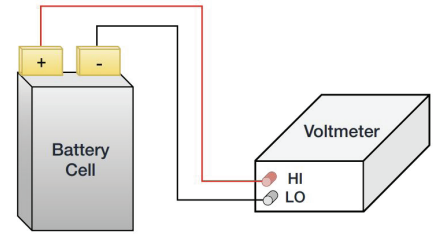


TEK MEASURE MINUTE

Making an Open Circuit Voltage (OCV) Measurement



What is an OCV Measurement?

Open Circuit Voltage (OCV) is the voltage of a battery when no other load is connected. It measures the potential difference between two electrodes, which is a direct result of the battery's chemistry and an indicator of the state of charge (SOC) or how much energy is stored in the battery.



What is OCV Used For?

OCV is used for modeling the capacity of the battery. Measuring the self-discharge enables us to determine the quality of the battery.



Choose Your Instrument

To make accurate, repeatable measurements and view changes in OCV over time, use a 7.5 digit DMM with no less than 14 PPM on a 10 V range.

TEKTRONIX
RECOMMENDS:
DMM7510 Digital
Multimeter



Stay Safe

Prevent shorts between the battery terminals. Ensure cables, connectors and any PPE gear are properly rated if measuring packs that might expose you to high current or high voltage. Consider using fusing.

Making the Measurement

1

Set the Digital Multimeter (DMM) to DC voltage and continuous mode to see voltage readings on the screen.



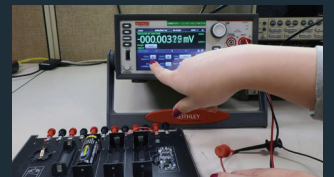
2

Short the two terminals of the DMM together.



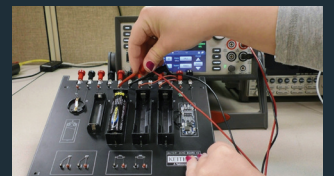
3

Enable the REL function to eliminate offsets from the system, for greater accuracy.



4

Connect the DMM terminals to the battery terminals.



5

The battery open circuit voltage is displayed on the screen. This value depends on the state of charge and chemistry of the battery.



For a fully charged 18650 Lithium Ion Cell, the open circuit voltage will be around 3.7 V.