

**VE.Net Blue Power Panel**  
BPP



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# 1 Introduction

Victron Energy has established an international reputation as a leading designer and manufacturer of energy systems. Our R&D department is the driving force behind this reputation. It is continually seeking new ways of incorporating the latest technology in our products. Each step forward results in value-added technical and economical features.

## 1.1 Introduction to VE.Net

VE.Net stands for Victron Energy Network. It allows all VE.Net compatible devices to communicate with each other. This means that the charger for example can get information from the battery controller to optimize the charge current. It is possible to control and monitor all your VE.Net devices from a single VE.Net compatible control panel. This saves space and allows you to control all your devices from one place. It is however, not necessary to be limited to a single panel. Multiple panels can be used on the network, allowing full control and monitoring capabilities of all devices in multiple locations.

## 1.2 The Blue Power Panel (BPP)

The Blue Power Panel provides intuitive control for all devices connected to the VE.Net network. It can be used to view and configure the full range of settings on VE.Net devices. Furthermore, its fully customizable overview screens make it the ideal monitoring tool for your power system.

## 2 Hardware installation

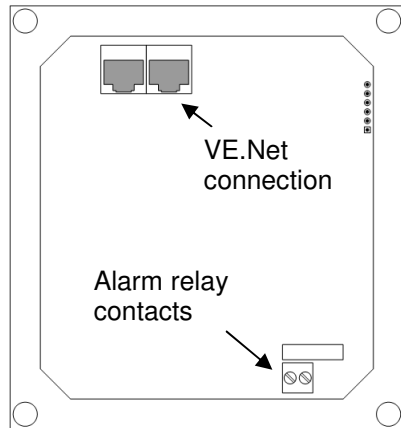
### 2.1 Package contents

The package in which the Blue Power Panel is delivered should contain the following items:

- Blue Power Panel
- Manual
- Mounting instructions
- Four mounting screws

### 2.2 Installation instructions

- 1) Mount the Blue Power Panel according to the included mounting instructions.
- 2) Connect the Blue Power Panel to the VE.Net network with a standard straight UTP cable with RJ45 connectors. An RJ45 splitter box may be used if necessary; however, the maximum total cable length must not exceed 100 meters.
- 3) The Blue Power Panel is powered from the network. This means that there must be at least one device on the network that is capable of supplying power to other devices<sup>1</sup>.
- 4) If desired, an external alarm can be connected to the potential free contact.

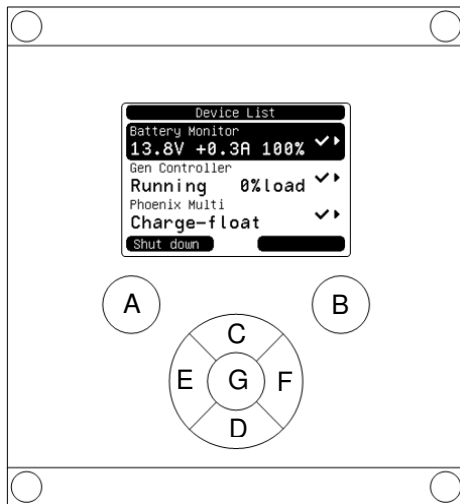


<sup>1</sup> Devices capable of powering other VE.Net devices include the VE.Net Battery Controller, the VE.Net to VE.Bus Converter and the VE.Net Generator Module.

