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## 1. The configuration

1 x Multiplus 5000-48

1 x Gerbo GX

1 x Current sensor on the Multiplus grid connection

1 x Energy Meter ET112

1 x Temperature sensor

2 x US3000C Pylontech batteries

Running in ESS mode

## 2. The running situation after install with 2 batteries

The consumption without load is between 1.2 and 1.7 Kwh per 24H, which is a lot for nothing.

The voltage battery is at 50.5V. The DMM indicates the same value; this seems low.

The Multiplus 5000W-48V is balancing between « Bulk » and « Absorption ». It never switch to “Float”. This is my concern. I think this is why the consumption is so high.

By the way, the Multiplus is doing a permanent “rumble” noise.

The configuration followed the retailer Oscaro Power recommendations.

The Multiplus is communication via the BUS-Can with the Pylontech BMS battery. It will be interesting to know which charge parameters are negotiated through this channel and thus overriding the manual unnecessary configuration.

I found on a Victron Energy forum that it could be helpful to run the installation on each battery independently.

## 3. The installation is running only with Battery 1

Device List		21:41
Grid meter	65W	>
LMRQ	Ext. control	>
Pylontech battery	100% 52.0V 0.0A	>
Notifications	2	>
Settings		>

LMRQ		21:57
Switch	On	
State	Ext. control	
Input current limit	30.0	
DC Voltage	52.0V	
DC Current	0.0A	
State of charge	100.0%	

The Multiplus oscillate between « Bulk » and « Absorption » and never goes to « Float » mode.  
 The charge voltage is now at 52V in less than 1 hour.  
 The cells are well charged.

#### 4. The installation is running only with Battery 2

Device List		22:08
Grid meter	102W	>
LMRQ	Absorption	>
Pylontech battery	Not Connected	>
Notifications		>

I changed the RJ45 Bus-CAN connection to the battery 2; the battery 1 is now off.

Why is now « Absorption » LMRQ line, it was « Ext. Control » in the previous case?  
 The charge voltage is now at 52V in less than 1 hour.  
 In addition, the Multiplus is on “Float”. Is this magic?  
 The cells are well charged.

## 5. The installation is running again with 2 Batteries

Device List		22:25	
Grid meter	90W	>	
LMRQ	Ext. control	>	
Pylontech battery	100%	51.76V	0.6A >

LMRQ		22:25	
Switch	On		
State	Ext. control		
Input current limit	30.0		
DC Voltage	52.0V		
DC Current	1.0A		
State of charge	100.0%		

		22:27	
Lowest cell voltage	0102	3.440V	
Highest cell voltage	0101	3.458V	
Minimum cell temperature	0102	15°C	
Maximum cell temperature	0101	15°C	
Battery modules	2 online	0 offline	
Nr. of modules blocking charge / discharge	0	0	

Installed / Available capacity

148Ah --

We can see the line LMRQ "Ext. Control"

The 2 batteries are detected.

The charge voltage is lower at 51.01V, above the "Float" level.

Pylontech battery		11:05	
Battery	51.02V	0.0A	0W
State of charge	100%		
State of health	100%		
Battery temperature	15°C		
Lowest cell voltage	0102	3.395V	
Highest cell voltage	0101	3.407V	
Minimum cell temperature	0102	15°C	
Maximum cell temperature	0101	15°C	
Battery modules	2 online	0 offline	

The Multiplus 5000W-48V is balancing between « Bulk » and « Absorption ». It never switch to “Float ». This is like the first situation with 2 batteries and the situation with battery 1 only. But not the case with battery 2 only, which is going on “Float”; in low consumption mode.

After one day the battery voltage is back at 50.22V

Pylontech battery		12:22	
Battery	50.22V	0.0A	0W
State of charge	96%		
State of health	100%		
Battery temperature	15°C		

## 6. Questions / Comments

- Why the Multiplus full system never goes on “Float” mode?
  - Why the Multiplus does not work the same on battery 1 only and on battery 2 only?
  - Why the Multiplus goes on “Float” only with battery 2? It seems that the system is running properly with battery 2 only.
  - Why we have different information in the line LMRQ: « External Control » or « State of charge »?

2. Why the grid consumption is so high 1.2-1.7 Kwh per 24 h, with zero load?
3. What are the charging parameters automatically negotiated between the Multiplus and the Pylontech batteries BMS via the BUS-Can?
4. To help I attached the two battery log files and the VEconfigure configuration file.