# Smart BatteryProtect 12/24V 65A/100A/220A

Bluetooth enabled  System on-off switch

www.victronenergy.com

**Smart BatteryProtect BP-65**

**Smart BatteryProtect BP-100**

**Smart BatteryProtect BP-220**

**Connector with preassembled DC minus cable (included)**

### Protects the battery against excessive discharge and can be used as a system on/off switch

The Smart BatteryProtect disconnects the battery from non-essential loads before it is completely discharged (which would damage the battery) or before it has insufficient power left to crank the engine.
The on/off input can be used as a system on/off switch.

### 12/24V auto ranging

The Smart BatteryProtect automatically detects system voltage one time only.

### Bluetooth: programming made easy

When using Bluetooth to program the Smart BatteryProtect any required engage/disengage levels can be set.
Alternatively, one of nine predefined engage/disengage levels can be set with the programming pin (see manual).
If required, Bluetooth can be disabled.

### A special setting for Li-ion batteries

In this mode the BatteryProtect can be controlled by the VE.Bus BMS.
*Note: the BatteryProtect can also be used as a charge interrupter in between a battery charger and a Li-ion battery. See connection diagram in the manual.*

### Ultra-low current consumption

This is important in case of Li-ion batteries, especially after low voltage shutdown.
Please see our Li-ion battery datasheet and the VE.Bus BMS manual for more information.

### Over voltage protection

To prevent damage to sensitive loads due to over voltage, the load is disconnected whenever the DC voltage exceeds 16.3V respectively 32.6V.

### Ignition proof

No relays but MOSFET switches, and therefore no sparks.

### Delayed alarm output

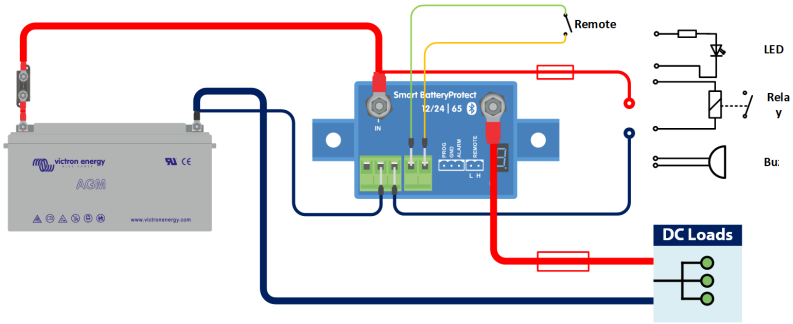
The alarm output is activated if the battery voltage drops below the preset disconnect level during more than 12 seconds. Starting the engine will therefore not activate the alarm. The alarm output is a short circuit proof open collector output to the negative (minus) rail, max. current 50 mA. The alarm output is typically used to activate a buzzer, LED or relay.

### Delayed load disconnect and delayed reconnect

The load will be disconnected 90 seconds after the battery voltage drops below the preset level. If the battery voltage increases again to the connect threshold within this time period (after the engine has been started for example), the load will not be disconnected.
The load will be reconnected 30 seconds after the battery voltage has increased to more than the preset reconnect voltage.

| Smart BatteryProtect | | Smart BP-65 | Smart BP-100 | Smart BP-220 |
|---|---|---|---|---|
| Maximum continuous load current* | | 65A | 100A | 220A |
| Peak current (during 30 seconds) | | 250A | 600A | 600A |
| Operating voltage range | | 6 –35V | | |
| Current consumption | BLE On | When on: 1,4 mA When off or low voltage shutdown: 0,9 mA | | |
| | BLE Off | When on: 1,2 mA When off or low voltage shutdown: 0,7 mA | | |
| Alarm output delay | | 12 seconds | | |
| Maximum load on alarm output | | 50 mA (short circuit proof) | | |
| Load disconnect delay | | 90 seconds (immediate if triggered by the VE.Bus BMS) | | |
| Load reconnect delay | | 30 seconds | | |
| Default thresholds | | Disengage: 10,5V or 21V Engage: 12V or 24V | | |
| Operating temperature range | | Full load: -40°C to +40°C (up to 60% of nominal load at 50°C) | | |
| IP rating | | Electronics: IP67 (potted) Connections: IP00 | | |
| Connection | | M6 | M8 | M8 |
| Mounting Torque | | 5 Nm | 9 Nm | 9 Nm |
| Weight | | 0,2 kg 0.5 lbs | 0,5 kg 0.6 lbs | 0,8 kg 1.8 lbs |
| Dimensions (hxwxd) | | 40 x 48 x 106 mm<br>1.6 x 1.9 x 4.2 inch | 59 x 42 x 115 mm<br>2.4 x 1.7 x 4.6 inch | 62 x 123 x 120 mm<br>2.5 x 4.9 x 4.8 inch |

* The BatteryProtect is not designed for reverse currents from charging sources




### System on/off

a. ON when the L and H terminal are interconnected (switch or relay contact)
b. ON when the L terminal is pulled to battery minus (V< 3.5V)
c. ON when the H terminal is high (2.9V < VH < Vbat)
d. OFF in all other conditions

Victron Energy B.V. | De Paal 35 | 1351 JG Almere | The Netherlands
E-mail: sales@victronenergy.com | **www.victronenergy.com**