steca
Elektronik by AL·KO

Steca Tarom
4545, 4545-48

The new design for the Steca Tarom sets new standards in this power class. A graphic display informs the user about all important system data and enables configuration and adjustment of the controller to the specific requirements of the individual system.

Numerous clever functions allow the user to adjust the controller to the particular features of the system in question. Thanks to the significantly improved state of charge determination, the system is optimally controlled and the batteries are protected. The Steca Tarom charge controller is the ideal choice for larger systems at three voltage levels (12 V, 24 V, 48 V).

The integrated data logger stores all important system data. Controller data can be read by the minute via an open Steca UART interface. As an option, an external temperature sensor can also be connected. Two additional switching contacts can be freely configured as a timer, a night light function, to start generators or as surplus management. Up to six devices can be connected in parallel and communicate with one another via the StecaLink bus.

ADVANCED

STECA Quality

Product features
- Shunt topology with MOSFETs
- MicroSD slot for data logging of all minute values
- State of charge determination (SOC)
- Automatic detection of voltage
- PWM control
- Multistage charging technology
- Load disconnection depending on SOC
- Automatic load reconnection
- Temperature compensation
- Negative earthing of one or positive earthing of several terminals possible
- Real-time clock (date, time)
- Innovative, comprehensive data logger with energy meter
- MicroSD slot for data logging of all minute values
- Evening, night light and daylight functions
- Four freely programmable timers with week day function
- Integrated self test
- Monthly equalisation charge
- Two configurable multifunctional contacts
- Adjustable cut-off voltages

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

Displays
- Multifunction graphical LCD display with backlighting

Operation
- Simple menu-driven operation
- Programming by buttons

Interfaces
- StecaLink Bus
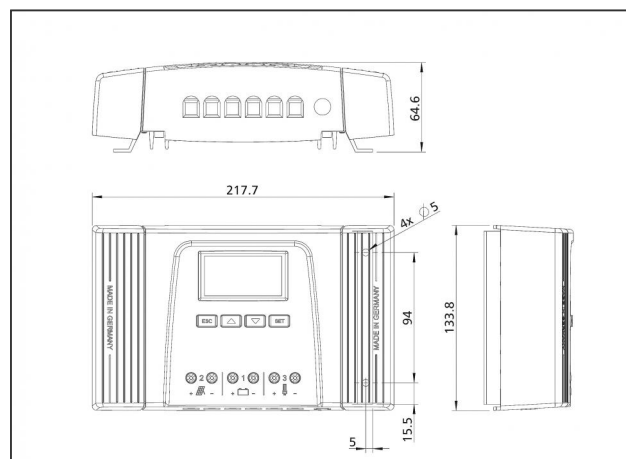- Open Steca UART interface

Options
- Alarm contact

Certificates
- Compliant with European Standards (CE)
- RoHS compliant
- Made in Germany
- Developed in Germany
- Manufactured according to ISO 9001 and ISO 14001

Accessories
- Data cable Steca PA CAB2 Tarcom
- Current sensor PA HS 400
- External temperature sensor Steca PA TS-S

	4545	4545-48
Characterisation of the operating performance		
System voltage	12 V (24 V)	12 / 24 / 48 V
Own consumption	30 mA	
DC input side		
Open circuit voltage solar module (at minimum operating temperature)	< 60 V	< 100 V
Module current	45 A	
DC output side		
Load current	45 A	
Reconnection voltage (SOC / LVR)	> 50 % / 12.5 V (25 V)	> 50 % / 50 V
Deep discharge protection < 30 % (SOC / LVD)	< 30 % / 11.7 V (23.4 V)	< 30 % / 46.8 V
Battery side		
End-of-charge voltage	14.1 V (28.2 V)	56.4 V
Boost charge voltage	14.4 V (28.8 V)	57.6 V
Equalisation charge	15 V (30 V)	60 V
Set battery type	liquid (adjustable via menu)	
Operating conditions		
Ambient temperature	-10 °C … +60 °C	
Fitting and construction		
Terminal (fine / single wire)	25 mm² / 35 mm² - AWG 4 / 2	
Degree of protection	IP 31	
Dimensions (X x Y x Z)	218 x 134 x 65 mm	
Weight	800 g	

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

User-friendly graphical LCD display

All system states are displayed intuitively via icons on the graphical multifunction display enabling simple understanding of the energy flow. All parameters can be modified via the multi-language, intuitive menu.

