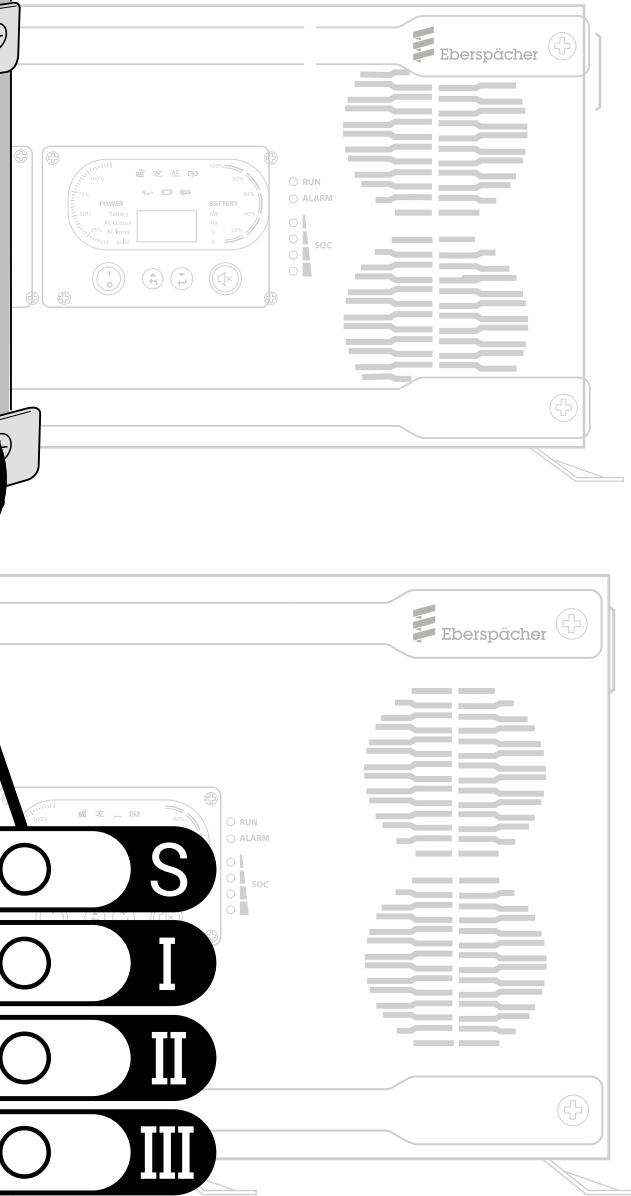
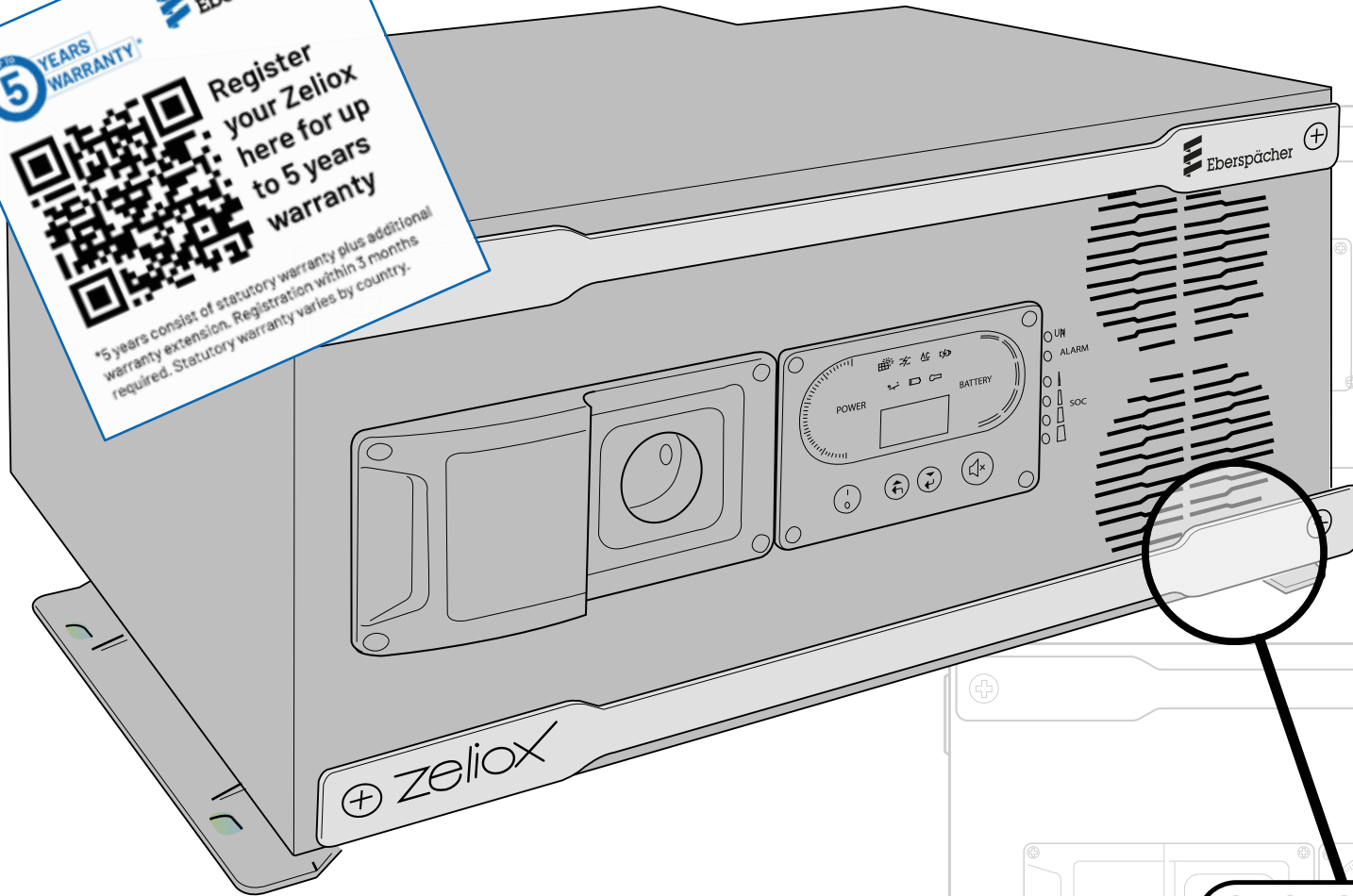


**5 YEARS WARRANTY\***



Register your ZeliOX here for up to 5 years warranty

\*5 years consist of statutory warranty plus additional warranty extension. Registration within 3 months required. Statutory warranty varies by country.



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# 1. Important for storage and transport

To keep your Zeliox ECO in the best condition during storage and/or transport, the instructions below are of the utmost importance.

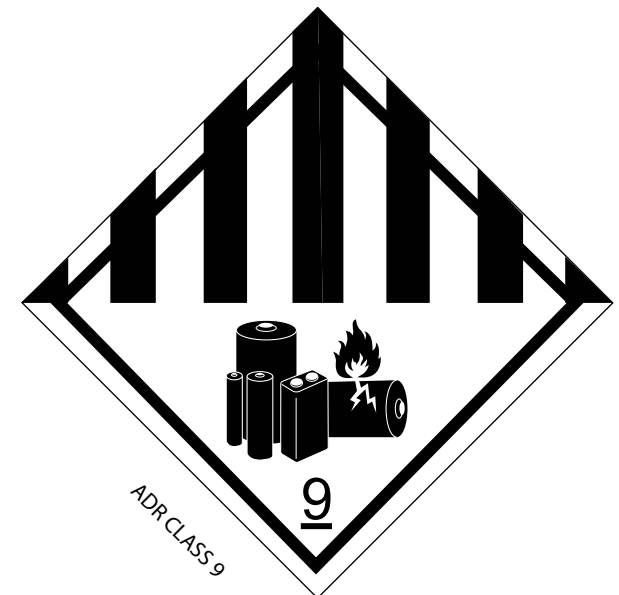
## Storage

- **When storing the product, make sure to switch the unit OFF!**
- Charge the battery of the ECO to 80% SOC maximum, switch the device OFF after completing charging.
- Disconnect all loads and charges connected to the unit.
- The battery in the Zeliox ECO will discharge every month with less than 3%.
- Therefore, every 3 months recharge the battery of the ECO to 80% SOC maximum.
- Don't forget to switch the device OFF after completing charging.



## Transportation

- The lithium battery inside the Zeliox Eco, is classified as a dangerous good according to UN3841 (class 9).
- Before transport, make sure to comply with all local, national and international laws and regulations.
- Preferably reuse the original packaging, that already has the proper transport signings on the outside.
- If the original packaging is no longer available, make sure to put an ADR Class 9 sign on the outside of the box.



## 2. For your safety! Important to read before use:





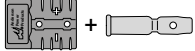
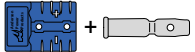
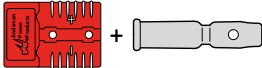
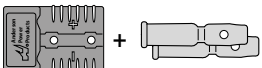
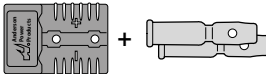
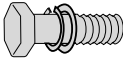


Instructions	Check if you have the latest version of the manual, please consult our online service page.
Before installing	Read the instructions fully and properly.
Visual inspection	If you notice any anomalies from the outside, please contact your dealer before use.
General safety	The safety precautions mentioned in this manual, are only a supplement to the (local) safety regulations.
Electrical safety	To avoid personal injury or product damage, follow the electrical safety regulations and related operating procedures during installation, operation, and maintenance. Pay attention to the safety instructions on the product.
Power & Short cuts	Cut the power completely off and shut the system down, on installing and/or wiring the product. Do not cross-connect positive with negative poles. This to avoid the risk of an electric shock.
Cable quality	During installation, use only cables with good electrical characteristics and apply a suitable cable thickness. Do not use damaged or too thin cables!
Ground the unit	Ground the earth point at the rear of the unit.   Connecting the -12V DC output to the AC ground (GND) is an improper and hazardous wiring practice. This connection violates fundamental electrical safety principles, as it can create short circuits, cause severe damage to the product, and pose significant safety risks.
Operate & Handling	Install and operate the product in a dry, clean, dust free and ventilated environment. Do not stab, hit, drop, strike or trample in any way. Avoid direct sunlight.
Auxiliary products	Double check the electrical parameters for compatibility with the unit, before connecting.
Water & Fire	It strictly forbidden to put the product in water or fire to avoid explosions or other dangers. When encountering a fire, please use only a dry powder extinguisher to extinguish.
Electrolyte risk	Should the built-in lithium battery leak, prevent the electrolyte from contacting the skin or eyes. If it has been in contact, please washdown with water as quick as possible, and seek medical attention urgently.
Modifications	Do not dismantle components, change or open-up the system. It can cause harm and it will limit warrantee.
Storage	Recharge at least in every 3 months. The charge should exceed 80% of the maximum capacity and make sure to switch the unit off during storage.
Lifetime	An improper environment of operation and storage, may harm the durability of the product.
Disclaimer	The manufacturer does not assume any responsibility caused by violation of general safety operation requirements or violation of safety standards for design, production, and use of equipment.



### 3. Unpacking Inspection

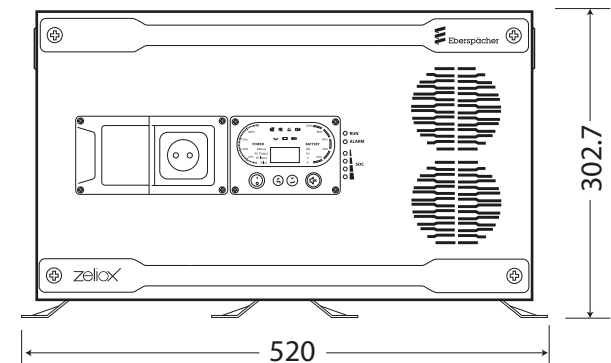
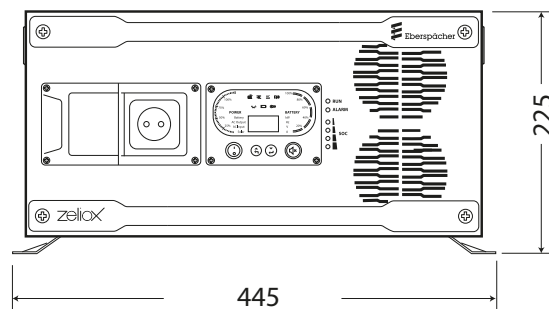
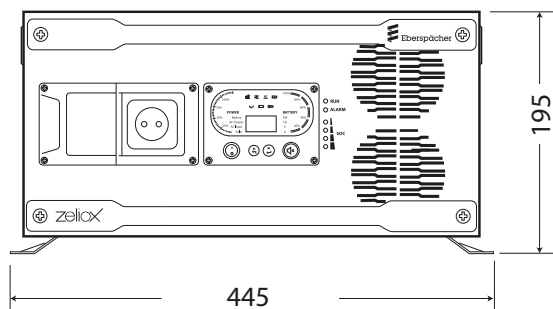
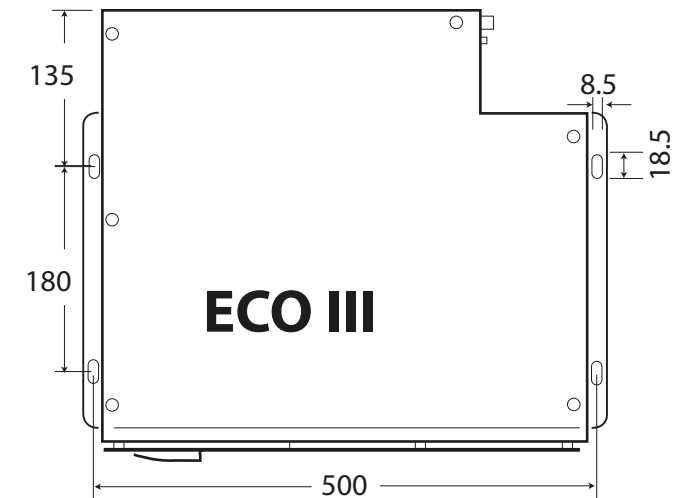
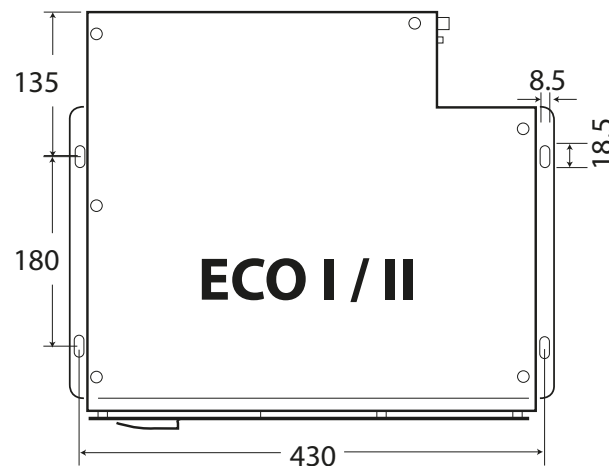
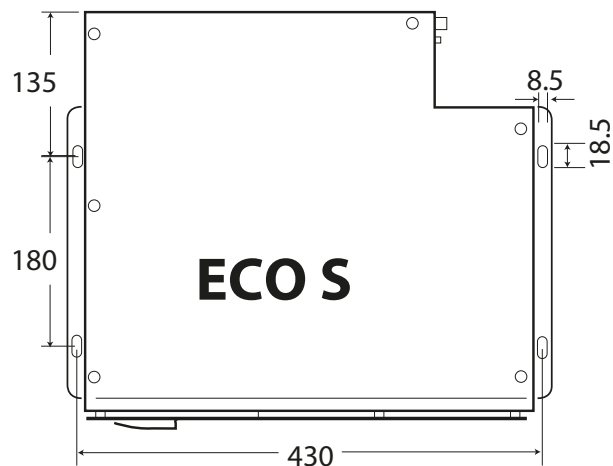
Before opening the box, please check the outer packaging for any damages or anomalies. Contact your dealer if the outer box is damaged, **before** opening the box! Make sure that device is undamaged when unpacking the unit and check if all accessories are complete. The packing list below gives an overview of the contents. Contact you dealer if anything is missing.

