

# Victron & BMZ ESS 3.0 / ESS 7.0

The combination of Victron products with the BMZ ESS 7.0 battery has been tested and certified by the R&D departments. The combination is actively supported by both companies.

## 1. Introduction

### 1.1 Compatible Victron products

All 48V Multis and Quattros. And always a Color Control GX is necessary in the system, since that has the canbus port which is used for the (required!) communication between the ESS battery and the Victron system.

### 1.2 Notes

- BMZ batteries can only be used in a [Victron ESS installation](#) installation that uses the ESS Assistant.
- Paralleling multiple BMZ ESS batteries to expand capacity is possible. Contact BMZ for more information.
- Derating, based on the dynamic BMZ ESS charge- and discharge limits:
  - Minimum CCGX version is v1.72
  - The derating mechanism is not very precise yet. In other words, do not expect a discharge limit of 30A to result in a precise discharge of 30A.
  - Actual charge- and discharge limits are visible in the Parameters page. See screenshot below in Chapter 4.
- BMZ batteries and MPPT Solar Chargers with a VE.Can communication port cannot be both connected to the CCGX, because of different canbus speeds. Use Solar Chargers with a VE.Direct comm. port instead.

### 1.3 System diagram



## 2. Wiring of communication cables

To use the BMZ ESS in Victron system, it is necessary to use a Color Control GX. The Color Control GX takes care of sending the necessary canbus keep-a-live message to the ESS battery. Without it, the battery will open its internal emergency relay after 10 minutes.

A special RJ-45 cable is necessary to connect the battery to the Color Control GX. Pinout:

Function	VE.Can RJ-45	BMZ ESS RJ-45
GND	Pin 3	Pin 2
CAN-L	Pin 8	Pin 5
CAN-H	Pin 7	Pin 4

Place a VE.Can terminator in the empty socket on the CCGX

## 3. VEConfigure settings

### 3.1 General tab

1. Enabled battery monitor
2. Enter the battery capacity:
  1. BMZ ESS 3.0 - 121.5 Ah
  2. BMZ ESS 7.0 - 121.5 Ah

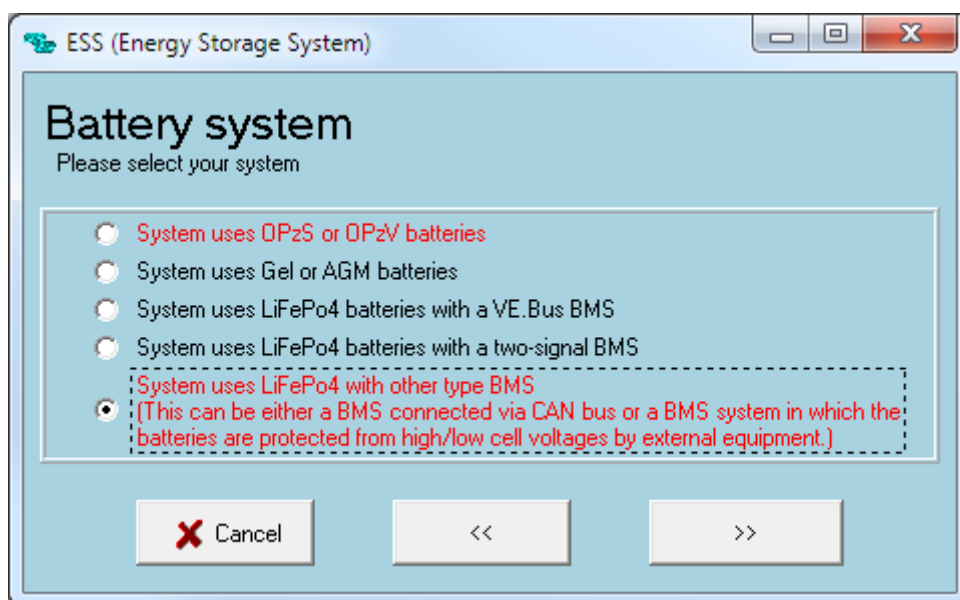
### 3.2 Charger tab

Parameter	Setting
Battery type	Lithium
Charge curve	Fixed
Absorption voltage	60.75 V
Float voltage	60.00 V
Absorption time	1 Hr

Note: make sure to double check the float voltage after completing Assistants, and if necessary set it back to 60.00 V.

### 3.3 ESS Assistant

Select the fourth battery type:



Then:

1. Do not change the dynamic cut-off values, they have already been set correctly after selecting the lithium battery type.
2. Sustain voltage: 50V
3. Same for the restart offset: do not change that.

### 4. Color Control GX Configuration

- Select the *CAN-bus BMS (500 kbits/s)* CAN-profile in the CCGX. Menu path: *Settings* → *Services* → *CAN-profile*. Note that this changes the function of a VE.Can port: it is not possible to connect both VE.Can products and a BMZ battery together.
- After properly wiring and setting up, the BMZ ESS will be visible as a battery in the device list:

Device List		13:34
CAN-bus BMS battery	33% 50.87V 6.9A >	
Quattro 48/5000/70-2x100	Bulk >	
Notifications	>	
Settings	>	

- The parameters option within the battery page shows the actual battery charge and discharge limits:

Parameters		16:15
Max Charge Current	55.0A	
Max Charge Voltage	58.1V	
Battery Low Voltage	--	
Max Discharge Current	16.0A	

## DISQUS

~~DISQUS~~

From:  
<https://www.victronenergy.com/live/> - **Victron Energy**

Permanent link:  
[https://www.victronenergy.com/live/battery\\_compatibility:bmz\\_ess?rev=1503989101](https://www.victronenergy.com/live/battery_compatibility:bmz_ess?rev=1503989101)

Last update: **2017-08-29 08:45**

