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BLUE POWER

Manual

EN

BlueSolar Pro Remote Panel
For BlueSolar PWM-Pro charge controllers 12/24V 5, 10, 20, 30A
Article number SCC900300000

Contents

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1. Important safety instructions

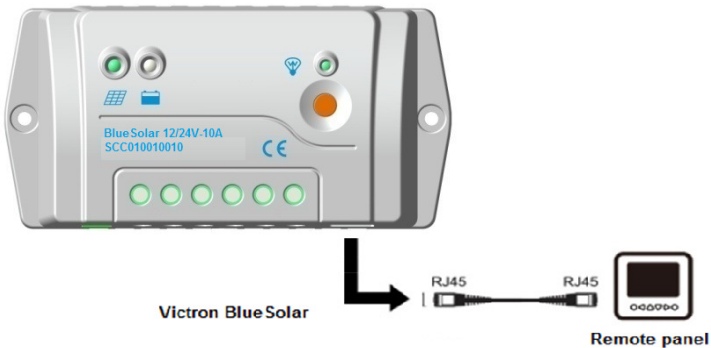Read all instructions before starting the installation.

Keep the controller away from rain, exposure, severe dust, vibration, corrosive gas and intense electromagnetic interference.

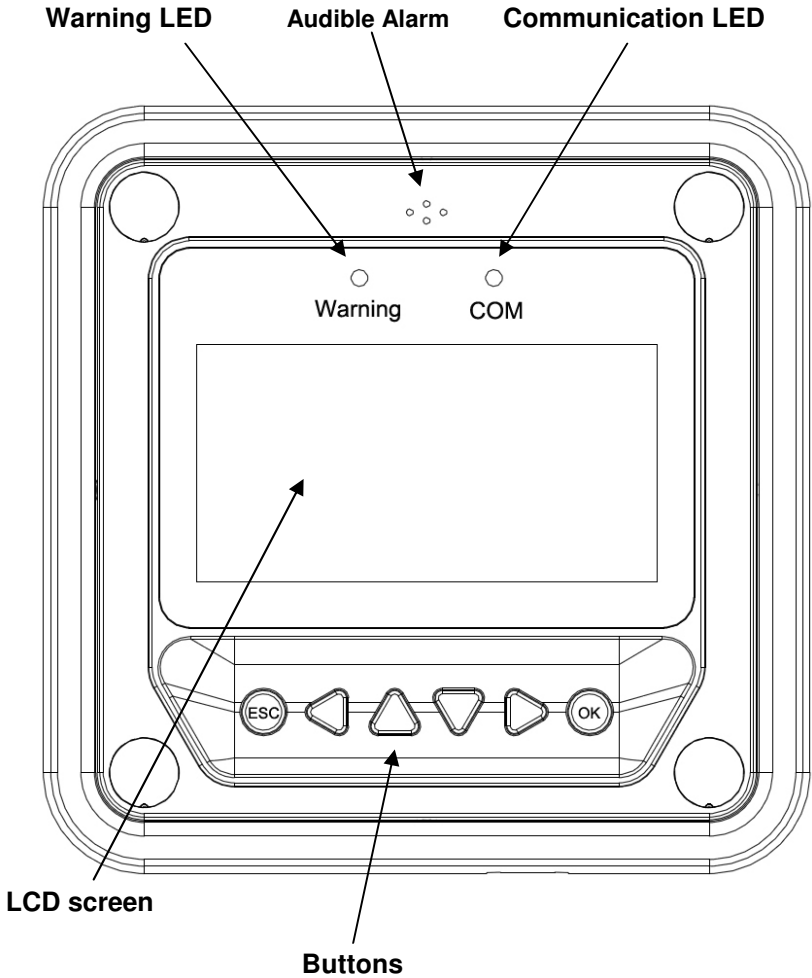# 2. Installation

Please see section 8 for mounting dimensions

Connection to the BlueSolar PWM-Pro charge controller:
The panel must be connected to the controller with a standard RJ45 UTP cable.