### 3 Using the Blue Power Panel

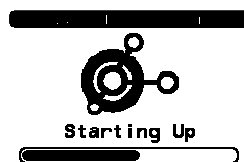
#### 3.1 Button descriptions

- A – Left soft button
- B – Right soft button
- C – Up directional button
- D – Down directional button
- E – Left directional button
- F – Right directional button
- G – Centre button



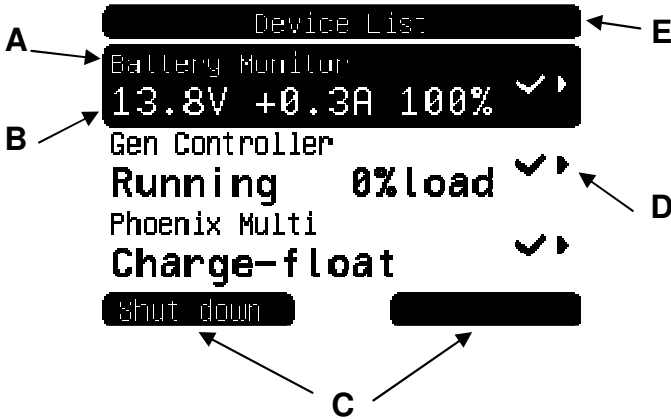
#### 3.2 Turning the panel on and off

To turn the panel on, hold the right soft button until the VE.Net logo is displayed.



To turn the panel off, hold the left soft button until the VE.Net logo is displayed.


### 3.3 Understanding the display



Item	Function
<b>A</b>	Displays the name of the device or property.
<b>B</b>	In the device list, this will display a summary of the device status. When browsing device menus this will display the value of the property. See chapter 3.4 for more information.
<b>C</b>	The two soft buttons do not have fixed functions. Instead, their functions change to suit the current system state. The currently assigned function is shown here.
<b>D</b>	One or more icons will be displayed here to indicate the current status of the device or property. Some icons also indicate that other actions are available, such as sub-menus, or editable properties. See chapter 5.1 for more information.
<b>E</b>	Provides information about the currently displayed screen.

### 3.4 Navigating the menu

When the Blue Power Panel is switched on, it will search the network, and then display the list of connected devices. For each connected device, the name of the device, and a summary of its current status are displayed. If there are too many devices to fit on the screen at once, the up and down directional buttons can be used to scroll through the list.

For each device in the device list, there is a menu which provides information and control specific to that device. To view the menu for a device, use the up or down directional buttons to highlight the required device, then press the right directional button to enter the menu. The screen title will then be set to the name of the device, and the first few properties of the menu will be displayed. You can use the up and down directional buttons to highlight different properties, and scroll to any additional properties that are not currently displayed. If the property displays the  icon, you can use the right directional button to enter a sub-menu with more information.


Pressing the left directional button will take you back to the property that you were viewing before you entered the current menu. You can also press the left soft button at any time to take you directly to the device list.

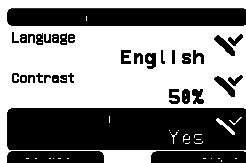
For information about specific device menus, refer to the manual for that device.

When selecting devices in the device list, sometimes the right soft-button description will change to indicate that a shortcut is available for performing a common action. Rather than navigate through the menu to perform this action, you can simply press the right-soft button.



### 3.5 Editing values

Some properties can be changed, as indicated by the  icon. Exactly how a value is edited depends on the type of value.



For most properties that have only two possible values, the description of the right soft button will read “Toggle”. Simply press the right soft button once to change the value.

For all other editable properties, the description of the right soft button will read “Edit”. To begin editing a value, press the right soft button. When editing, the up and down directional buttons can be used to change the value. When editing text, the left and right directional buttons can be used to





move the cursor in order to edit different characters.

To stop editing, press the right soft-button to save the changes, or the left soft-button to restore the old value.

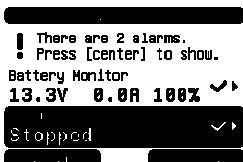
### 3.6 The overview screen

The overview screen displays the most important values from different devices on the network together in one screen. To display the overview, press the centre button while the device list is displayed. The Blue Power Panel can also be configured to display the overview screen automatically after a period of inactivity (see chapter 4.2 for more information). The appearance of the overview screen depends on which type of overview has been configured. See chapter 4.3 for more information.

