



# PowerXtreme

## User manual

**SOLAR set XS115**

**SOLAR set XS140**

**SOLAR set XS230**

**SOLAR set XS280**



**EmergoPlus BV**

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PowerXtreme

Dear customer,

Thank you for purchasing our high-quality Solar set XS by EmergoPlus! This product was developed using the latest technologies and quality systems. We assure you that we will do our utmost to guarantee hassle-free operation, to make you satisfied with your purchase. Our ultimate goal is a satisfied customer.

If you have any questions, please contact our dealers or our sales department.

We hope you will enjoy your Solar set XS!

Best regards,

EmergoPlus BV

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## 1. Product description

The solar set contains all parts required to install a functioning solar system onto your vehicle. In addition to 1 or 2 solar panels, the set includes an MPPT charger and the necessary installation materials. The MPPT charger is an intelligent charger that gets the most out of the solar panel. For the functioning of the MPPT charger, refer to the extensive description in its manual.

## 2. Safety instructions

### 2.1 Explanation of safety instructions

The safety instructions will help you avoid risks while carrying out activities. The safety instructions are sub-divided into the following categories:



#### **WARNING!**

Means that the relevant activity is hazardous and you must prepare well before proceeding.



#### **CAUTION!**

Means that the relevant implementation could cause damage.



#### **NOTE!**

Means advice or instruction for the operator.

### 2.2 General instructions

1. Before installing and wiring the charger, you must ensure that the connection with the Solar panel and the fuse is being detached.
2. Check after the installation whether all connections are solid and reliable and if all connections are firmly attached. Loose connections generate warmth which may lead to hazardous situations.

## 2.3 Installation precautions

3. Loose connections or corroded wire leads to excessive heat development. This can cause the insulation layer of the wire and surrounding materials to melt, and even cause a fire. So, make sure that all connections are properly tightened or tightened.
4. When connecting the system, the output voltage may exceed the upper limit for human safety. Therefore, use insulated tools at all times and keep hands dry.

### 3. Unpacking and mounting/installing

#### 3.1 Components in packaging

In the packaging of the Solar set you will find the following parts:

XS115	XS140	XS230	XS280	Description	Dimensions
1		2		Solar panel XS115W	1200x540x30
	1		2	Solar panel XS140W	1480x540x30
1	1	2	2	Mounting spoiler set (2 pieces)	680x90x65
1	1	1	1	MPPT charger XS20s	150x105,6x61,5
1	1	1	1	Cable entry	
1	1	1	1	Solar cable 4mm <sup>2</sup> red, 1 x MC4-M	5 m
1	1	1	1	Solar cable 4mm <sup>2</sup> black, 1 x MC4-F	5 m
		1	1	Solar cable 4mm <sup>2</sup> black, MC4-M, MC4-F	2 m
		1	1	Cable tray 30x15	2 m
1	1	1	1	Battery cable 4mm <sup>2</sup> red	4 m
1	1	1	1	Battery cable 4mm <sup>2</sup> black	4 m
1	1	1	1	Sikaflex 552	310ml
1	1	1	1	Scotchbrite Very fine	75 x50
1	1	2	2	Spacer tape Sika 12x2mm	60 cm
1	1	1	1	Activator bottle	30ml
10	10	20	20	Stainless steel self-drilling screw 4.2 x 19 A2	
1	1	1	1	Manual EN (Download)	

Optional:

1	1	1	1	Bluetooth module BT-2	67,3x36x15,5 mm
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Of

1	1	1	1	Display	104,5x55,5x11,8 mm
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- Take all the components carefully out of the packaging and check whether all parts are present in accordance with the parts list.

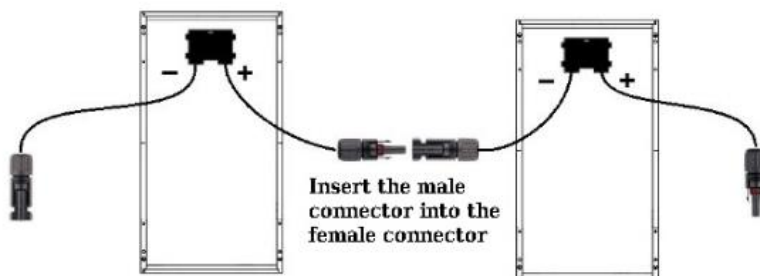
**CAUTION!**

Keep children away from the plastic packaging material. Risk of suffocation!

### 3.2 Installation of Solar cables

- Determine the position of the solar panel or panels on the roof of the vehicle.
- Determine where you want to lead the solar cables through the roof into the vehicle.
- Make a 12-14 mm hole in the roof, using a hole saw.
- Lead the solar cables through the cable glands of the included roof throughput. Glue the roof throughput across the hole, curved side in driving direction. For gluing instructions refer to paragraph 3.5.
- When applying 2 Solar panels you must daisy chain the panels. You do this by connecting the + of the one panel to the – of the other panel. See diagram below:





If the mutual distance is too large, you can use the included solar cable to make the connection. The solar cable can be installed into the included cable duct. Perform installation conform the gluing instruction in paragraph 3.5.

