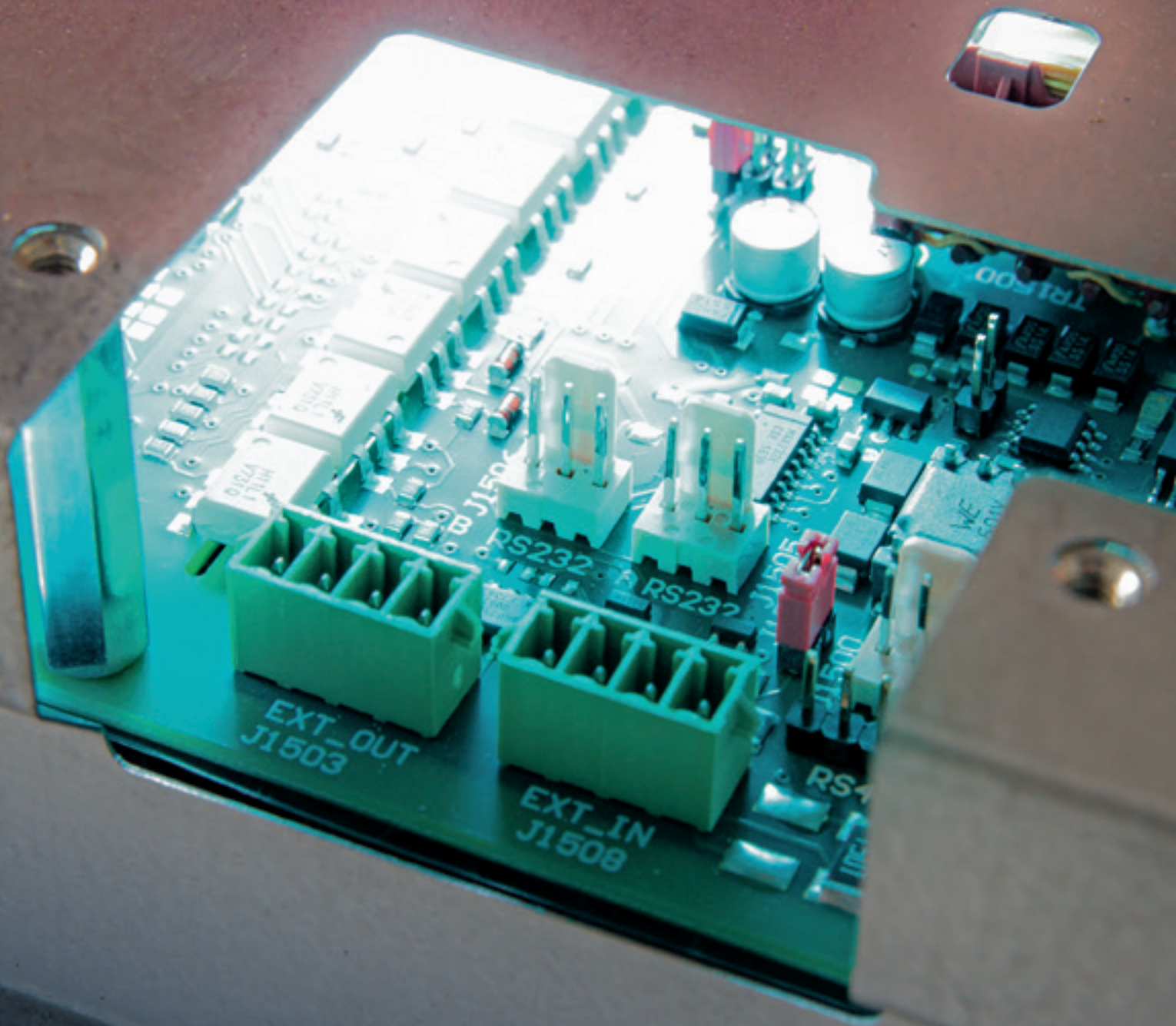


# Product technology



# Solar power for everything Boundless. Simple. Ingenious.

The small, combined  
home power station for beginners



#### **S10 SE / S10 SE+**

- Current consumption up to approx. 5,000 kWh
- Storage system (usable) 5.25 kWh to 11.2 kWh
- PV output 5 to 12.5 kWp, flexible (2 trackers)
- 8 kW AC output power
- S10 SE+ with 3-phase backup power option (external backup power box)
- Continuous battery output up to 4.5 kW<sup>1)</sup>

For information on the warranty and technical data sheets, see [e3dc.com/en/infocentre/#Downloads](https://e3dc.com/en/infocentre/#Downloads)

<sup>1)</sup> Actual battery converter output / battery power depending on battery configuration, state of charge and temperature.

