

## CMLsolid (30 A)

Four-Stage PWM Solar Charge Controller



- Battery state-of-charge indication via 3 LEDs
- Load disconnect pre-warning via acoustic signal
- Four-stage PWM charging algorithm with (integrated) temperature compensation (float, main, boost, and equalization charging)
- Automatic 12/24 V detection
- Large terminals: up to 16 mm<sup>2</sup>
- SOC and voltage-controlled LVD
- Full electronic protection
- Aluminum housing (IP20)
- Charger for external devices via USB port
- Remote output connector for the Phocos inverter series

The CMLsolid charge controller is the next stage in the development of the CML series. The controller is equipped with a number of outstanding features such as an aluminum housing, USB port, battery status display, alarm, and electronic protection against reverse battery polarity and reverse solar polarity. The temperature-compensated,

four-stage PWM charging algorithm (float-main-boost-equalization) is adjustable for sealed and vented lead-acid batteries. The CMLsolid also allows either a SOC or voltage-controlled low-voltage disconnect.

Battery status is clearly indicated via three LEDs, with an alarm for signaling a low-voltage disconnect.

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Four-Stage PWM Solar Charge Controller

| Type   | CMLsolid 30  |
|--|--|
| System voltage                               | 12/24 V auto recognition   |
| Max. charge/load current                     | 30 A   |
| Float charge                                 | 13.8/27.6 V (25 °C)  |
| Main charge                                  | 14.4/28.8 V (25 °C), 0.5 h (daily)   |
| Boost charge                                 | 14.4 /28.8 V (25 °C), for 2 h<br>Activation: battery voltage < 12.3/24.6 V |
| Equalization                                 | 14.8/29.6 V (25 °C), for 2 h<br>Activation: battery voltage < 12.1/24.2 V  |
| Deep discharge protection:                   |  |
| State-of-charge dependent                    | 11.4 – 11.9 V / 22.8 – 23.8 V by SOC                                       |
| Voltage dependent                            | 11.0/22.0 V by voltage   |
| Reconnect level                              | 12.8/25.6 V  |
| Overvoltage protection                       | 15.5/31.0 V  |
| Undervoltage protection                      | 10.5/21.0 V  |
| Max. panel voltage                           | 30 V in 12 V system<br>50 V in 24 V system                                 |
| Temperature compensation<br>(Charge voltage) | –25 mV/K at 12 V<br>–50 mV/K at 24 V                                       |
| Remote control for inverter series           | Yes (Phocos SI 1500, SI 700, SI 350 inverter)                              |
| Idle self-consumption                        | 10 mA  |
| Grounding                                    | Positive grounding   |
| Ambient operating temperature                | –40 to +50 °C  |
| Max. altitude                                | 4,000 m above sea level  |
| Battery type                                 | Lead acid (GEL, AGM, flooded)  |
| USB port                                     | 5.0 V; 800 mA  |
| Wire cross section                           | Up to 16 mm <sup>2</sup>   |
| Weight                                       | 420 g  |
| Dimensions (W x H x D)                       | 140 x 90 x 40 mm   |
| Type of protection                           | IP20   |