Twelve-year data logging

The Steca Tarom is equipped with a unique, comprehensive data logger which stores module and load data for twelve years. The previous 18 hours can be graphically displayed. Daily, monthly and annual totals are summarised automatically for an outstanding overview of system utilisation at a glance.

Load output

The 45 A load output on the Steca Tarom enables a multitude of programming options: deep discharge protection, manual load switch, automatic evening, night light and daylight functions plus timer and generator functions and surplus manager. Virtually any combination of these individual functions is possible along with independent programming for the load output and the two multifunctional contacts.

- **Deep discharge protection:** Deep discharge protection automatically protects the battery against harmfully low levels of discharge. All voltage thresholds can be freely configured via a menu based either on the battery's current state of charge (SOC) or on the battery voltage.

- **Manual load switch:** The Steca Tarom is equipped with a manual load switch. This enables the load to be safely switched on or off via a menu meaning there is no need for additional external switches.

- **Automatic evening, night light and daylight function:** The charge controller allows configuration of three different automatic timer functions: evening light, night light and daylight. All the important time and delay values can be set with this. With the evening light function, the load is automatically switched on at sunset and the time after which the load is switched off again can be individually specified. The night light function specifies the time after which the load is switched on after sunset and switched off again before sunrise. With the daylight function, the load is switched on automatically at night and switched off again automatically at sunrise.

- **Four freely programmable timers with week day function:** The four freely programmable timers can be set individually based on day of the week, start and finish time. With the week day function, each timer can be used for just one or several days of the week at a time if required. Four timers can be set for each multifunctional contact. Together with the load output, a maximum of twelve timers are therefore available.

Key:

A   Solar modules
B   Solar charge controller
C   Battery
E   Electrical load

DC
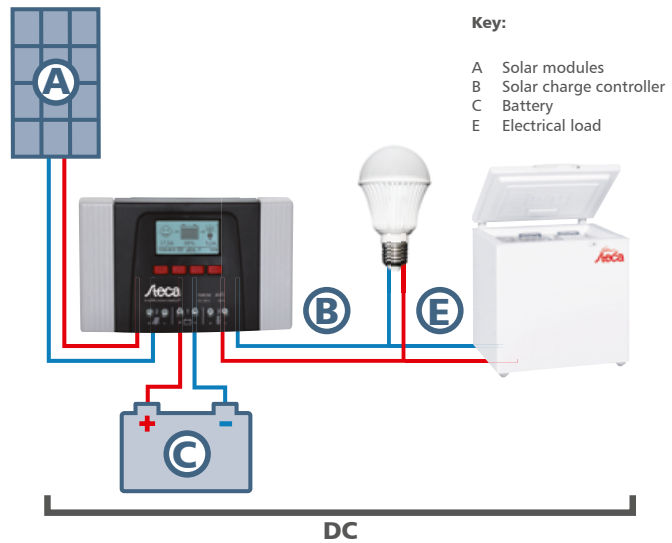
- **Generator function:** Using the generator function, the Steca Tarom – based on the SOC or the battery voltage – can start a generator automatically when the battery is discharged and switch this off again when the battery is full. Using the surplus manager, an additional load can be activated automatically when the battery is full. This is switched off again as soon as no more energy surplus is available in the solar system. This guarantees that all available energy is used.

Simple-to-access, easy-to-connect terminals

The extra spacious connection terminal area is designed for cables with thicknesses of up to 35 mm². The highly sophisticated connection terminals make attachment and fastening of cables easier. Rather than thin screws or bolts, with the Steca Tarom an entire platform is raised up as a connecting piece. This guarantees safe connection of the cables to the charge controller. The spaciousness of the terminals with this additional function means installation is child's play.