<sup>2)</sup> System conversion subject to a surcharge is necessary to use the INFINITY concept.

## The all-round home power station in different versions

### S10 X / COMPACT variant for S10 X

- Current consumption from 3,000 kWh
- Storage system (usable) 8.25 kWh, 11.2 kWh, 17.4 kWh, 20.6 kWh (depending on model)
- PV output 6 to 18 kWp, flexible (2 trackers)
- 6 – 12 kW AC output power, flexible (3ph)
- Continuous battery output 4.5<sup>1)</sup> to 11 kW<sup>1)</sup> (depending on model)
- Preparation for 3ph backup power supply for the entire home incl. all consumers as part of the available power, rechargeable using solar energy, backup power reserve adjustable
- Preparation for bidirectional charging: V2H interface
- Battery module retrofitting for 5 years<sup>2)</sup>

### INFINITY

Battery retrofitting for 5 years<sup>2)</sup>



## The professional home power station

### S10 E PRO COMPACT

- For the current consumption of fully-electric buildings
- Storage system (usable) 11.7 kWh, 17.5 kWh, 23.4 kWh, 29.2 kWh (up to 46.7 kWh (usable) with additional battery cabinet)
- PV output 9–20 kWp (2 trackers)  
(up to 35 kWp with E3/DC additional solar power inverter)
- 6–12 kW AC output power, flexible (3ph)  
(up to 24 kW with E3/DC additional solar power inverter)<sup>2)</sup>
- Continuous battery output up to 9 kW<sup>1)</sup>
- Battery power up to 12 kW<sup>1)</sup> (peak)
- Preparation for 3ph backup power supply for the entire home incl. all consumers as part of the available power, rechargeable using solar energy, backup power reserve adjustable
- Preparation for bidirectional charging: V2H interface
- Battery module retrofitting without system conversion for 5 years



**INFINITY**  
Battery  
retrofitting  
for 5 years

## Additional modules for home power stations of the E / X and PRO series



### Additional solar power inverter

- Additional extension of the AC output power by up to 12 kW<sup>2)</sup>
- Increase in current consumption by up to 24,000 kWh
- Additional extension of the PV output by up to 15 kWp

### Battery cabinet

- Additional extension of the usable storage capacity by up to 17.5 kWh<sup>1)</sup>
- Maximum of three additional battery modules

For information on the warranty and technical data sheets, see [e3dc.com/en/infocentre/#Downloads](https://e3dc.com/en/infocentre/#Downloads)

<sup>1)</sup> Actual battery converter output / battery power depending on battery configuration, state of charge and temperature.

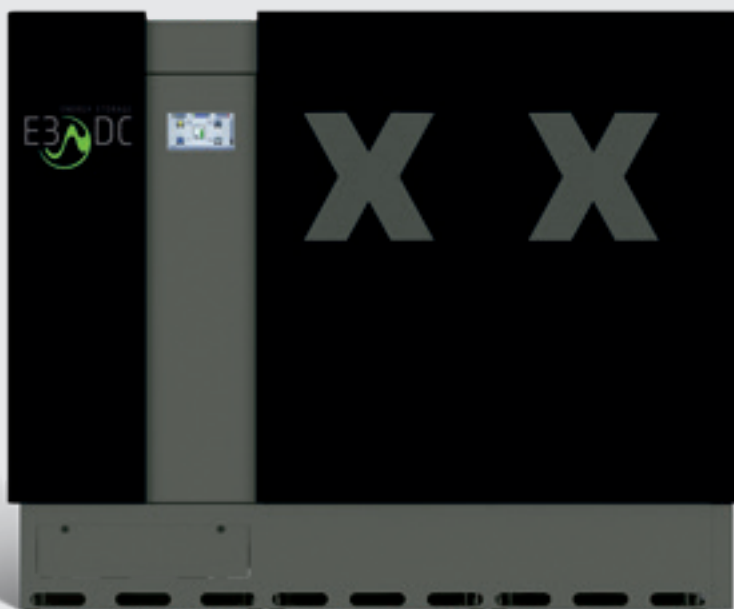
<sup>2)</sup> Depending on the number of batteries installed.



