Deye and Red Pole Vital Battery Range - Install Guide

General information about the Red Pole Energy Vital battery range can be found in Red Pole Energy's supplied documentation.

This manual is intended to be used in conjunction with the product manual supplied by Red Pole Energy. It provides additional and specific information regarding integration with Deye inverters.

Red Pole Energy Vital 5 Lithium batteries are fully compatible with Deye. The Red Pole batteries' include a Battery Management System (BMS) with each battery module which interfaces directly with DEYE inverters to set up charging parameters and communicate the battery's state of charge.

The following field guide will assist with the correct battery settings and cable connections you should use. Please also ensure that you have read the installation manual of the Vital 5 battery.

1. Connect the Red Pole Energy Battery

If you are using multiple Vital-5 batteries, then link up all your extra batteries as per the Vital 5 user manual and the batteries will set the addresses between themselves automatically. The first or master battery is the one that will connect to and communicate with the inverter.

The battery should be connected to your Deye inverter using the communications cable supplied with the battery. The cable supplied is a straight cable, that means the two ends of the cable are identical.

The Deye inverter requires pin 4 to be CANH, and ping 5 to be CANL.
Our RP-Vital5 battery requires pin 4 to be CANH, and ping 5 to be CANL.

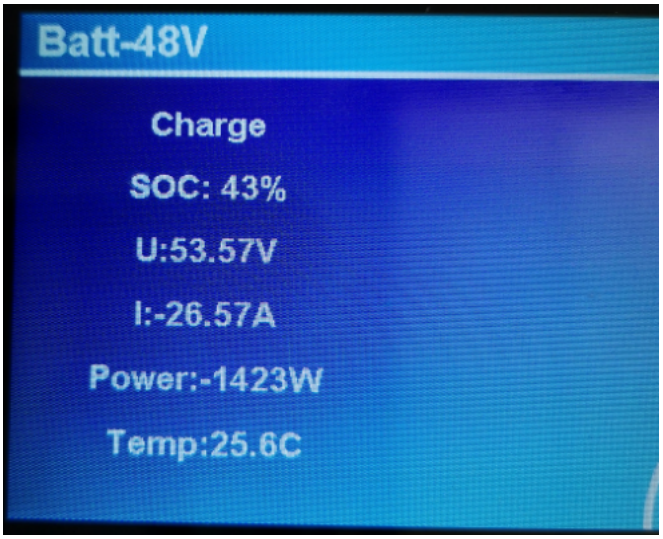
Hence the straight cable works perfectly for CAN communication between the units.

DEYE 5kw installed with 1 x Vital 5 battery

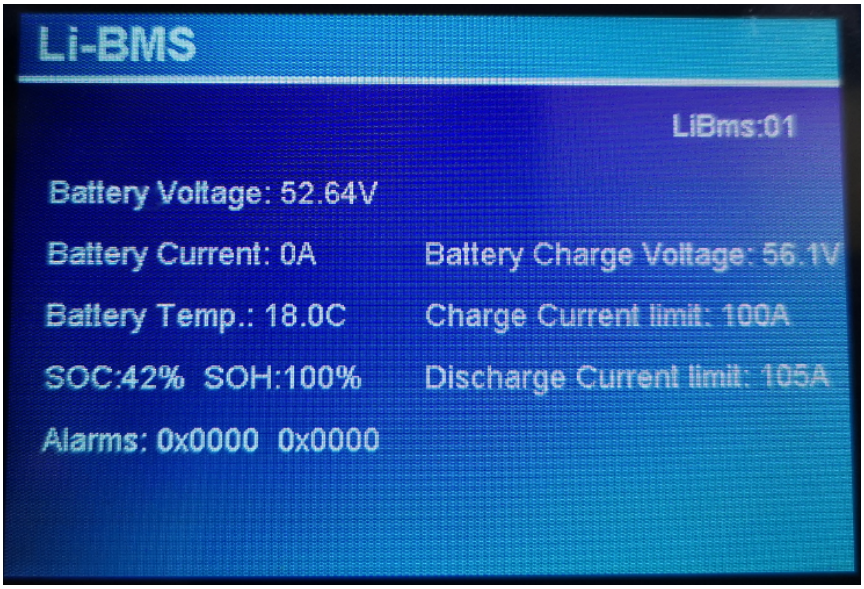
2. Check Communication

On the Deye inverter home screen, check that the SOC indicated seems to match what the main battery is indicating the SOC is, example 60% on LEDs and 60% on the screen.

Click on the battery icon to bring up the battery status screen. Shown below.



Click on the Li-BMS icon to bring up more detailed battery information. Shown below.



Important to check the charge voltage is shown as 56.1v. But in general if this information can be accessed and shown, then communication with the battery is working correctly.

