



Charging multiple battery systems

Problem:

to charge two or more independent battery systems with an alternator, there must be a battery isolator or an electronic diode splitter present. The batteries have to be electronically split so that they don't discharge one another.

The batteries on board a vessel need an adequately high charge voltage of about 14 V minimum for a sensible charge. Conventional battery isolators create a voltage drop of 0.7 V to 1.0 V causing the batteries to be charged with only 13 V.

This results in a worse charging of the batteries with a lower charge voltage and therefore a lower charge current as well.

Solution:

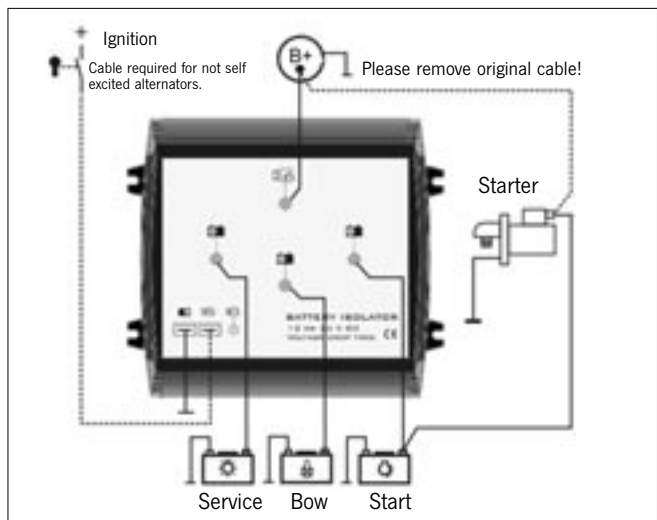
For a better charge performance through the alternator, we recommend a voltage drop free battery isolator: the electronic diode splitter, which is easy to exchange against the conventional diode splitter. Then all the disadvantages disappear and the batteries are charged with full voltage and maximum current.

Another possibility to balance the voltage drop of the diode splitter is the use of an alternator regulator with a higher voltage output or with an external D+ connection for measuring the battery voltage directly.

Electronic diode splitter to charge several battery groups. In case the engine stops and the alternator too the batteries are separated completely and a mutual influence between the batteries will be prevented. The electronic diode splitter is an improvement of the conventional battery isolator with a very low voltage drop by MOS-FET-technology during the charge operation.

All disadvantages of voltage drop (0.7-1.0 V) and subsequently power lost are eliminated and the batteries will be charged with maximal acceptable current.

- Simultaneous charge of all connected batteries, empty batteries will be considered first.
- May be used for all charge units like alternator, battery charger, solar units, wind generators etc
- No wearing and no mechanical switching
- Independent of size and type of battery (GEL, open lead, AGM, LiFePo4)
- For alternator charging current up to 150A or 200A.



- All models have an additional connector for not self excited alternators, so that it's possible to use them in combination with an electronic diode splitter.

For standard and for not self excited alternator and for all types of batteries.

Connection by bolts M8.



Type	MBI 150-2	MBI 150-3	MBI 200-3
Order-No.:	7 0006 1502	7 0006 1503	7 0006 2003
Outputs	2	3	3
Nominal voltage	12/24 V	12/24 V	12/24 V
Current rating	150 A	150 A	200 A
Resistance	< 4 mΩ	< 4 mΩ	< 4 mΩ
Stand-by-current/ON	< 0.5 mA / < 15 mA	< 0.5 mA / < 15 mA	< 0.5 mA / < 15 mA
Dimensions	L 146 x W 85 x H 95 mm	L 153 x W 147 x H 95 mm	L 153 x W 147 x H 95 mm