### Packing List

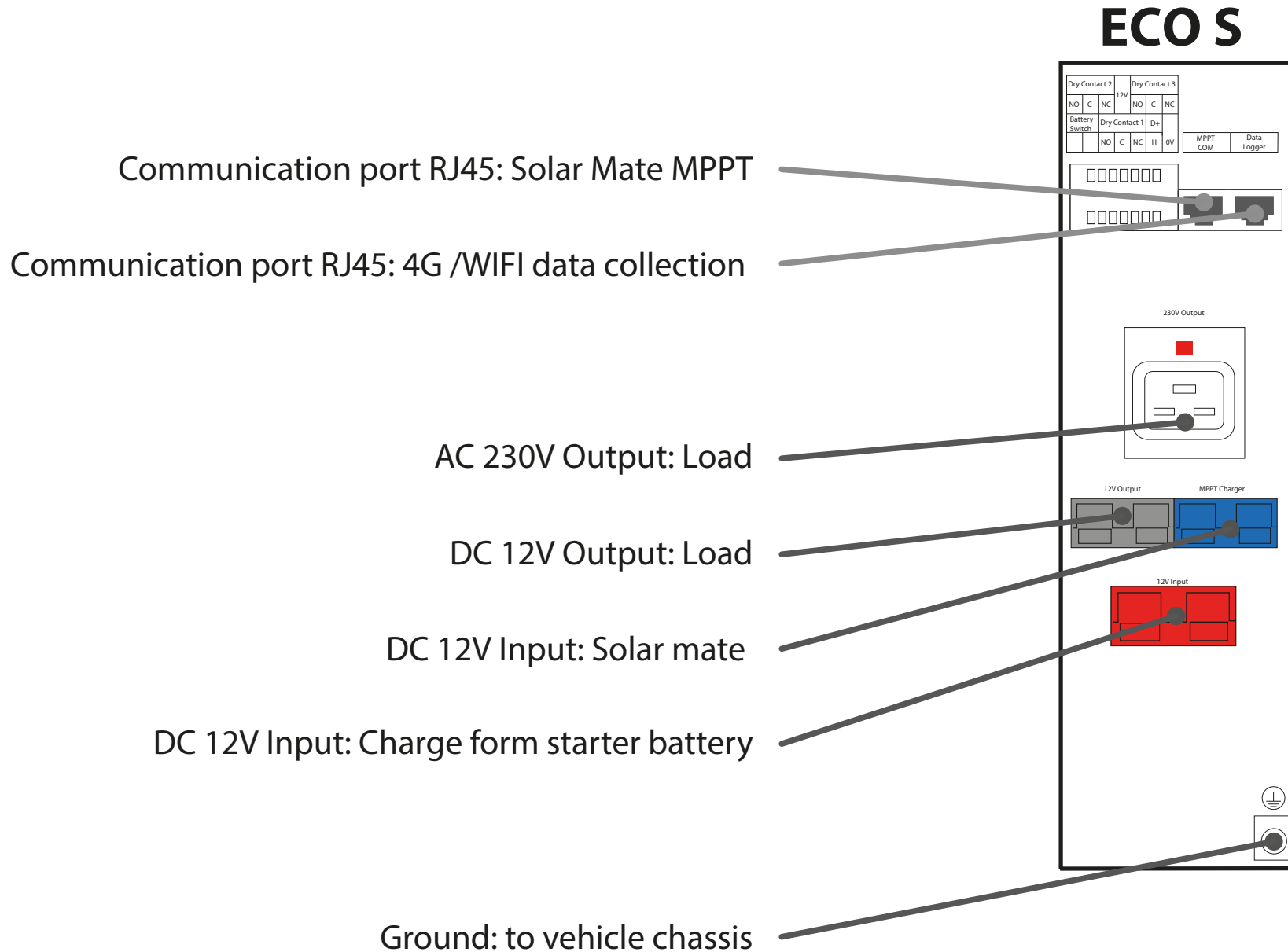
Parts	Specifications	Quantity	Example
<b>Zeliox</b>	ECO S / I / II / III	1	 ECO S  ECO I / II  ECO III
<b>Quick Start Guide</b>	A quick guide how-to-use a Zeliox battery	1	
<b>Accessories</b>	SA50 Connector (grey)	1	
	SA50 Connector (blue)	1	
	SA120 Connector (red)	1	
	Zeliox ECO I / II SA120 Connector (grey)	1	
	Zeliox ECO III SA175 Connector (grey)	1	
	M8*20 bolt	4	
	AC Output plug	1	
	AC Input cable	1	

## 4. Precautions before installation

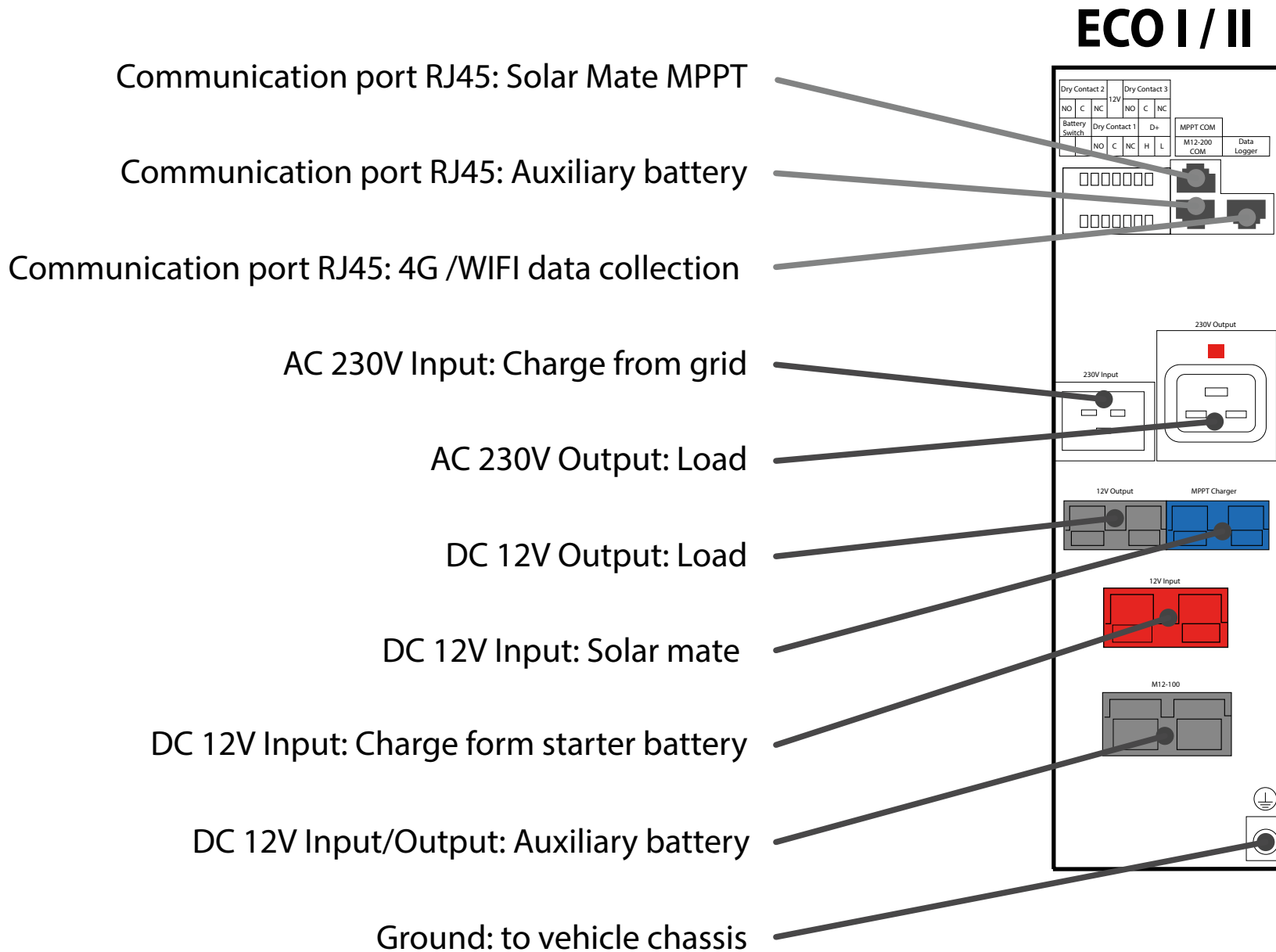
- Make sure you have read the **full** safety instructions in chapter 2, **before** installing the device.
- Do **not** install this product at any angle, upside down or on any of the sides.
- Install the device on a flat surface.
- Drill the holes according to the positing requirements, as shown in the drawings below.
- Before drilling, check for any obstacles or potential vehicle wiring underneath the drill positions.
- Use the provided M8 bolts to safely secure the device to the vehicle structure or interior racking, at a fixing torque of 22Nm.
- Ask you dealer for the special interior racking brackets we have designed, for several racking brands.



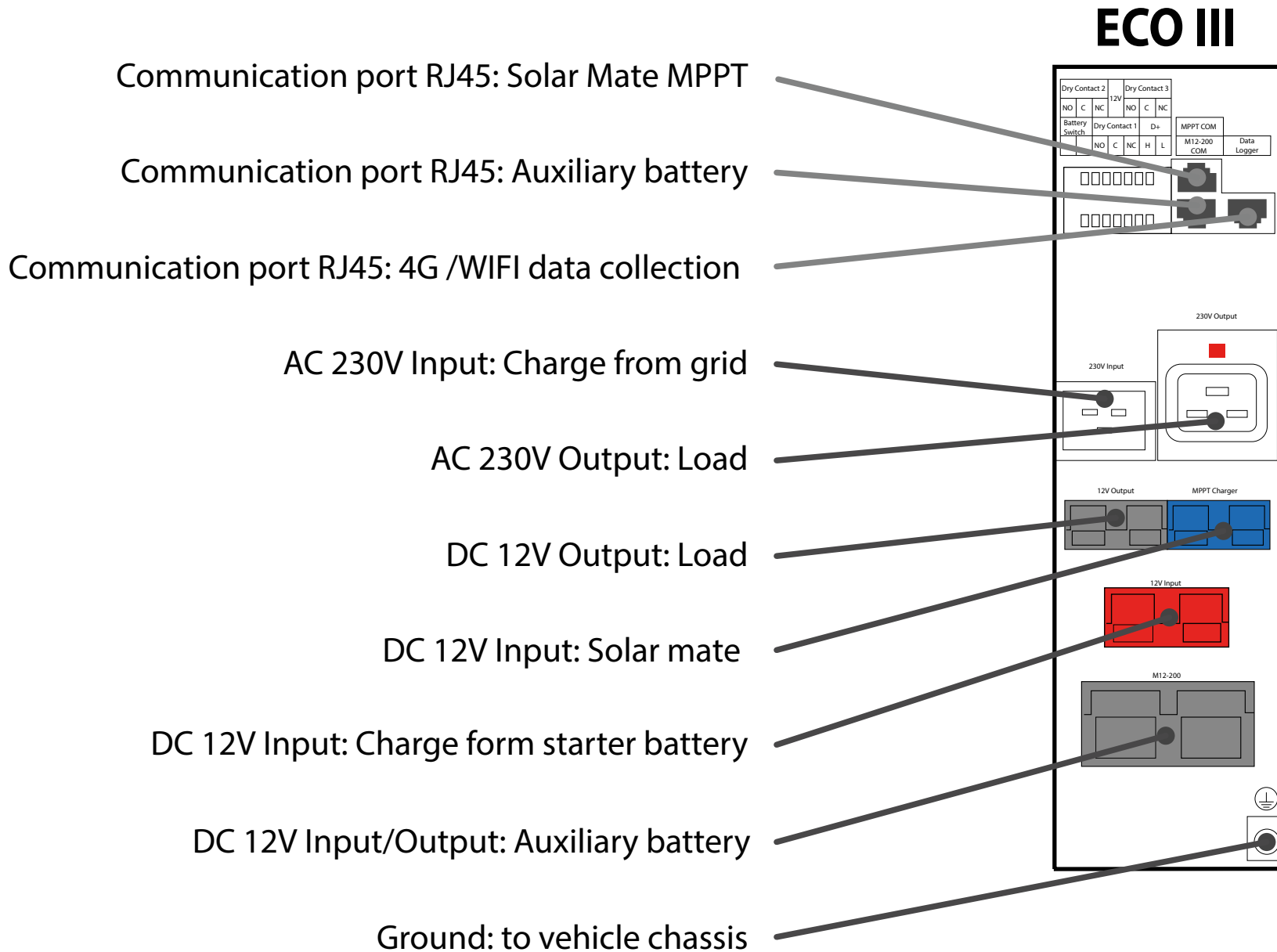
# 5. Explanation rear connections



## 5. Explanation rear connections



## 5. Explanation rear connections

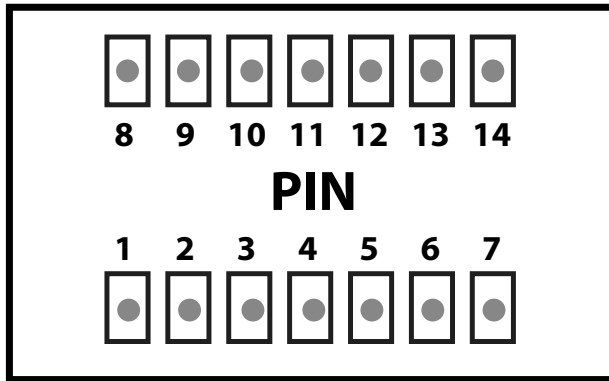


# Dry Contact Definition

Below an overview of the functions of each dry contact pin at the rear.

Please also consult chapter 10 for a detailed explanation on usage and connecting.

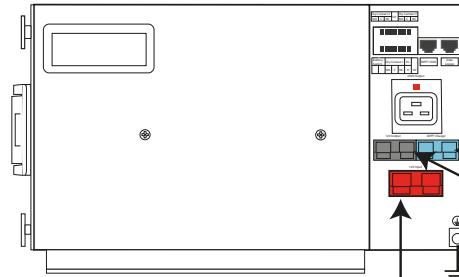
Dry Contact 2			12V	Dry Contact 3		
NO	C	NC		NO	C	NC
8	9	10	11	12	13	14



Battery Switch		Dry Contact 1			D+	
		NO	C	NC	H	0V
1	2	3	4	5	6	7

<b>PIN 1</b>	Battery Switch	/	Remote switch interface Note: The rocker switch on the display should remain closed if you want to switch the product ON/OFF remotely.
<b>PIN 2</b>		/	
<b>PIN 3</b>	Dry Contact 1	NC	Relay output normally closed contact
<b>PIN 4</b>		C	Neutral point of relay output
<b>PIN 5</b>		NO	Relay output normally open contact
<b>PIN 6</b>	+15/D+	H	Forced +15/D+ signal, analog engine 11.6V~14.2V
<b>PIN 7</b>	-12V	0V	Native 12V
<b>PIN 8</b>	Dry Contact 2	NC	Relay output normally closed contact
<b>PIN 9</b>		C	Neutral point of relay output
<b>PIN 10</b>		NO	Relay output normally open contact
<b>PIN 11</b>	+12V	12V	Output + 12V
<b>PIN 12</b>	Dry Contact 3	NC	Relay output normally closed contact
<b>PIN 13</b>		C	Neutral point of relay output
<b>PIN 14</b>		NO	Relay output normally open contact

## 6. Wiring ECO S into your vehicle



**GND**  
Connect to vehicle chassis

### Step 1 | Connect to starter battery (12V DC)

Connect the red and black cables (16mm<sup>2</sup>, max. 4,5m) to the supplied **RED** Anderson SA120 connector. Connect the red cable directly to the corresponding pole of the vehicle battery. Place a fuse T60A in between, as close as possible to the 12V DC source (=starter battery). Connect the black cable behind any potential starter battery BMS system. Alternatively at the position where starter battery is grounded to the vehicle chassis. We advise to place an additional circuit breaker switch, to shut down the power during service.

### Step 2 | Connect external loads (12V DC)

Connect the red and black cables (16mm<sup>2</sup>, max. 4,5m) to the supplied **GREY** Anderson SA50 connector and place a fuse T50A on the positive red cable, as close as possible to the DC load.

