

# Battery Voltage Guard BW 500

## Features

- Monitoring of battery voltage 12 V, 24 V, 48 V or 60 V
- Current demand max. 14 mA (24 mA, 12 V type) with active relay output
- Output 1 relay SPDT, limit contact
- Relay function undervoltage / overvoltage
- Switching hysteresis adjustable 2 ... 16 %
- Time delay in 2 ranges adjustable 1 ... 60 s or 5 ... 300 s
- Measuring voltage = supply voltage
- LED for power-on and setpoint
- 22,5 mm case for DIN rail mounting



## General information

The BW 500 was designed for monitoring of battery voltages. Undervoltage or overvoltage can be selected.

### *Undervoltage:*

The relay switches off, if the voltage falls under the limit value and if the delay time ran off.

If the voltage exceeds the limit value + hysteresis, the relay will be activated

### *Overvoltage:*

The relay switches on, if the voltage exceeds the limit value and if the delay time ran off.

If the voltage falls under the limit value - hysteresis, the relay will be deactivated.

## Short information

Time delay and hysteresis	Switchable and adjustable with DIP-switch and trim-pots at the slim side.
Contact function	Switchable between undervoltage and overvoltage with DIP-switch at the slim side.
Setpoint	LED (red) flashes, if the limit value was overstepped or falls short off and the time delay is running. After the time delay has finished, the relay will be switched on and the LED lights permanent.

## Technical data

### Power supply

Supply(battery)-voltage	: 12 V, 24 V, 48 V or 60 V DC, -30 ... +40 %
Current demand	: 14 mA (24 mA at 12 V type) with active relay output
Working temperature	: -10 ... +60 °C (14 ... 140 °F)
Rated voltage	: 250 V=, acc. to VDE 0110 group 2
CE-conformity	: EN50022, EN60555, IEC61000-4-4/5/11/13 Vibration and shock test acc. to IEC68-2-6/27/29

### Measuring input

12 V	: 11 ... 14 V
24 V	: 22 ... 28 V
48 V	: 44 ... 56 V
60 V	: 55 ... 70 V
Scale accuracy	: ≤2 %
Repeatability error	: ≤0.1 %
Temperature coefficient	: 0.01 %/K

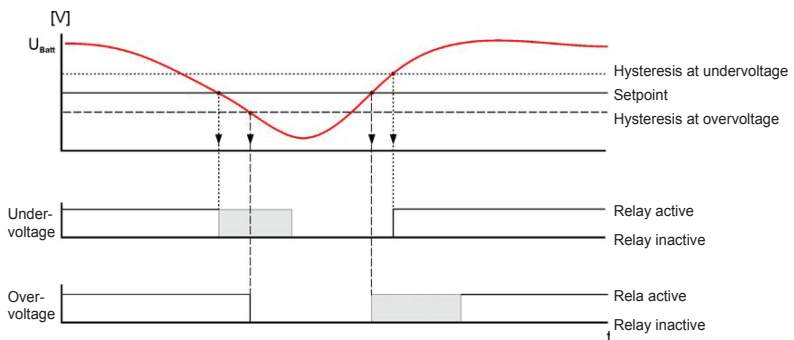
### Measuring range

### Output

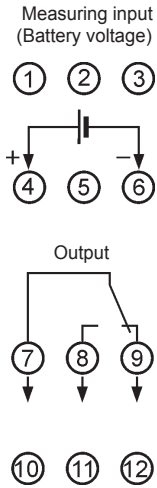
Limit relay SPDT	: 250 VAC < 250 VA < 2 A; 300 V= < 50 W < 2 A
Relay function	: undervoltage / overvoltage, switch selectable
Hysteresis	: 2 ... 16 % adjustable (related to the battery voltage)
Delay time	: in 2 ranges switchable 1 ... 60 s or 5 ... 300 s with trim-pot adjustable

Case	: standard case of polycarbonate 8020 UL94V-1
Weight	: approx. 100 g
Protection	: case IP30, terminals IP20 finger safe acc. German BGV A3
Electrical connection	: screw terminals with pressure plate, max. 2.5 mm <sup>2</sup>

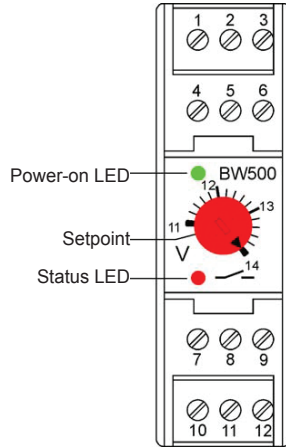
## Functional diagram



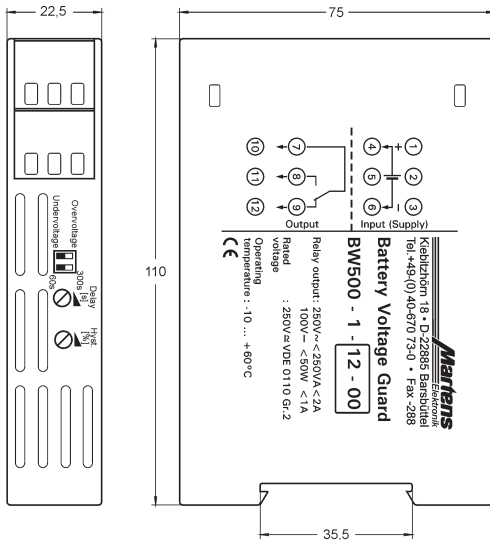
## Connection diagram



## Front panel controls

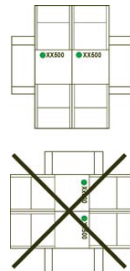


## Dimension



### Caution!

Mounting of multiple units without distance is only permitted in horizontal orientation.



TS35 DIN rail mounting  
acc. to DIN 46277 and DIN EN 50022

## Ordering code

BW500 - <sup>1.</sup> - <sup>2.</sup> - <sup>3.</sup>

**1. Measuring input**  
1 1 input

**2. Battery voltage**  
12 12 V  
24 24 V  
48 48 V  
60 60 V

**Measuring range and scale**  
11 ... 14 V  
22 ... 28 V  
44 ... 56 V  
55 ... 70 V

**3. Options**  
00 no option