## The biggest and most powerful home power station

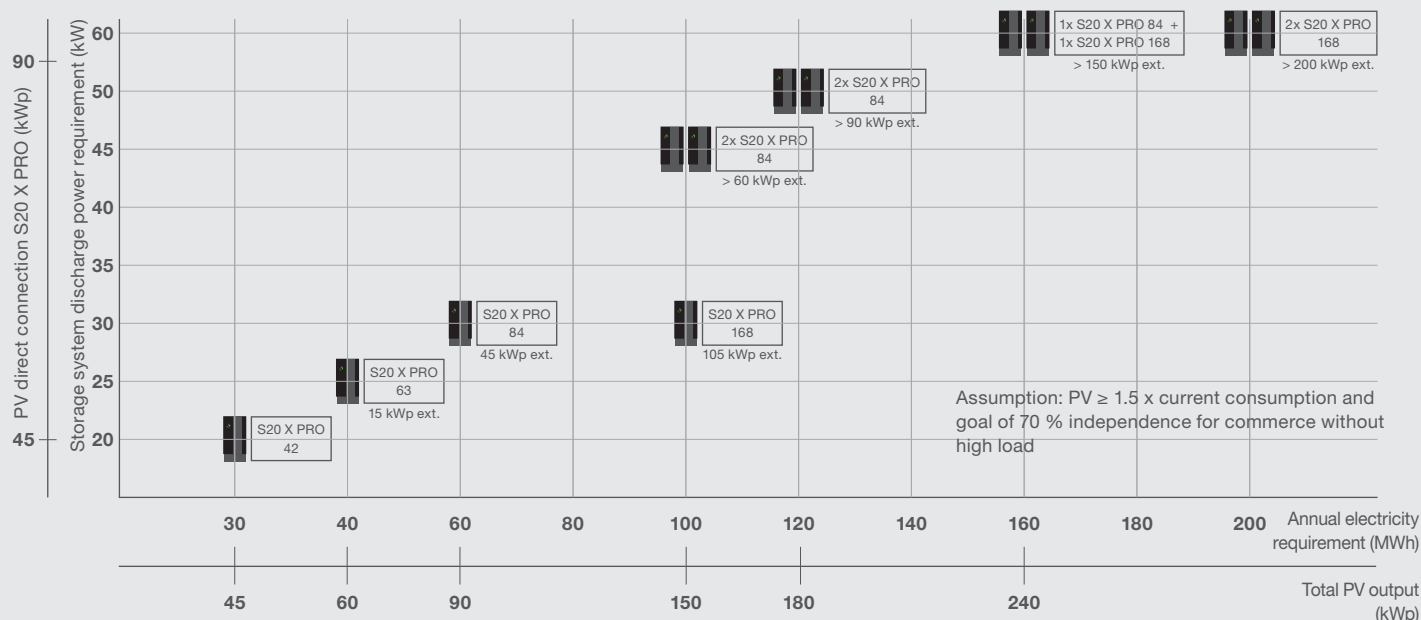
### S20 X PRO

- For maximum self-supply in large residential buildings and commercial properties
- Storage system (usable): 20.6 kWh to 328 kWh
- PV output of up to 45 kWp (depending on configuration, 2 or 3 trackers)
- Farming operation possible
- Up to 30 kW AC output power, flexible
- Continuous battery output up to 23 or 30 kW<sup>1)</sup>
- 3ph backup power supply with up to 23 or 30 kW<sup>1)</sup>
- Backup power reserve adjustable depending on configuration or realised using two battery sets
- INFINITY retrofitting with further battery towers (maximum total of 4) for 5 years



**INFINITY**  
Battery  
retrofitting  
for 5 years

## S20 X PRO as a power and energy storage system for commerce



## Wallbox multi connect II <sup>2)</sup>



**Solar  
charging**  
from 1,380 W  
through phase  
switching

### Wallbox multi connect II

- Up to 11 / 22 kW Type 2 Mode 3 charger <sup>2)</sup>
- Optionally with pedestal
- Connection via ModBUS(TCP) (to S10 via Ethernet)
- Surplus charging <sup>3)</sup> and forecast-based charging
- Fault current circuit breaker type A + RCM module (sensitive to universal current) integrated
- No basic monthly fee for load management, remote maintenance and visualisation
- RFID function
- Intelligent actuation of the Wallbox is possible in combination with storage systems from E3/DC.
- No ID programming necessary for additional Wallboxes (can be combined with up to seven E3/DC Wallboxes)
- Unique solar night-time charging 24/7 (with extended battery capacity in the external battery cabinet)

For information on the warranty and technical data sheets, see [e3dc.com/en/infocentre/#Downloads](https://e3dc.com/en/infocentre/#Downloads)

<sup>1)</sup> Actual battery converter output / battery power depending on battery configuration, state of charge and temperature.