### Step 3 | Connect to solar MPPT (12V DC)

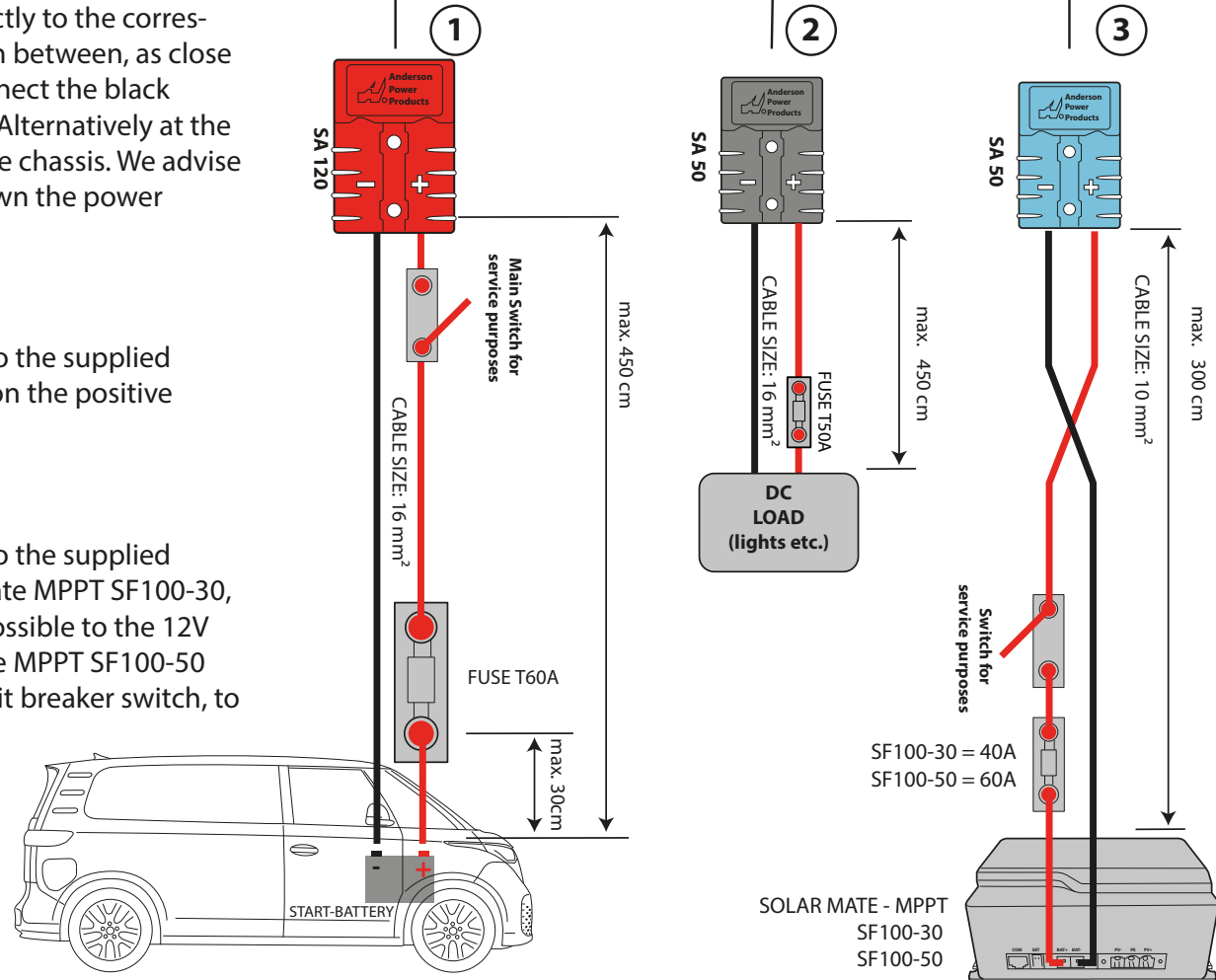
Connect the red and black cables (10mm<sup>2</sup>, max. 3,0m) to the supplied **BLUE** Anderson SA50 connector. If you use the Solar Mate MPPT SF100-30, place a fuse 40A on the positive red cable, as close as possible to the 12V DC source (=Solar Mate MPPT). If you use the Solar Mate MPPT SF100-50 place a fuse 60A . We advise to place an additional circuit breaker switch, to shut down the solar power during service.

### IMPORTANT

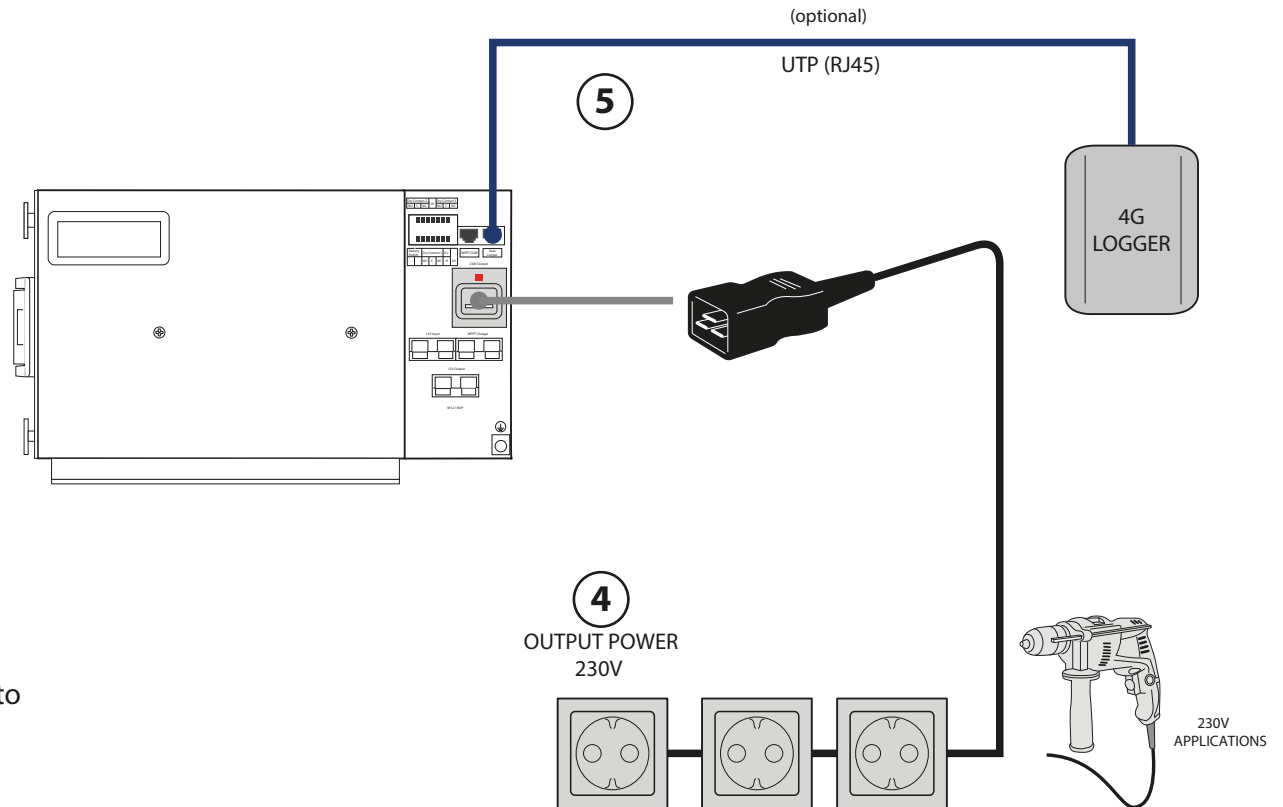
If you use longer cables than specified above, please check appendix II for the correct cable size.



Note: "Fuse TxxxA" (e.g. T60A) means Slow Blow Fuse xxxA.



## 6. Wiring ECO S into your vehicle



### Step 4 | Connect external loads (230V AC)

Use isolated three core cable in the size 1,5 or 2,5mm<sup>2</sup>, to connect additional external power 230V sockets.

### Step 5 | Data connect to remote module (4G)

With an UTP RJ45-cable, you can connect the optional 4G data module to the ZeliOX. The data module gives access to all ZeliOX data from a remote location.

## 6. Wiring ECO S into your vehicle

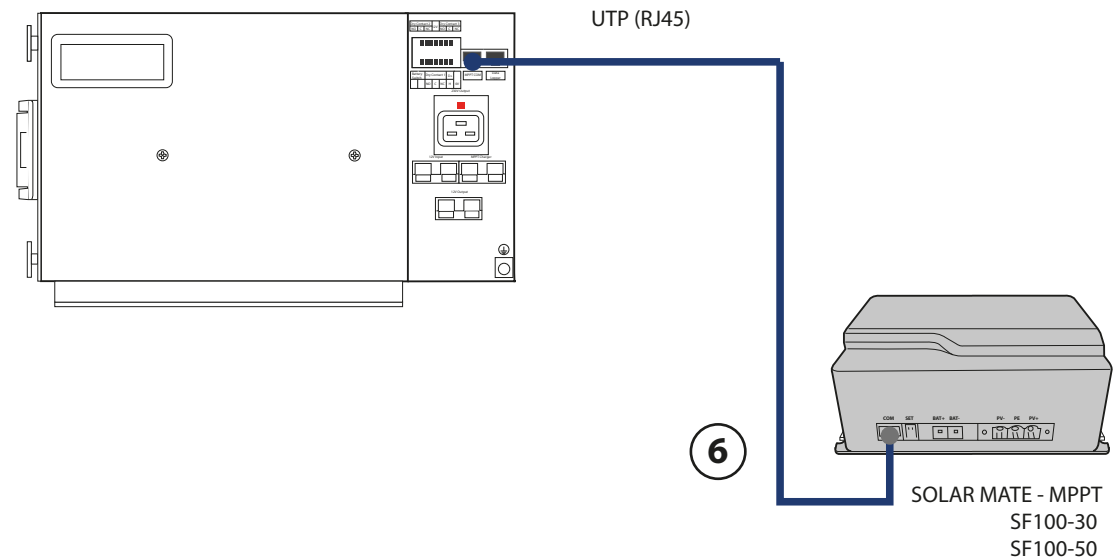


### Step 6 | Data connect to Solar Mate MPPT (UTP)

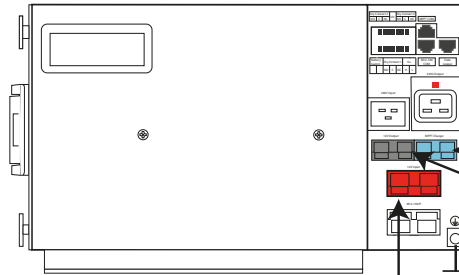
With a RJ45-cable, you can connect the optional Solar Mate MPPT to the Zeliox. The data connection provides real time information, and is visible in the Zeliox App.

#### IMPORTANT

Follow the next steps if you want to expand the system with auxiliary batteries. Before connection, make sure that the ECO and the auxiliary batteries are equally charged. SOC-LEDs should indicate the same level!



## 7. Wiring ECO I / II into your vehicle



**GND**  
Connect to vehicle chassis

### Step 1 | Connect to starter battery (12V DC)

Connect the red and black cables (16mm<sup>2</sup>, max. 4,5m) to the supplied **RED** Anderson SA120 connector. Connect the red cable directly to the corresponding pole of the vehicle battery. Place a fuse T60A in between, as close as possible to the 12V DC source (=starter battery). Connect the black cable behind any potential starter battery BMS system. Alternatively at the position where starter battery is grounded to the vehicle chassis. We advise to place an additional circuit breaker switch, to shut down the power during service.

### Step 2 | Connect external loads (12V DC)

Connect the red and black cables (16mm<sup>2</sup>, max. 4,5m) to the supplied **GREY** Anderson SA50 connector and place a fuse T50A on the positive red cable, as close as possible to the DC load.

### Step 3 | Connect to solar MPPT (12V DC)

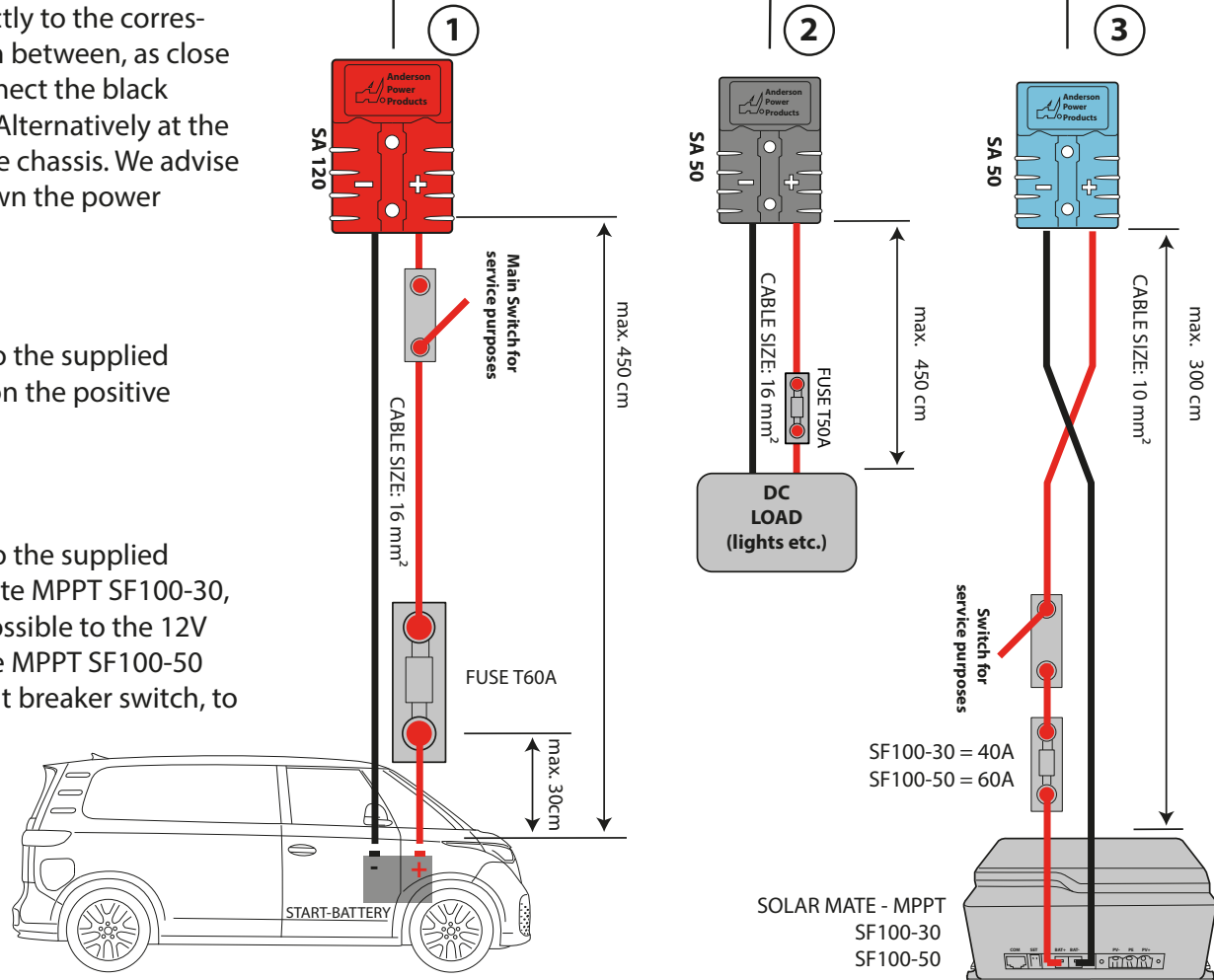
Connect the red and black cables (10mm<sup>2</sup>, max. 3,0m) to the supplied **BLUE** Anderson SA50 connector. If you use the Solar Mate MPPT SF100-30, place a fuse 40A on the positive red cable, as close as possible to the 12V DC source (=Solar Mate MPPT). If you use the Solar Mate MPPT SF100-50 place a fuse 60A. We advise to place an additional circuit breaker switch, to shut down the solar power during service.

