

## 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 Activation: battery voltage < 12.3/24.6 V
Equalization	14.8/29.6 V (25 °C), for 2 h 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 50 V in 24 V system
Temperature compensation (Charge voltage)	–25 mV/K at 12 V –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