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3. Product features

3.1. General

Warning LED   **Audible Alarm**   **Communication LED**

Warning   COM

ESC   OK

LCD screen

Buttons

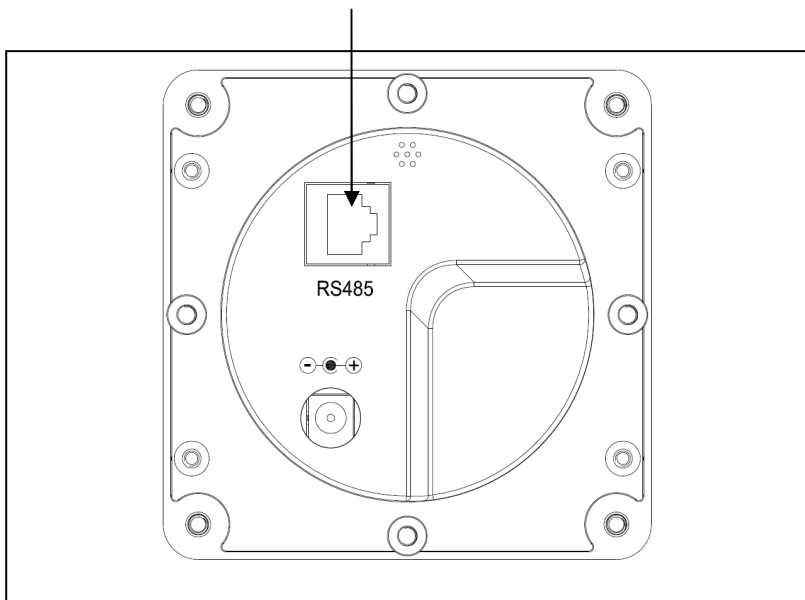victron energy

RS485 communication and power interface

RS485

Warning LED
The warning indicator LED flashes in case of failure of the connected charge controller.
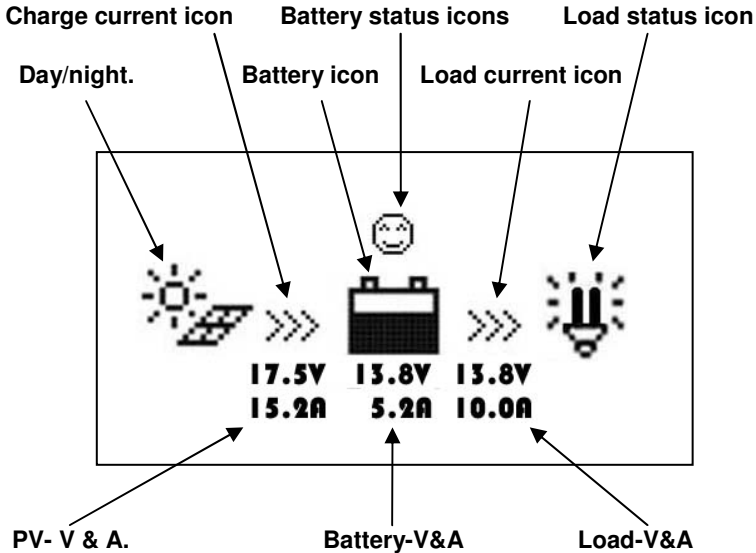
Audible alarm
The audible failure alarm can be activated or deactivated.

Communication LED
Indicates communication status when the display is connected with the charge controller.

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3.2. Display
After connecting the remote panel, the default monitoring display will be shown:

Charge current icon **Battery status icons** **Load status icon**

Day/night. **Battery icon** **Load current icon**

17.5V 13.8V 13.8V
15.2A 5.2A 10.0A

PV- V & A. **Battery-V&A** **Load-V&A**

Day and night icons
☽- Night, ☀- day. If the voltage of the solar array is above 1V, the daytime icon is shown.

Battery icon
The battery icon shows the state of charge of the battery. For this function the correct battery capacity must be set (see section 5.4) and all loads must connected to the load output (i.e. not directly to the battery).

Note: When the battery is fully discharged, the icon displayed is ☒.

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Battery status icons

 - Normal voltage. - Under voltage, - Over discharge
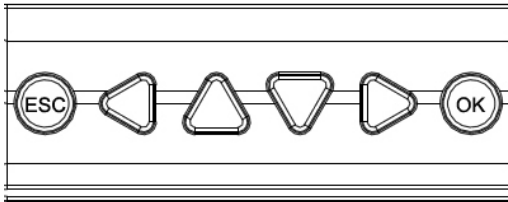
Load status icon

