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Steca Solarix MPPT 3020 | MPPT 5020



OFF-Grid charge controller Steca Solarix MPPT 3020 | 5020

The Steca MPPT 3020 and 5020 are highly efficient mid-range charge controllers for various battery types including lithium-ion batteries. Diverse voltage ranges, fast MPP tracking and best heat dissipation make the MPPT series flexible and powerful. The RS 232 interface allows direct connection to a notebook for quick and easy readout of data such as battery status, charging current or PV power. The display design as well as the simple operation and monitoring receive top marks from users. The electronic, temperature-dependent speed control contributes significantly to noise reduction, energy saving as well as to a longer service life of the fans of the MPPT 5020. Uncompromising quality, sophisticated design and selected features ensure easy installation and make operation and maintenance particularly efficient. Steca MPPT charge controllers are mainly used in systems with two or more solar modules and when the module voltage is higher than the battery voltage. With this system configuration, the efficiency is up to 30 % higher than with a PWM charge controller.

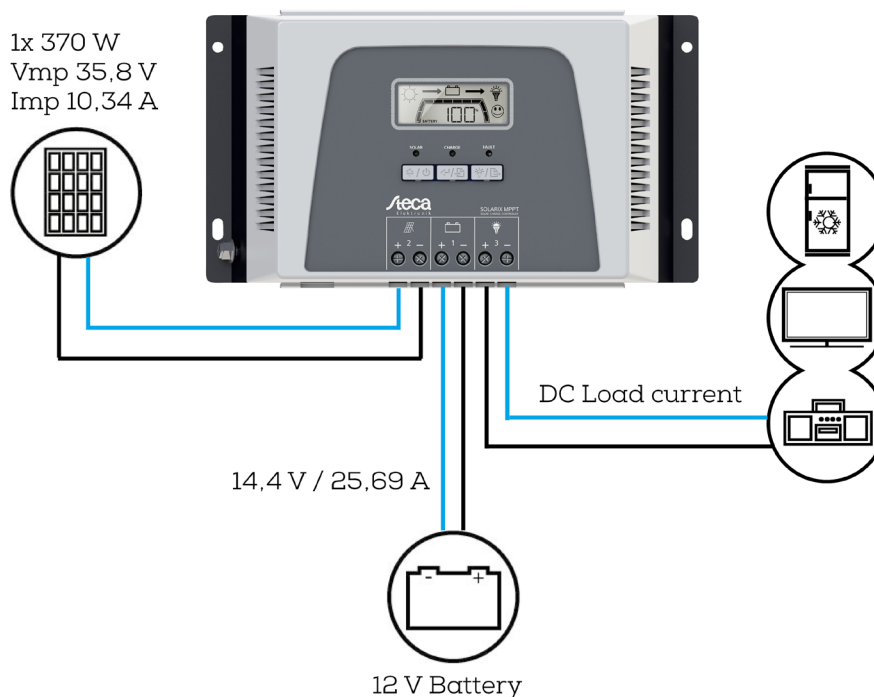


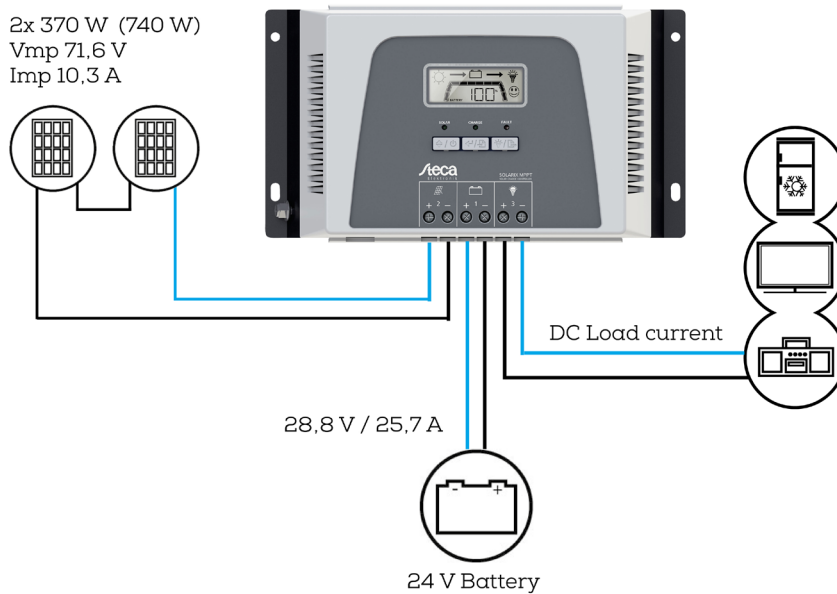
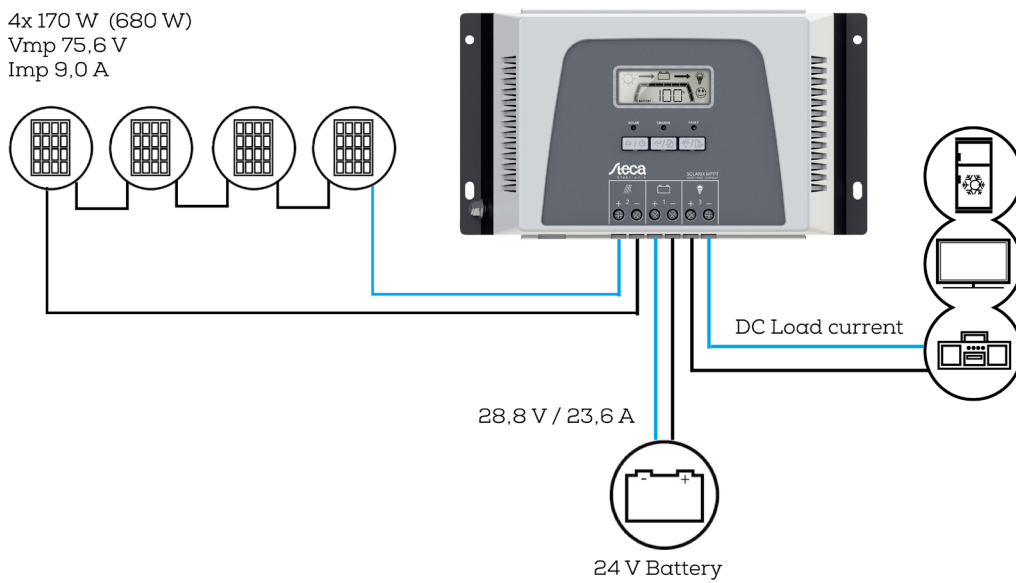
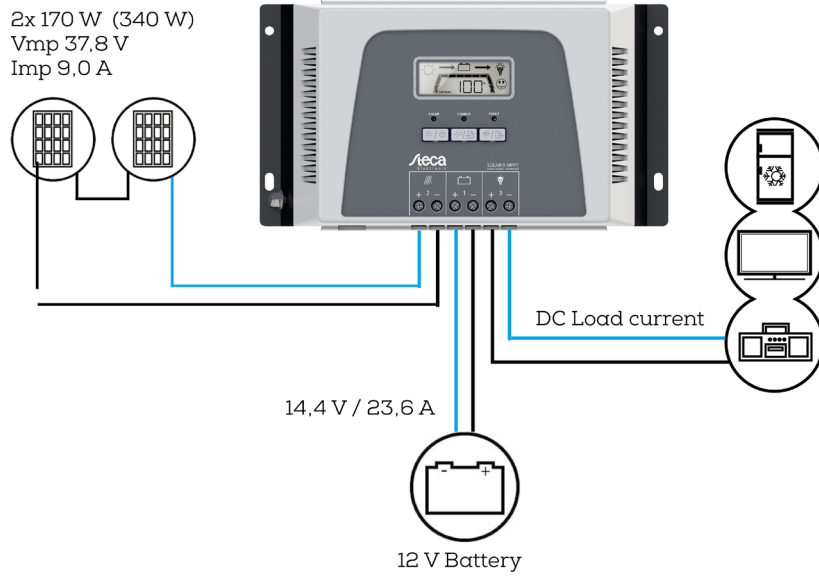
The **PWM (pulse width modulated)** charge controller connects the solar system to the battery. As a result, the module voltage is only slightly higher than the battery voltage during operation. Therefore, PWM charge controllers are preferably used in systems that have small differences between the open circuit voltage (VoC) of the solar modules and the battery voltage.

