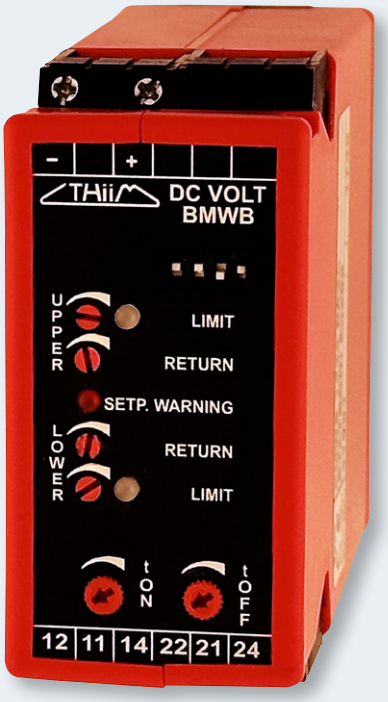
DC VOLTAGE MONITORING RELAY

BMWB



Features

- Includes two relays for use in parallel or for individual under and overvoltage signalisation
- Accurate adjustment for upper limit, upper return, lower limit and lower return by means of multiturn potentiometers
- Ability to monitor DC voltages from 14 to 340 V for a variety of applications
- Built-in LED indicator for easy monitoring
- Over-/undervoltage detection

Benefits

- Limits battery overcharging increasing battery life time
- Provides safe and reliable monitoring of DC supply voltage
- Helps prevent damage to equipment due to over/ undervoltage
- Allows for easy integration into existing systems without major modifications
- Prevents deep battery discharge limiting system downtime

Applications

- DC Power distribution
- UPS systems
- Battery banks and charger systems

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DESCRIPTION

BMWB is a combined over and/or undervoltage relay.
The voltage relay is designed for precise monitoring of a wide range of DC voltages from 14 V to 340 V.

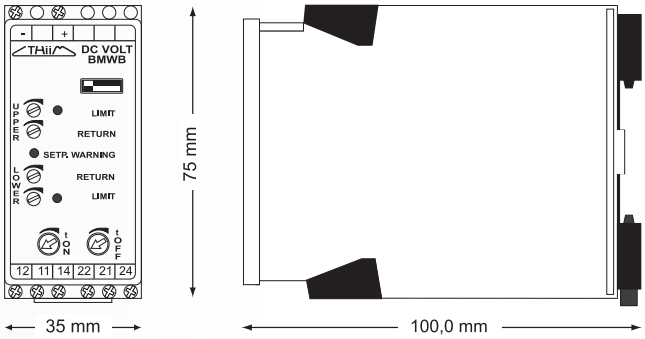
With a build in switch mode power supply, the BMWB is able to cover the whole measuring range without the need of an external supply.

The BMWB can by means of dipswitches be set to work as a relay for monitoring undervoltage and overvoltage with two individual C/O contacts, or the contacts can be paralleled and the BMWB be used as a window discriminator relay where both C/O contacts are in the powerless position outside the window. With the paralleled relays the BMWB can be set to only register under or overvoltage.

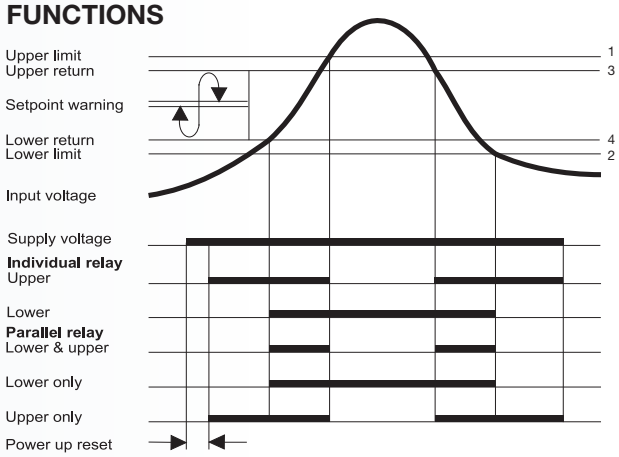
APPLICATION

Voltage monitoring in UPS, stationary and mobile battery installations.

DIMENSIONS

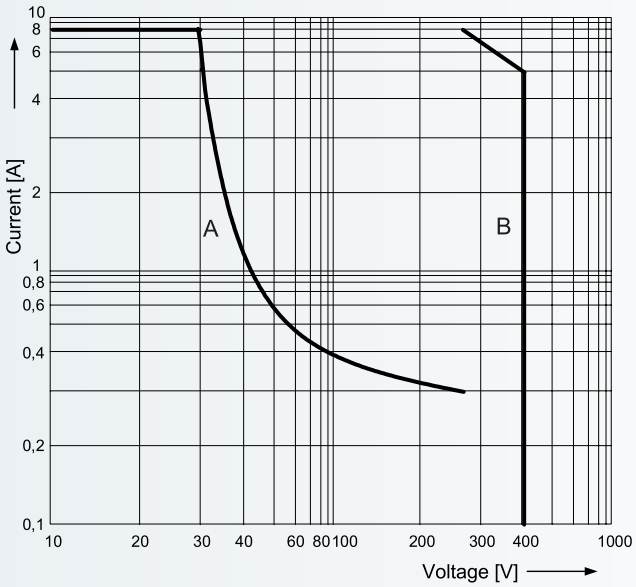


FUNCTIONS



RELAY CONTACT RATING

Max. breaking capacity
A - resistive load DC
B - resistive load AC



ADJUSTMENT PROCEDURE

You need an varible DC supply and a DC voltmeter

1. Set the two first dipswitches to the desired voltage range
2. Turn the two upper potentiometers fully clockwise to a slight click sound at end of wiper
3. Turn the two lower potentiometers fully counter-clokwise to a slight click sound at end of wiper
4. Set the DC supply to to the upper trip voltage adj. upper limit pot. ccw. to relay drop out
5. Set the DC supply to to the lower trip voltage adj. lower limit pot. cw. to relay drop out
6. Turn upper limit return fuly ccw. & turn lower limit return fully cw
7. Set dipswitch to upper limit
8. Adjust DC supply higher than upper limit until relay drops out
9. Adjust DC supply to upper return voltage adj. upper limit return pot. cw. to relay plug in
10. Set dipswitch to lower limit
11. Set DC supply to lower return voltage adj lower limit return pot. ccw. to relay plug in
12. Set dipswitch to upper & lower limit the setpoint warning lights up if the lower limit return voltage are higher than the upper limit return voltage