### IMPORTANT

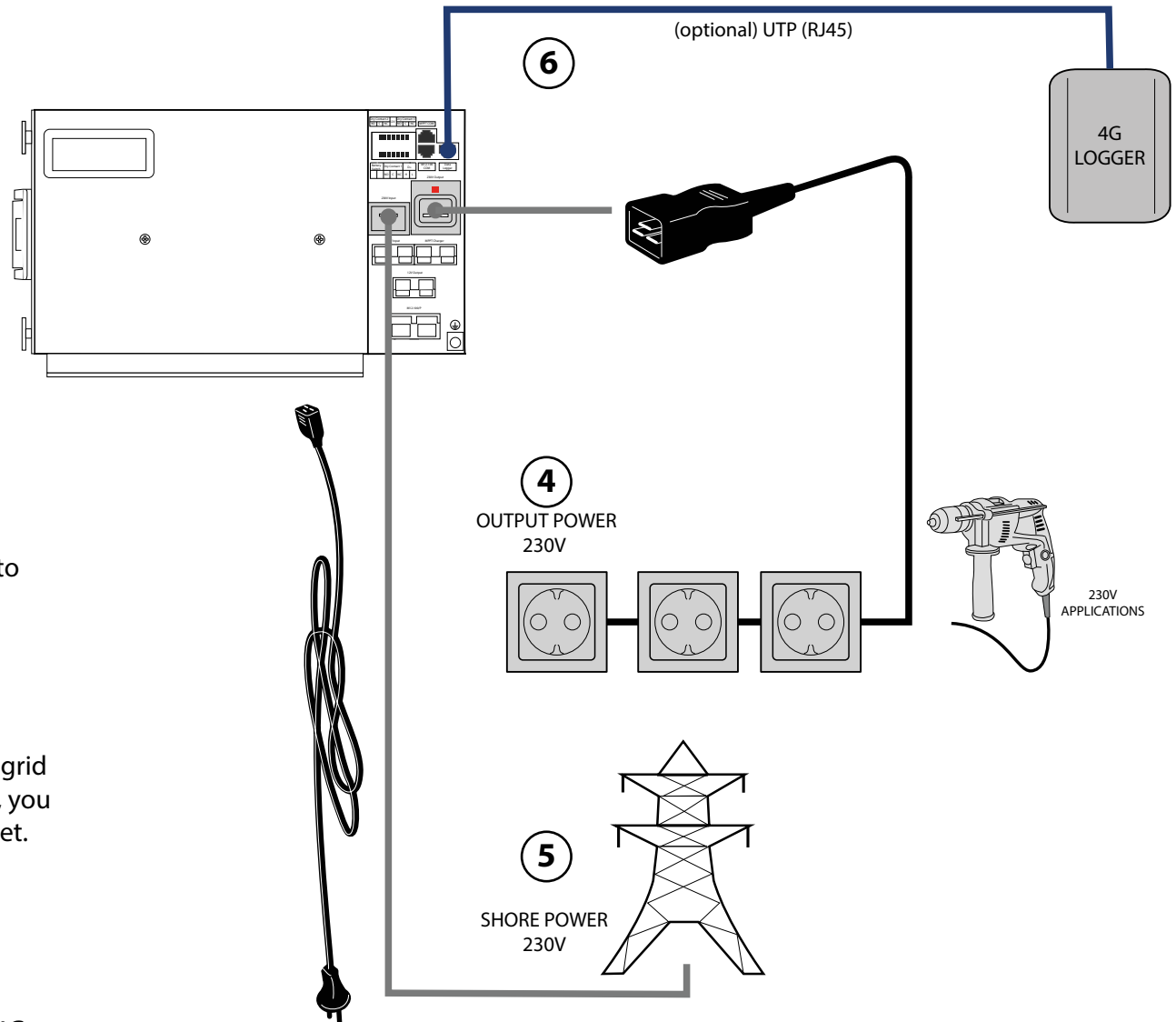
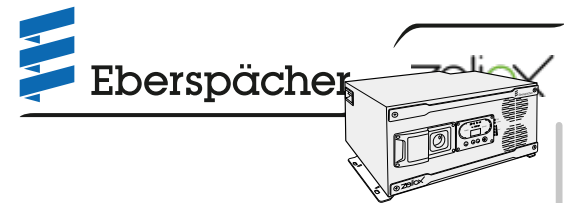
If you use longer cables than specified above, please check appendix II for the correct cable size.



Note: "Fuse TxxxA" (e.g. T60A) means Slow Blow Fuse xxxA.



## 7. Wiring ECO I / II into your vehicle



### Step 4 | Connect external loads (230V AC)

Use isolated three core cable in the size 1,5 or 2,5mm<sup>2</sup>, to connect additional external power 230V sockets.

### Step 5 | Connect to grid (230V AC)

Use the supplied AC input cable to charge through the grid (mains). If you have placed a shore outlet in the vehicle, you can use the AC input cable to connect to the shore outlet.

### Step 6 | Data connect to remote module (4G)

With an UTP RJ45-cable, you can connect the optional 4G data module to the ZeliOX. The data module gives access to all ZeliOX data from a remote location.

## 7. Wiring ECO I / II into your vehicle

### Step 7 | Data connect to Solar Mate MPPT (UTP)

With a RJ45-cable, you can connect the optional Solar Mate MPPT to the Zeliox. The data connection provides real time information, and is visible in the Zeliox App.

### IMPORTANT

Follow the next steps if you want to expand the system with auxiliary batteries. Before connection, make sure that the ECO and the auxiliary batteries are equally charged. SOC-LEDs should indicate the same level!

### Step 8 | Connect to auxiliary batteries (12V DC)

Connect the red and black cables (35mm<sup>2</sup>, max. 1,0m) to the supplied **GREY** Anderson SA120 connector and place a fuse T120A on the positive red cable, as close as possible to the DC source. The other sides directly to the poles of the M12-100 auxiliary battery. If you use longer cables than specified, please check appendix X for the correct cable size. The positive and negative cables must be of equal length.

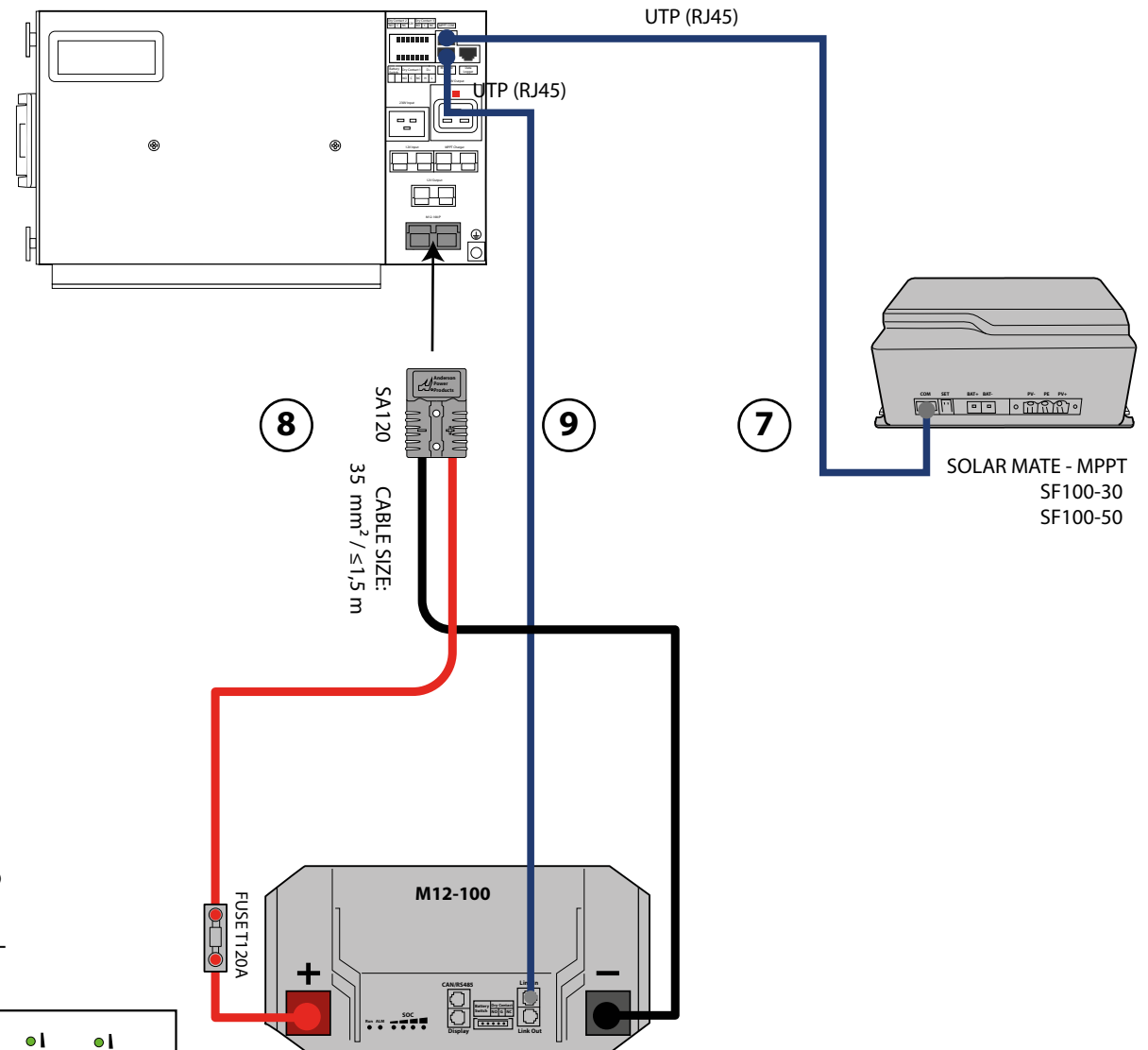
Note: "Fuse TxxxA" (e.g. T60A) means Slow Blow Fuse xxxA.

### Step 9 | Data connect to auxiliary batteries (UTP)

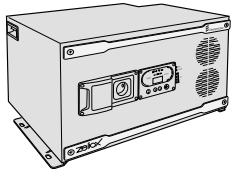
With a RJ45-cable, you can connect the M12-100 auxiliary battery to the Zeliox. Connect the other side of the cable into the LINKED IN port on the battery. The data connection provides real time information, and is visible in the Zeliox App.

**MAKE SURE ADDITIONAL BATTERIES AND THE ECO ARE EQUALLY CHARGED**

BATTERY = ECO



# 8. Wiring ECO III into your vehicle



**Note:** "Fuse TxxxA" (e.g. T60A) means Slow Blow Fuse xxxA.

## Step 1 | Connect to starter battery (12V DC)

Connect the red and black cables (35-50mm<sup>2</sup>, max. 4,5m) to the supplied **RED** Anderson SA120 connector. Connect the red cable directly to the corresponding pole of the vehicle battery. Place a fuse T100A in between, as close as possible to the 12V DC source (=starter battery). Connect the black cable behind any potential starter battery BMS system. Alternatively at the position where starter battery is grounded to the vehicle chassis. We advise to place an additional circuit breaker switch, to shut down the power during service.

## Step 2 | Connect external loads (12V DC)

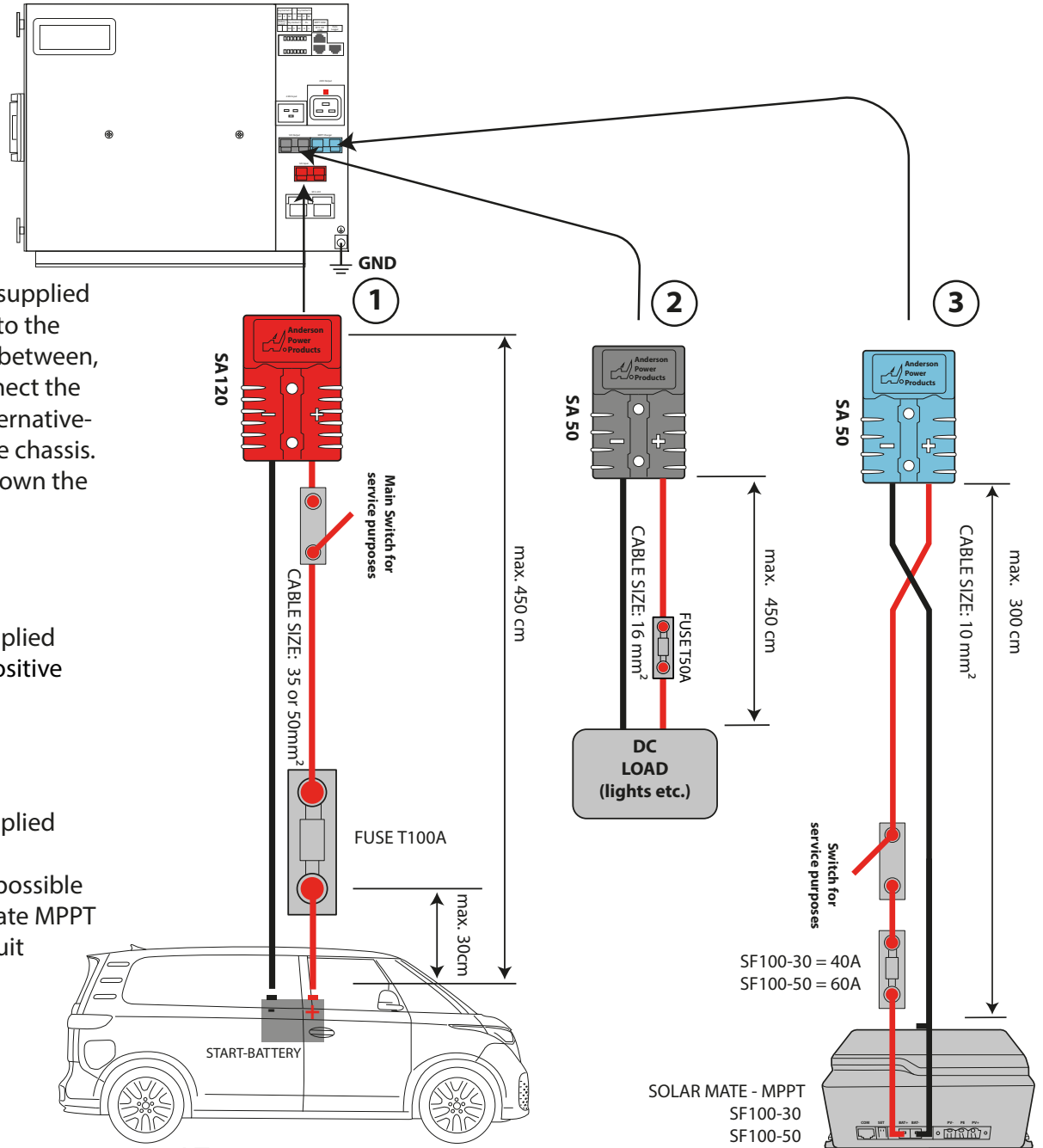
Connect the red and black cables (16mm<sup>2</sup>, max. 4,5m) to the supplied **GREY** Anderson SA50 connector and place a fuse T50A on the positive red cable, as close as possible to the DC load.