The **MPPT (maximum power point tracking)** controller adjusts its input voltage to the situation so that the solar system delivers maximum power at all times. This means that larger input voltage ranges can be processed, which allows more flexibility in the system design. There are also advantages here for the MPPT charge controller with changing irradiation conditions or partial shading.

Steca Solarix MPPT 3020

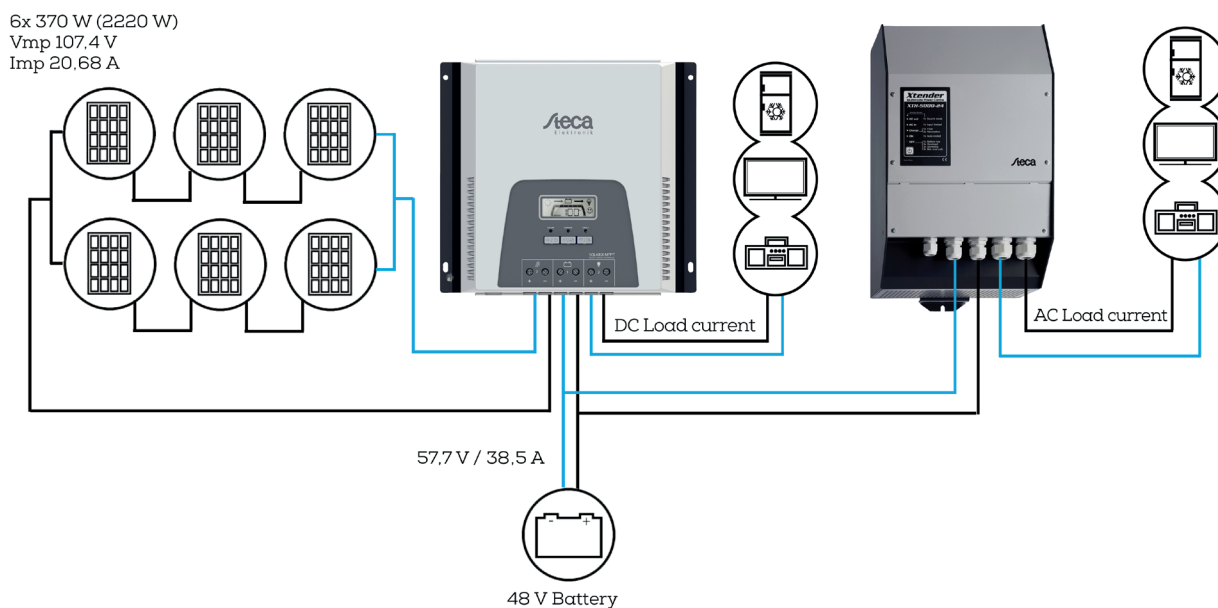
The module constantly operates at the maximum power point - the module voltage is kept separate from the battery voltage.





Charge controller Steca Solarix MPPT 5020

A battery with 24V or 48V voltage enables the connection of higher PV power to the MPPT charge controller.



Steca MPPT-charge controller	Max. PV open circuit voltage	System voltage	Max. Battery charging current	Max. Load output current
MPPT 3020	100 V	12 V 24 V	30 A	20A
MPPT 5020	150 V	12 V 24 V 48 V	50 A	20A

Steca MPPT charge controllers are usually used with two or more solar modules, also when the module voltage is higher than the battery voltage.