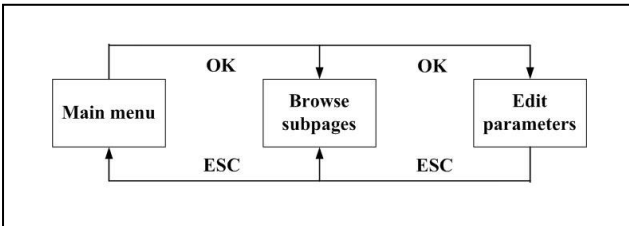 **-** Load output "on"   - load output "off"
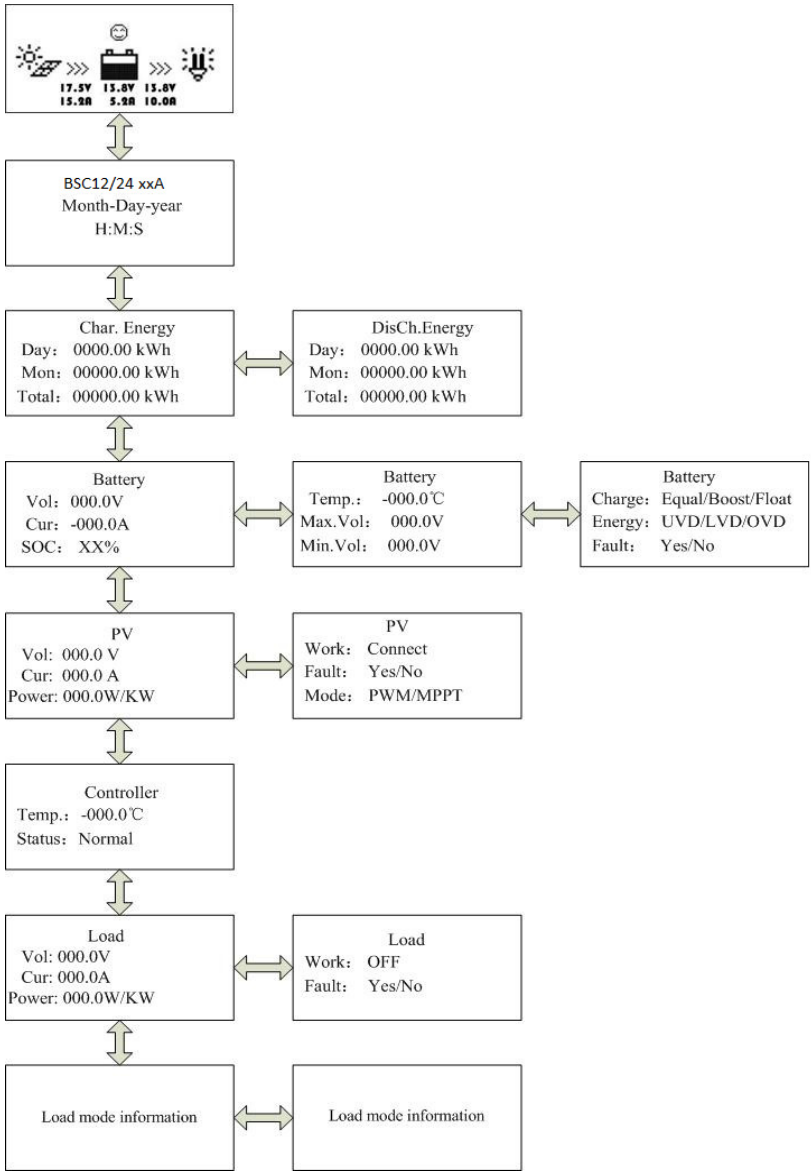
3.3. Buttons

Operation is visualized in the schematic diagram below:

4. Monitoring
The default monitoring display and monitoring subpages can be accessed with the UP/DOWN and LEFT/RIGHT buttons. See the diagram on the next page.

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```
☼⚡ ≫≫ 🔋 ≫≫ 💡
        17.5V  15.8V  15.8V
        15.2A   5.2A  10.0A
```

⇕

```
BSC12/24 xxA
Month-Day-year
H:M:S
```

⇕

Char. Energy	DisCh.Energy
Day： 0000.00 kWh	Day： 0000.00 kWh
Mon： 00000.00 kWh	Mon： 00000.00 kWh
Total： 00000.00 kWh	Total： 00000.00 kWh

⇕

Battery	Battery	Battery
Vol： 000.0V	Temp.： -000.0℃	Charge： Equal/Boost/Float
Cur： -000.0A	Max.Vol： 000.0V	Energy： UVD/LVD/OVD
SOC： XX%	Min.Vol： 000.0V	Fault： Yes/No

⇕

PV	PV
Vol: 000.0 V	Work： Connect
Cur: 000.0 A	Fault： Yes/No
Power: 000.0W/KW	Mode： PWM/MPPT

⇕