### 3.3 Mounting Solar panel

- Determine the exact position of the spoiler profiles on the roof by laying them down on the roof, together with the panel. Mark the position of the spoiler profiles by use of a marker or tape.
- Glue both spoiler profiles to the spot marked on the roof in accordance with the gluing prescription.
- After curing of the glue, you can mount the solar panel.
- Mount the solar cables using the MC4 plugs to the solar panel. Make the cables as short as possible and tighten both cable glands on the cable throughput.
- Leg the solar panel op the spoiler profiles and fixate this by positioning of the 10 self-drilling screws.



#### **CAUTION!**

Beware that you do not place the screws too high in the spoiler profile. The screw could damage the bottom of solar panel!

**CAUTION!**

As soon as the Solar panel is exposed to light, it will start generating voltage! This voltage is not touch-safe. Bear this in mind when connecting the cabling! As an additional safety you could cover the solar panel or protect it against exposure to light, before you perform any installation, maintenance or cleaning activities.

### 3.4 Mounting MPPT Solar charger

See manual of the Solar charger.

### 3.5 Gluing prescription

**NOTE!**

For a good and solid adhesive bond it is very important that you act in accordance with instructions below! Surfaces must be dry, grease-free, oil-free and dust-free.

- Clean both adhesive surfaces with Activator.
- Allow the Activator to vaporise. This will take 10-15 minutes, depending on temperature and humidity.
- Roughen the surfaces to be glued with Scotchbrite Very Fine.
- Clean both adhesive surfaces with activator.
- Allow the activator to vaporise. This will take 10-15 minutes, depending on temperature and humidity.

- For an esthetical nice result, you can apply tape to locations that you don't want glued.
- Apply the distance tape to one of the surfaces to be glued. Remove the adhesive back of the tape. The tape will ensure fixation during the curing of the sealant. In addition, the tape ensures the required adhesive thickness, which is 2-3 mm between the adhesive surfaces.
- Cut the nozzle of the sealant tube conform accompanying image. First cut it horizontally, then cut out a red triangle.



- Apply a triangle adhesive bead onto the surface to be glued. Keep the sealant tube at 90° relative to the surface.
- Position the part and press the glue up to the desired glue thickness of 2-3 mm.



- Excessive glue can be removed or smoothed by use of an angled cut-off piece of PVC pipe. Before use, immerse the pipe into water with detergent. Run the piece of pipe across the adhesive bead to achieve a smooth result. You can also lightly moisten the adhesive bead with a plant

sprayer with water and detergent and then use a squeegee to smoothen the adhesive bead.

- The glue will cure by means of moisture absorption from the ambient air. Depending on the humidity, the curing will take 1 to 2 days per mm of glue thickness.
- The glue can be re-coated with most of the common automotive paint systems (also water-based). Resin-based wet paint finish or acidic curing are not suitable. Re-coating can also be done in wet-on-wet up to 3 hours after the application. Adhesion on fully hardened glue can be improved by pre-treatment with Activator.

## 4. Maintenance

To ensure optimal charger performance, we recommend checking the following parts once a year:

- Clean the solar panel with a soft brush with water and soap solution.
- Check whether the cabling is still in order: contacts are tight, there is corrosion, there is wear on the cable insulation. Repair or replace cabling if necessary.

## 5. Decommissioning

Electric appliances should not be disposed of with normal household waste. Hand in the solar panels to a registered waste processor.



## 6. BT-2 Bluetooth Connector (optional)

See manual of the MPPT Solar charge controller.

## 7. Display (optional)

See manual of the MPPT Solar charge controller.

## 8. Warranty conditions

EmergoPlus guarantees that the Solar set is built according to the legally applicable standards and regulations. During production and before delivery all Solar sets have been extensively tested and checked. Failure to act in accordance with the instructions and provisions of this manual may result in damage and / or the unit will not meet our specifications. This may mean that the warranty will become void.

## 9. Liability

EmergoPlus cannot be held liable for:

- Damage resulting from the use of the Solar set.
- Possible errors in the supplied manual and their consequences.
- Use that is incompatible with the purpose of the product.

## 10. EC Declaration of Conformity

### EC DECLARATION OF CONFORMITY OF ELECTRICAL EQUIPMENT

Declaration according to Directive 2014/35 / EC, as amended

This language version of the statement is verified by the manufacturer.

We:

Name : EmergoPlus BV  
Address : Informaticastraat 20  
Country : 4538 BT Terneuzen Nederland

Declare for the product described below:

Trade name : Solar panel XS115, XS140, XS230, XS280  
Model : XS115, XS140, XS230, XS280  
Function : Generation of electrical energy from solar energy.

that all relevant provisions of the Machinery Directive are met;  
that the product also complies with the provisions of the following European directives:

- 2014-35-EG : Low Voltage Directive

and that the following harmonized Standards have been used:

- EN61730-1: 2007 / A2: 2013 Safety qualification of photovoltaic (PV) modules - Part 1: Construction requirements.
- EN61730-2: 2007A1: 2012 Safety qualification of photovoltaic (PV) modules - Part 2: Requirements for testing.

The product complies with the EC type-examination carried out by:

Report number : 7001261605301-00  
Name : TÜV SÜD Product Service GmbH  
Notified Body Number : 0123  
Address : Ridlerstraße 65  
Country : D-80339 München

and that the following natural or legal person established within the Community is authorized to compile the technical file:

Name : EmergoPlus BV  
Name and position : Dick van Wijck, CEO  
Address : Informaticastraat 20, 4538 BT Terneuzen  
Country : Nederland

Done at Kapelle 2 July 2018.

Dick van Wijck