## Step 3 | Connect to solar MPPT (12V DC)

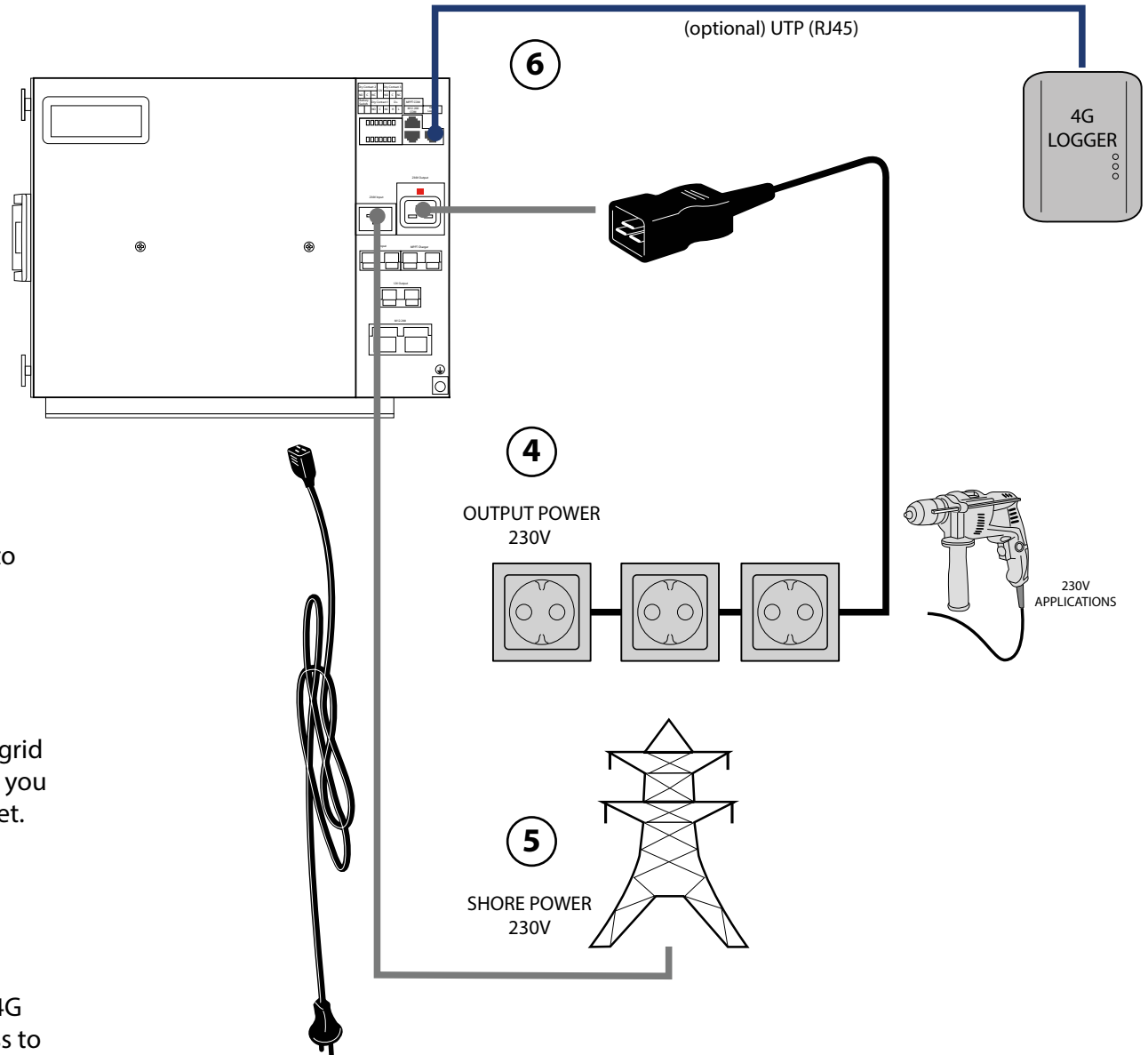
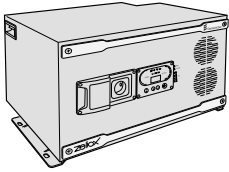
Connect the red and black cables (10mm<sup>2</sup>, max. 3,0m) to the supplied **BLUE** Anderson SA50 connector. If you use the Solar Mate MPPT SF100-30, place a fuse 40A on the positive red cable, as close as possible to the 12V DC source (=Solar Mate MPPT). If you use the Solar Mate MPPT SF100-50 place a fuse 60A . We advise to place an additional circuit breaker switch, to shut down the solar power during service.

### IMPORTANT

If you use longer cables than specified above, please check appendix II for the correct cable size.



## 8. Wiring ECO III into your vehicle



### Step 4 | Connect external loads (230V AC)

Use isolated three core cable in the size 1,5 or 2,5mm<sup>2</sup>, to connect additional external power 230V sockets.

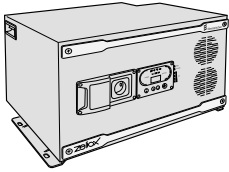
### Step 5 | Connect to grid (230V AC)

Use the supplied AC input cable to charge through the grid (mains). If you have placed a shore outlet in the vehicle, you can use the AC input cable to connect to the shore outlet.

### Step 6 | Data connect to remote module (4G)

With an UTP RJ45-cable, you can connect the optional 4G data module to the Zeliox. The data module gives access to all Zeliox data from a remote location.

# 8. Wiring ECO III into your vehicle



## Step 7 | Data connect to Solar Mate MPPT (UTP)

With a RJ45-cable, you can connect the optional Solar Mate MPPT to the ZeliOX. The data connection provides real time information, and is visible in the ZeliOX App.

### IMPORTANT

Follow the next steps if you want to expand the system with auxiliary batteries. Before connection, make sure that the ECO and the auxiliary batteries are equally charged. SOC-LEDs should indicate the same level!

## Step 8 | Connect to auxiliary batteries (12V DC)

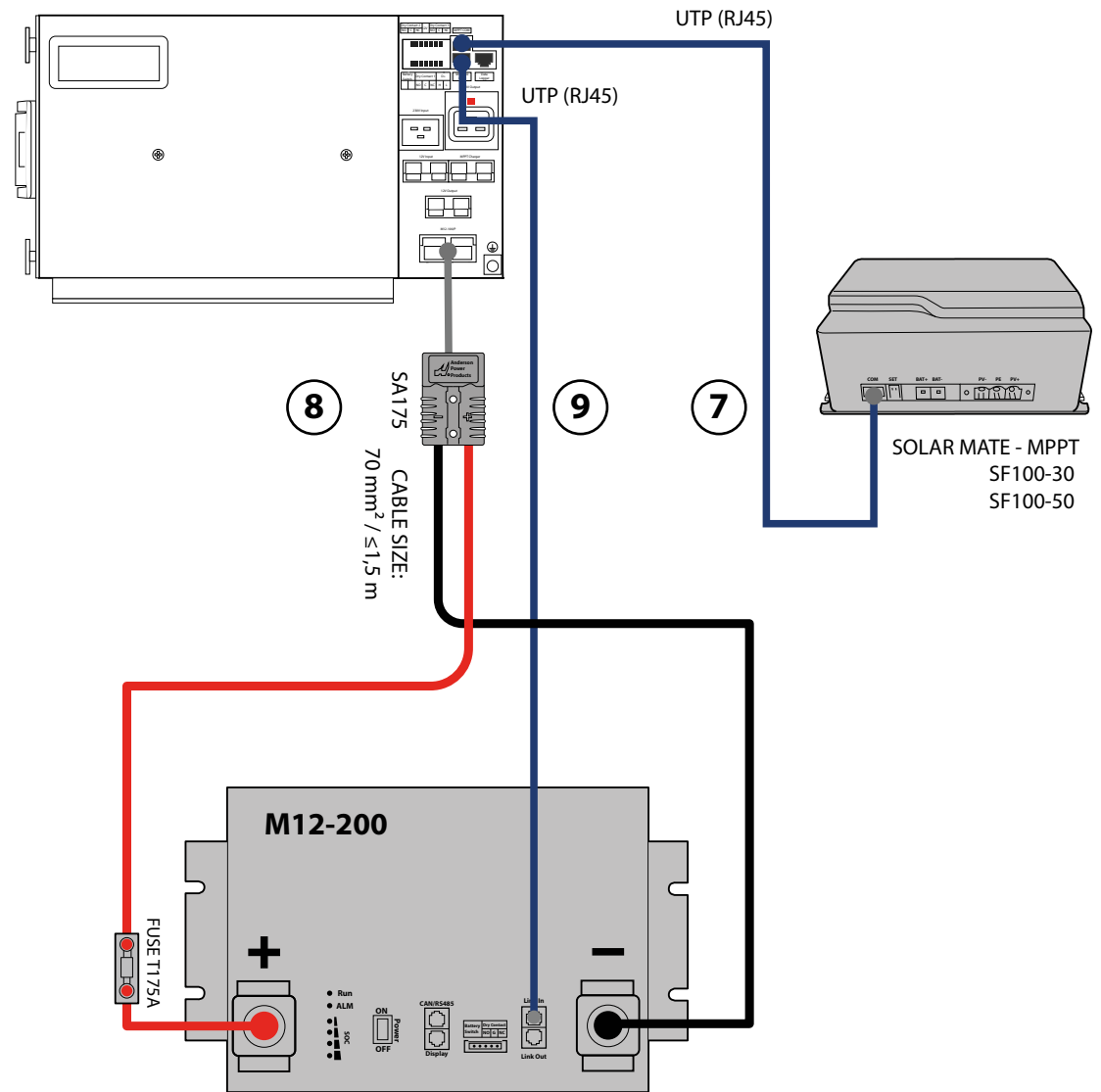
Connect the red and black cables (70mm<sup>2</sup>, max. 1,0m) to the supplied GREY Anderson SA175 connector and place a fuse T175A on the positive red cable, as close as possible to the DC source. The other sides directly to the poles of the M12-200 auxiliary battery. If you use longer cables than specified, please check appendix X for the correct cable size.

Note: "Fuse TxxxA" (e.g. T60A) means Slow Blow Fuse xxxA.

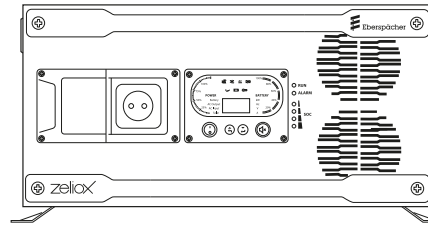
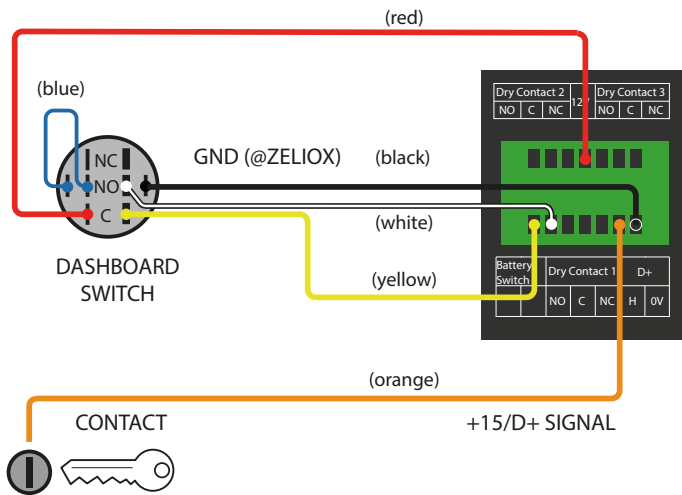
## Step 9 | Data connect to auxiliary batteries (UTP)

With a RJ45-cable, you can connect the M12-200 auxiliary battery to the ZeliOX. Connect the other side of the cable into the LINKED IN port on the battery. The data connection provides real time information, and is visible in the ZeliOX App.

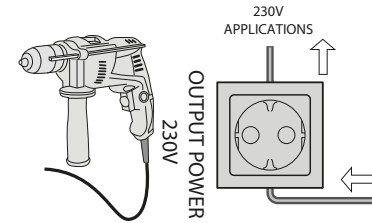
**MAKE SURE ADDITIONAL BATTERIES AND THE ECO ARE EQUALLY CHARGED**



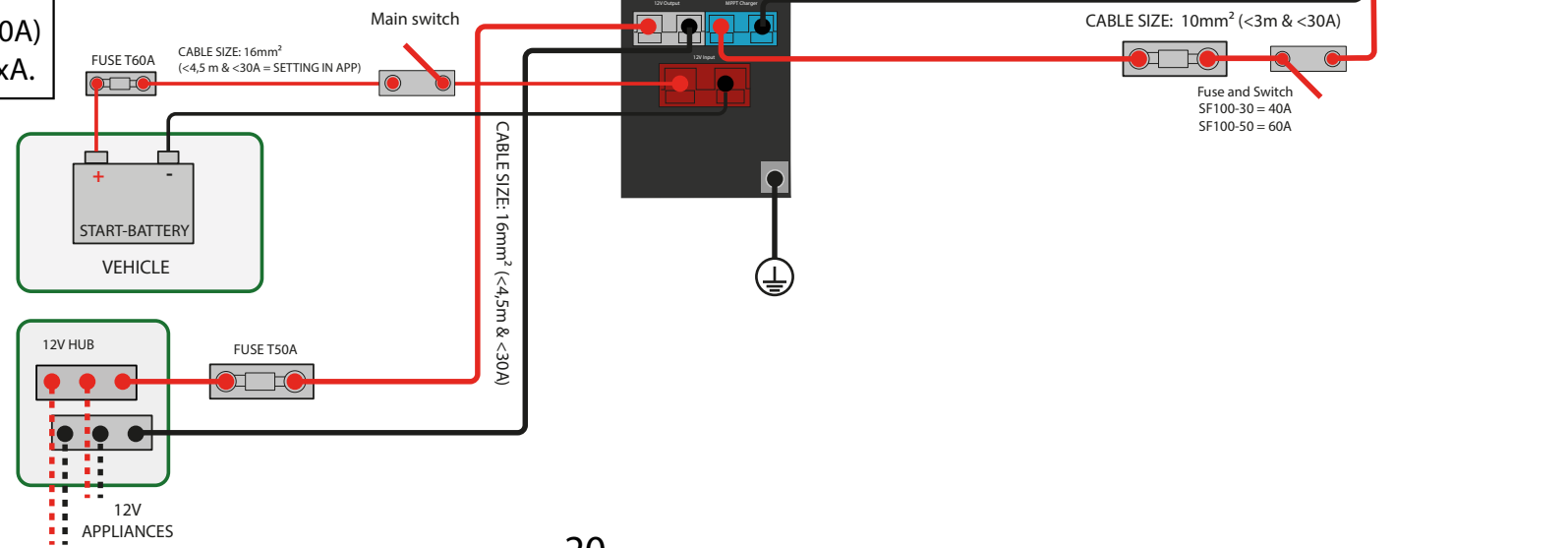
# 9. Wiring overview ECO S



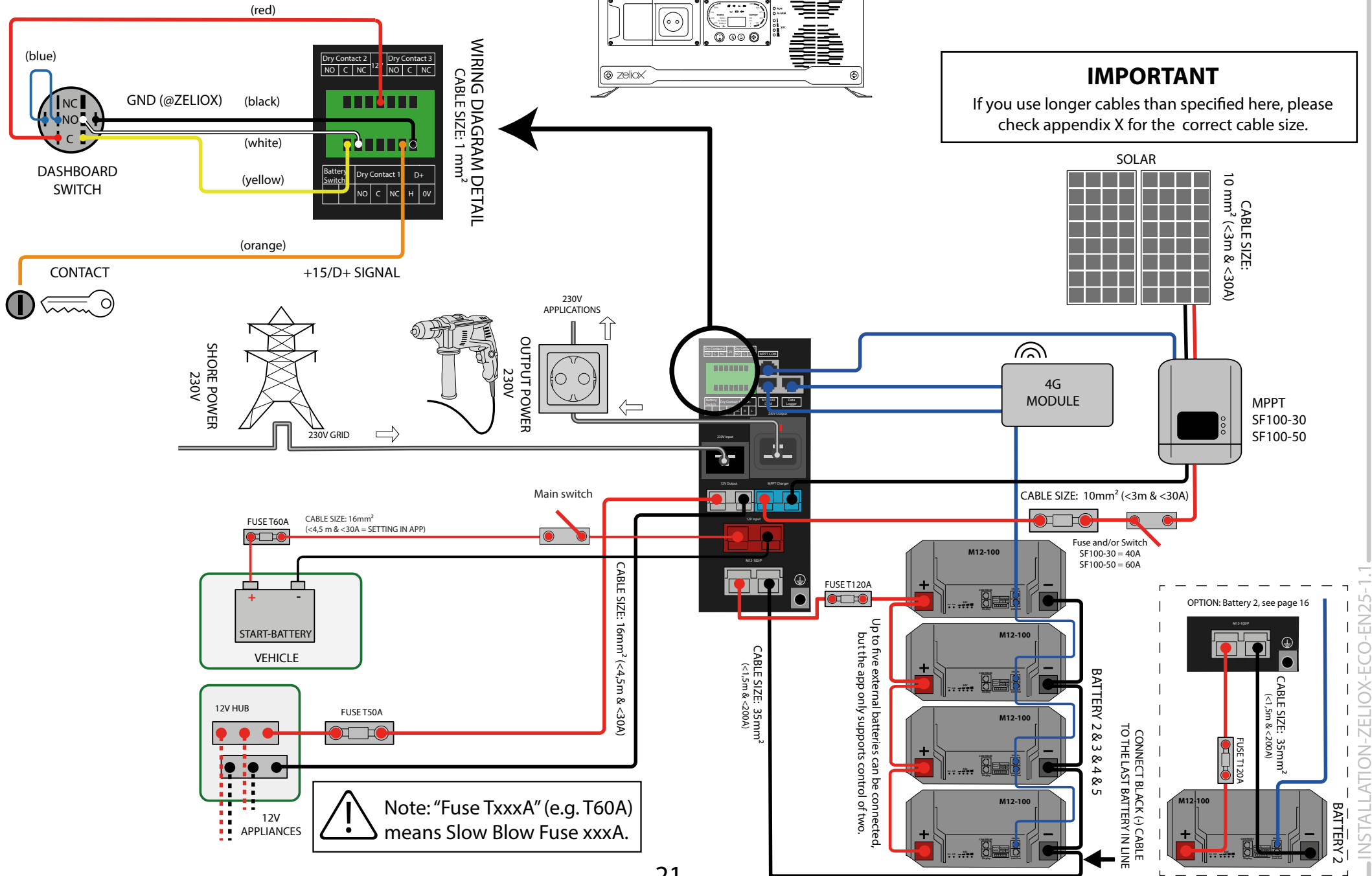
**IMPORTANT**  
If you use longer cables than specified here, please check appendix II for the correct cable size.



