The energy storage system is used to store electric energy in rechargeable lithium battery modules (charging) and to provide electric energy (discharging). This charging and discharging process takes place via a connected inverter. All processes of the electricity storage system are monitored and controlled by the FEMS.

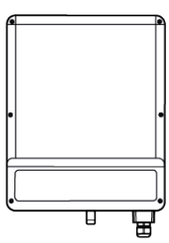
WARNING

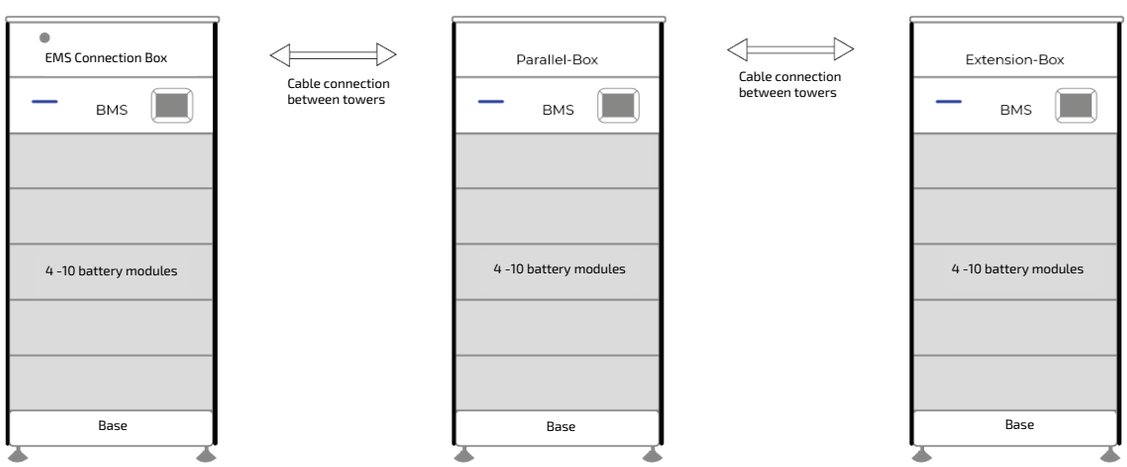
– The unit may only be used in compliance with the permissible technical data.
– The installation and maintenance of the unit may only be carried out by qualified personnel.
– This quick start guide does not replace the installation instructions. The installation instructions must be read and understood before installation.

NOTE

Not all possible system configurations are shown in this Quick Start Guide. For more information

please reffer to the installation manual.



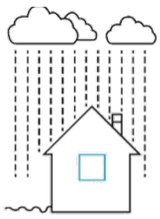


Battery tower 1 | Battery tower 2 | Battery tower 3

1 Installation site

-30 °C – 60 °C

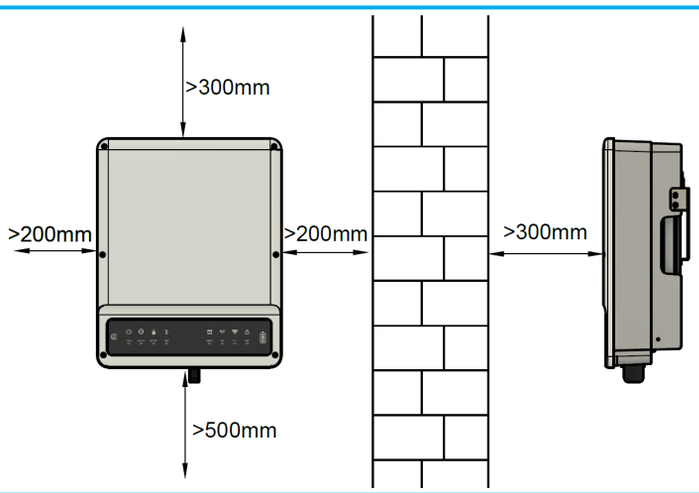
No direct sunlight



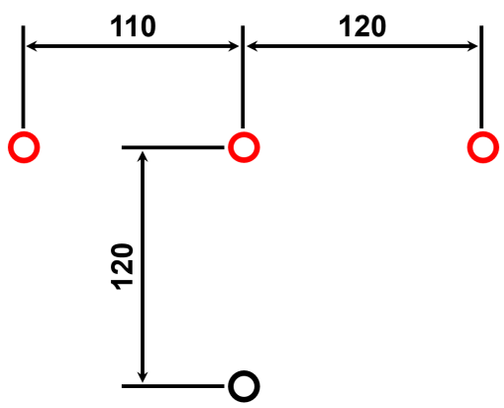
protected from rain

protected from snow

2 Spacing

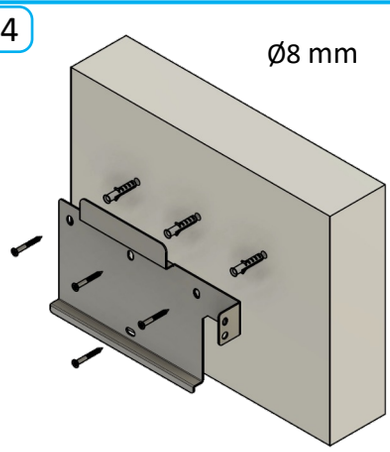


3 Drill holes



Capacity	Height to ground
8,8 kWh	1800 mm
11,0 kWh	1930 mm
13,2 kWh	2060 mm
15,4 kWh	2190 mm
17,6 kWh	2320 mm
19,8 kWh	2455 mm
22,0 kWh	2585 mm

4



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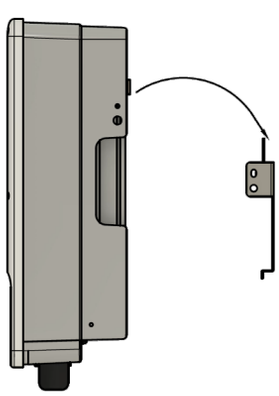

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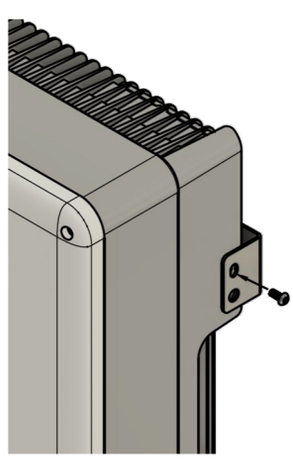
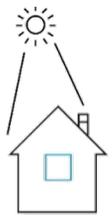
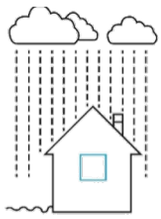


1 Installation site

-30 °C – 60 °C



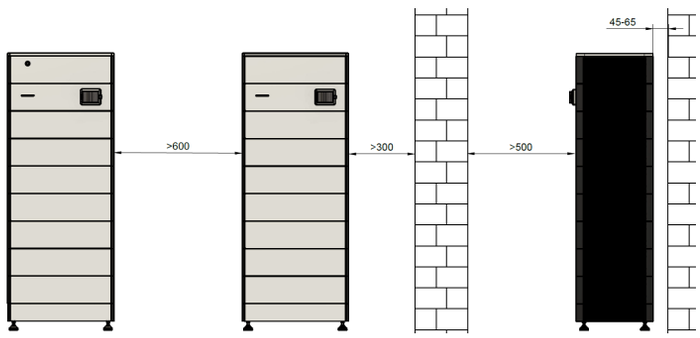
No direct sunlight



protected from rain

protected from snow

2 Spacing



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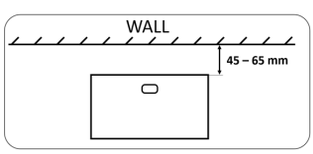

