Dynamic Cut-off in the Inverter VE.Direct

This manual applies to the Inverters with a VE.Direct port. More information on the product page on www.victronenergy.com.

- Dynamic Cut-off feature is disabled by default
- Use VictronConnect to enable and configure Dynamic Cut-off
- The default cut-off voltages are the same as used in our ESS Systems
- Do not use Dynamic Cut-off in an installation that also has other loads connected to the same battery: the battery voltage will drop because of the extra load, but the Dynamic Cut-off algorithm in the Inverter is not aware of that load: hence the Inverter will shut down too early with an under voltage alarm.

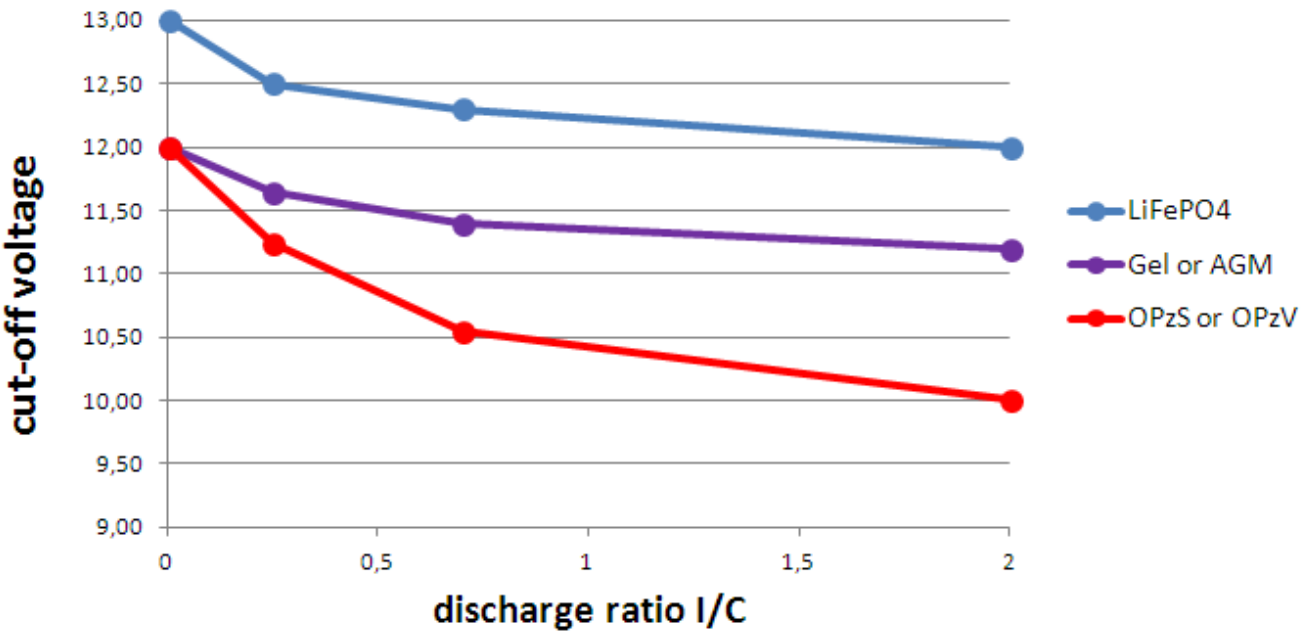
Details

Dynamic Cut-off makes the dc-low-disconnect level a function of the battery current drawn from the battery. When a high current is being drawn from the battery, a lower DC cut-off voltage threshold is being used, for example 10 V. And similarly, when the battery is only being discharged slowly, a high DC cut-off voltage is used, for example 11.5 V.

This way, voltage drop caused by the internal resistance in the battery is compensated. Making battery voltage a much more reliable parameter to stop discharging when a battery is empty.

Note that dynamic cut-off is most useful for batteries with a high internal resistance. For example OPzV and OPzS. And it is less relevant, one could even say irrelevant, for LiFePO4 batteries. See also below graph, where the LiFePO4 curve is nearly flat.

The picture below shows the default 'Discharge' vs. 'DC input low shut-down voltage' curve for the different battery types. The curve can be adjusted in the assistant.



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