

### The Latest Evolution in Battery Monitors!

The **BMV-712 SMART** Battery Monitor is part of a range of high-precision battery monitors. Its essential function is to calculate the ampere-hours consumed and the state of charge of a battery. Think of this monitor as your battery 'fuel gauge', with a time-to-go indicator and much more.

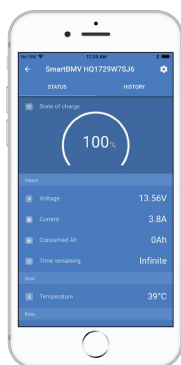
The **BMV-712** is the latest evolution in Victron's range of battery monitors. It has all the benefits of previous models with the added benefit of integrated **Victron Smart Technology**, which implements Bluetooth, allowing wireless communication between various products. With built-in Bluetooth, the BMV Smart is ready for the Internet of Things (IoT) era.

### Features:

- Measures battery voltage, current, power, ampere-hours consumed, and state of charge
- Remaining time at the current rate of discharge
- Programmable visual and audible alarm
- A programmable relay, to turn off non-critical loads or to run a generator when needed
- 500-Amp quick-connect shunt and connection kit
- Shunt selection capability up to 10 000 Amps
- VE.Direct communication port
- It stores a wide range of historical events, which can be used to evaluate usage patterns and battery health
- Wide input voltage range: 6.5-70 V
- High-current measurement resolution: 10 mA (0.01 A)
- Additional input to measure voltage (of a second battery), temperature or midpoint voltage, and corresponding alarm and relay settings

### Use a smartphone or other Bluetooth-enabled device to:

- Customise settings
- Monitor all important data on a single screen
- View historical data
- Update the software when new features become available



See the VictronConnect BMV app Discovery Sheet for more screenshots.

### Easy to install

All electrical connections are to the quick-connect PCB on the current shunt. The shunt connects to the monitor with a standard RJ12 telephone cable. Included: RJ12 cable (10 m) and battery cable with fuse (2 m); no other components needed. Also included are a separate front bezel for a square or round display appearance, a securing ring for rear mounting and screws for front mounting.



INCLUDED



INCLUDED



OPTIONAL



INCLUDED



Part Number: T12001480

### Midpoint voltage monitoring

One bad cell or one bad battery can destroy a large, expensive battery bank. When batteries are connected in series, a timely warning can be generated by measuring the midpoint voltage. Please see the BMV manual, section 5.2, for more information. We recommend the Battery Balancer (BMS012201000) to maximise the service life of series-connected, lead-acid batteries.

### Very low current draw from the battery

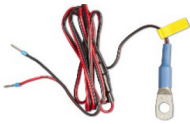
Current consumption: 0,7 Ah per month (1 mA) @12 V and 0,6 Ah per month (0,8 mA) @24 V, especially for Li-ion batteries with virtually no capacity left when discharged until low-voltage shutdown. After shutdown, due to low-cell voltage, the capacity reserve of a Li-ion battery is approximately 1 Ah per 100 Ah of battery capacity. The battery will be damaged if the remaining capacity reserve is drawn from the battery. A residual current of 10 mA, for example, may damage a 200-Ah battery if the system is left in a discharged state for more than 8 days.

### Bi-stable alarm relay

Prevents increased current draw in the event of an alarm.

Specifications	
Supply voltage range	6.5 - 70 Vdc
Current draw, back light off	< 1 mA
Input voltage range	Auxiliary battery 6.5 - 70 V
Battery capacity (Ah)	1 - 9999 Ah
Operating temperature range	-40 °C to +50 °C
Temperature measurement range	-20 °C to +50 °C
VE.Direct communication port	Yes
Bi-stable relay	60 V/1 A normally open (function can be inverted)
Standards	
Safety	EN 60335-1
Emission/Immunity	EN 55014-1/EN 55014-2
Automotive	ECE R10-4/EN 50498

## Optional Accessories



### Temperature sensor



### Venus GX

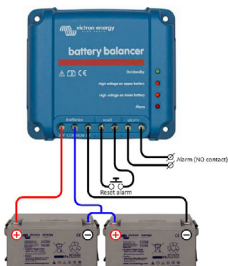
The Venus GX provides intuitive control and monitoring. It has the same functionality as the Colour Control GX, with a few extras:

- lower cost, mainly because it has no display or buttons
- 3 tank sender inputs
- 2 temperature inputs



### Colour Control

The powerful Linux computer, hidden behind the colour display and buttons, collects data from all Victron equipment and shows it on the display. Besides communicating with Victron equipment, the Colour Control communicates through the CAN bus (NMEA2000), Ethernet, and USB. Data can be stored and analysed on the VRM Portal.



### Battery Balancer (BMS012201000)

The battery balancer equalises the state of charge of two series-connected 12 V batteries or of several parallel strings of series-connected batteries.

When the charge voltage of a 24-V battery system increases to more than 27 V, the battery balancer will turn on and compare the voltage over the two series-connected batteries. The battery balancer will draw a current of up to 1 A from the battery (or parallel-connected batteries) with the highest voltage. The resulting charge current differential will ensure that all batteries will converge to the same state of charge.

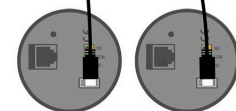
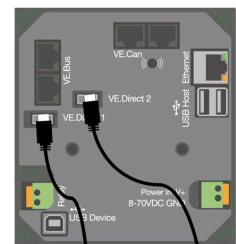
If needed, several balancers can be paralleled.

A 48-V battery bank can be balanced with three battery balancers.

Resolution & Accuracy (with a 500 A shunt)	
Current	± 0.01 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)	± 1 °C
Accuracy of current measurement	± 0.4%
Accuracy of voltage measurement	± 0.3%
Installation & Dimensions	
Installation	Flush mount
Front	63 mm diameter
Front bezel	69 x 69 mm
Body diameter and depth	52 mm and 31 mm
Protection category	IP55 (not intended for outdoor use)

## Configuration

A maximum of four BMVs can be connected directly to a Colour Control GX. Even more BMVs can be connected to a USB hub for central monitoring.



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