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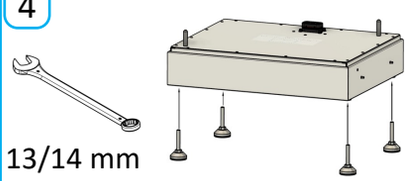

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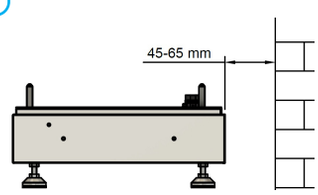

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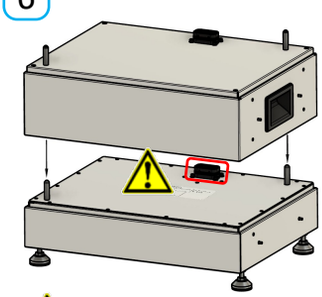
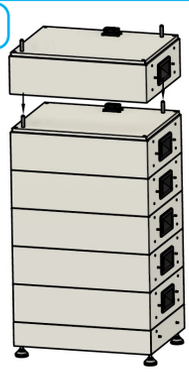


Remove cover

7



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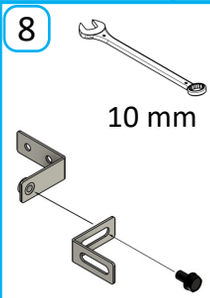

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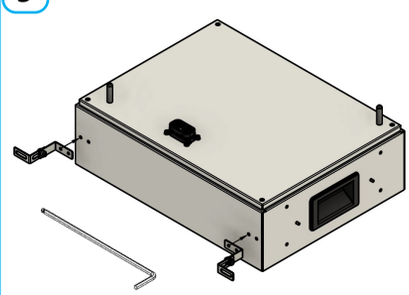

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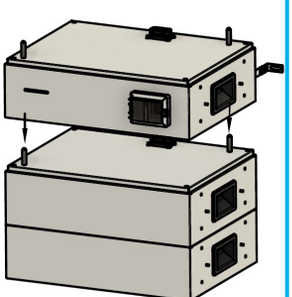

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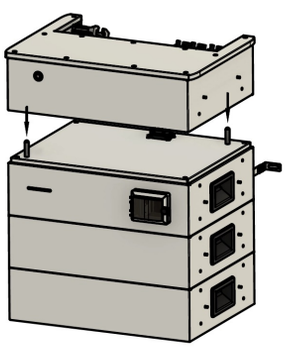

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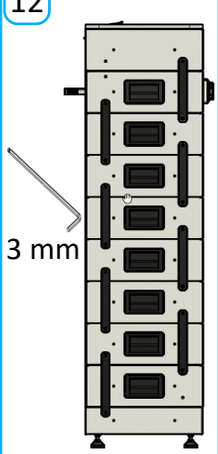

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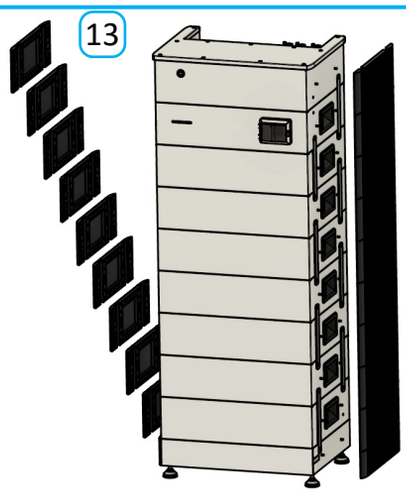
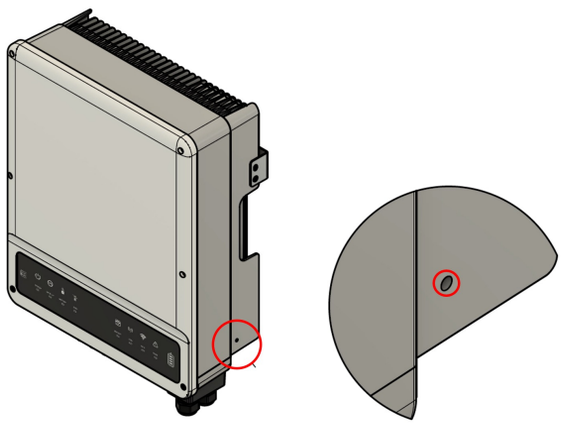


