

20A 12V/24V MPPT Solar Charge Controller / L03DZMPPT20A-2

PVShop catalogue reference: PVS-MPPT-20A

Electrical and physical specifications

Manufacturer-stated specifications for the exact EU version. Reviewed on 19 October 2026; not independently laboratory tested by PVShop.

Manufacturer brand	ECO-WORTHY
Manufacturer model / range	20A 12V/24V MPPT Solar Charge Controller / L03DZMPPT20A-2
PVShop catalogue reference	PVS-MPPT-20A
Product type	MPPT solar charge controller
Battery system voltage	12 V / 24 V, automatic detection (LiFePO4 profile: set 24 V manually)
Rated battery charge current	20 A
Rated load current	20 A
Maximum battery voltage	32 V
Maximum PV input voltage (open circuit)	60 V
Maximum PV input power	325 W at 12 V / 650 W at 24 V
Self-consumption	2 W or less
Communication	Bluetooth (built in)
Battery profiles	LiFePO4, flooded lead-acid, gel, sealed lead-acid, custom (app)
Display	LCD 46 x 27 mm
Operating temperature	-10 to +60 degC
Dimensions (L x W x H)	160.5 x 135 x 52.5 mm
Weight	0.74 kg

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Operating limits and interfaces

Charging stages	Main charge; float and, depending on the chemistry, absorption and equalisation for lead-acid profiles. Lithium profile: main charge only.
LiFePO4 profile, 12 V system (all voltages x2 at 24 V)	Main charge 14.5 V; low-voltage disconnect 11.2 V; low-voltage reconnect 13.0 V; overcharge protection 15.0 V.
Flooded profile, 12 V system	Main charge 14.6 V; float 13.8 V; equalisation 14.8 V for 120 min; low-voltage disconnect 11.2 V; reconnect 12.2 V.
Gel profile, 12 V system	Main charge 14.4 V; float 13.7 V; low-voltage disconnect 10.7 V; reconnect 12.0 V.
Sealed lead-acid profile, 12 V system	Main charge 14.5 V; float 13.7 V; equalisation 14.6 V for 120 min; low-voltage disconnect 11.2 V; reconnect 12.5 V.
Custom profile (CUS), 12 V system	Defaults: main charge 14.6 V; float 13.8 V; equalisation 14.8 V for 120 min; low-voltage disconnect 11.2 V; reconnect 12.2 V. Values are edited in the ECO-WORTHY app.
Load output	20 A. Manual on/off, light-control and timed modes. Inverters and battery chargers must not be connected to the load terminals.
Battery temperature sensor	Sensor input on the controller. A 1.5 m sensor is listed in the manual packing list.
Communication	Built-in Bluetooth through the ECO-WORTHY app (no account needed according to the manual). No protocol documentation is published.
Protections	PV over-voltage (charging stops above 60 V and resumes below 55 V), battery over-voltage, overcharge, charge over-current at 20 A, battery low voltage, discharge over-current, short circuit at the battery or load terminals, internal over-temperature, battery-sensor over-temperature (fault above 75 degC, cleared at 60 degC or less).

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Manufacturer charging parameters

From the manufacturer manual, section IX. Values are for a 12 V system; every voltage parameter doubles on a 24 V system. LFP lithium iron phosphate, FLD flooded lead-acid, GEL gel, SLA sealed lead-acid, CUS custom. A dash means the stage does not apply.

Parameter (12 V system)	LFP	FLD	GEL	SLA	CUS
Low-voltage disconnect	11.2 V	11.2 V	10.7 V	11.2 V	11.2 V
Overcharge protection	15.0 V	15.0 V	15.0 V	15.0 V	15.0 V
Low-voltage reconnect	13.0 V	12.2 V	12.0 V	12.5 V	12.2 V
Main charge voltage	14.5 V	14.6 V	14.4 V	14.5 V	14.6 V
Float voltage	-	13.8 V	13.7 V	13.7 V	13.8 V
Equalisation voltage	-	14.8 V	-	14.6 V	14.8 V
Equalisation time	-	120 min	-	120 min	120 min

Installation and application

Connect the battery first, then the solar array; disconnect the array before the battery. Size cables and fuses for 20 A at the system voltage, keep the array open-circuit voltage at the coldest expected temperature below 60 V and the array power within 325 W (12 V) or 650 W (24 V). Do not connect inverters or battery chargers to the load terminals. Do not install the controller in a closed space with flooded batteries. Follow the installation manual.

Evidence and revision notes

Revision: this datasheet follows the current manufacturer manual for model L03DZMPPT20A-2 (English and German, version 1.0.0). The EU listing links an earlier-revision German manual (model L03DZMPPT20A-1, version 1.2.0) that gives a 100 V PV input limit, an RS485 interface and -20 degC; those figures do not apply to this model.

Efficiency: the EU listing states tracking efficiency of up to 99 percent; the manual states at least 99 percent tracking efficiency and at least 98 percent peak conversion efficiency. Neither is independently tested and no efficiency is published as a specification.

In the box: the EU listing names the controller and the manual. The manual and the product images also list a 1.5 m temperature sensor and mounting hardware (five M4 x 30 mm screws, five M6 x 30 mm expansion tubes).

System voltage: automatic 12 V / 24 V detection is documented for gel, sealed and flooded profiles. For LiFePO4 and custom profiles the manual lists 12 V as the initial setting, so set 24 V explicitly before charging a 24 V lithium battery.

The second charging-parameter table of the manual starts with a row labelled over-discharge protection voltage (14.5, 14.6, 14.4, 14.2 and 14.6 V) that conflicts with the 11.2 V row of the first table. It is not reproduced here.

Document scope

PVShop retailer edition retaining the original ECO-WORTHY brand and model identity. Tables are reproduced from the manufacturer manual without recalculation. They are not independently measured results, and no laboratory test report was supplied. The current manufacturer manual remains the installation reference.

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