

# PWM charge controllers

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**BlueSolar 12/24-5**

### BlueSolar 12/24-5

**5A at 12V or 24V**

- Low cost PWM controller.
- Internal temperature sensor.
- Three stage battery charging (bulk, absorption, float).
- Protected against over current.
- Protected against short circuit.
- Protected against reverse polarity connection of the solar panels and/or battery.
- With low voltage load disconnect output. (laatste regel verwijderd!)



**BlueSolar DUO 12/24-20**

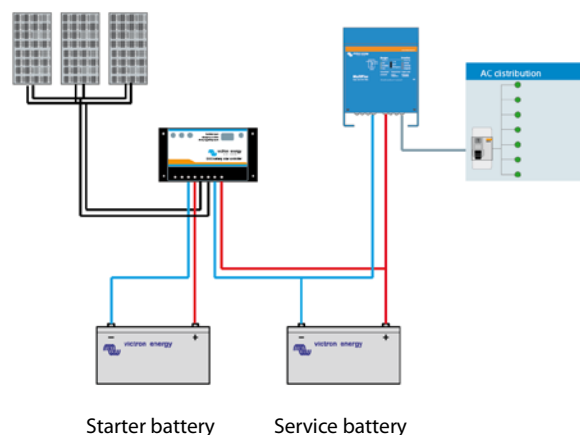
### BlueSolar DUO 12/24-20

**20A at 12V or 24V**

- 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 (Gel, AGM and Flooded).
- 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.



**Remote display for BlueSolar DUO 12/24-20**



**BlueSolar 12/24 with timer**

### BlueSolar 12/24-10 with timer

**10A at 12V or 24V**

- PWM solar lighting controller.
- Two timers to enable dusk to dawn operation, or limited time after dusk and limited time before dawn operation.
- Seven segment display to visualize timer settings and analyze fault conditions.
- Battery status indicator with over discharged warning.
- Internal temperature sensor.
- Three stage battery charging (bulk, absorption, float).
- Protected against over current.
- Protected against short circuit.
- Protected against reverse polarity connection of the solar panels and/or battery.
- Low voltage load disconnect override.

| BlueSolar  | BlueSolar 12/24-5                  |          | BlueSolar DUO 12/24-20             |          | BlueSolar 12/24 with timer         |          |
|--|------------------------------------|----------|------------------------------------|----------|------------------------------------|----------|
|  | 12V                                | 24V      | 12V                                | 24V      | 12V                                | 24V      |
| Battery Voltage  | 12/24V Auto Select (1)             |          | 12/24V Auto Select (1)             |          | 12/24V Auto Select (1)             |          |
| Rated charge current   | 5A                                 |          | 20A                                |          | 10A                                |          |
| Second battery output  | No                                 |          | Yes                                |          | No                                 |          |
| Automatic load disconnect  | Yes<br>(maximum load 10A)          |          | n. a.                              |          | Yes<br>(maximum load 10A)          |          |
| Maximum solar voltage  | 28/55V (1)                         |          | 28/55V (1)                         |          | 28/55V (1)                         |          |
| Self-consumption   | 6mA                                |          | 4mA                                |          | 5mA                                |          |
| <b>Default settings</b>  |                                    |          |                                    |          |                                    |          |
| Absorption charge (2)  | 14.4V                              | 28.8V    | 14.4V                              | 28.8V    | 14.4V                              | 28.8V    |
| Float charge (2)   | 13.7V                              | 27.4V    | 13.7V                              | 27.4V    | 13.7V                              | 27.4V    |
| Equalization charge (2)  | n. a.                              |          | n. a.                              |          | 14.8V                              | 29.6V    |
| Low voltage load disconnect  | 11.1V                              | 22.2V    | n. a.                              |          | 11.1V                              | 22.2V    |
| Low voltage load reconnect   | 12,6V                              | 25.2V    | n. a.                              |          | 12,6V                              | 25.2V    |
| <b>Enclosure &amp; Environmental</b>   |                                    |          |                                    |          |                                    |          |
| Battery temperature sensor   | Yes<br>Internal sensor             |          | Yes<br>Internal sensor             |          | Yes<br>Internal sensor             |          |
| Temperature compensation   | -30mV/°C                           | -60mV/°C | -30mV/°C                           | -60mV/°C | -30mV/°C                           | -60mV/°C |
| Operating temperature  | -35°C to +55°C (full load)         |          | -35°C to +55°C (full load)         |          | -35°C to +55°C (full load)         |          |
| Cooling  | Natural Convection                 |          | Natural Convection                 |          | Natural Convection                 |          |
| Humidity (non condensing)  | Max. 95%                           |          | Max. 95%                           |          | Max. 95%                           |          |
| Protection class   | IP20                               |          | IP20                               |          | IP30                               |          |
| Terminal size  | 6mm <sup>2</sup> / AWG10           |          | 6mm <sup>2</sup> / AWG10           |          | 6mm <sup>2</sup> / AWG10           |          |
| Weight   | 160                                |          | 180gr                              |          | 150gr                              |          |
| Dimension (h x w x d)  | 70x133x34 mm                       |          | 76x153x37 mm                       |          | 65x140x45 mm                       |          |
| Mounting   | Vertical wall mount<br>Indoor only |          | Vertical wall mount<br>Indoor only |          | Vertical wall mount<br>Indoor only |          |
| <b>Standards</b>   |                                    |          |                                    |          |                                    |          |
| Safety   | EN60335-1                          |          |                                    |          |                                    |          |
| EMC  | EN61000-6-1, EN61000-6-3           |          |                                    |          |                                    |          |
| 1) For 12V use 36 cell Solar panels<br>For 24V use 72 cell Solar panels or 2x 36 cell in series<br>2) See manual for alternative charge voltage settings |                                    |          |                                    |          |                                    |          |