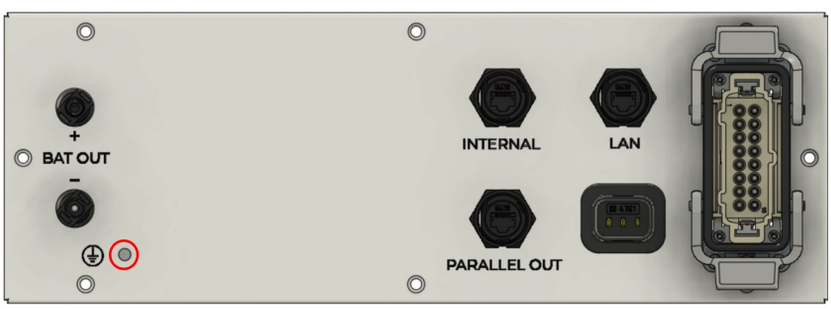
1



Cross-section grounding

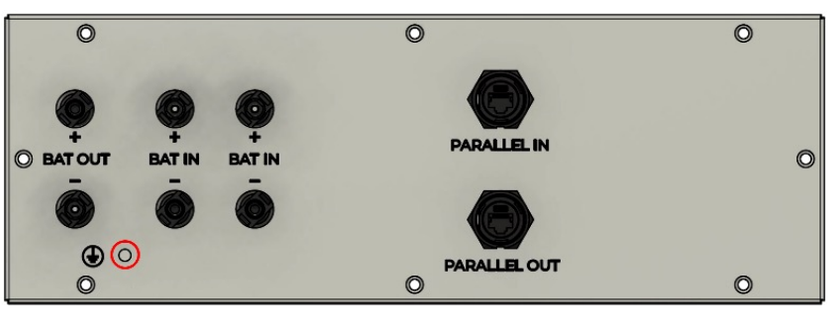
10 mm²

2

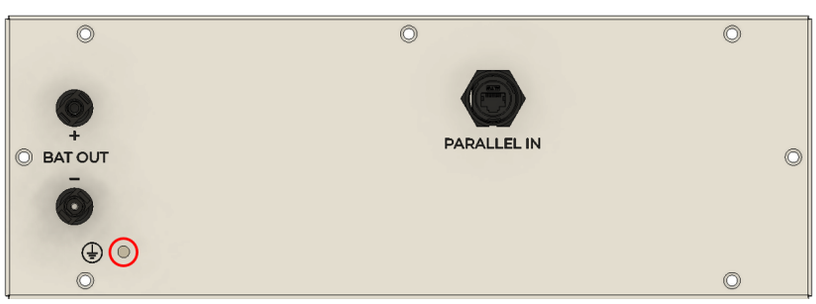


10 mm²
EMS box

3

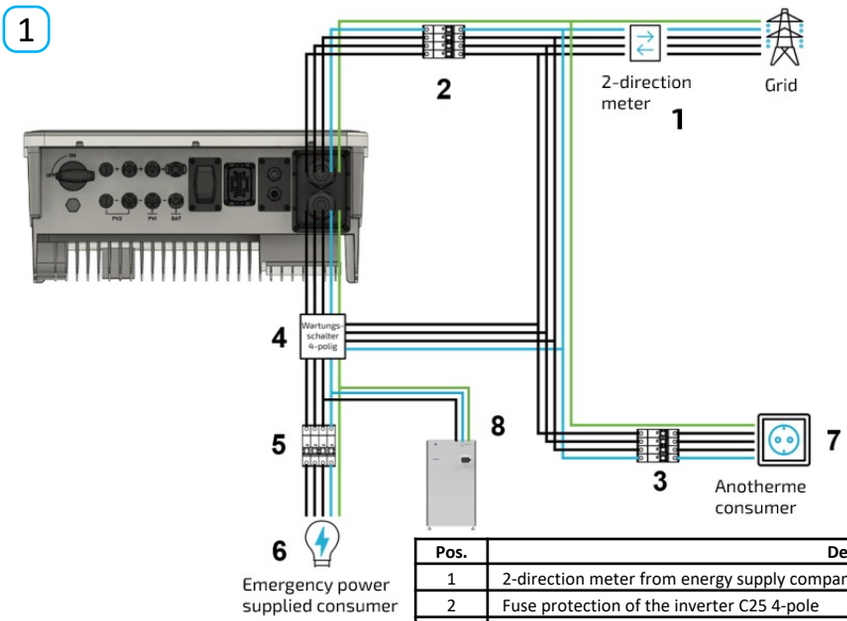


10 mm²
Parallel box



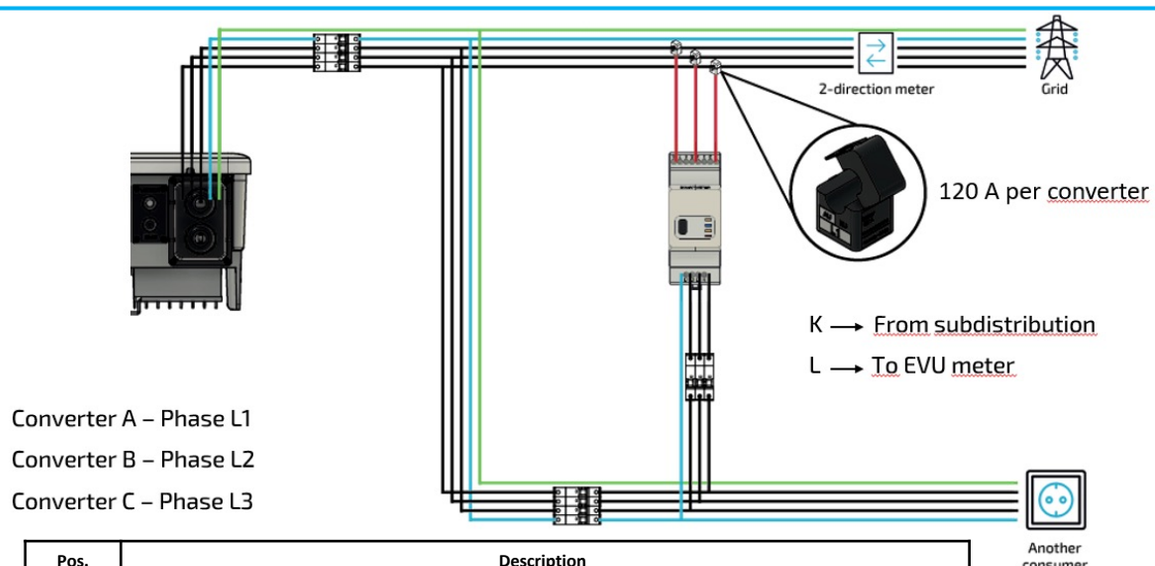
10 mm²
Extension box

1



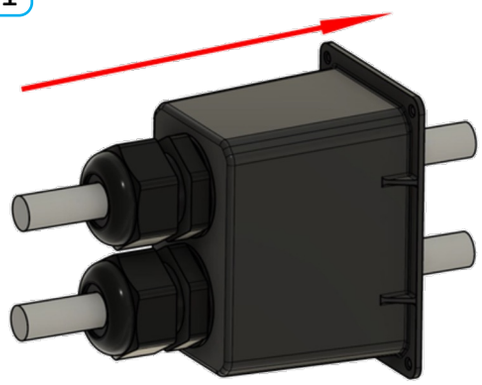
Pos.	Description
1	2-direction meter from energy supply company
2	Fuse protection of the inverter C25 4-pole
3	Fuse protection of the consumption (no emergency power) with RCD type A and suitable LS switches
4	Service switch for switching the emergency power loads to the mains (recommended)
5	Fuse protection of the inverter C25 4-pole Consumption protected by RCD type B and suitable LS switches
6	Consumption - emergency power supply maximum 10 kW / 3.33 kW per phase (also applies in normal operation if mains is available!); no further AC generators permissible
7	Consumption not supplied with emergency power
8	AC supply of the EMS-Box (if consumers are connected to the emergency power feeder).

2



Pos.	Description
1	2-direction meter from energy supply company
2	Fuse protection of the inverter C25 4-pole
3	Fuse protection of the consumption (no emergency power) with RCD type A and suitable LS switches
7	Consumption not supplied with emergency power
8	Folding transformer (directly behind EVU meter) already pre-mounted on the Energy Meter
9	Energy Meter
10	Fuse protection of the energy meter (recommended) B6 3-pole

1



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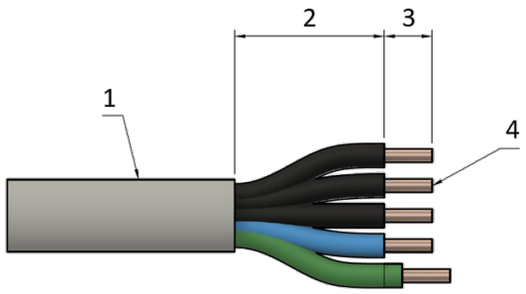
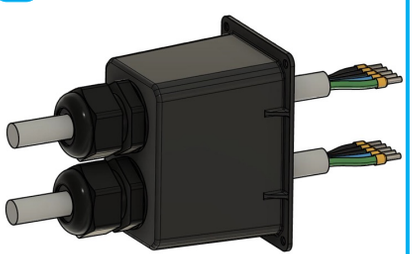


Section	Description	Dimensions
1	Outer diameter	13 – 18 mm
2	Length stripped cable	20 – 25 mm
3	Stripped conductor length	7 – 9 mm
4	Cross section conductor	4 – 6 mm

3



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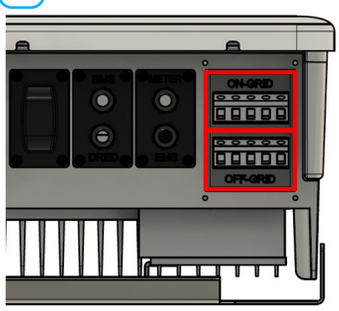

