Victron & Redflow ZCell

https://www.zcell.com/

Technical details here:
https://faq.zcell.com/content/1/11/en-us/what-are-the-technical-specifications-of-a-zcell-battery.html

Note that the ZCell branded product bundle (Redflow ZBM2 battery inside an external-rated enclosure) has initially been launched in Australia.

However, the underlying Redflow ZBM2 battery and the Redflow BMS unit (branded ZCell but working with all ZBM2 batteries) is available worldwide already.

Compatible Victron products

- All 48V Multis and Quattros.
- All 48V solar chargers
- Adding a Color Control GX is recommended but not required

Charge profile

1. Charge voltage 57.6V (up to 50 Amps per battery, and current per battery self-limits if you limit the voltage)
2. Linear charge all the way from empty to full (all charge phases are the same - same ‘flat’ voltage).
3. No need for any sort of battery ‘conditioning’ cycling at all

Charger settings:

1. Set both absorption and float voltage to 57.6V
2. disable storage mode.
3. absorption time and bulk protection are not relevant / not required
4. using Assistants, such as the ESS Assistant, is possible but not required.

Tricks and traps:

- The Redflow ZCell battery is designed to be charged up to 100% SOC and discharged right down to 0% SOC
- The default cutoff voltage in the battery is 36V. So you can configure the disconnect voltage on a Multi or Quattro right down to the minimum allowed to get all the energy out of each cycle
- There are some assistants that will stop operating a long way above 0% SOC to 'protect' the battery
- These 'protections' can and should be disabled for the ZCell to get the most out of it. For instance:
    - If you use Hub-4, turn off the 'Battery Life' flag under Settings→Wired AC Sensor→Grid Meter or Hub-4 will stop with lots of energy left still in the battery
    - If you use Hub-3, use 'custom' configuration when setting it up, and change the SOC cutoff limits to 1% and 2% (very low) otherwise (again) the defaults (much higher SOC

stop values) will stop Hub-3 from using a large amount of the battery energy that could otherwise be accessed

Color Control GX Interface

The Redflow ZCell BMS supports the same canbus protocol connection to the Color Control GX that is used with many Lithium Battery BMS systems.

So the best and most effective way to interface from a Redflow battery system to the CCGX is to use a canbus connection on the ZCell BMS and to follow the same Color Control GX canbus interface procedure used for any other CAN-bus BMS based battery system.

Alternatively, you can follow this procedure on the ZCell website to update the SOC on the Color Control GX using MODBUS-TCP over ethernet.

Also see this other FAQ item on the ZCell website:
https://faq.zcell.com/content/10/54/en-us/automatic-start-for-a-multiplus-connected-to-a-powered_down-ccgx.html

Disqus

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