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### **WARNING**

All batteries store high current. Be careful not to short across the terminals with anything, including jewellery such as rings, wrist watches, and necklaces, tools etc. You can wrap insulation tape around a ring if you can't remove it, or around the exposed area of a spanner, socket etc.

## What causes your system to shut down

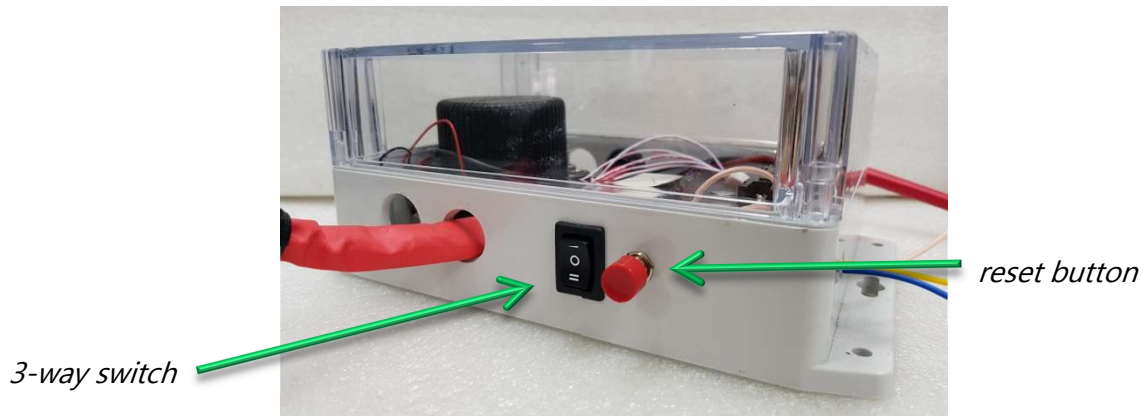
Your T1 Lithium control system is designed to automatically sound an alarm when your battery reaches 20% state of charge. This is a warning only. You can stop the alarm sound by pressing any button on the Victron BMV, but the display screen will continue to flash

If your state of charge drops to 5%, the control system will automatically disconnect your battery from all loads so that the battery no longer discharges. This is so that you don't damage your battery by using all of its capacity. You may, however, damage the contents of your fridge, but we figure this is the less expensive option.

When this shut down has happened, you will need to organise charging for your battery - either by solar, DC to DC or mains – and then you will need to manually reset the system.



## Resetting your system if the battery has been shut down due to low power



### The reset process

If you are using an all-in-one inverter/charger, turn it off for the moment. Inverter/chargers don't like it when the toggle switch is changed. Now follow these steps:

1. Press the red reset button on the T1 Lithium control box.
  - a. If the system comes on and stays on, you can now think about getting some charge into your battery. If you're using an inverter/charger, you can turn it back on.
  - b. If the system doesn't come back on:
2. Put the toggle switch in position II and then press the red reset button again.
  - a. If the system comes on and stays on, you can now think about getting some charge into your battery. If you're using an inverter/charger, you can turn it back on.
  - b. If the system doesn't come back on:
3. Check the Victron battery monitor – is the system charging? Scroll through using + or – button to show either watts or amps. Either of these should read a positive number (ie; there's a + sign to the left of the number).
  - a. If the system is not charging, have you got any big loads still turned on (eg; air con, water heater)? This is probably what flattened the battery in the first place. Turn big loads off and ensure the battery is getting charge from either solar or mains charger.
4. If the system is charging, when the SOC returns to above 20% (takes about an hour when charging from mains), move the toggle switch back to the I position and press the red reset button again.
  - a. If the system comes on and stays on, you're done. The system will now recharge, recover and reset itself.

#### **WARNING:**

Whilst the toggle switch is in position II, your battery is NOT protected from over charge. Position II is a temporary setting only!



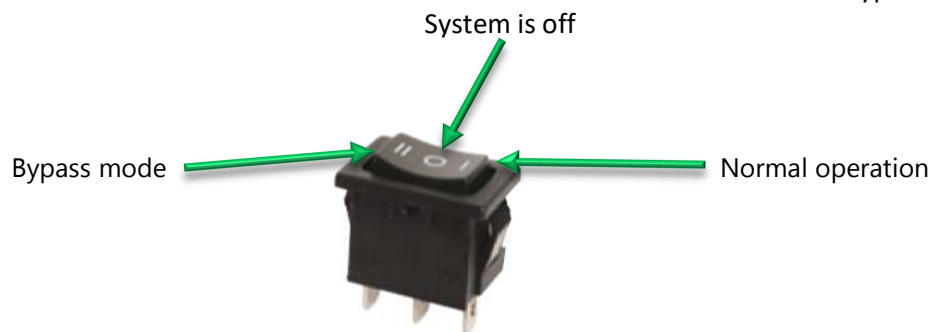
## Resetting your system if the battery has been shut down due to low power

- b. If it doesn't, put toggle switch into position **II** and press the red reset button again. Let the system run for another hour in this condition, repeat from Step 2.
5. Charge the battery until all cells are above 3.5v (use the Junsu logger to gauge this). Do this by allowing the battery to charge through its normal charge cycle, then...
6. ...with the small single cell charger, charge each cell until it's above 3.6V (the charger won't charge over 3.7v) – See T1 Lithium - **Correcting an out of balance cell**

Once all four cells have been brought up to this voltage, the battery is again fully charged and ready for use. The State of Charge (SOC) on the Victron battery monitor is reset to 100% by this process.

### T1 Lithium control box – toggle switch settings

0 = Off  
I = Normal operation  
II = Bypass



#### **REMEMBER:**

Make sure the toggle switch is back on position **II**



All documentation is available on our web site:  
<http://www.t1lithium.com.au/downloads.html>