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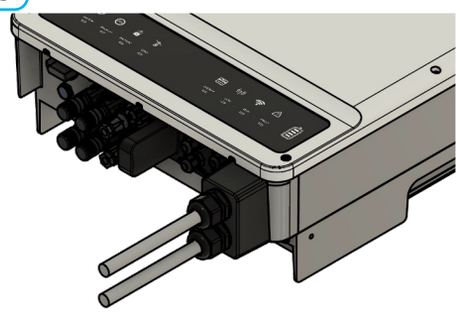


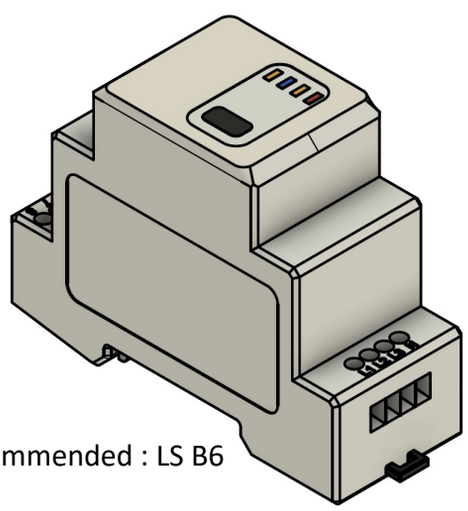
6

The maximum current carrying capacity is 120 A.

K - from the sub-distribution

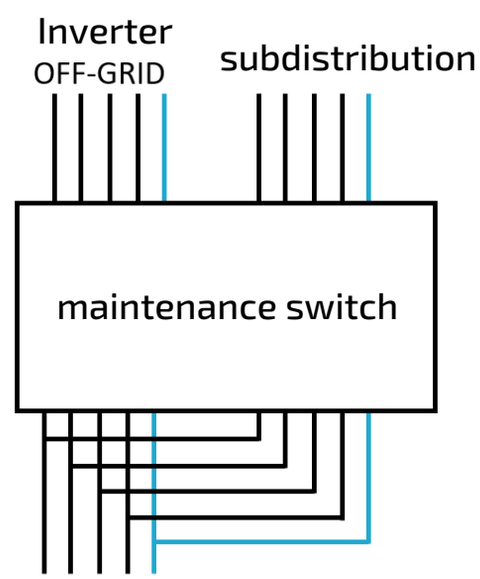
L - to the EVU meter

7



Recommended : LS B6

8

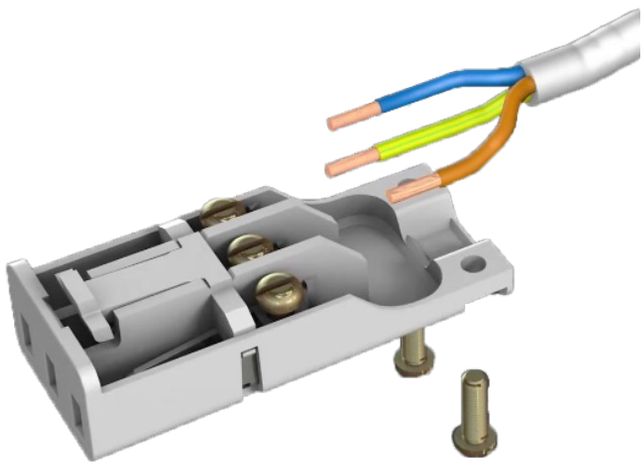


Recommended :HIM404 / HIM406

1

2

3



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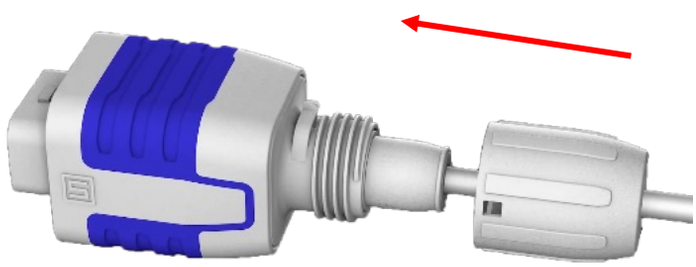
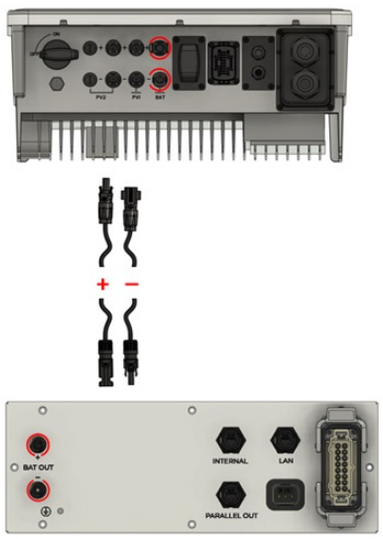


5

- When the system is installed with emergency power, the AC power supply of the battery tower must be connected on the emergency power side.
- Make sure that the load of the inverter on the emergency power side does not exceed 3.33 kW per phase.

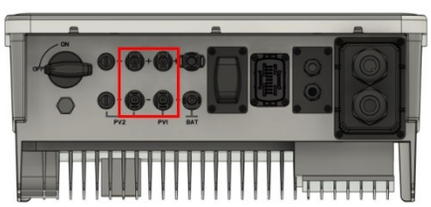
1



NOTE

When the length of DC battery cables is not sufficient, a commercially available PV cable with at least 6 mm² can be used. The connectors require one set of MC4 connectors on the battery side and one set of Phoenix Contact Sunclix connectors on the inverter side.

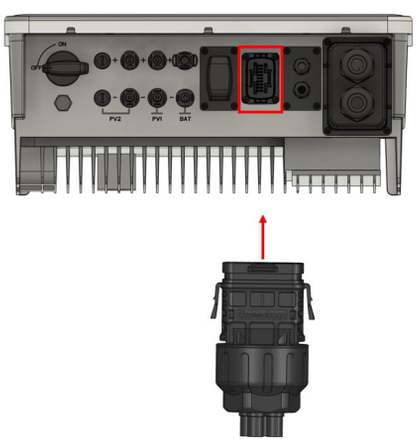
2



NOTE

The Photovoltaics system can be connected directly to the inverter at the PV inputs.

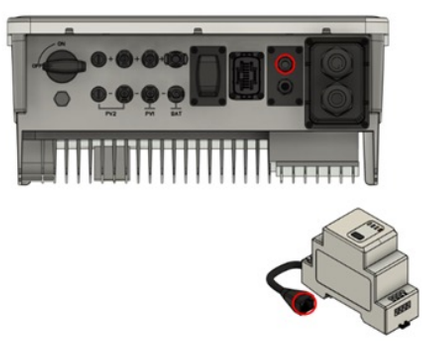
3



NOTE

Connect the communication module to the inverter. (Is contained in the scope of delivery of the inverter).