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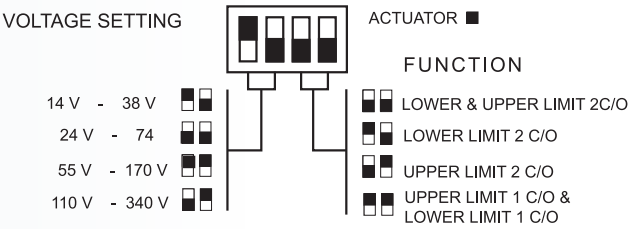
INSTALLATION AND SETUP

When the supply voltage is applied, the – power up reset – period begins. If a voltage within the allowed voltage range is applied to the input, the internal relay pulls in at the end of the reset period.
If the input voltage exceeds the adjusted upper or lower limit, the corresponding relay or both relays drops out.
If the input voltage comes between the upper return and the lower return, the relay pulls in.
As undervoltage relay only, the relays remains energized for input voltages exceeding the upper limit.
As overvoltage relay only, the relay remains energized for input voltage under the lower range limit, until it drops out due to power loss at inputs below 14 V.

CONFIGURATION



LED explanation:

Setpoint warning LED:

LED off	Upper limit & lower limit OK
Constant red	Upper limit & lower limit inversed

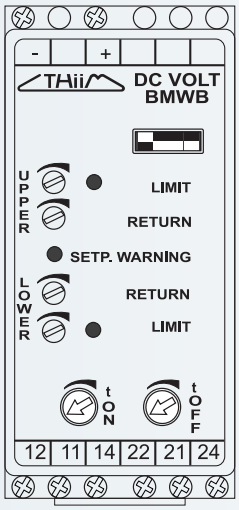
Upper limit LED:

Pulses Green/Red	Relay going towards Off (21-22 closing)
Pulses Green/LED off	Relay going towards On (22-24 closing)
Constant Green	Relay On
Constant Red	Relay Off, input beyond upper limit
LED off	Relay Off

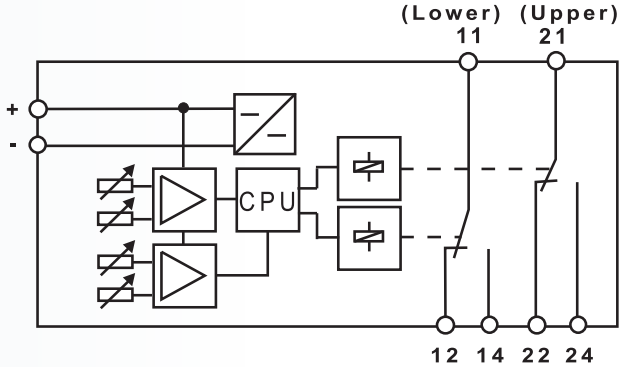
Lower limit LED:

Pulses Green/Red	Going towards Off (11-12 closing)
Pulses Green/LED off	Going towards On (12-14 closing)
Constant Green	Relay On
Constant Red	Relay Off, input beyond lower limit
LED off	Relay Off

FRONT



CONNECTIONS



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SPECIFICATIONS

INPUT	**DC voltage 0-340 V**
Ranges selectable by dipswitch	14 V-38 V 24 V-74 V 55 V-170 V 110 V-340 V
Differential	Adjustable within upper and lower limit

PERFORMANCE PARAMETERS

TIMING	
Response time	Approx. 200 ms
Time range during run	Separate On and Off delay 0-10 s adjustable
ELECTRICAL	
Temp. dependence	Typ. ±0.02 %/°C
OUTPUT	**Relay, 2 x 1 C/O, AgNi/Au**
Contact rating	6 A, 250 VAC, 1500 W See figure
Mechanical life	30 million operations
SUPPLY	**DC voltage direct from input**
Voltage range	14-340 V (max. 360 V)
Power consumption	Max 3 W
GENERAL	
Temperature range	-25 °C to +55 °C ambient
Humidity	Up to 90 % RH non-condensing
Dielectric test voltage	Coil to relay contacts 4000 VAC Pole to pole 2500 VAC
TERMINALS	
Tightening torque	0,32 Nm to 0,39 Nm
Screw type	PH1
Cable size	Accepts up to 3,3 mm² or 12 AWG
Weight Nett.	0.14 kg

CE

International standards

EMC directives 89/336:

EN 50081	Emission
EN 50082	Immunity

EU directive: Low voltage directive 73/23:

EN 60255	Electrical Relays

ORDERING INFORMATION

EXAMPLE BMWB 1434 D A 3 C

TYPE
DC voltage monitoring control relay — BMWB

INPUT AND SUPPLY VOLTAGE
14-340 V — 1434

ADJUSTMENT
Trimpot and dipswitch adj. — D

HOUSING
Rail mounting — A

SIZE
35 mm — 3

Code end — C

Company info

Datablad_BMWB_S24_v1