### 3.7 Alarms

When a VE.Net device experiences a problem, it will generate an alarm. The Blue Power Panel will display a message with information about the alarm. Additionally, the Blue Power Panel can be configured to generate an audible alarm, and/or close its relay contact.

To acknowledge the alarm, press the right soft-button. This will hide the pop-up, and disable the buzzer. However, this does not switch off the relay. The relay will remain closed until the device that generated the alarm indicates that the alarm condition is no longer present.



As long as there are persisting alarm conditions, a warning will be displayed at the top of the screen. To view the details of the alarms, press the centre button. It is not possible to display the overview screen whilst there are persisting alarm conditions.

## 4 Configuring the panel

It is possible to begin using most features of the Blue Power Panel without any configuration. However, the Blue Power Panel is highly customisable, so it is worth familiarising yourself with the different settings in order to get the most from your VE.Net system.

### 4.1 Access Levels

Many of the properties provided by VE.Net devices are only required during system configuration. Not only are these properties not useful during normal operation, but having them available allows for the possibility of accidental changes. The Blue Power Panel solves this problem with access levels. Initially, the access level of the Blue Power Panel will be set to “User and install”. In this mode, all options are available, allowing devices to be configured as necessary. Once configuration is complete, the access level can be changed to “User”. In this mode, all configuration options are hidden, leaving only the properties required for normal use. If at any point it is necessary to reconfigure a device, the access level can be changed back to “User and install” to reveal the properties again.

If there are multiple Blue Power Panels on the network, their access levels can be set independently.

### 4.2 The Blue Power Panel menu

#### Local settings menu

Item	Description	Default Value
<b>Language</b>	The language used by the network. Available languages are English and German. Note: not all devices support all languages. If a device does not support the selected language, English will be used instead.	English
<b>Contrast</b>	The contrast level of the display.	50%
<b>Audible alarm</b>	Determines whether or not the buzzer will be used when an alarm occurs.	Yes

<b>Use relay in alarm</b>	If enabled, the relay contacts will be closed during an alarm condition.	No
<b>Overview setup</b>	See chapter 4.3.	
<b>Power saving</b>	See below.	
<b>Access level</b>	Set this to “User and install” during configuration, and “User” during normal operation.	User and install
<b>Software version</b>	The firmware version of the Blue Power Panel	N/A
<b>Device address</b>	The address used by this device for communication on the network.	N/A
<b>Restart panel</b>	This option can be used to restart the Blue Power Panel, and redetect the VE.Net system.	No
<b>Restrict access</b>	OEM installers can lock the access level of the Blue Power Panel to prevent users from changing settings. For more information contact Victron Energy.	No

### Power saving menu

Item	Description	Default Value
<b>Backlight off</b>	Switch the backlight off after a certain period of inactivity.	10 seconds
<b>Display off</b>	Switch the display off after a certain period of inactivity.	Never

### 4.3 Overview configuration

Use the options in the ‘Overview setup’ submenu to configure the overview screen. First decide which type of overview will be used (system, generator, or custom). Next, enter the corresponding submenu and set the configuration options as required.

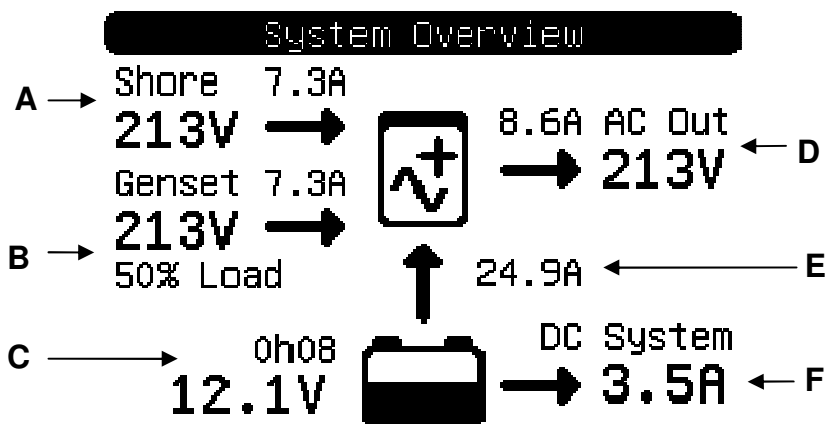
### Overview setup menu

Item	Description	Default value
<b>Display overview</b>	The Blue Power Panel can be configured to display the overview screen after a certain period of inactivity.	Never
<b>Overview type</b>	Select the type of overview screen that will be used. Once selected, ensure that the options in the corresponding menu are correctly set.	System