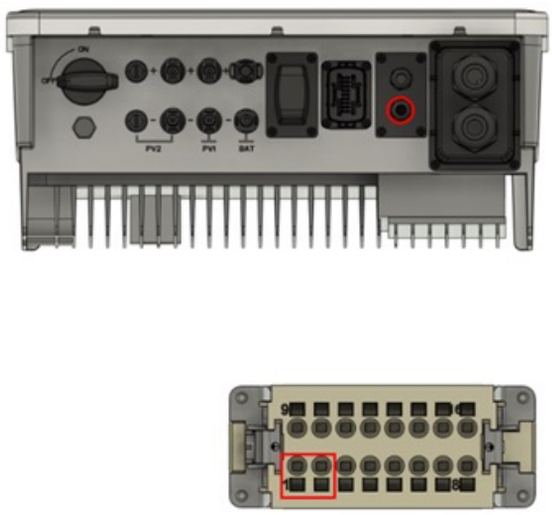
4



NOTE

The communication cable (network cable) for the Energy Meter is already plugged into the inverter.
If the existing 5 m cable is not sufficient, it can be extended up to 100 m with a conventional network cable.

1



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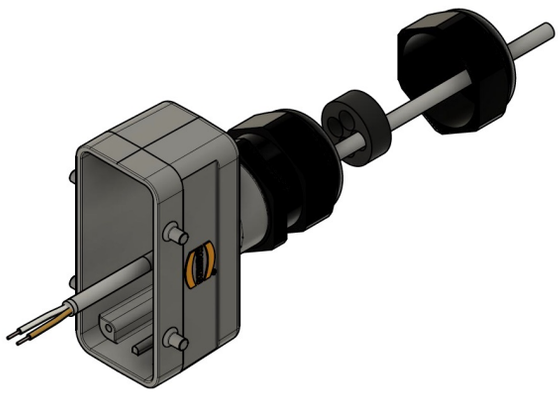

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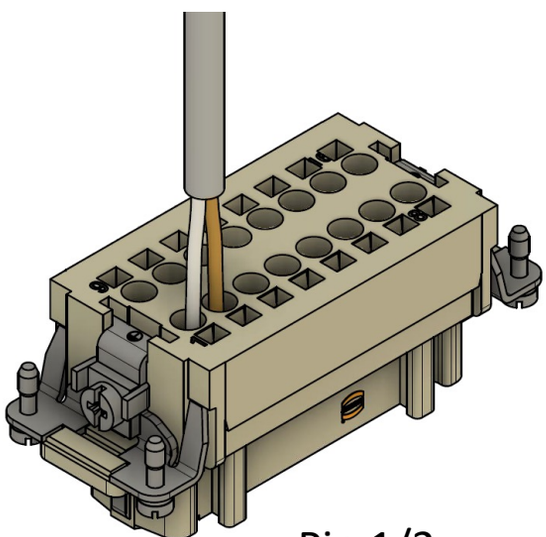
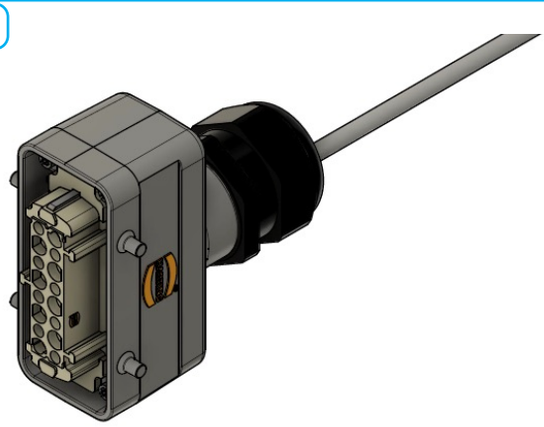


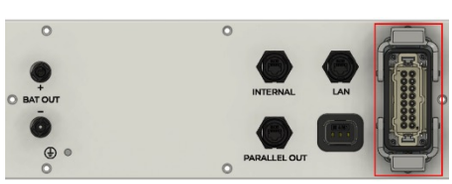
Pin 1/2

NOTE

Pin 3 is dimensioned as ground for the RS485 connection. This means that other cables with shielding can also be connected.

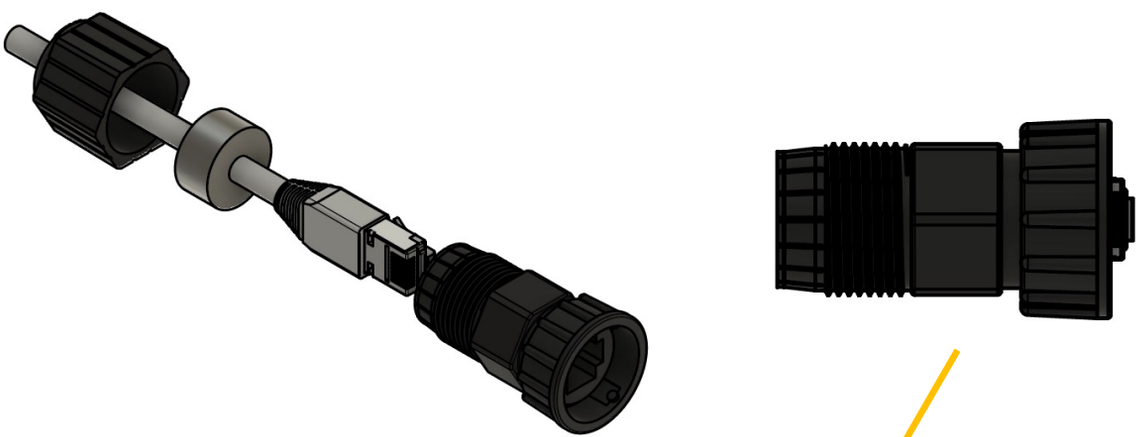
4





1

2



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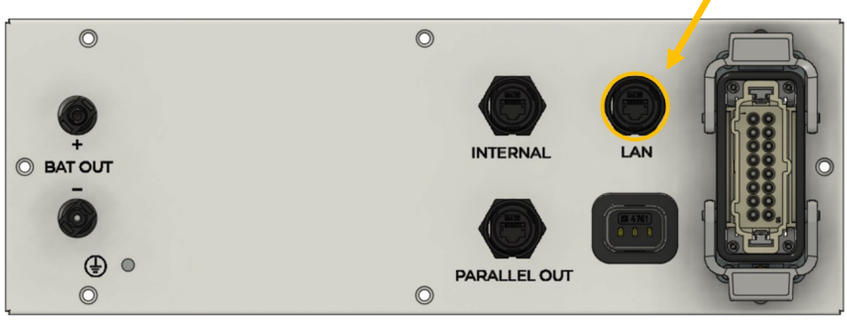


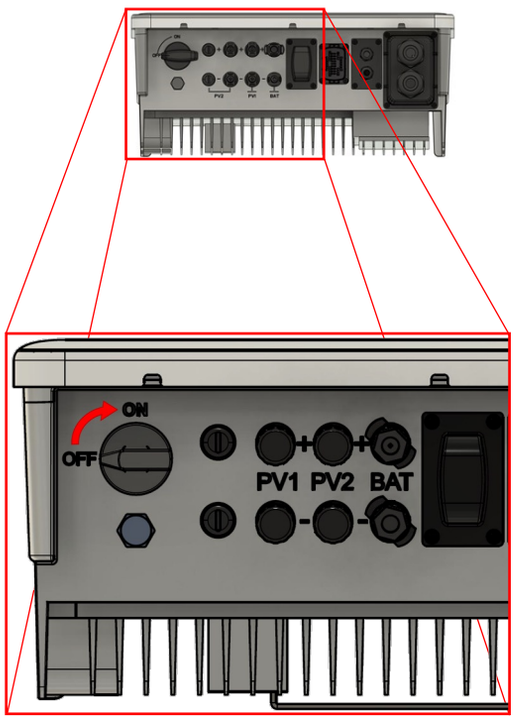
HINWEIS

The procedure for adding one or more battery modules to the battery tower can be found in the installation instructions in chapter 7.4.

