EN

Appendix

BlueSolar DUO Charger

12V | 24V | 20A

1. DESCRIPTION

1.1 General

Series pass Pulse Width Modulation (PWM) charge voltage control combined with a multistage charge control algorithm leads to superior charging and enhanced battery performance. The filtered PWM power control system uses highly efficient and reliable power MOSFET transistors.

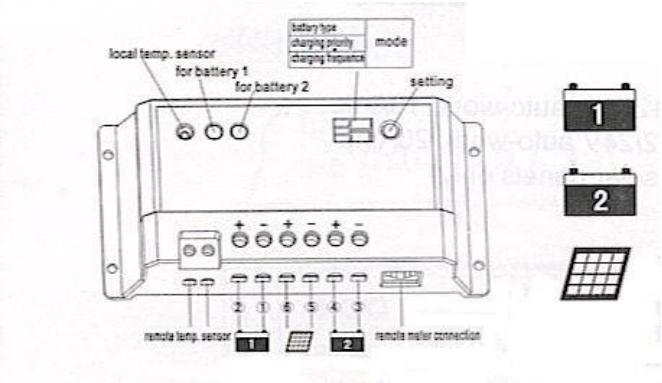
Fully automatic temperature compensation of charge voltage is available to further improve charge control and battery performance. The optional battery temperature sensor is built for long term reliability.

1.2 Features

- ✧ PWM controller.
- ✧ Charges two separate batteries. For example the starter battery and the service battery of a boat or mobile home.
- ✧ Programmable charge current ratio (standard setting: equal current to both batteries).
- ✧ Charge voltage settings for three battery types.
- ✧ Internal temperature sensor and optional remote temperature sensor.
- ✧ Protected against over current.
- ✧ Protected against short circuit.
- ✧ Protected against reverse polarity connection of the solar panels and/or battery.

2. INSTALATION

Important note: Always connect the batteries first.



Connect to battery #1

Connect to battery #2

Connect to PV

3. LED INDICATORS

Remote temperature sensor
A connection point for RTS (option) to remotely monitor battery temperature.
Local temperature sensor
Measures ambient temperature. Battery regulation is adjusted accordingly.
For battery 1
Provides charging & battery status and errors
For battery 2
Provides charging & battery status and errors
Remote panel connection(option)
A communication port for the remote panel.

4. TROUBLESHOOTING

1. LED blinking, short circuit, check the PV and battery, and make sure that they are in correct connection.
2. LED slowly flashing: fully charged.
3. LED ON: charging.
4. LED frequent flashing: battery connected, no charge current.
5. LED OFF: no battery or over voltage.
    1. Check wires
    2. Reduce Amps if needed
    3. Reset controller

5. SETTING MODE

After pressing the on/off push button during 5 seconds, one of the three leds starts flashing. Each LED expresses different specifications, choose the LED by pushbutton according to the following information, and then press the switch for 5 seconds until the number you need is flashing, choose one number as you need, leave it for save.

Battery type	mode
Charging priority	
Charging frequency	

The 1st led is the battery type setting

Number shows	Battery type
1	BAT 1
2	BAT 2
3	BAT 3

The 2nd led is for charging priority. Only set the percentage you want for battery #1, the controller will automatically calculate the rest for battery #2.

Number shows	Battery #1 charging	Battery # 2 charging
0	0%	100%
1	10%	90%
2	20%	80%
3	30%	70%
4	40%	60%
5	50%(pre-set)	50%
6	60%	40%
7	70%	30%
8	80%	20%
9	90%	10%

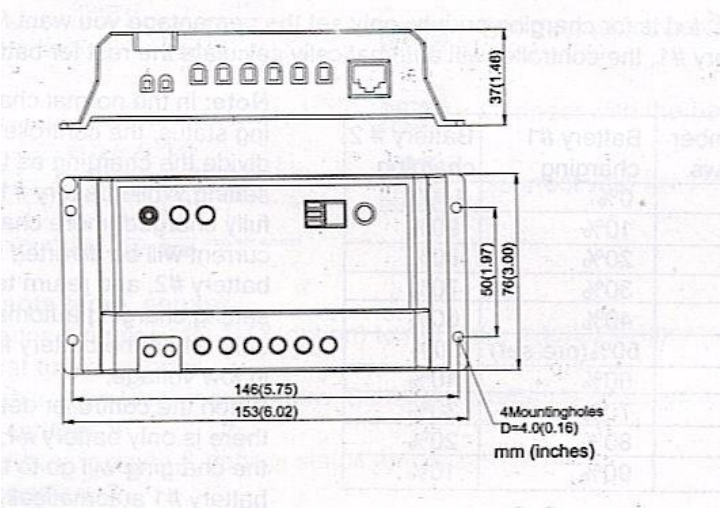
Note: In the normal charging status, the controller will divide the charging as the setting. When battery #1 is fully charged, more charge current will be go to battery #2. When the controller detects that only battery #1 is connected, all the charge current will go to the battery #1 automatically.

The 3rd led is for charging frequency

Number shows	PWM Charging frequency
0	25Hz(pre-set)
1	50Hz
2	100Hz

Set Point	BAT 1	BAT 2	BAT 3
Absorption	14.4V/28.8V	14.6V/29.2V	14.8V/29.6V
Float	13.7V/27.4V	13.7V/27.4V	13.7V/27.4V

6. MECHANICAL DRAWING



7. SPECIFICATIONS

BlueSolar	BlueSolar DUO 12/24-20	
	12V	24V
Battery Voltage	12/24V Auto Select *	
Rated charge current	20A	
Second battery output	Yes	
Recommended solar panel array	12V	24V
Maximum solar voltage	55V	
Self-consumption	4mA	
Default settings		
Absorption charge (1)	14.4V	28.8V
Float charge (1)	13.7V	27.4V
Battery temperature sensor	Yes, internal sensor Remote sensor optional	
Temperature compensation	-30mV/°C	-60mV/°C
Protection class	IP20	
Enclosure		
Terminal size	6mm² / AWG10	
Weight	180gr	
Dimension (h x w x d)	76x153x37 mm	
Mounting	Vertical wall mount Indoor only	
Humidity (non condensing)	Max. 95%	
Operating temperature	-35°C to +55°C (full load)	
Cooling	Natural convection	
Standards		
Safety	EN60335-1	
EMC	EN61000-6-1, EN61000-6-3	

* For 12V use 36cells solar panels and for 24V use 72cells solar panels

Victron Energy Blue Power

Distributor:

Serial number:

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