

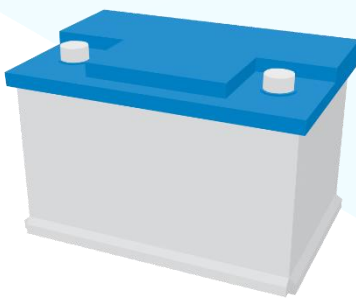
Information Bulletin #2022-1

Problem: Information in the User Manual not clear/not present regarding the charging cycles and which is the charge controller behaviour during this process.

Solution: Information Bulletin to append the missing information.

Equipment: Hybrid Boost PWM charge controllers and Hybrid Boost MPPT charge controllers.

1. Hybrid Boost PWM charge controller.



Battery Type: Not relevant

Manufacturer: Not relevant

Nominal Voltage: 12V (as an example)

Maximum charging Voltage: 14.4V (as an example – usually supplied by the battery manufacturer – this value is extremely important!)



INFO: If you do not know which model is, it is easily identified by its front face. It has 4 navigation buttons, and the Brake LED is near the Silentwind Logo on top.

SETTING PARAMETERS:

Absorption: 13,4V

Overvoltage: 16V (not relevant for the charging cycle – it must be always higher than the maximum charging voltage)

Storm Brake: 32A (not relevant for the charging cycle)

Low Wind Boost: 2V (not relevant for the charging cycle)

P.S: The remaining parameters are for the Outputs 1&2. They do not interfere on the charging process neither on the charging cycle behaviour.



Assuming that the wind generator is producing energy and all parameters are correct.

Charging cycle:



Battery Status: Low



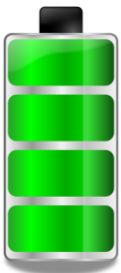
Charge Controller Status: Normal



Battery Status: 13,4V



Charge Controller Status: Brake LED starts to blink.



Battery Status: Full = 14,4V



Charge Controller Status: Brake always ON. Not charging



Battery Status: Discharging - Voltage equal or higher than 13,1V



Charge Controller Status: Brake always ON. Not charging

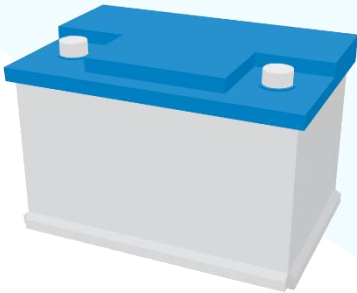


Battery Status: 13,1V reached



Charge Controller Status: Brake waiting cycle of 10 minutes. The brake will be released afterwards.
Brake LED = OFF - Battery < 13,1V

2. Hybrid Boost MPPT charge controller.



Battery Type: Not relevant
Manufacturer: Not relevant
Nominal Voltage: 12V (as an example)
Maximum charging Voltage: 14.4V (as an example – usually supplied by the battery manufacturer – this value is extremely important!)



INFO: If you do not know which model is, it is easily identified by its front face. It has 1 single “Scan” button and the Brake LED is near the button.

SETTING PARAMETERS:

End Of Charge Voltage: 14,4V
Overvoltage: 16V (not relevant for the charging cycle – it must be always higher than the maximum charging voltage)
Storm Brake: 32A (not relevant for the charging cycle)
Low Wind Boost: 3V (not relevant for the charging cycle)
P.S: The other additional parameters are for the Outputs 1&2. They do not interfere on the charging process neither on the charging cycle behaviour.



Assuming that the wind generator is producing energy and all parameters are correct.

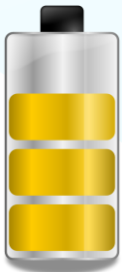
Charging cycle:



Battery Status: Low



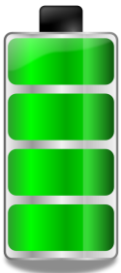
Charge Controller Status: Normal



Battery Status: 13,4V



Charge Controller Status: Normal



Battery Status: Full = 14,4V



Charge Controller Status: Brake always ON. Not charging



Battery Status: Discharging - Voltage equal or higher than 13,1V



Charge Controller Status: Brake always ON. Not charging



Battery Status: 13,1V reached



Charge Controller Status: Brake waiting cycle of 10 minutes. The brake will be released afterwards.
Brake LED = OFF

3. Recovery voltage

Nominal Voltage	Recovery voltage (RV)	Max. Voltage parameter (MV) - Example	Recovery Point = MV - RV
12V Charge Controllers	1.3V	14.4V	13.1V
24V Charge Controllers	2.6V	28.8V	26.2V
48V Charge Controllers	5.2V	57.6V	52.4V



Additional Information: When the batteries are connected to an external alternator, the charge controller might enter in Brake mode. Example: When a fuel energy generator is charging the batteries.