HINWEIS

The procedure for adding one or two battery towers to the system can be found in the installation instructions in chapter 7.5.

1



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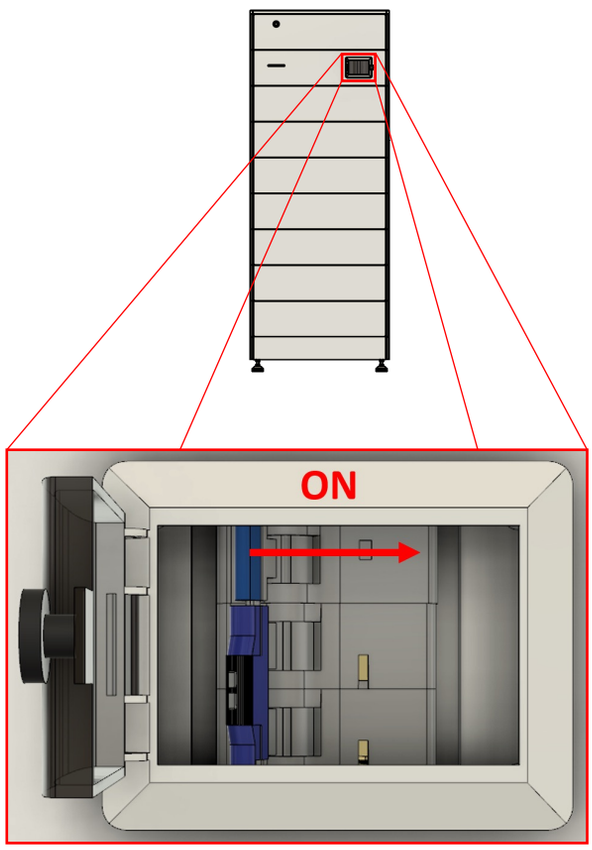

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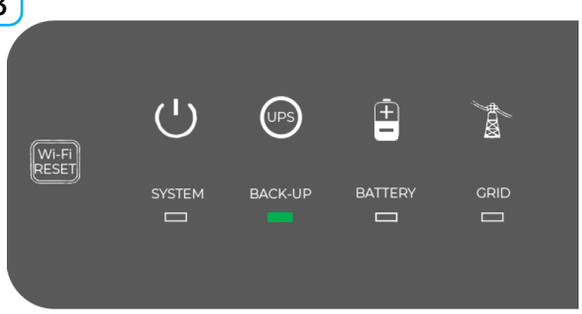
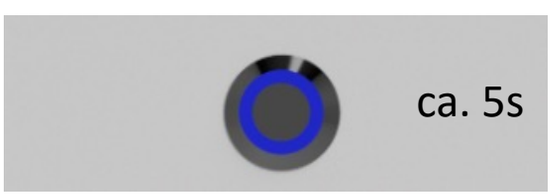




4

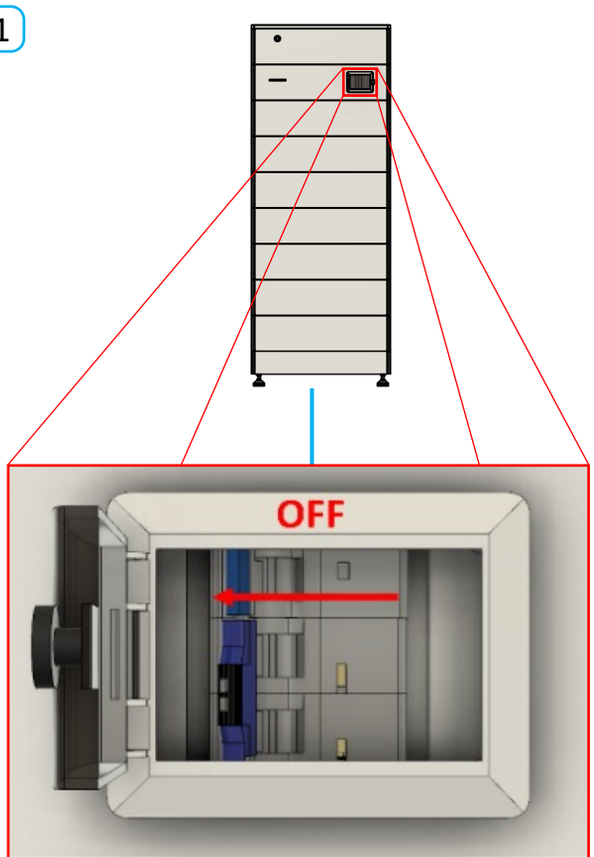
NOTE

If the battery tower is connected on the emergency power side, the battery can only be switched on when BACK-UP lights up green on the inverter. This takes about 30 seconds after switching on.

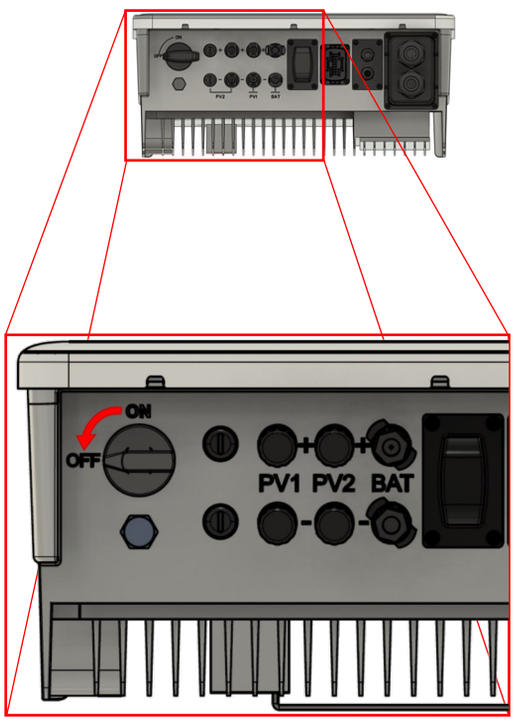
NOTE

If the system has not yet been configured, the battery goes into error mode or switches off.
This can also happen during configuration. It is recommended that the battery is only switched on when you are prompted in the configuration process.

1



2



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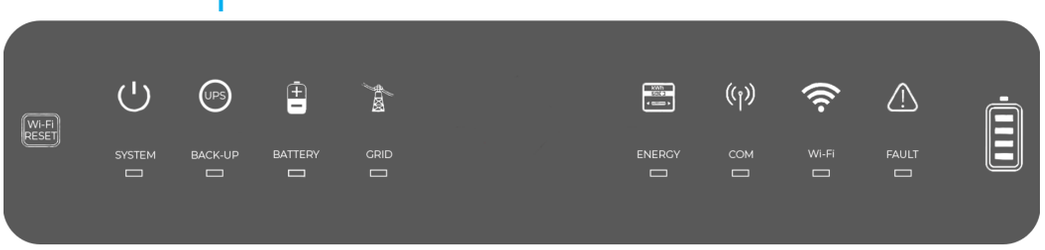


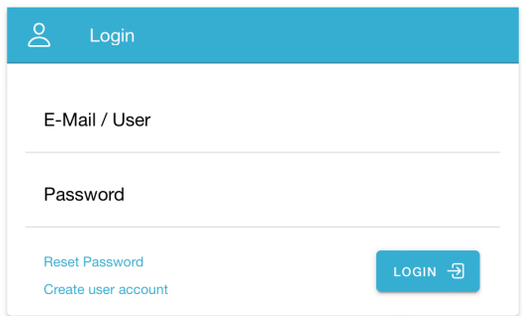
NOTE

- Only when all LEDs on the inverter and the battery no longer light up is the system completely switched off. This can take about 30 seconds.
- The inverter remains on if one of the three energy sources (AC supply, battery, PV) is not switched off.

