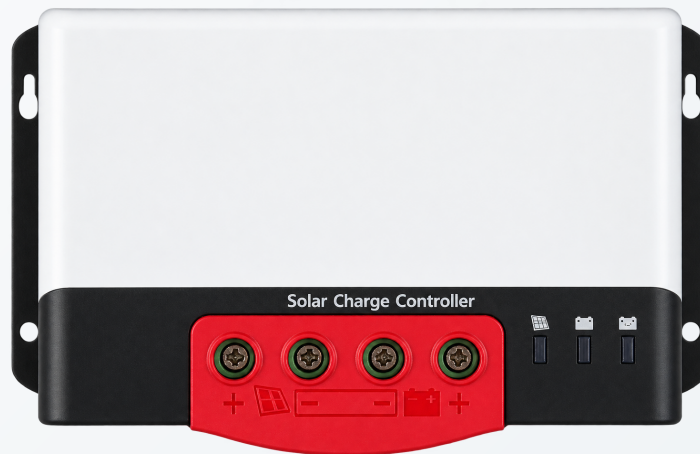


SOLAR CHARGE CONTROL

MC Series MPPT Solar Charge Controller

High-performance solar charging controller

A high-performance charge controller designed to accurately track the maximum power point of PV modules and maximize energy yield under varying conditions. It supports lead-acid and LiFePO4 batteries and can be expanded with an external LCD, Bluetooth module and standard Modbus communication.



20-50 A

RATED CHARGE CURRENT

12 / 24 V

AUTO SYSTEM VOLTAGE

99.9%

MPPT TRACKING
EFFICIENCY

Up to 98%

CONVERSION EFFICIENCY

Modbus

COMMUNICATION SUPPORT

01 KEY FEATURES

Product Highlights

PowerCatcher MPPT

Provides MPPT tracking efficiency above 99.9% and charging conversion efficiency up to 98%.

Broad Battery Support

Compatible with sealed, GEL/colloidal and vented lead-acid batteries as well as LiFePO4 batteries.

Smart 4-stage Charging

Automatically manages Bulk, Boost, Equalize and Float charging stages.

Multiple Protection Functions

Includes reverse-polarity, PV overvoltage, short-circuit, night reverse-current, overtemperature and TVS surge protection.

Modular Expansion

Supports an external LCD, Bluetooth module and standard Modbus communication for real-time monitoring.

IP32 Enclosure

Protection rating specified as IP32 in the source product catalog.

02 TECHNICAL SPECIFICATIONS

Lineup & Specifications

PARAMETER	JY-MC-20	JY-MC-30	JY-MC-40	JY-MC-50
Rated charge current	20 A	30 A	40 A	50 A
System voltage	12 V / 24 V Auto	12 V / 24 V Auto	12 V / 24 V Auto	12 V / 24 V Auto
Max. PV input power	260 W (12 V) 520 W (24 V)	400 W (12 V) 800 W (24 V)	520 W (12 V) 1,040 W (24 V)	660 W (12 V) 1,320 W (24 V)
Max. PV open-circuit voltage	92 V @25 °C 100 V @ min. ambient	92 V @25 °C 100 V @ min. ambient	92 V @25 °C 100 V @ min. ambient	92 V @25 °C 100 V @ min. ambient
Outline dimensions	150 x 105.6 x 61.5 mm	150 x 105.6 x 67.5 mm	183 x 127 x 65.5 mm	183 x 127 x 69.5 mm
Mounting dimensions	139 x 60 mm Φ5 mm	139 x 60 mm Φ5 mm	168 x 85 mm Φ5 mm	168 x 85 mm Φ5 mm
Recommended wire size	10 AWG	8 AWG	7 AWG	6 AWG
Weight	650 g	830 g	1,040 g	1,335 g

Overall recommended wire range: 20-6 AWG. Model-specific recommendations are shown above.

03 BATTERY TYPE INDICATORS

Battery Type Indicators

LED COLOR	SELECTED BATTERY TYPE
Green	Sealed lead-acid
Yellow	GEL / colloidal lead-acid
Red	Vented lead-acid
Blue	Lithium iron phosphate 12 V
Purple	Lithium iron phosphate 24 V
White	Custom setting

04 SETUP & SAFETY

Setup & Safety

Safe Wiring & Local Setup

1. For safe operation, connect the battery terminals (+/-) first, then connect the PV module terminals. Disconnect in reverse order.
2. Hold the rear SET button for 8 seconds until the LED flashes, then select the battery type. Save by holding for 8 seconds again or waiting 15 seconds.

SET Button Procedure

1. Hold SET for 8 seconds to enter setting mode.
2. When the battery-type LED flashes, press briefly to cycle through the available battery colors.
3. At the desired color, hold for 8 seconds or wait 15 seconds to save.
4. Holding for 20 seconds restores the factory default settings.

05 REMOTE LCD & STATUS

Status Indicators

RM-6 LCD

External LCD Setup

- Hold ENTER for about 2 seconds until the display flashes.
- Use SELECT to move to voltage selection and ENTER to choose 12 V or 24 V.
- Use SELECT to move to battery type and ENTER to select Li.
- Hold ENTER for about 2 seconds to complete setup.

BAT STATUS

Battery Status LED

- Green steady: fully charged
- Yellow steady: voltage status
- Red steady: low voltage
- Red fast flash: overvoltage or overtemperature warning

PV STATUS

PV Charging LED

- Steady: MPPT charging (BULK)
- Slow flash: Boost charging (ACCEPTANCE)
- One short flash: Float charging
- Fast flash: Equalize charging



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