```
Controller
Temp.： -000.0℃
Status： Normal
```

⇕

Load	Load
Vol: 000.0V	Work： OFF
Cur: 000.0A	Fault： Yes/No
Power: 000.0W/KW	

⇕

Load mode information	Load mode information

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5. Full setup details

5.1. Main menu
When in monitoring mode, the main menu is accessed by pressing the ESC button.

The UP and DOWN buttons are used to browse through the main menu:
1 Monitoring
2 Device information
3 Test operation
4 Control parameters
5 Load set
6 Device parameters
7 Device password
8 Charge mode
9 Factory reset
10 Failure information
11 Meter parameters

The OK and ESC buttons are respectively used to enter or exit the corresponding pages of the menu items.

A password must be entered to change settings.
When on a settings page, press OK to access the password page and fill in the password to enable changing of settings.

The default password is 000000

5.2 Device information
The charge controller model, ratings and serial number are displayed (press the DOWN button to display the serial number).

5.3 Test Operation
When the load output is set on manual control (default setting, see section 5,5), the output can be switched ON or OFF with the orange switch button on the Charge Controller. The low voltage cut-off is also operational.

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The manual control function is disabled when other load output settings are chosen (see section 5.5).
However, when other load output settings have been chosen, the load output can be tested (i.e. switched ON and OFF) after switching back to Manual Control.

5.4 Control Parameters

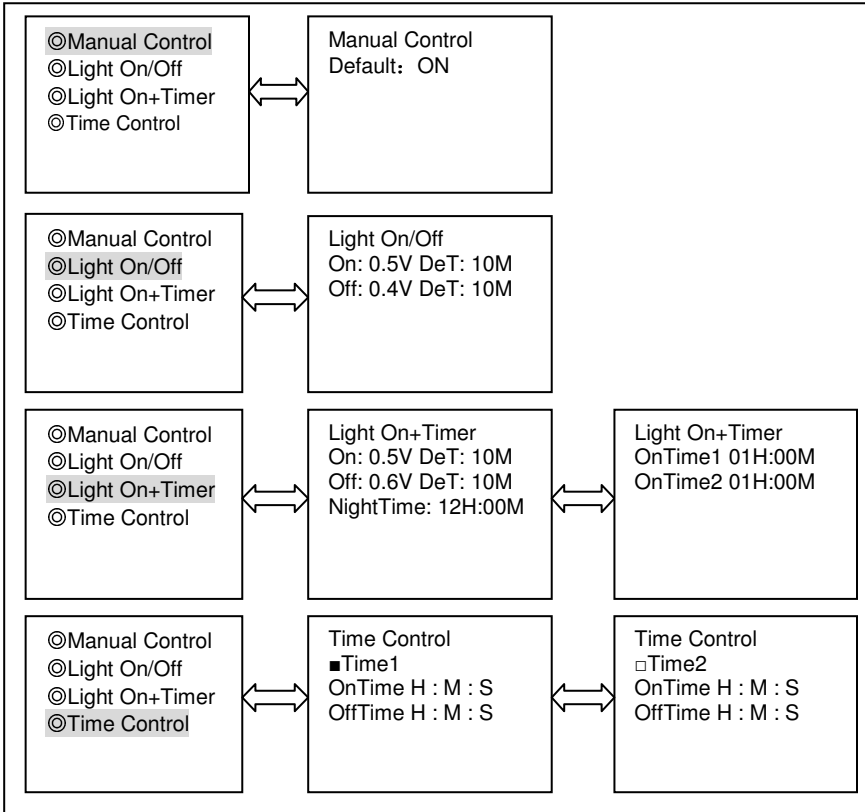The table below shows the list of battery related parameters that can be modified.
(press the DOWN or UP button to scroll through the parameters)

Parameter		Default setting		
Battery type	Gel	Sealed (AGM)	Flooded	User defined
Battery capacity (Ah)		200Ah		1~9999
Temperature compensation coefficient		-3mV/℃ per 2V cell		0~9
Rated voltage (system voltage)		Auto		12V/24V
Over voltage load disconnect		16.0V		9~17V
Charge limit (highest charge voltage including temp. compensation)		15.0V		9~17V
Over voltage load reconnect		15.0V		9~17V
Equalize charge	——	14.6V	14.8V	9~17V
Boost charge (absorption charge)	14.2V	14.4V	14.6V	9~17V
Float charge	13.8V	13.8V	13.8V	9~17V
Boost trigger voltage (starts new charge cycle)		13.2V		9~17V
Low voltage load reconnect		12.6V		9~17V
Under voltage warning reset		12.2V		9~17V
Under voltage warning		12.0V		9~17V
Low voltage load disconnect (nominal value at 25℃)		11.1V		9~17V
Discharge limit (lowest low voltage load disconnect including temp. compensation)		10.6V		9~17V