1

https://portal.fenecon.de/m

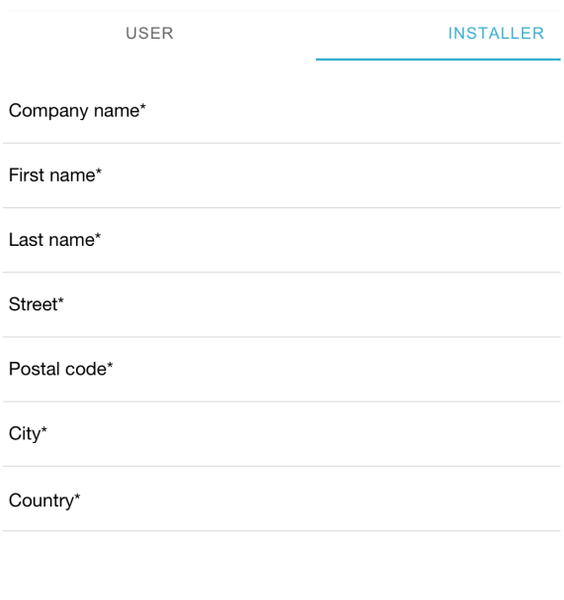
2



3

NOTE

If no installer account has been created yet, this can be done directly on the login page.



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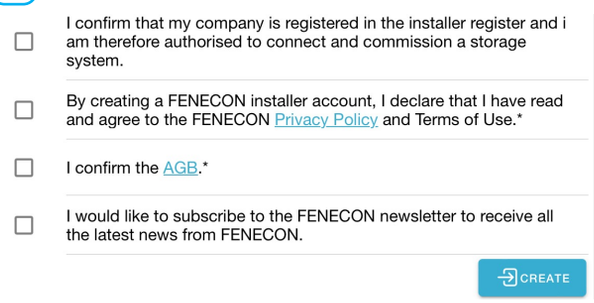

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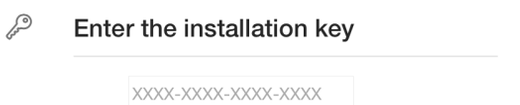
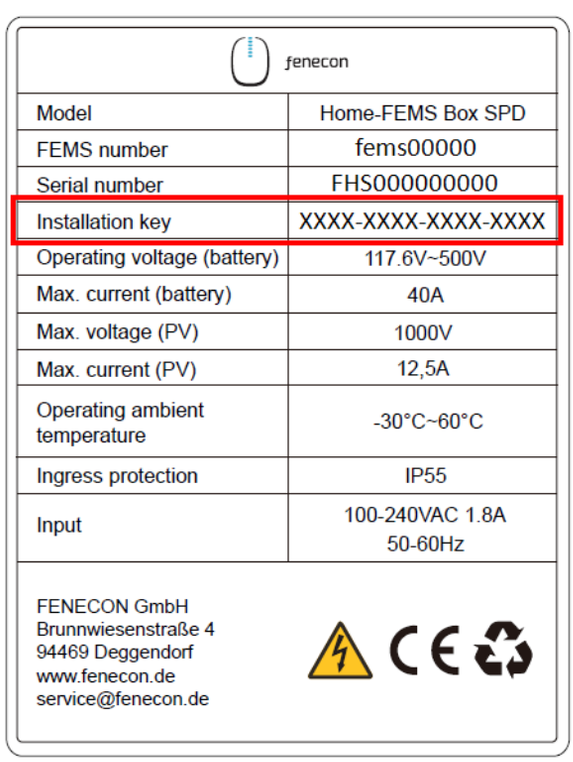




fenecon

Model	Home-FEMS Box SPD
FEMS number	fems00000
Serial number	FHS000000000
Installation key	XXXX-XXXX-XXXX-XXXX
Operating voltage (battery)	117.6V~500V
Max. current (battery)	40A
Max. voltage (PV)	1000V
Max. current (PV)	12,5A
Operating ambient temperature	-30°C~60°C
Ingress protection	IP55
Input	100-240VAC 1.8A 50-60Hz

FENECON GmbH
Brunnwiesenstraße 4
94469 Deggendorf
www.fenecon.de
service@fenecon.de

NOTE

After entering the installation key, follow the configuration steps.

NOTE

The access data for moni-toring is created after the IBN and sent to the costumer.

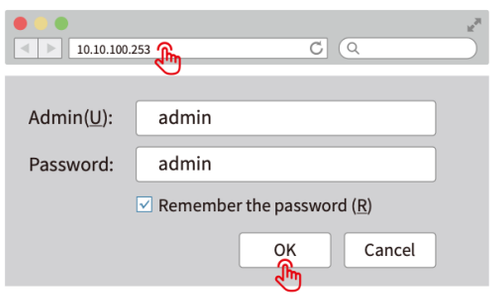
1

1. Connect Solar-Wi-Fi* to your PC or smart phone (* its name is the last 8 characters of the inverter's serial number); Password:12345678.
2. Open your browser and logon to 10.10.100.253 Admin (User): admin; Password: admin.
3. Then click "OK".

HINWEIS

It is necessary to add the inverter to the customer's network so that later updates for the inverter can be installed.

2



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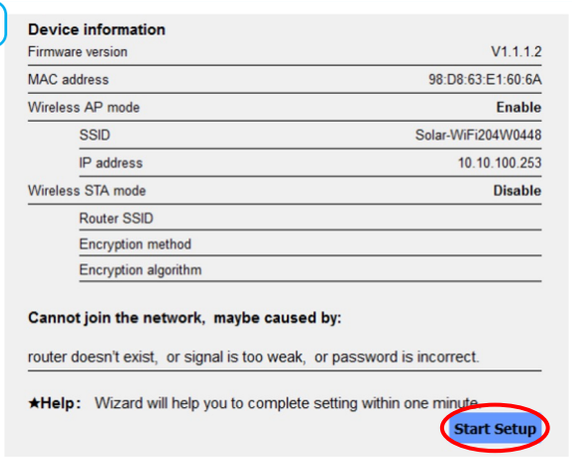

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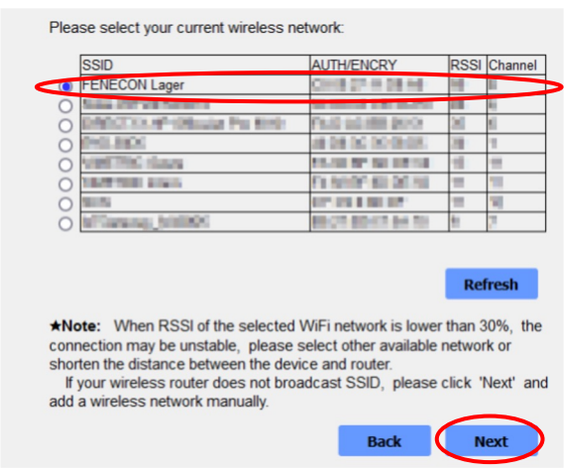