Solar charge controllers in the medium power class up to 50 A

MPPT 3020 (100 Voc, 30 A battery charge current, output load of 20 A)

MPPT 5020 (150 Voc, 50 A battery charge current, output load of 20 A)

Key factors MPPT 3020/5020:

- Fast MPP tracking with high efficiency
- Wide input voltage range (17V-100V/150Voc)
- 12V, 24V or 48V batteries, automatic detection of the battery voltage
- Built-in display
- Step-by-step configuration of the charging current in 5-ampere steps possible
- Noise reduction, energy saving and increased service life of the fans through temperature-dependent speed control (MPPT 5020)
- Compatible with LiFePO₄ lithium batteries
- Open UART protocol / serial interface RS 232 for connection and configuration on a notebook
- 5-year warranty



Datasheet Steca Solarix MPPT 3020 |5020

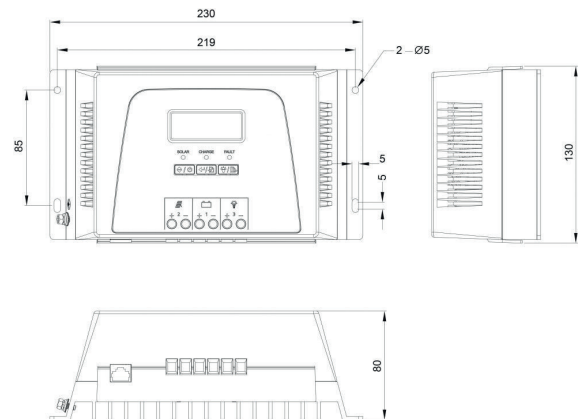
Steca Solarix MPPT are solar charge controllers with maximum power point tracking. These are suitable for all common module technologies and are optimally suited for solar systems with module voltages higher than the battery voltage. In particular, such inexpensive PV modules that are used for grid-connected systems can also be used off-grid.

Steca's efficient MPP tracking algorithm always provides the maximum usable power of the module, significantly increasing energy yield, especially in poor weather conditions (cloud cover, winter, diffused light). The Steca Solarix MPPT charge controllers combine state-of-the-art charging technology with high efficiency, professional battery care with numerous programming options, modern design, excellent protection functions and an intuitive LC display with menu guidance. For remote monitoring, KATEK Memmingen provides the cost-efficient item PA WiFi1 as an optional accessory.



Product features

- Maximum Power Point Tracker (MPP tracker)
- Voltage and current regulation
- Multistage charging technology (also suitable for lithium batteries)
- Automatic load reconnection
- Temperature compensation
- Positive earthing of one or negative earthing of several terminals possible
- Monthly equalisation charge



Electronic protection functions

- Overcharge protection
- Deep discharge protection
- Reverse polarity protection of module, load and battery
- Reverse polarity protection by internal fuse
- Automatic electronic fuse
- Short circuit protection
- Overvoltage protection at module input
- Open circuit protection without battery
- Reverse current protection at night
- Overtemperature and overload protection
- Load disconnection on battery overvoltage

Displays

- Multifunction graphical LC display with backlighting

Operation

- Simple menu-driven operation

Interfaces

- Open Steca RS-232 interface

	Steca Solarix MPPT 3020	Steca Solarix MPPT 5020
Description of the operating behaviour		
System voltage	12 V (24 V)	12 / 24 / 48 V
Nominal power	450 W (900 W)	750 W / 1500 W / 3000 W
DC input side		
Open circuit voltage solar module (at minimum operating temperature)	17 V ... 100 V (34 V ... 100 V)	17 V / 34 V / 68 V < U _{modul} < 150 V
Module current	30 A	50 A
DC output side		
Load current	20 A	
Reconnection voltage (LVR)	12,5 V (25 V)	12.5 V / 25 V / 50 V
Deep discharge protection (LVD)	11,5 V (23 V)	11.5 V / 23 V / 46 V
Battery side		
Charge current	30 A	50 A
End-of-charge voltage	14,1 V (28,2 V)	14,1 V / 28,2 V / 56,4 V
Boost charge voltage	14,4 V (28,8 V)	14,4 V / 28,8 V / 57,6 V
Equalisation charge	15 V (30 V)	15 V / 30 V / 60 V
Set battery type	liquid	
Operating conditions		
Ambient temperature	0 °C ... +55 °C	
Fitting and construction		
Terminal (fine / single wire)	16 mm ² - AWG 6	35 mm ² - AWG 2
Protection degree	IP 20	
Dimensions (X x Y x Z)	230 x 130 x 80 mm	250 x 230 x 85 mm
Weight	1370 g	3140 g

Technical data at 25 °C / 77 °F
 Inverters must not be connected to the load output.
 caution_open_circuit_voltage_100



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