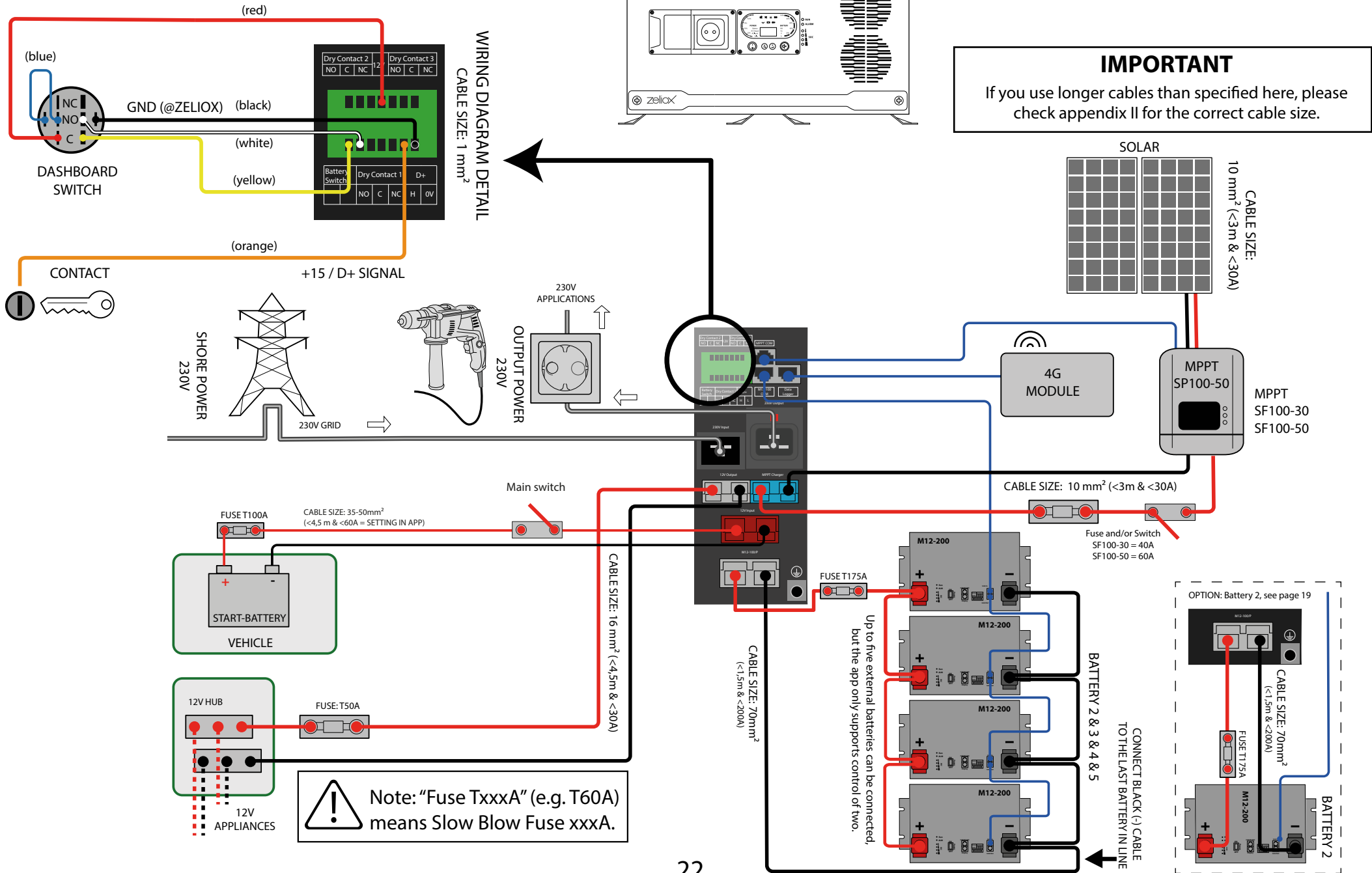
**Note:** "Fuse TxxxA" (e.g. T60A) means Slow Blow Fuse xxxA.



# 10. Wiring overview ECO I / II



# 11. Wiring overview ECO III



## 12. Dry contact output

### Dry Contact 1 | Function

If the ECO battery level drops below a specified threshold, it can activate an auxiliary device, such as a generator to begin charging, or an additional alarm.

### Default

The default setting of the low battery level is  $SOC \leq 5\%$ . Alternatively you also can connect it to the battery voltage or to shore power.

### Switch on

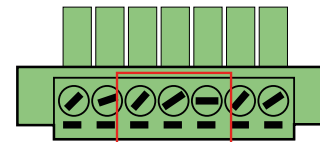
The SOC setting can be configured in the Zeliox App within a range of 5% to 50%. This setting activates the output dry contact, enabling to control an auxiliary device.

### Switch off

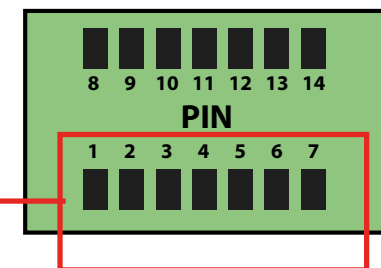
If the SOC reaches 100%, it will deactivate the relay output contact and the auxiliary device will switch off. The range can be set in the Zeliox App in a range from 10% to 100%.

### Wiring instructions:

1. The output dry contact C interface is connected to the negative terminal of the DC load.
2. Output dry contact NO interface is connected to Engine Start controller.



Dry Contact 2			12V	Dry Contact 3		
NO	C	NC		NO	C	NC



Battery Switch	Dry Contact 1			D+	0V
	NO	C	NC	H	



### IMPORTANT

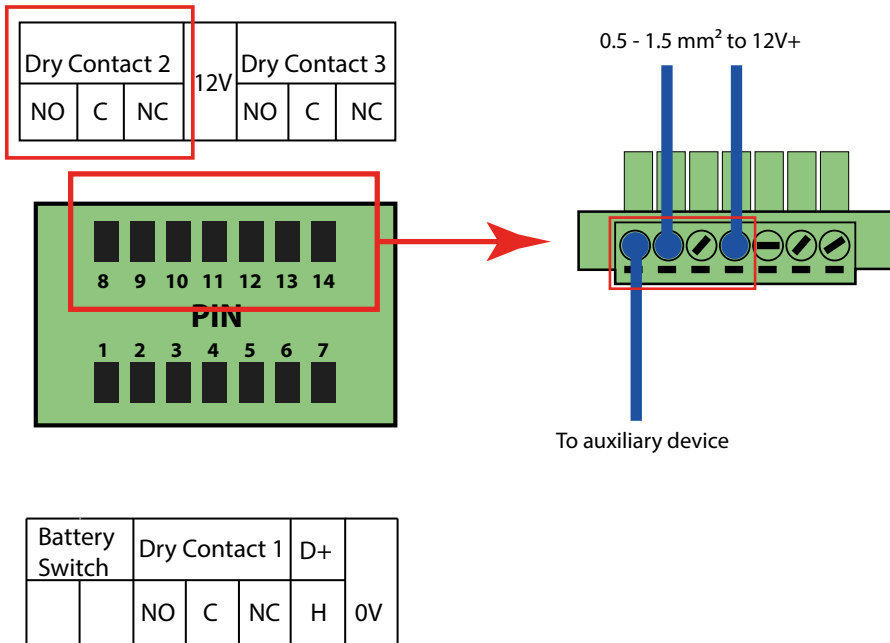
See chapter 13 for more information on the installation settings in the Zeliox App.

## 12. Dry contact output

### Dry Contact 2 | Function

This contact simulates the +15/D+ signal from the vehicle contact. As soon as the vehicle's contact is turned on, this contact will give a signal to an auxiliary device. This device could be a side step that needs to be stowed in, a warning signal to close the doors or to disconnect the shore power cable.

### Wiring instructions (example):



### IMPORTANT

See chapter 13 for more information on the installation settings in the Zeliox App.

## 12. Dry contact output

### Dry Contact 3 | Function

It simulates an ON/OFF signal for an optional 12V DC distribution box. The contact can be controlled based on the battery level or SOC in the Zeliox ECO.

### Default

The default setting of the low battery level is  $SOC \leq 0\%$  and  $SOC \geq 5\%$  to switch on again. Alternatively you also can connect it to the battery voltage level.

### Switch on (connect)

The SOC setting can be set in the Zeliox App, in range from 5% to 50%. It will activate the output dry contact, that will give a signal to switch the 12V DC distribution box on. All connected 12V DC loads behind the box will be activated until the SOC level reaches the switch off level.

### Switch off (disconnect)

The SOC setting can be set in the Zeliox App, in range from 0% to 45%. It will give a signal to disconnect the 12V DC distribution box. All connected 12V DC loads behind the box will be deactivated, until the SOC level reaches the switch on level again.

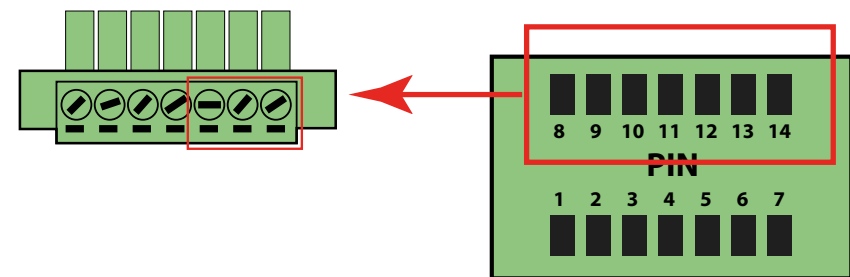
### For example, the DC load module ZCM6 is connected to the ECO

When the SOC is  $\geq 5\%$  (5%~50% can be set), the dry contact 3 will be engaged and then ZCM6 is turned on.

When the SOC is  $\leq 0\%$  (0%~45% can be set), the dry contact 3 will be disengaged and then the ZCM6 is turned off.

### Wiring instructions:

Dry Contact 2			12V	Dry Contact 3		
NO	C	NC		NO	C	NC



Battery Switch	Dry Contact 1			D+	0V
	NO	C	NC	H	

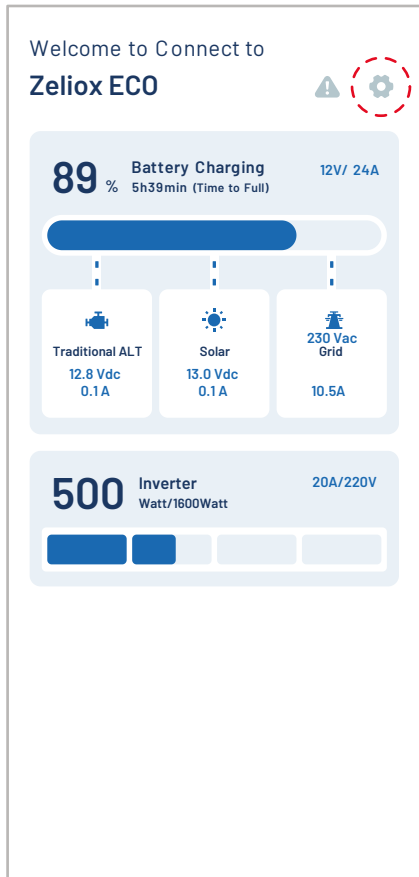


### IMPORTANT

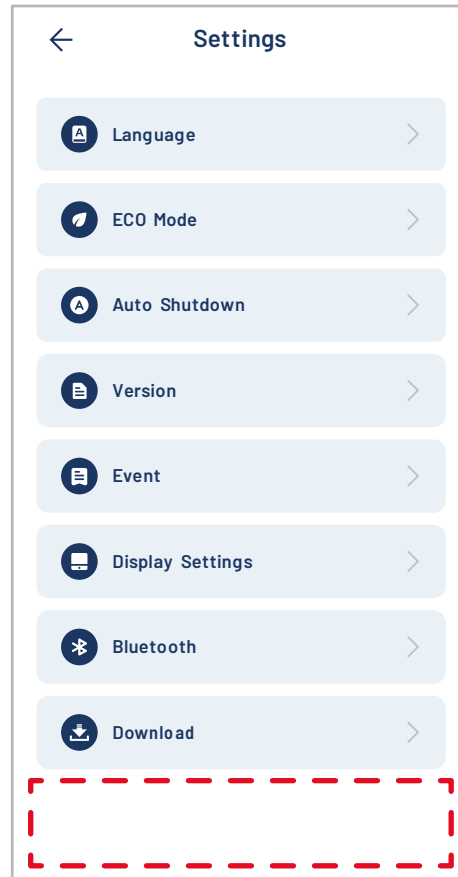
See chapter 13 for more information on the installation settings in the Zeliox App.

# 13. Zeliox APP | Installation settings

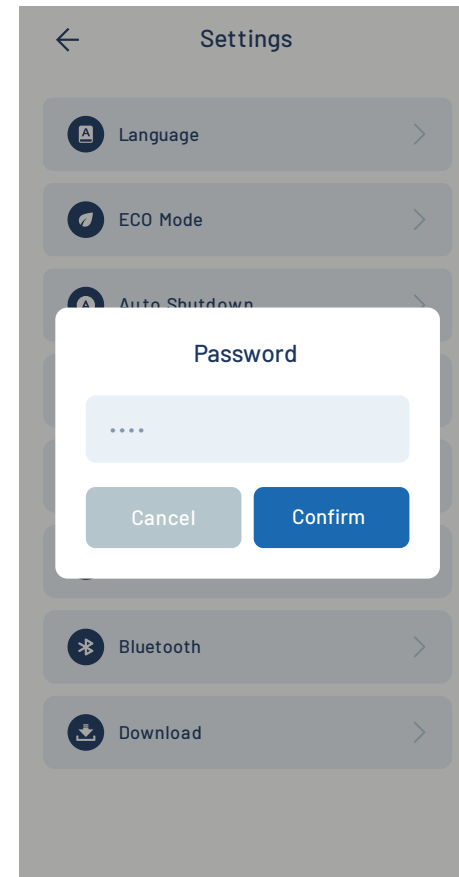
## 13.1 Access installation set up



Click on the settings icon.



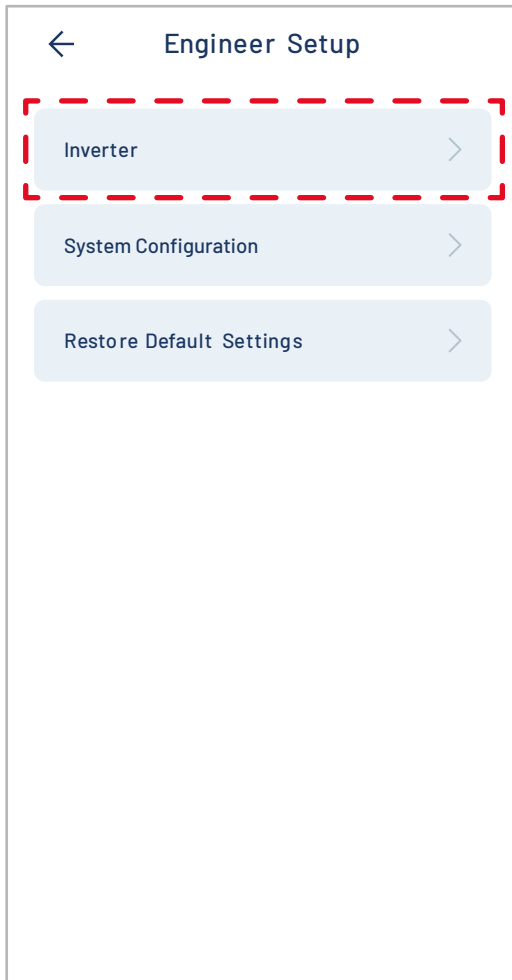
Tab 5 times in the **marked** area.