If a device selected for an overview is listed as “Unknown”, this means this property has been configured, but the device is no longer available on the network. In order to display the overview, either the device must be reconnected, or another device must be selected.

#### 4.3.1 The system overview

The system overview is designed to work with the VE.Net to VE.Bus converter (VVC) connected to a Phoenix Multi or Quattro, and optionally a VE.Net Battery Controller (VBC) and VE.Net Generator Module (VGM).



The different information that can be displayed on the system overview is described below. The actual information that will be displayed depends on which devices are configured, as well as the current system state.

Item	Description
<b>A</b>	The AC input to the Multi or Quattro.
<b>B</b>	The AC output of the generator.
<b>C</b>	The battery voltage and time to go.
<b>D</b>	The AC output of the Multi or Quattro.
<b>E</b>	The DC current transferred between the battery and the Multi or Quattro.
<b>F</b>	The current used by the DC system.
	Indicates the state of the Phoenix Multi or Quattro (see chapter 5.2 more information).
	When this icon contains an upwards pointing arrow, it means that the battery is charging. When discharging, the icon will indicate the state of charge.

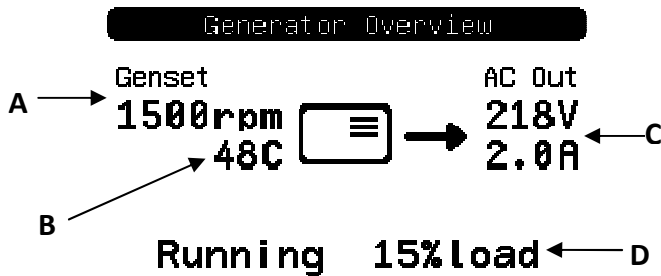
To configure the system overview, set the VE.Net devices that will be used in the “System” menu.

### System menu

Item	Description
<b>Select VVC</b>	Select the VVC that will be used for system overviews. A VVC is required for the system overview.
<b>Select VBC</b>	Select the battery controller that will be used for the system overview, or select “Not set” if no battery controller is to be used.
<b>Select VGM</b>	Select the generator module that will be used for the system overview, or select “Not set” if no generator controller is to be used.

#### 4.3.2 The generator overview

The generator overview displays important information regarding the operation of the generator (requires a VE.Net Generator Module).



Item	Description
<b>A</b>	The current operating frequency.
<b>B</b>	The coolant temperature.
<b>C</b>	The output voltage and current.
<b>D</b>	The generator status.

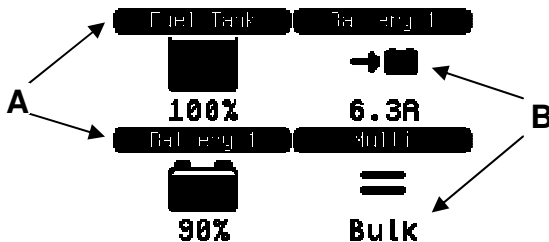
To configure the generator overview, set the VE.Net Generator Module that will be used in the “Generator” menu.

### Generator menu

Item	Description
<b>Select VGM</b>	Select the generator module that will be used for the generator overview.

### 4.3.3 The custom overview

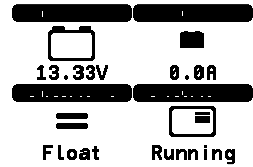
The custom overview allows you to select which information is displayed, and how it is presented.



