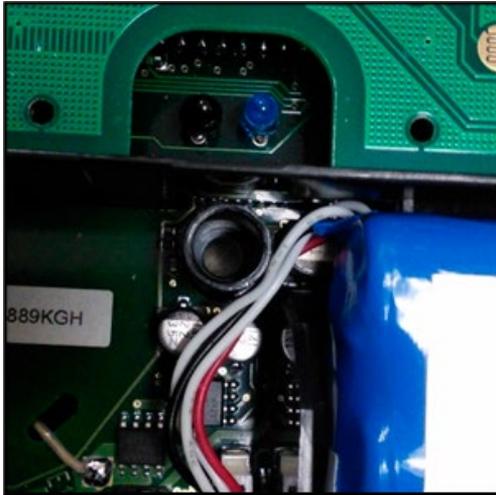
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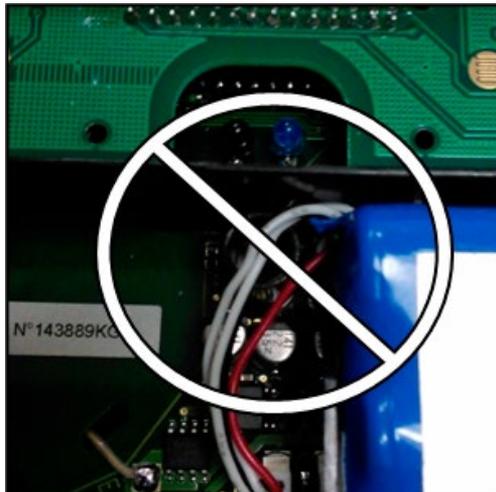
*Figure 8*

- Place the replacement battery into the compartment provided for it within the PEL. When doing this, ensure that the battery's connector wires are positioned as shown in Figure 9 below.

**Be sure that the wires do not cross over the top of the post as shown in Figure 10 below. If the wires are placed over the post, the wires will likely be damaged when you replace the PEL top cover.**



*Figure 9*



*Figure 10*

11. Replace the front cover while carefully ensuring that it is securely in place.
12. Turn the PEL over, and replace the six fastening screws removed in Step 3 of this procedure.
13. Remove the tape applied to the front cover and endplates at the beginning of this procedure. The PEL is now ready for operation.

**NOTES:**

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