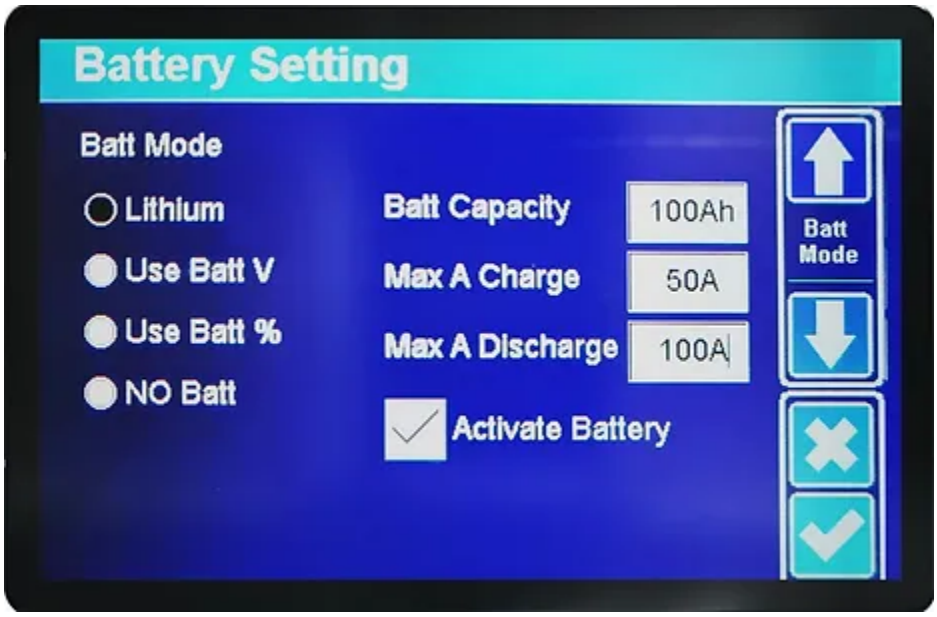
3. Change the Battery Settings

On the Deye inverter, navigate to the Battery Setting screen. The settings as seen on the Deye display below are the recommended settings to use for the Red Pole Energy Vital 5 Lithium battery.

Screen1 : Charge and Discharge Settings

Set the battery type to “Lithium”, check that “Activate” is ticked, check the maximum charge and the maximum discharge settings.

Batt Capacity : #batteries x 100Ah
Max A Charge : #batteries x 1 x 100A (Max is 1C)(Recommended continuous <= 0.5C)
Max A Discharge : #batteries x 1 x 100A (Max is 1C)(Recommended continuous <= 0.5C)



Example Deye Settings (shown for 1 x 5kWh battery)

Screen2 : Low Battery Settings

On the Deye inverter, navigate to the second Battery Settings screen. These settings determine how the inverter should act once the battery is at a low state of charge.

Shutdown : The state of charge % that the inverter should switch off at.

Low Battery : The state of charge % that the inverter should trigger a low battery alarm to indicate that the inverter is close to switching off.

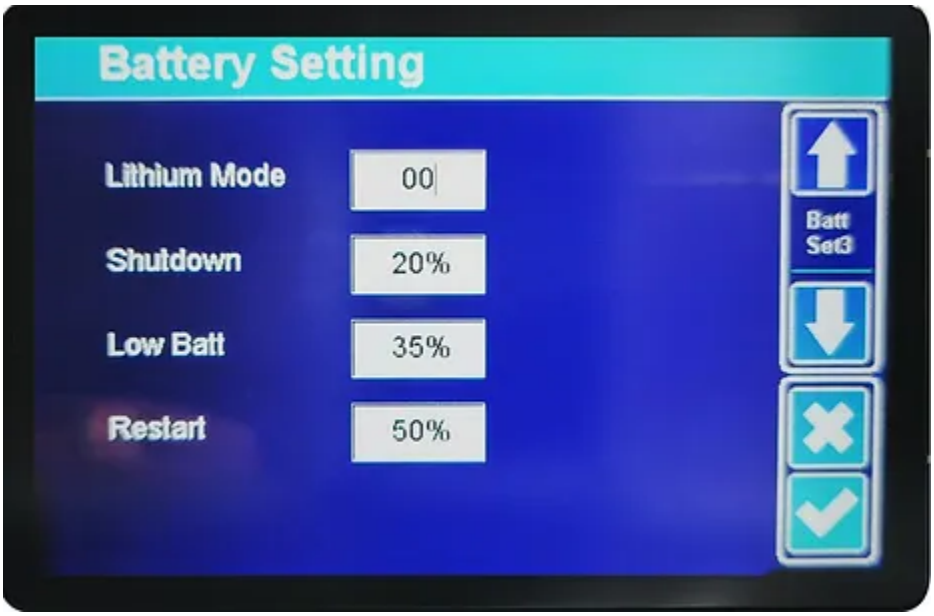
Restart : In the event that the inverter did switch off, but the battery has since been charged from solar or the grid, this is the state of charge % that the inverter should switch on and function normally again.

The exact % chosen here is a matter of preference.

Recommended is to have shutdown set to 20% so the battery does not drain more than 80%.

Recommended low battery alarm level should be 10-15% above the shutdown state of charge.

The recommended state of charge % at which the inverter switches on again should be set 5% to 15% above the low battery alarm level.



Example of low battery settings