Read SD Card Feature for PowerPad® III Instruments

By Bob Cooperman

Example shown - PowerPad® Model 8336

The AEMC® PowerPad® III series includes the Model 8333, Model 8336, and Model 8435. These portable three-phase power quality analyzers are designed to measure RMS, many different types of power and power quality, and disturbances on electric distribution networks. Recorded measurement trend data is stored in the instrument's removable 2GB SD card.

Until recently, the only way to transfer this data to a computer has been to connect the instrument via the USB cable supplied with the product, and then download the data using DataView® with the PowerPad® III Control Panel. This process can take around 20 hours to complete for very large amounts of data.

The new Read SD Card feature in the PowerPad® III Control Panel now streamlines this process. For PowerPad® III instruments (except for the waterproof Model 8435, for which the SD card is not accessible) running firmware version 4.1 or later, the Read SD Card option in the Control Panel's File menu lets you download the contents of the SD card directly into your computer.

Note that the SD card contains trend recorded measurement data only. Snapshot, transient, alarm, and inrush data is stored in the instrument's internal Flash memory, and must still be downloaded via the PowerPad® III Control Panel and a USB connection.

This article describes the basic steps required to use the Read SD Card feature, including:

1. Remove the SD card from the instrument.
2. Insert the SD card into your computer, and download the contents using the PowerPad® III Control Panel.
3. Replace the SD card in the instrument.

> ℹ️ **NOTE: This procedure does not apply to the waterproof Model 8435. Removing the SD card from the Model 8435 requires sending the instrument to AEMC® or an authorized repair facility.**

Before You Begin

To use the SD Card feature, your computer must be equipped with an SD card reader. It must also have DataView® with the PowerPad® III Control Panel installed.

You will also need the following to remove the SD card from the instrument:

- Clean, dry, and well-lighted work surface.
- Coin or similar implement.
- Flathead screwdriver.

Before opening the back cover, your PowerPad® III instrument must be powered OFF, with all probes, sensors, and the power cord disconnected. This is important, to prevent the risk of electric shock when opening the battery compartment.

Step 1: Removing the SD Card from the Instrument

Place the instrument face down on your work surface. Put the instrument's stand in the upright position, with the stand's pivoting brace supported by the two tabs on the back of the instrument (see the arrow in the illustration below). This ensures that the brace does not interfere with the removal of the battery compartment cover.

Locate the two fasteners on the battery compartment cover. Using a coin or similar implement, turn each fastener 90° counterclockwise (the fastener slot will now be in the horizontal position).

Using a flat screwdriver or equivalent, gently remove the cover from the compartment, taking care not to damage the plastic cover holder.

Turn the instrument over and hold the battery as it slides out of its compartment. Position the battery out of the way, but do not unplug it.
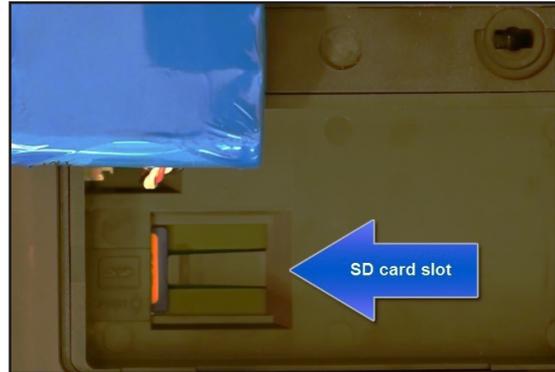
Locate the SD card slot. The card is held in place by a flexible tab. While holding this tab down, gently push the card to the left and release it. This spring-releases the card from its slot.

Remove the SD card, and locate the write-prevention slider on the left edge of the card. When the card is first removed from the instrument, it is in the unlocked position (the slider is positioned towards the card's metal pins). To prevent the card from accidently being overwritten during the download procedure, you must move the slider to the LOCK position (see below). The LOCK direction is away from the metal tabs on the SD card.

Step 2: Downloading the SD Card Data to the Computer

Insert the card into an available SD card reader slot on your computer. After a few moments, a prompt appears asking whether or not you want to format the SD card. The prompt should include the drive letter; make note of this drive letter. **Click Cancel in response to this prompt. If you format the card, you will lose all data stored on it.**

Open the PowerPad® III Control Panel. In the menu bar at the top of the screen select File, and then click the option Read SD Card. This displays the Read from SD Card dialog box.
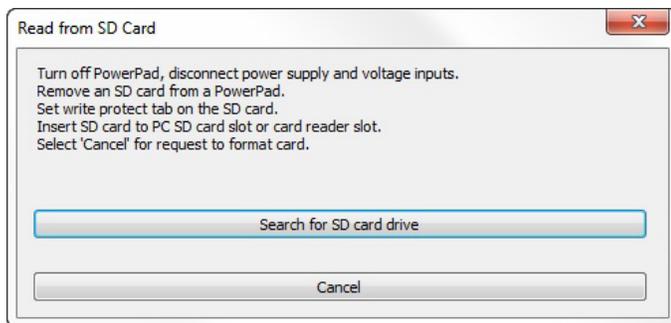
Click "Search for SD card drive." The Control Panel searches the computer for any available SD cards, and displays a drop-down list of any card(s) it finds.
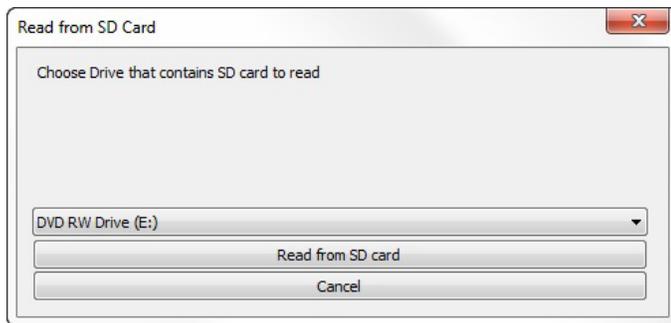
Select the SD card, and click "Read from SD card." It should be the same drive letter that appeared in the "format" prompt earlier. The Control Panel copies the contents of the SD card into a Control Panel (.icp) file, and opens the file in the My Campaigns folder.

If the SD card data includes an EN 50160 test, you are now asked whether or not you want to download the complete test. If you answer yes, the next time the Control Panel is connected to the same instrument; it will download the part of the EN 50160 test data that is not on the SD card, and combine it with the part that is on the SD card. If you answer no, it will open the recording as if it were a simple trend, without the rest of the EN 50160 test data.

Step 3: Replacing the SD Card

Remove the card from the computer. There is no need to use the Windows eject feature or the "safely remove hardware" command before doing so. Move the card's write protection slider back to the unlocked position (towards the metal tabs). Then slide the card back into its slot until it clicks and locks in place.

Replace the battery in the compartment, and replace the compartment cover. Be sure the two tabs on the bottom of the cover are properly aligned in the slots on the back of the instrument. Turn the cover fasteners 90° clockwise into the closed (vertical) position. Finally, close the instrument's stand.

To ensure the SD card and/or battery have been replaced properly; press the instrument's Power button. If the instrument does not turn ON, open the battery compartment and ensure the battery is properly connected.

With the instrument ON, press the Record button.

- If the message "No Memory Card Installed" appears, the SD card may not be properly connected in its slot. Turn OFF the instrument, open the battery compartment, and ensure the SD card is properly seated and the spring lock clicks in place.

If the message "Protected Memory Card" appears, the write-protection slider is in the LOCK position. Remove the card and position the slider in the unlocked position.

About the Author:

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