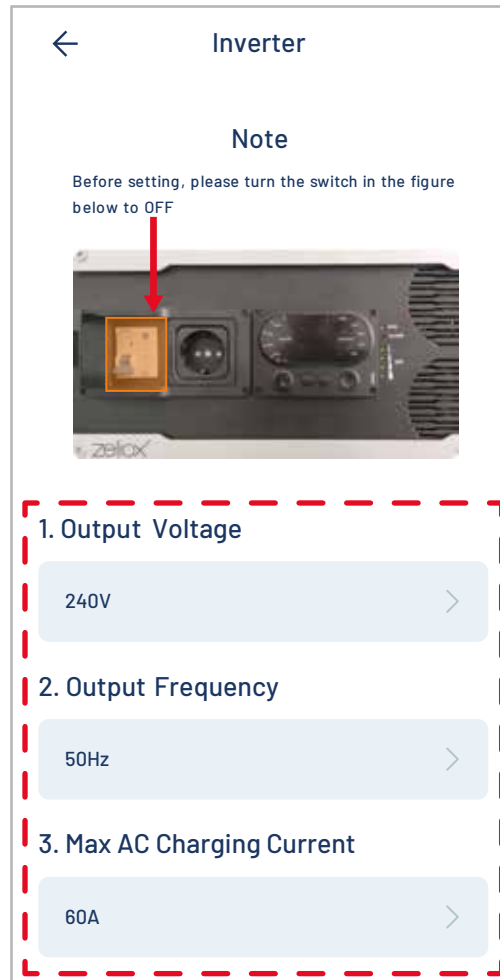
Key in the password.

# 13. ZeliOX APP | Installation settings

## 13.2 Inverter settings



Click on the marked area.



**IMPORTANT:** Switch off the RCD before making changes. After that click on one of the menu buttons to make changes.

### 1. Output Voltage

Standard setting is 230V. Change it only to 220V or 240V if the connected devices require it.

### 2. Output Frequency

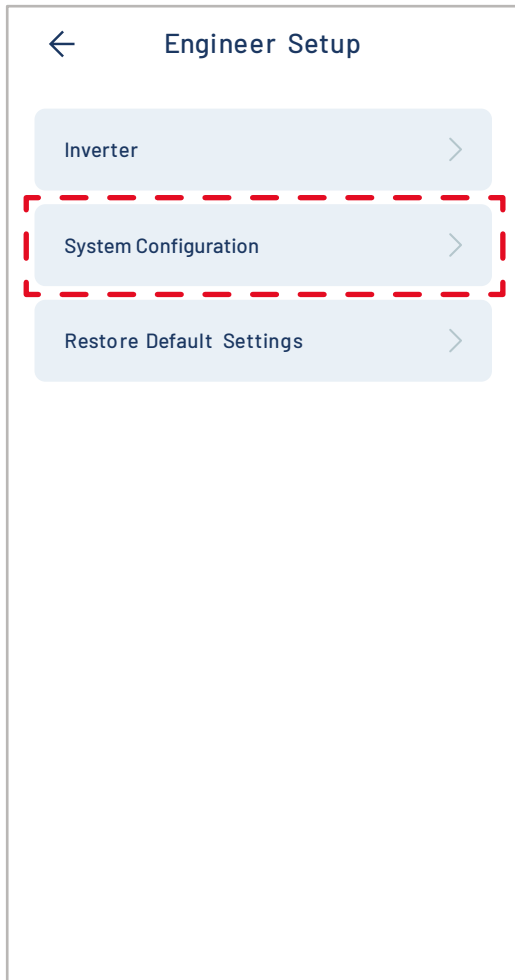
Standard setting is 50Hz. This is the correct setting for Europe. Depending on the geographical area it can be changed to 60Hz.

### 3. Max AC Charging Current

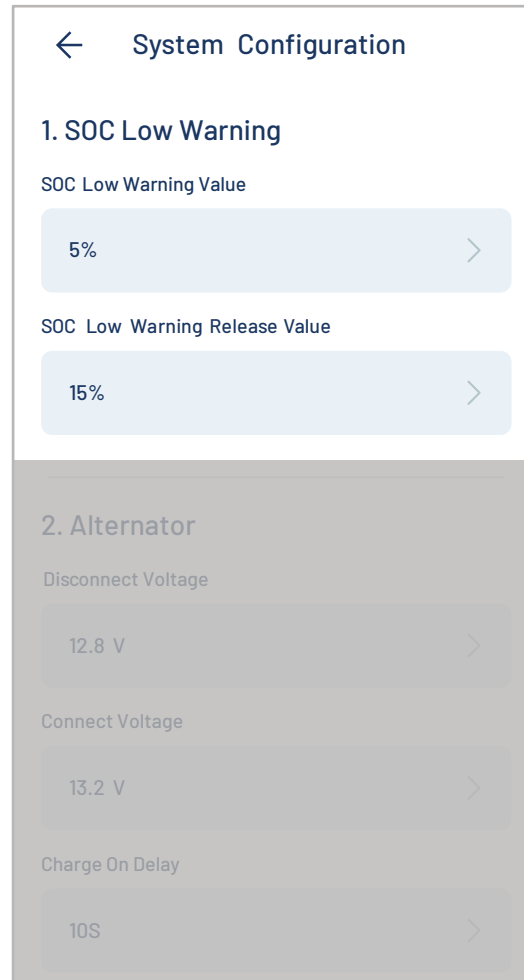
This is the maximum amperage for loading the ZeliOX battery pack. The standard value varies per ECO device. The maximum capacity is 60A (ECO S, ECO I & II) or 100A (ECO III). It can be adapted in this menu.

# 13. Zeliox APP | Installation settings

## 13.3 Low battery alarm settings



Click on the marked area.



Click on one of the menu buttons to change settings.



### 1. SOC Low Warning

[SOC Low Warning Value]  
Setting for starting the low battery warning of the Zeliox. The standard setting is 10%. The range is 5% to 10%.

[SOC Low Warning Release Value]  
Setting for ending the low battery warning of the Zeliox. The standard setting is 15%. The range is 15% to 55%.

## 13.4 Alternator charging settings



### 2. Alternator

#### [Disconnect Voltage]

This is the voltage level of the starter battery. At the set value the ZeliOX stops loading the batteries. The standard setting is 12.8V. The range is 11.6V to 12.8V.

#### [Connect Voltage]

This is the voltage level of the starter battery. At the set value the ZeliOX begins loading the batteries. The standard setting is 13.2V. The range is depending on the setting of the disconnect value! There is always at least a 0.4V difference between both. Based on this the max. range of the [Connect Voltage] is 12.0V to 14.5V.

Always start with setting the correct [Disconnect Voltage] Value, followed by the [Connect Voltage] Value.

#### [Charge On Delay]

This is the delay in seconds, before the loading process of the ZeliOX batteries starts. The delay starts counting, from the time that the starter battery has reached the set level [Connect Voltage]. The standard setting is 20 seconds. The range is 5 to 60 seconds.

#### [Charge Off Delay]

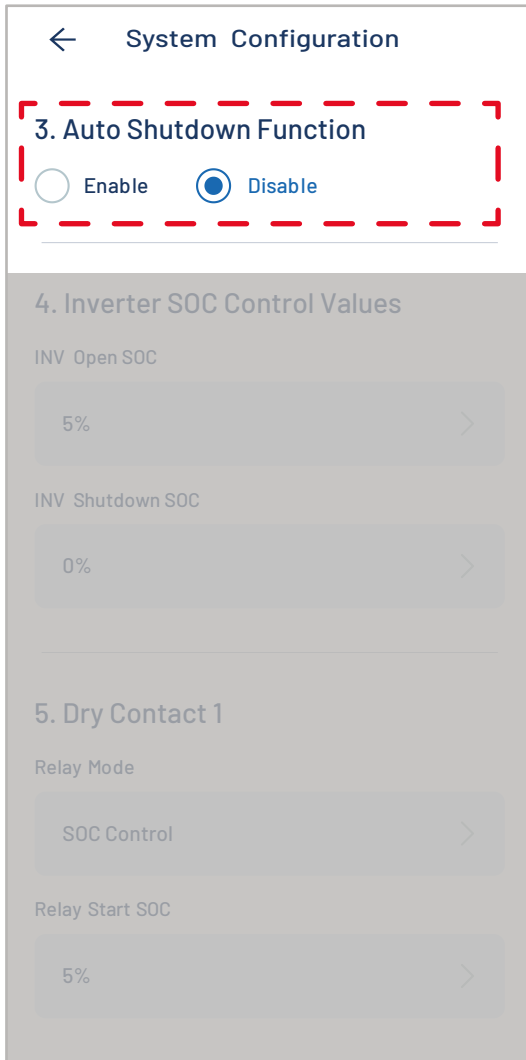
This is the delay in seconds, before the loading process of the ZeliOX batteries stops. The delay starts counting, from the time that the starter battery has reached the set level [Disconnect Voltage]. The standard setting is 5 seconds. The range is 5 to 120 seconds.

#### [Max Charging Current]

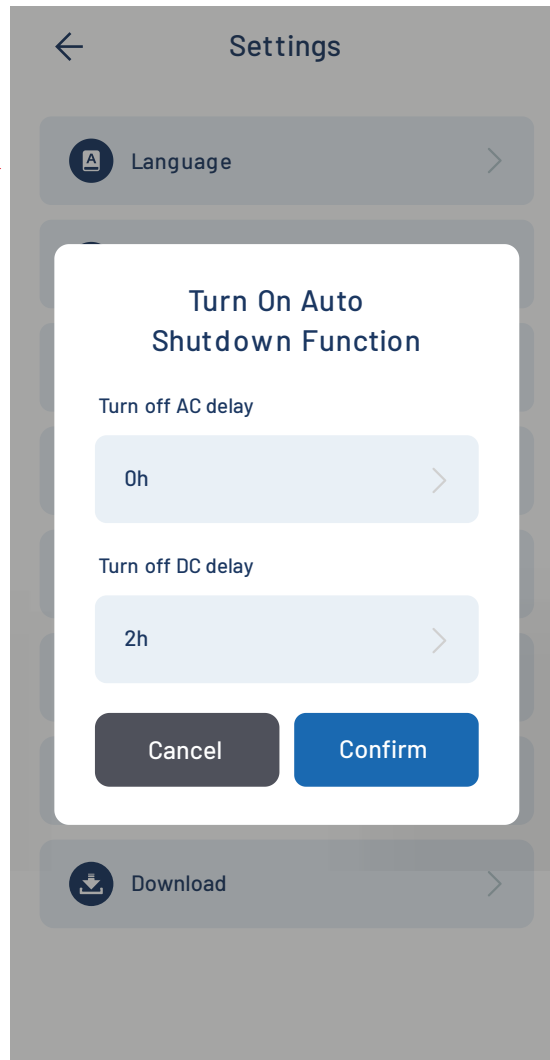
This is the maximum amperage for loading the ZeliOX battery pack, during driving. The maximum varies per ZeliOX device and is 30A or 60A. It can be adapted in this menu.

# 13. Zeliox APP | Installation settings

## 13.5 Delayed shutdown 230V and 12V outputs



Click on [Enable] to use this function or on [Disable] to switch it off.



Click on one of the menu buttons to change settings.

### 3. Auto Shutdown Warning

[Turn off AC delay]

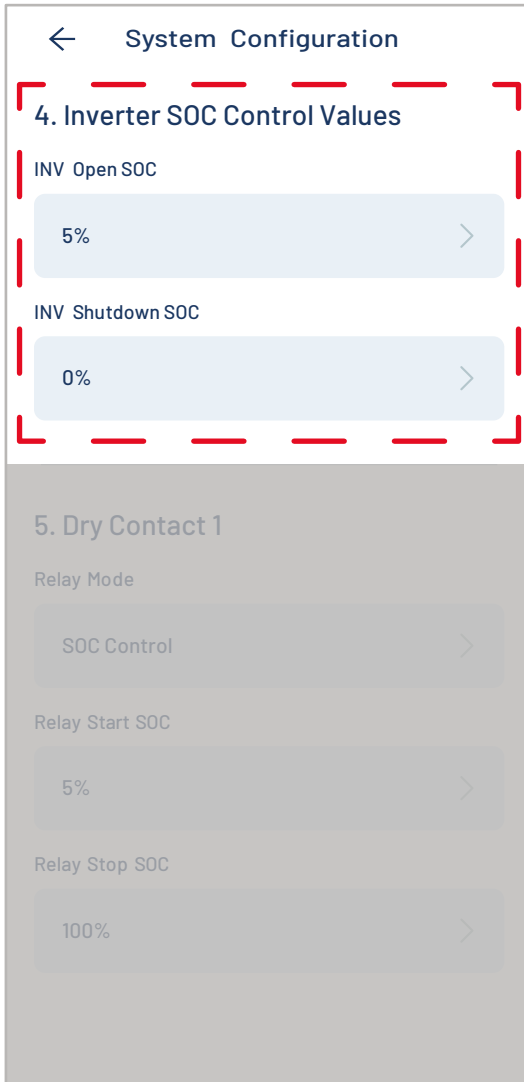
It is possible to delay the power shutoff of the 230V outputs. The delay starts counting, from the time that the Zeliox is switched off. The standard setting is 0 hours. The range is 0, 1 or 2 hours.

Press [Confirm] to return to the main menu. Should an insulation error occur within the delayed timer window, you cannot reset the error without disabling this function! See the App user manual for more information on solving insulation errors.

[Turn off DC delay]

It is possible to delay the power shutoff of the 12V outputs. The delay starts counting, from the time that the Zeliox is switched off. The standard setting is 0 hours. The range is 0, 2, 4, 6, 12, 24, 48, 72 hours or permanent. Keep in mind that during the set period the display remains activated! Press [Confirm] to return to the main menu.

## 13.6 Inverter shutdown on low battery



### 4. Inverter SOC Control Values

#### [INV open SOC]

It is possible to reactivate the inverter automatically, after a Zeliox low battery situation. Standard the inverter will be switched on when the Zeliox battery level is 5% or higher. The range is 5% to 50%.

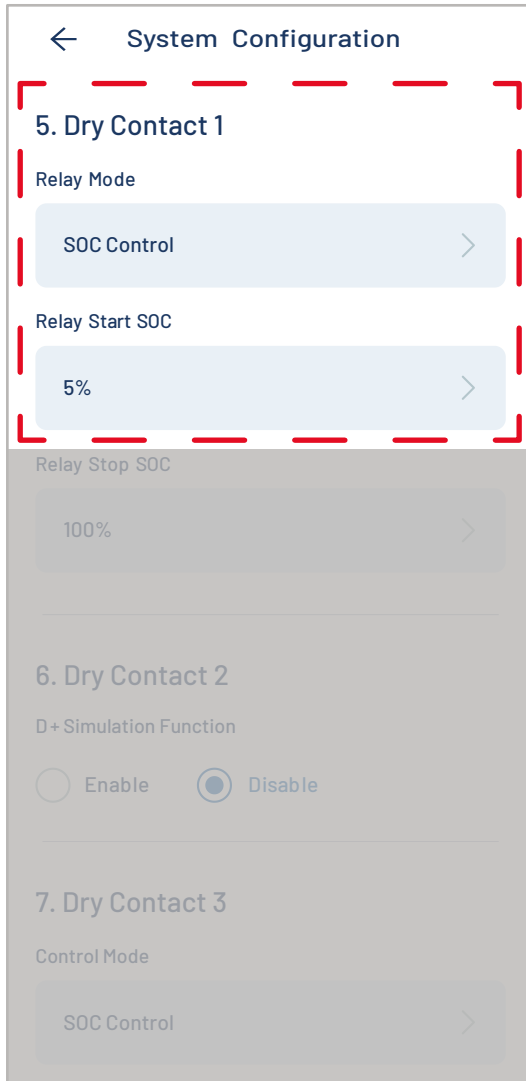
#### [INV Shutdown SOC]

It is possible to shut down the inverter automatically, before the Zeliox battery runs low. Standard the inverter will be switched off when the Zeliox battery level is 0%. The range is 0% to 0%.

Click on one of the menu buttons to change settings.

# 13. Zeliox APP | Installation settings

## 13.7 Setting dry contact 1: e.g. start external charging or start alarm



### 5. Dry Contact 1

See chapter 10 for more background information of this function.