Equalize duration	——	2 hrs.	2 hrs.	0~3 hrs.
Boost/absorption duration	2 hrs.	2 hrs.	2 hrs.	0~3 hrs.

Multiply voltages by 2 for a 24V system

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5.5 Load output setting
The load output setting options are shown below:

◎Manual Control ◎Light On/Off ◎Light On+Timer ◎Time Control	Manual Control Default：ON

◎Manual Control ◎Light On/Off ◎Light On+Timer ◎Time Control	Light On/Off On: 0.5V DeT: 10M Off: 0.4V DeT: 10M

◎Manual Control ◎Light On/Off ◎Light On+Timer ◎Time Control	Light On+Timer On: 0.5V DeT: 10M Off: 0.6V DeT: 10M NightTime: 12H:00M	Light On+Timer OnTime1 01H:00M OnTime2 01H:00M

◎Manual Control ◎Light On/Off ◎Light On+Timer ◎Time Control	Time Control ■Time1 OnTime H : M : S OffTime H : M : S	Time Control □Time2 OnTime H : M : S OffTime H : M : S

Option 1: Manual Control
When the load output is set on Manual Control (default setting), the output can be switched ON or OFF with the orange switch button on the Charge Controller. The low voltage cut-off is also operational.

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Option 2: Light On/Off

This is a simple load output On/Off option, based on the solar input voltage of the Controller (= output voltage of the solar panel).

- When, at dusk, the input voltage of the Controller becomes lower than the light On voltage (default 0.50V), the load output is switched on.
- When, at dawn, the input voltage of the Controller becomes higher than the light Off voltage (default 0.40V), the load output is switched off.
- In order to prevent unwanted switching a confirmation time (DeT) can be set: default 10 minutes, range 0 – 99 minutes.

Option 3: Light On+Timer

This option allows for a pre-set On-time after dusk and a pre-set Off-time before dawn.

The dusk and dawn switching moments and confirmation time are set as under option 2.

The remaining parameters are set as follows:

- NightTime: initial setting of the night duration, the controller will subsequently adjust NightTime to the actual duration of the night.
- On Time 1: On period after dusk.
- On Time 2: On period before dawn.

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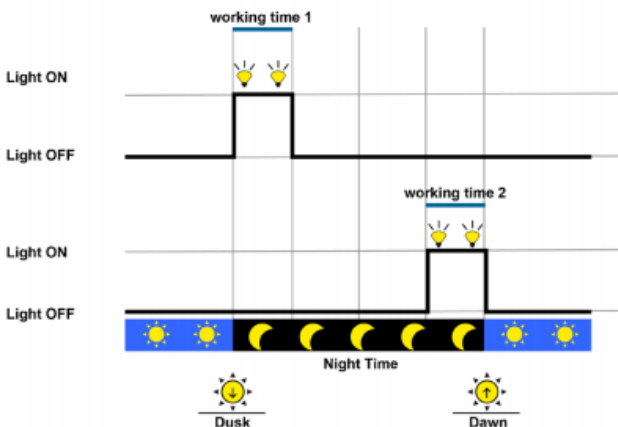
Option 4: Time control
This option uses the internal clock (see section 5.6) to set one (Time1 only) or two on-time periods.

5.6 Device Parameters
The first screen displays the software version and communication ID number of the Charge Controller.
The second screen allows setting of the backlight timer, and local date & time (use the DOWN button to go to the second screen).
The above data are stored in the Charge Controller.

