tigerexped

solar

foldable solar module 160W$_P$
+ MPPT-Charger „big tiger - Monsun Edition"

Performance parameters[*]

max. power (P$_{max}$)...	160 W
open circuit voltage (V$_{oc}$)	43,5 V
short circuit current (I$_{sc}$)	4,8 A
MPP voltage (V$_{mpp}$)...	37 V
MPP current (I$_{mpp}$)	4,33 A
max. system voltage	300 VDC
size folded ....540×415×50mm	
size opened............................1650×540×4,5mm	
size in storage bag w/ accessories..565×435×80mm	
cell technology ....n-type TopCon	
cell efficiency...24,1%	

*Technical data at STC (standard test conditions) with 25°C ambient temperature, 1000 W/m^2 solar irradiance and an AM factor of 1.5.

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CE UK CA

Congratulations on your purchase of this high-quality, foldable solar module with mobile MPPT charge controller, which lets you produce your own solar power freely and independently - no fixed installation required!

The set offers you advanced functions such as LED and LCD displays, simple, user-friendly operation and supports various battery types such as gel, AGM and LiFePO$_4$.

Please read the following instructions carefully before installing the controller and pay attention to the safety instructions and technical requirements to ensure correct operation and a long service life of the device.

Scope of delivery

1× Manual
1× foldable solar module, 160Wp
1× MPPT solar charge controller
1× robust zipper bag made from weatherproof material
1× spare fuses of various types
1× Connecting cable
   solar bag / controller

1× Additional special cable for use with other solar controllers
1× Cable accessory set for various connection options:
   - with ring eyelets M6
   - with crocodile clamps (battery terminal clamps)
   - with cigarette lighter plug

Important notes and safety instructions

• The controller is only suitable for indoor use.
• Maximum ambient temperature: -20°C to +55°C, avoid direct sunlight.
• The controller must be well ventilated to prevent overheating.
• Keep the controller away from water.
• The solar bag is rainproof, but not completely waterproof (do not submerge / leave in rain puddles!)
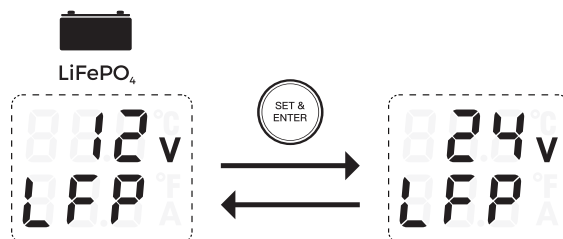
Features foldable solar module

• Cells with a high efficiency of 24.1%
• rain- and splash-proof design - forgetting about it in the rain is no problem!
• Resistant ETFE surface
• Microlenses to reduce total reflection and susceptibility to dirt

Features charger

• 3-stage charging mode to optimize battery performance (AGM/gel)
• Special lithium mode (factory default setting)
• Suitable for 12 and 24V systems, system voltage adjustable
• LED displays for information on state of charge, battery type and battery status (SOC).
• LCD display, shows battery voltage and charging current.
• Protection functions against overcharging, overheating and reverse polarity.
• 1-button operation
• Permanent storage of the configuration even without battery voltage
• Built-in LCD display extremely quick overview of function and configuration
• Portable design, easy to mount
• Pre-assembled and ready to plug in, can be used immediately by non-professionals without errors

Installation instructions

1. Connection sequence:

• Connect the charge controller to the battery first
• Ensure that the system voltage in the controller also matches the battery. (12 or 24V) matches the battery.
• Then connect the solar panel.

0D6.5 0.15m
Two-core round wire.

30A Anderson

7.5M
Red and black parallel wires.

L=0.2m Red and black parallel wires.

30A Anderson

L=0.2m Red and black parallel wires.

XT60 female

ATO (regular) fuse 20A

alligator clip

XT60 male

ATO (regular) fuse 20A

cigarette lighter male plug

XT60 male

ATO (regular) fuse 20A

OT M6

XT60 male

2. Important requirements for charging:

• PV voltage at least 3V higher than the battery voltage.
• Minimum solar input voltage: 15V

Settings for the battery type:

• Press and hold the button for 3 seconds until the display for the battery type flashes.
• Press briefly to select the desired type (e.g. 12V LFP for 12V batteries LiFePO4 batteries).
• Press and hold the button again for 3 seconds to save the setting.
• Factory default setting: 12V system, lithium battery.

⚠️ The system voltage is important, as it is possible to destroy components in the vehicle components in the vehicle if, for example, you charge with 24V in a 12V system. Once set, the controller remembers this setting, the factory setting is also 12V - so don't panic. The battery type is less critical here, it is more a matter of optimizing the charge - none of the battery types would be destroyed with an incorrectly set charging mode.

LiFePO$_4$

12 V
LFP

SET & ENTER

24 V
LFP

Display and operation

1. LCD-display:
- Menu 0: Current solar power in watts
- Menu 1: Battery voltage and charging current.
- Menu 2: Device temperature.
- Menu 3: Error codes.
- Menu 4: System voltage and Battery type (e.g. LiFePO4).

2. Battery type:
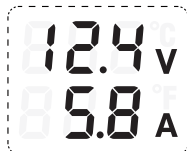- The currently selected battery type is displayed via LEDs.

3. Button operation:
- Long and short press for navigation and selection.

Menu 0:	Menu 1:	Menu 2:	Menu 3:	Menu 4:
PV v / 157 A	12.4 v / 5.8 A	39 °C / 102 °F	E00	12 v / LFP

Error codes

If an error is displayed, check:
- Battery and PV connections.
- Voltage range of the system.
- Ambient temperature and ventilation.

Code	Error
E00	No error
E06	Overheating of the device
E10	PV overvoltage
E13	Reverse polarity of the solar module
E14	Reverse polarity of the battery

foldable solar module specifications*

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short circuit current (Isc)	4,8 A
MPP voltage (Vmpp)	37 V
MPP current (Impp)	4,33 A
max. system voltage	300 VDC
size folded	540×415×50mm
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cell technology	TopCon solar cell
cell efficiency	24,1%

Charge controller specifications

Battery sytemvoltage:	12V/24V
Open circuit current:	12V-System: 20mA, 24V-System: 12mA
Battery types:	AGM / Gel / LiFePO4
max. solar voltage:	60Voc
max. charging current output:	14A
max. solar power:	12V-System: 175W 24V-System: 350W
Operating temperature:	-20°C - +45°C
IP protection:	IP45
Weight:	350g
Dimensions:	149,9x80x35,5mm (plus connection cable)

⚠ Depending on the ambient temperature there may be a reduction in performance above 3,000m.

Equalize Charge Voltage	GEL	-
	AGM	14.6V
	LiFePO4	-
Boost Charge Voltage	GEL	14.2V
	AGM / LiFePO4	14.4V
Float Charge Voltage	GEL / AGM / LiFePO4	13.8V

For 24V system: each data ×2