



**victron energy**  
B L U E P O W E R

# Precision Battery Monitoring



**BMV 600**



**Optional isolated RS232 communication interface and VEBat software (for BMV 602 and 602H)**

## Precision Battery Monitoring

### Precision monitoring

The essential function of a battery monitor is to calculate ampere-hours consumed and the state of charge of a battery. Ampere-hours consumed is calculated by integrating the current flowing in or out of the battery. In case of a constant current, this integration is equivalent to current multiplied by time. A discharge current of 10A during 2 hours, for example, amounts to 20Ah consumed. All our battery monitors are based on a powerful microprocessor, programmed with the algorithms needed for precision monitoring.

### Standard information and alarms

- Battery voltage (V).
- Battery charge/discharge current (A).
- Ampere-hours consumed (Ah).
- State of charge (%).
- Time to go at the current rate of discharge.
- Visual and audible alarm: over- and under voltage, and/or battery discharged.
- Programmable alarm or generator start relay.

### BMV 600: low cost ultra high resolution monitor

- Highest resolution: 10mA (0,01A) with 500A shunt.
- Lowest current consumption: 4mA @12V and 3mA @ 24V.
- Easiest to wire: the BMV 600 comes with shunt, 10 meter RJ 12 UTP cable and 2 meter battery cable with fuse; no other components needed.
- Easiest to install: separate front bezel for square or round appearance; ring for rear mounting and screws for front mounting.
- Broadest voltage range: 9 – 90 VDC without prescaler needed.

### BMV 602: two batteries and communication port

In addition to all the features of the BMV600, the BMV602 can measure the voltage of a second battery and has a communication port. (Isolated RS232 interface is needed to connect to a computer)

### BMV 602H: 35 to 150VDC voltage range

No prescaler needed.

### Optional Isolated RS232 communication interface and software

(for BMV 602 and 602H)

Displays all information on a computer and loads charge/discharge data in an Excel file for graphical display.

### VE.Net Battery Controller: any number of batteries

- One VE.Net panel will connect to any number of battery controllers.
- Comes with 500A/50mV shunt and can be programmed for any other shunt.
- With use, abuse and data memory.
- Temperature sensor and connection kit included.

### Learn more about batteries and battery charging

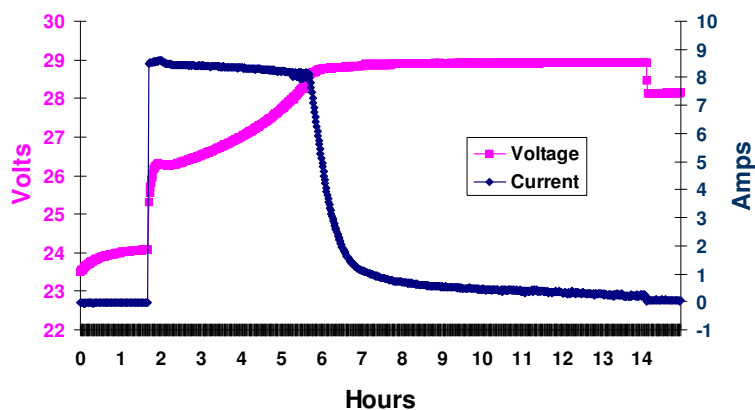
To learn more about batteries and charging batteries, please refer to our book 'Energy Unlimited'. (Available free of charge from Victron Energy and downloadable from [www.victronenergy.com](http://www.victronenergy.com)).

## VE.Net Battery Controller



## Specifications

Battery Monitor	BMV 600	BMV 602	BMV 602H	VE.Net Battery Controller	VE.Net Battery Controller 48V
Power supply voltage range	9 - 90 VDC	9 - 90 VDC	35 – 150 VDC	9 - 35 VDC	9 – 60 VDC
Current draw, back light off	4 mA @ 12V 3 mA @ 24V	4 mA @ 12V 3 mA @ 24V	3 mA	10 mA at 12V	3mA at 48V
Input voltage range (V DC)	9 - 90 VDC	9 - 90 VDC	35 - 150 VDC	9 - 35 VDC	39 – 60 VDC
Battery capacity (Ah)	20 - 9999 Ah			20 - 60000 Ah	
Operating temperature range	-20 +50°C (0 - 120°F)				
Measures voltage of second battery	No	Yes	Yes	No	
Communication port	No	Yes	Yes	Yes (VE.Net)	
Potential free contacts	60V/1A (N/O)				
<b>RESOLUTION (with 500 A shunt)</b>					
Current	± 0,01 A			± 0,1 A	
Voltage	± 0,01 V				
Amp hours	± 0,1 Ah				
State of charge (0 – 100 %)	± 0,1 %				
Time to go	± 1 min				
Temperature (0 - 50°C or 30 - 120°F)	n. a.			± 1°C (± 1°F)	
Accuracy of current measurement	± 0,3 %				
Accuracy of voltage measurement	± 0,4 %				
<b>INSTALLATION AND DIMENSIONS</b>					
Installation	Flush mount			DIN rail	
Front	63 mm diameter			22 X 75 mm (0.9 x 2.9 inch)	
Front bezel	69 x 69 mm (2.7 x 2.7 inch)			n. a.	
Body diameter	52mm (2.0 inch)			n. a.	
Body depth	31mm (1.2 inch)			105 mm (4,1 inch)	
<b>ACCESSORIES</b>					
Shunt (included)	500 A / 50 mV			500 A / 50 mV	
Cables (included)	10 meter 6 core UTP with RJ12 connectors, and cable with fuse for '+' connection			Supplied with 1 m cables	
Temperature sensor	n. a.			Supplied with 3 m cable	
Computer interface	n. a.	optional	optional	n.a.	



Example of a battery charge curve recorded with a BMV 602 and VEBat software