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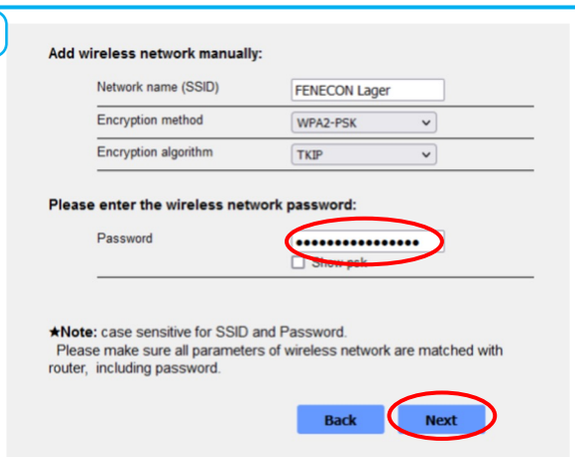

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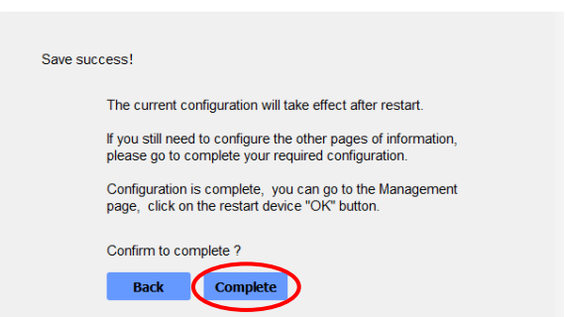
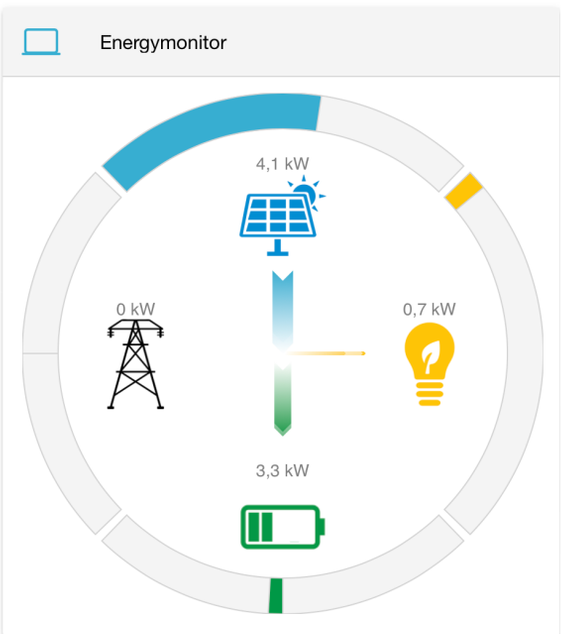
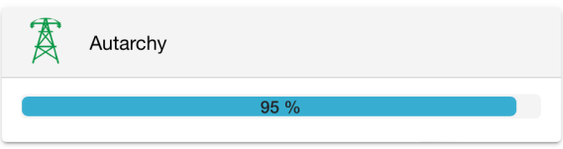
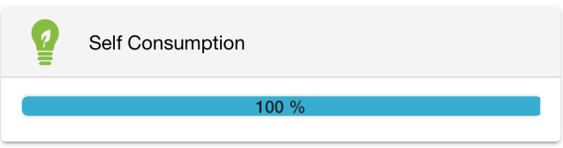
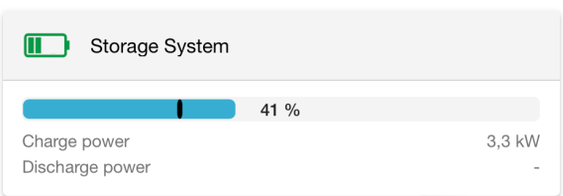
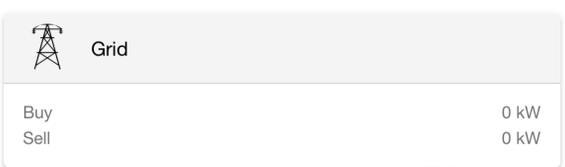












NOTE

When the configuration has been completed, you are taken directly to the online monitoring.

A green tick is displayed at the top left if everything is in order and the configuration was successful.

How does the „Grid-optimized charging“ work?

The FEMS App "Grid-optimized charging " is an advanced variant of self-consumption optimisation. It uses forecasts of local electricity generation and consumption in order to optimise the charging behaviour throughout the day. This results in a flatter feed-in curve and avoids power losses due to PV regulation.

The full functionality of the grid-serving charging is available from the 7th day. It takes about a week until the system has learned the consumers and producers and the consumption and generation forecasts are correct.

The feed-in is regulated to 95 % of the maximum permitted feed-in.

The state of charge (SOC) is not correct after configuration.

The SOC of the system must first be calibrated after commissioning with one complete charging and discharging battery cycle. This is not done automatically in order to avoid energy loses. Therefore, it may take a few days before the SOC is displayed correctly.

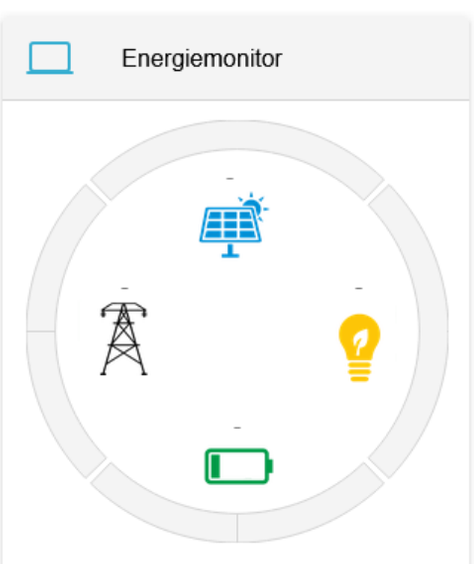
The battery discharges to 0 %, can this harm the battery?

The FENECON Home system can be operated in SOC% range from 0 % to 100 %. Low SOC is not a problem and does not harm the battery.

The internal safety architecture of the battery measures the voltage of each cell and thus ensures that no cell can become too full or too empty. This ensures a long service life for the FENECON Home.

Negative consumption is displayed in the online monitoring.

If negative consumption is displayed, it is likely that another AC generator is installed and not detected by the FENECON storage system. Since the consumption is a calculated value, the calculations are wrong therefore incorrect values are displayed. This can be solved by adding a further meter to the AC generator side. Additional generator will then be displayed in the online monitoring.



The energy monitor displays only dashes (-)

Poblem in the configuration. Something has been configured incorrectly.

Or there is a problem in the communication between the components / system parts, e.g. the communication to the Energy-Meter at the grid connection point does not work. As a result, no reference / feed-in values can be displayed. Therefore, the consumption values cannot be displayed correctly.

Please check the cables and plugs of the various components. If the values are still not displayed, please contact the FENECON service.