

**User manual**

The MBW 200 is a vital part for a mobile installation. It increases the battery live. It has low voltage, high voltage and overload protection. Low voltage detection can easily be adjusted by a rotation switch. This way any type of (lead acid) battery can be protected against deep charge. The over voltage protection protects your costly devices against to high voltages.

The MBW 200 can easily be used as a main switch. This can be achieved by connecting a panel switch between the ground (-) and the switch connection. The main switch function cannot be used when this switch is not connected. In this case the MBW 200 operates as a MBW 200 only.

The status of the MBW 200 is displayed by the three color status led.

**Explanation status led**

- Green:** The battery voltage is ok. The output is switched on.
- Green flash:** Four times a minute, optional panel switch closed and the consumers are switched off.
- Orange:** The battery voltage is lower than the set point. After 30 seconds the output will be switched off.
- Red:** The output is switched off. The cause can be: low voltage, high voltage or overload.

**Explanation alarm situations**

**Low voltage**  
The status led is lid orange if the battery voltage is lower than the set point. Does the voltage stay lower than the set point for over 30 seconds, the output will switch off. The status led is lit red. Once in 10 seconds a three tone acoustic signal with a long interval is generated. The output will be switched on when the battery is charged and reaches *undervoltagessetting+1,5V* at 12V and *undervoltagessetting+3V* at 24V. This can also be done by switching the optional panel switch off an on.

**High voltage**  
The output will switch off when the battery voltage is higher than 15,5V / 31V, the led is lit red. Once in 10 seconds a three tone acoustic signal with a medium interval is generated.

**Overload**  
The output will switch off when the MBW 200 is overloaded for a long time. The status led is lid red and once in 10 seconds a three tone acoustic signal with a short interval is generated. The housing can be warm. The output will switch on when the housing is cooled down.

**Low voltage setting**




The low voltage setting can be adjusted by the rotating switch. The numbers are corresponding with the table on the front of the MBW 200. Adjusting can be done with a small screwdriver. The low voltage protection can be switched off by selecting the '0', '8' or '9' position. In this way the battery can be discharged further.

**MBW 200 as main switch**

If a panel switch is connected, the main switch function can be used. The output is turned off when the switch is closed. The status led is off and flashes green four times a minute.

The normal MBW 200 function is activated when the switch is opened. Normally in this case the status led is lid green and the output is switched on but this is depending on de status of the battery and MBW 200 self.


**Installation**

Install the MBW 200 on a solid surface. Use reliable terminals to avoid bad connections. Fasten the bolts tightly but not over tighten them. Connect the MBW 200 according the wiring diagram as shown below. Connect the ground terminal  via a 'faston' connector to the negative pole (-) of the battery. Connect the terminal  to the positive pole (+) of the battery. Connect the consumers to the  terminal.



**Make sure the wiring has the appropriate size and is fused with the right value!!!**

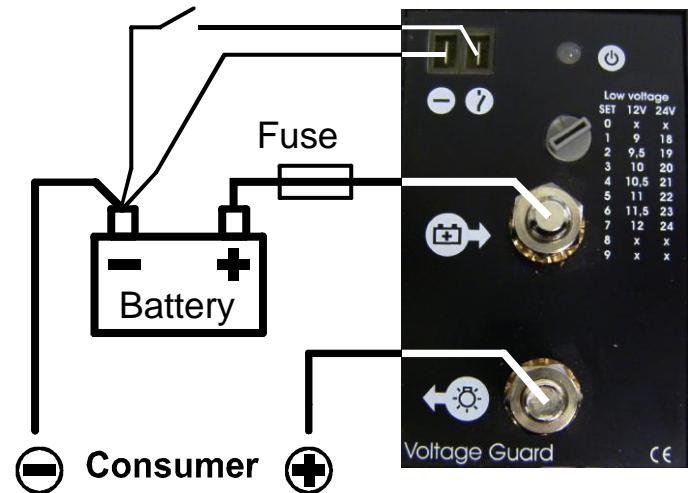
Make the following connections when the main switch function will be used.

Connect one side of the switch contact to the switch connection  on the MBW 200.

Connect the other side of the switch to the negative pole (-) of the battery.



**The negative "faston" lugs  must in any configuration be connected to the negative pole of the battery**



**Safety measures**

- Use wiring with the appropriate size. Use the right fuse in wiring.
- Mount the MBW 200 in a dry and ventilated place.
- Never use the MBW 200 at locations where there is danger of gas or (dust) explosion.
- Make the connections and protections according the locally applicable regulations.
- Check once a year the wiring and connections and repair the faults.

**Technical specifications**

Current (continuous / intermitted):	150 / 200 A DC
System voltage	: 12 or 24 DC
Input voltage range	: 8 - 31 V DC
Measurements (l x b x h)	: 145mm x 92mm x 85mm
Weight	: 580 gr.
Low voltage setting 12V	: 9 - 12 V DC
High voltage setting 12 V	: 15.5 V DC
Low voltage setting 24V	: 18 - 24 V DC
High voltage setting 24 V	: 31 V DC



The manufacturer can not be held responsible for damage resulting from the use of the MBW 200.

The guaranty period is one year.