```
Device Parameter
Ver: VX.XX
ID  :  XXX
```

```
Device Parameter
Bklight: 60S
Month-Day-Year
      H : M : S
```
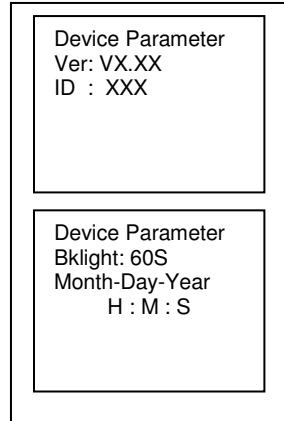
5.7 Device Password
The password is needed to change settings of the charge controller. The default password is "000000". The password is stored in the Charge Controller

5.8 Charge mode
This page is intended for future applications. Please do not change.

5.9 Factory reset
Allows reset of the charge controller to the default settings.

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5.10 Failure Information

Displays failures such as Over Voltage, Over Load or Short Circuit. (automatic reset when the fault is corrected).

5.11 Parameters

The first screen displays the type, software version and serial number of the remote meter.

The second screen allows modification of

- Switch-Pages (refresh time interval of the monitoring pages, default 0 seconds)
- Backlight duration (default 20 seconds).
- Audible alarm ON/OFF (default OFF).

6 Technical Specifications

Self-consumption	backlight and acoustic alarm on max. 65mA
	Backlight on max. 23mA
	Backlight off max. 15mA
Faceplate dimensions	98 × 98 mm / 3.86 × 3.86 inch
Frame dimensions	114 × 114 mm / 4.49 × 4.49 inch
Connector type	RJ45
Cable length	Max. 20 m
Weight	0.2 Kg
Ambient Temperature	-20℃~+70℃ / -4℉~158℉

7 RS-485 connector pinout:

Pin No.	
1	Power: +12V
2	RS485 B
3	RS485 A
4	GND
5	GND
6	RS485 A
7	RS485 B
8	Power: +12V

1 8 2 7 3 6 4 5
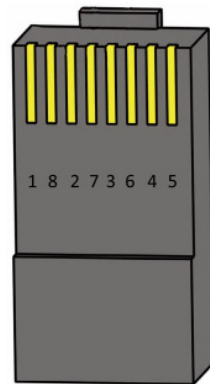
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8 Dimensions:
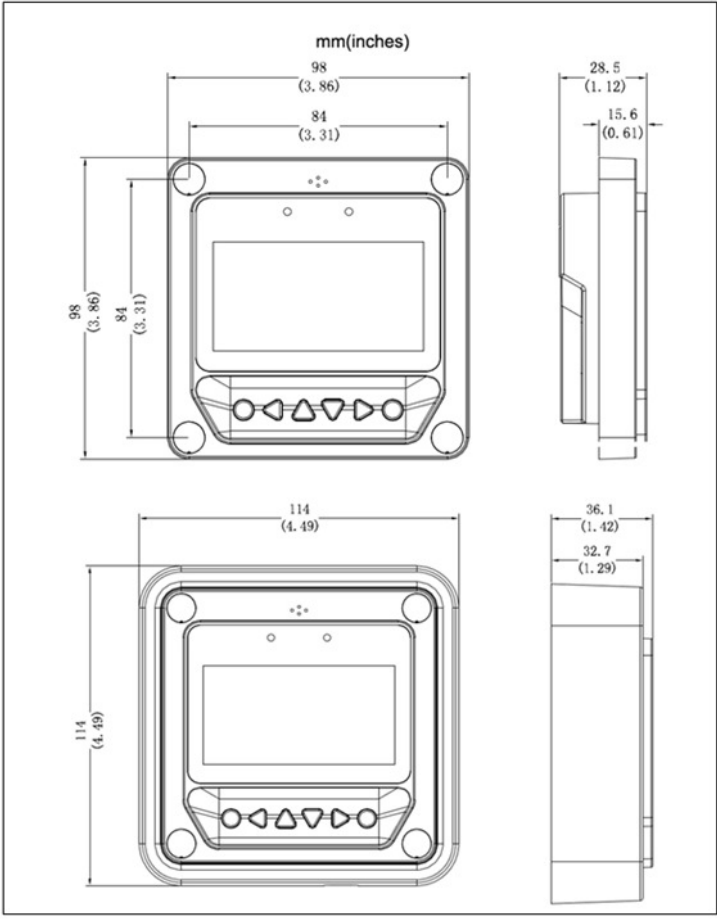
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Victron Energy Blue Power

Distributor:

Serial number:

Version : 02
Date   : 01 September 2014