#### [Relay Mode]

You can control this function by:

- Battery level (SOC)
- Battery voltage level
- Detection if the grid power is connected

#### [Relay Start SOC]

The value when the dry contact switches is depending on:

- Battery level between 5% and 50%
- Battery voltage between 11.6 and 12.5V

#### [Relay Stop SOC]

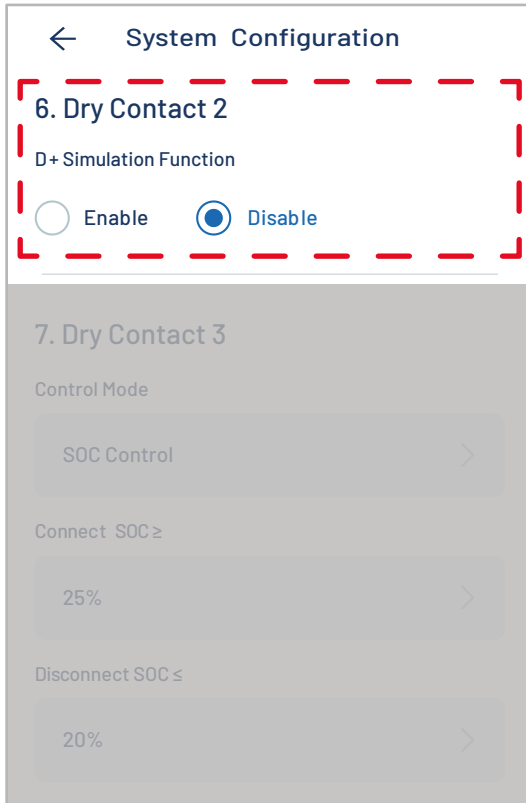
The value when the dry contact switches is depending on:

- Battery level between 10% and 100%
- Battery voltage between 12.1 and 14.0V

Click on one of the menu buttons to change settings.

# 13. Zeliox APP | Installation settings

## 13.8 Setting dry contact 2: +15 / D+ simulation



### 6. Dry Contact 2

See chapter 10 for more background information of this function.

#### [Enable]

If enabled, the dry contact switches when the vehicle starts (signal +15/ D+). With this contact you can activate an auxilliary device.

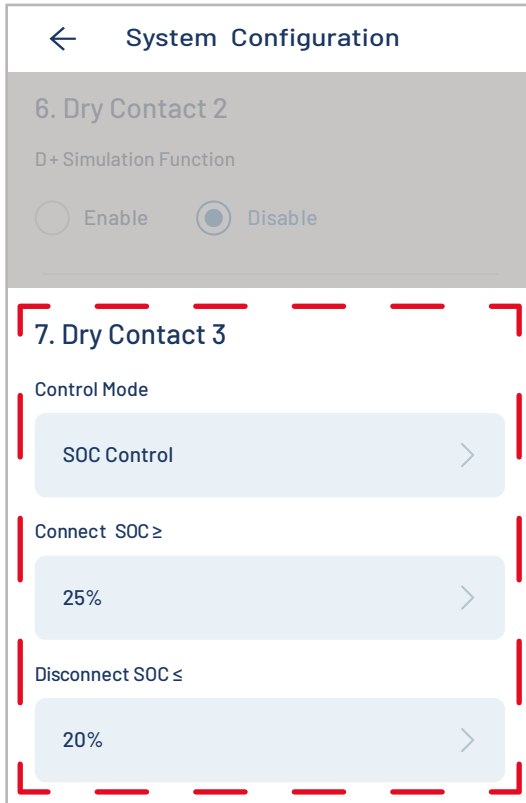
#### [Disable]

When disabled, the dry contact is inactive.

Click on one of the menu buttons to change settings.

# 13. Zeliox APP | Installation settings

## 13.9 Setting dry contact 3: optional 12V distribution box



Click on one of the menu buttons to change settings.



### 7. Dry Contact 3

See chapter 10 for more background information of this function.

#### [Control Mode]

You can control this function by:

- Battery level
- Battery voltage level

#### [Connect SOC]

The value when the dry contact switches is depending on:

- Battery level as from 50% up to 50%
- Battery voltage between 11.6V and 11.9V

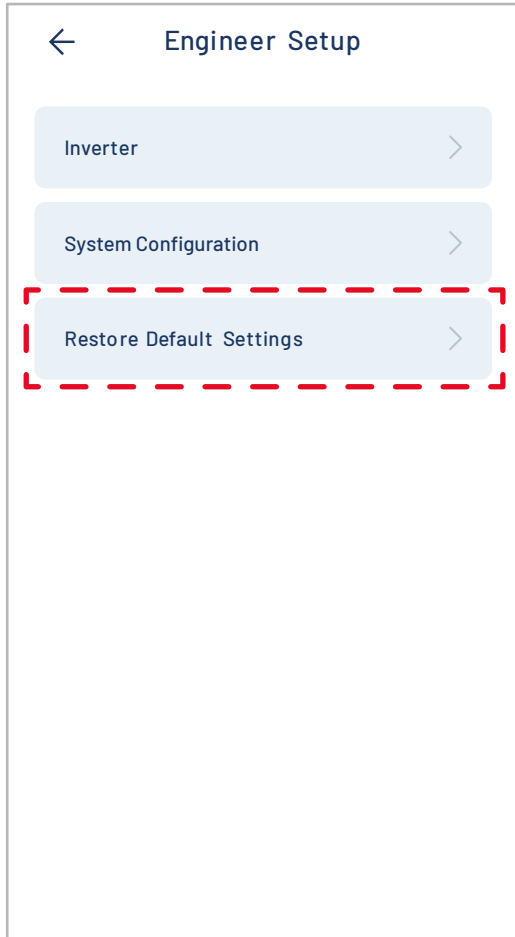
#### [Disconnect SOC]

The value when the dry contact switches is depending on:

- Battery level as from 0% up to 45%
- Battery voltage between 12.0V and 14.0V

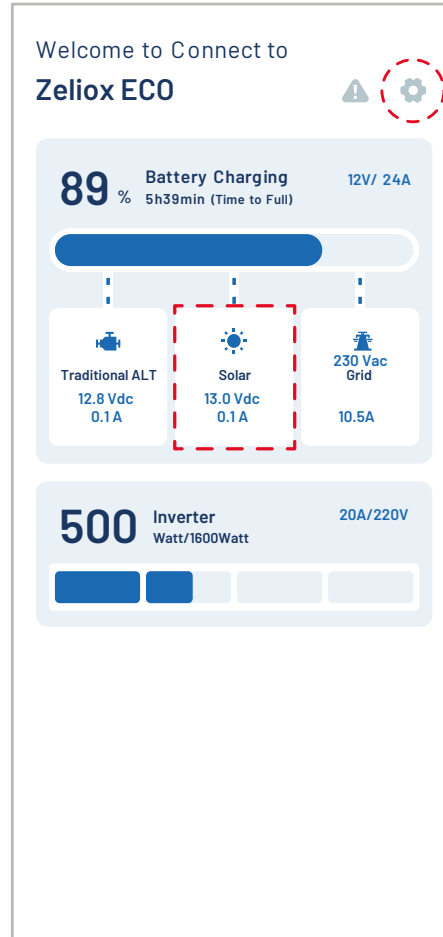
# 13. Zeliox APP | Installation settings

## 13.10 Reset

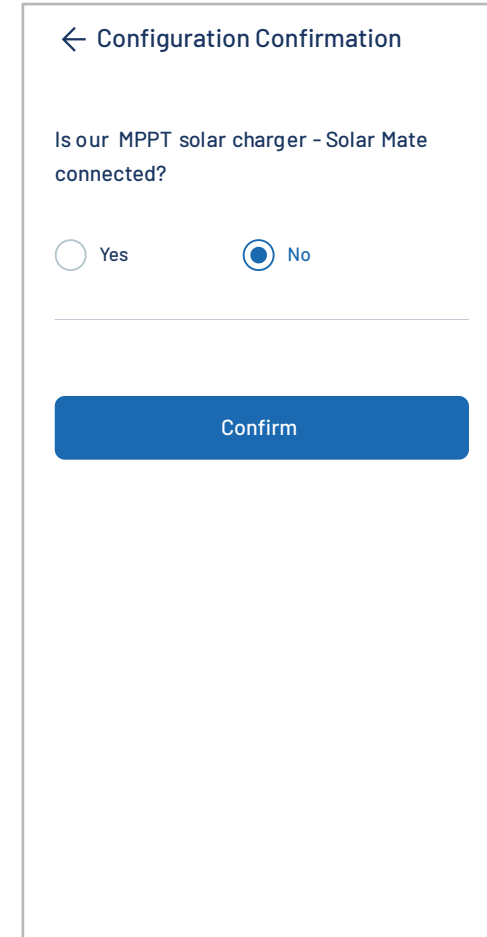


Click on the marked button to go back to the factory App settings.

## 13.11 Main menu: connecting Solar Mate MPPT

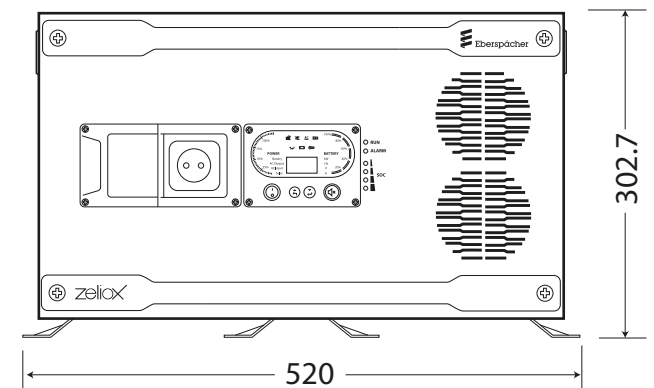
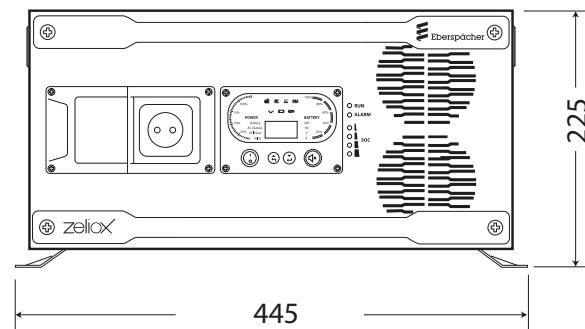
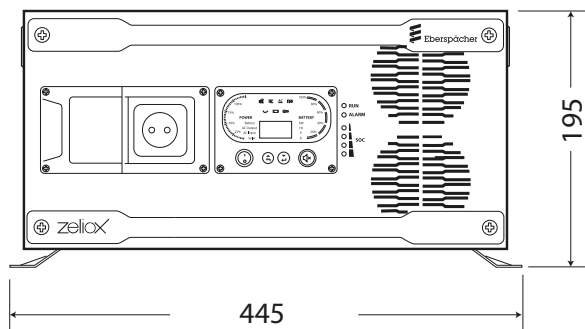
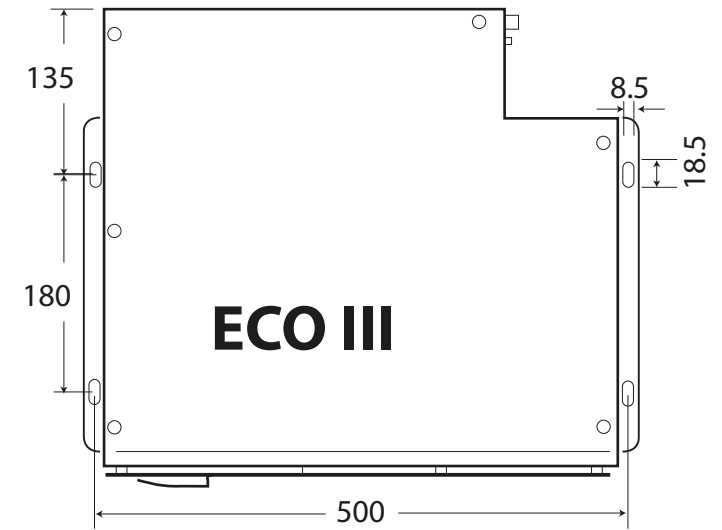
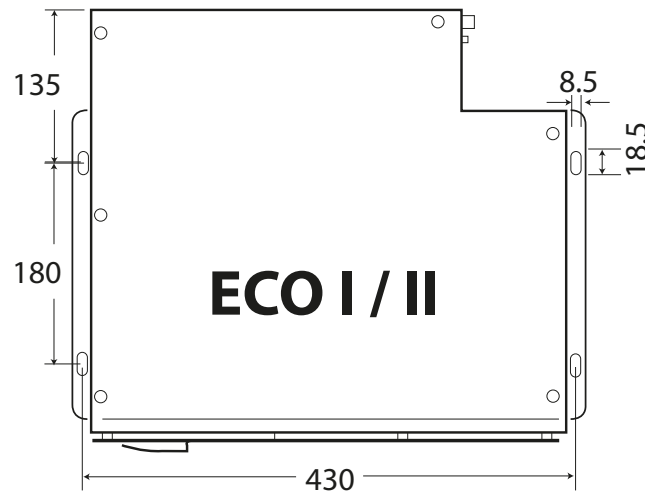
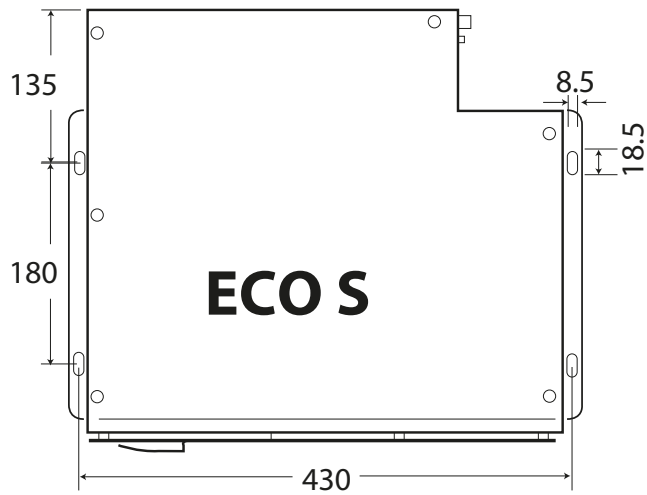


If you are using the Solar Mate MPPT, it needs to be activated in the main menu. Click on the [Solar] icon.



In the menu you can activate or deactivate the Solar Mate MPPT Press [Confirm] to close the menu.

# Appendix I: Appearance and dimensions



## Appendix II: Matrix cable thickness

This information helps to determine a safe cable thickness and length. It can be used to connect the Zeliox ECO to the starter battery, Solar Mate MPPT, auxiliary batteries or other loads.

### What is cable thickness?

The cable thickness is the surface (not the cross section) of the core of the cable, without the insulation. It is measured in mm<sup>2</sup>.

### Matrix to connect to the starter battery

The matrix below gives the maximum advised cable length, to connect the ECO to the starter battery. Based on 2,5% voltage drop. Please make sure to select the correct Zeliox ECO-modell!!

Cable thickness	30 A	Cable length - <b>One way</b> (red or black)	60A	Cable length - <b>One way</b> (red or black)
10 mm <sup>2</sup>	ECO1 or ECO2	3,0 meter max.	ECO2+ or ECO3	1,5 meter max.
16 mm <sup>2</sup>	ECO1 or ECO2	4,6 meter max.	ECO2+ or ECO3	2,3 meter max.
25 mm <sup>2</sup>	ECO1 or ECO2	7,0 meter max.	ECO2+ or ECO3	3,5 meter max.
35 mm <sup>2</sup>	ECO1 or ECO2	10,0 meter max.	ECO2+ or ECO3	5,0 meter max.
50 mm <sup>2</sup>	ECO1 or ECO2	14,3 meter max.	ECO2+ or ECO3	7,2 meter max.
70 mm <sup>2</sup>	ECO1 or ECO2	20,0 meter max.	ECO2+ or ECO3	10,0 meter max.

### Calculate your own cables

For longer lengths or other loads, you can calculate a safe thickness/length. You need to know the current (Amperage) that flows through the cable and the desired cable length. With that you can use the formula below to calculate it.

Cable thickness (mm <sup>2</sup> ) =	<b>Total</b> cable length (red + black in meters) x Maximum current (A) x 0,0175
	12v x 2,5%*

## 14. Disposal or recycle

Disposal and recycling of lithium batteries should comply with local, state, and federal laws and regulations. Mixed treatment with other (industrial) waste is prohibited.

Keep the original packaging, in case of return shipment



### Service portal



For more specifications see [www.eberspaecher-zeliox.com](http://www.eberspaecher-zeliox.com)

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The Netherlands