Item	Description
<b>A</b>	Indicator titles.
<b>B</b>	Indicator icons and values.

The icons used for the indicators are described in detail in chapter 5.3.

To configure the custom overview, you must first decide which information will be displayed, and where. Once this decision has been made, set the appropriate values for the properties of each indicator in the “Custom” menu. The numbers of the property names in this menu refer to the location at which the indicator will be displayed, as shown in the diagram on the right.









### Custom menu

Item	Description
<b>x style</b>	The indicator style to use for this indicator (see chapter 5.3 for more information).
<b>x device</b>	The VE.Net device that will provide the property for this indicator.
<b>x property</b>	The property that will provide the value for this indicator.
<b>x title</b>	The text to appear in the title for this indicator.

## 5 Description of icons




### 5.1 Menu icons




The following icons are used to indicate the current status of a property or device.

Icon	Description
	This item has a sub-menu. Press the right directional button to view the sub-menu.
	The Blue Power Panel is waiting for this value to be retrieved.
	In the device list, this icon means that the device is currently connected to the network. In a device menu, this icon means that the value for this property is up to date, and has normal status.
	The value for this property is up to date, but has abnormal status. This is not necessarily an error. The displayed message should indicate why the normal value could not be displayed.
	This property can be edited. Press the right soft button to change its value.
	This device is no longer connected to the network.

### 5.2 Multi/Quattro status icons








The following icons are used on the system and custom overview screens to indicate the status of a Multi or Quattro, as reported by a VVC.

Icon	Description
	The device is switched off.
	The device is in charger mode.
	The device is in inverter mode.

	The device is in inverter mode with PowerAssist.
	There is a warning or alarm condition on the device.
	The VVC has lost its connection to the device.

### 5.3 Custom overview indicators

The following indicator styles can be selected for use on the custom overview. The icons for some indicators will change depending on the value of the property they represent, in order to provide a better visual representation.

Indicator style	Possible icons	Description of icon variations	Requires
Battery voltage		This icon does not change.	VBC
Battery amps		The battery is charging.	
		The battery is discharging.	
		There is no current going into or out of the battery.	
Battery SOC		The level to which the battery image is filled represents the current state of charge of the battery.	
VVC state		See “Multi/Quattro status icons” above.	VVC
Tank level		Tank level. The level to which the tank image is filled represents the current level of the tank.	VTM
Generator status		This icon does not change.	VGM

Under certain circumstances, the following icons may be displayed instead of the specified indicator.

Icon	Usage
⇔	The Blue Power Panel is waiting for the device to supply the requested value.
!	The value is currently unavailable.
✗	The device associated with the indicator is not connected.

## 6 Specifications

<b>VE.Net</b>	
<b>Maximum cable length</b>	<b>100 meters</b>
<b>Network cable</b>	<b>Standard UTP with RJ-45 jacks</b>
<b>Network type</b>	<b>Mixed (star and ring networks possible)</b>
<b>Blue Power Panel</b>	<b>BPP</b>
<b>Power supply voltage range</b>	<b>9 – 70 V DC</b>
<b>Current draw – standby</b>	<b>&lt;1 mA at 12 volt</b>
<b>Current draw – backlight off</b>	<b>35 mA at 12 volt</b>
<b>Current draw – backlight on</b>	<b>55 mA at 12 volt</b>
<b>Operating temp. range</b>	<b>-20 – +50 °C</b>
<b>Potential free contact</b>	<b>3A / 30V DC / 250V AC (Normally Open)</b>
<b>ENCLOSURE</b>	
<b>Measurements front panel (w x h)</b>	<b>120 x 130 mm (Standard PROS2 Panel)</b>
<b>Measurements body (w x h)</b>	<b>100 x 110 mm</b>
<b>Weight</b>	<b>0.28 Kg</b>

## 7 Notes





# Victron Energy Blue Power

Distributor:

Serial number:

Version : 01

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