<sup>2)</sup> The Wallbox multi connect II is equipped with automatic switching between 1- and 3-phase charging depending on available solar power. In solar mode, charging is possible as of 1,380 W.

<sup>3)</sup> Old units (S10 SP40 and S10 P5002) must be parameterised by E3/DC service if necessary (40 A power meter)

# Energy balance in sight everywhere







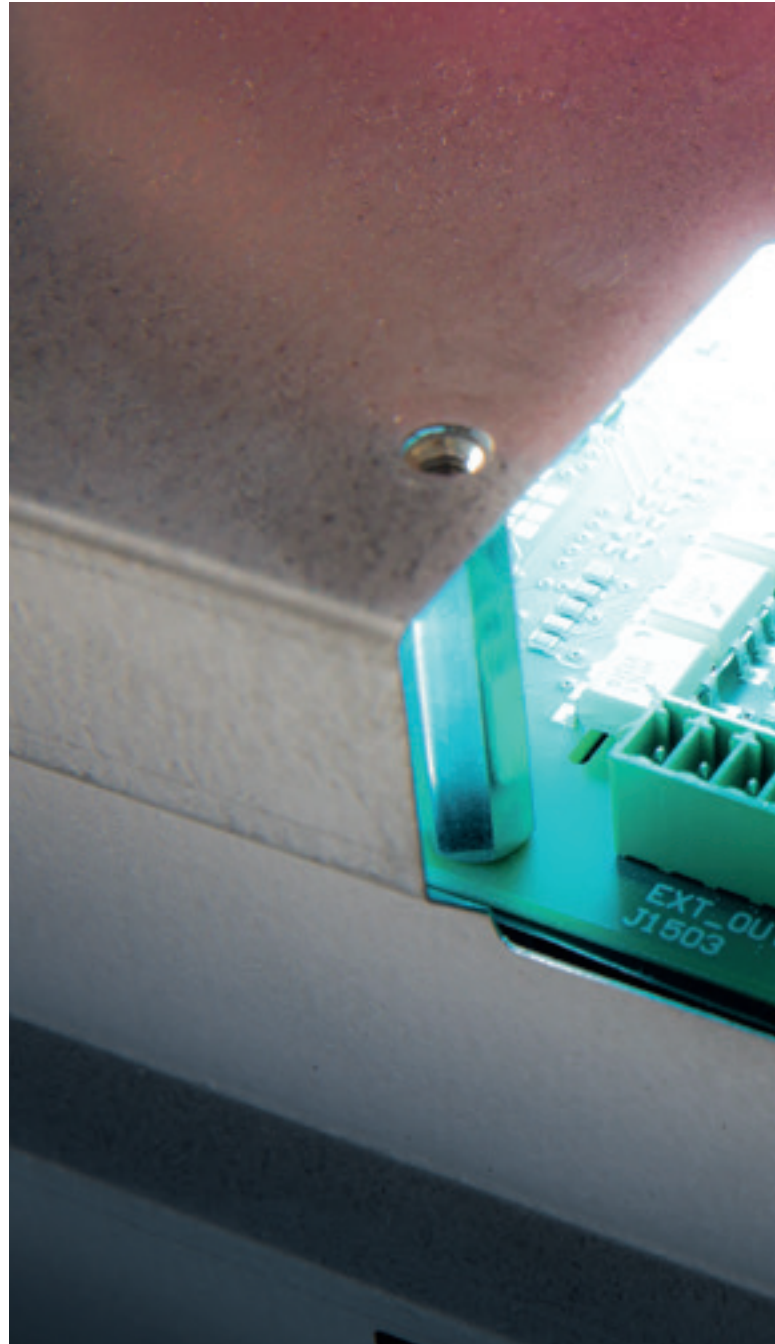
- Automatic remote control and monitoring at home and on the go
- Regular receipt of free software updates and new functions via remote maintenance by E3/DC
- Visualisation of the energy balance with PV generation, direct consumption and charging / discharge of the battery via the E3/DC portal, mobile app and touch display on the system
- Display of performance and energy values with different visualisation options

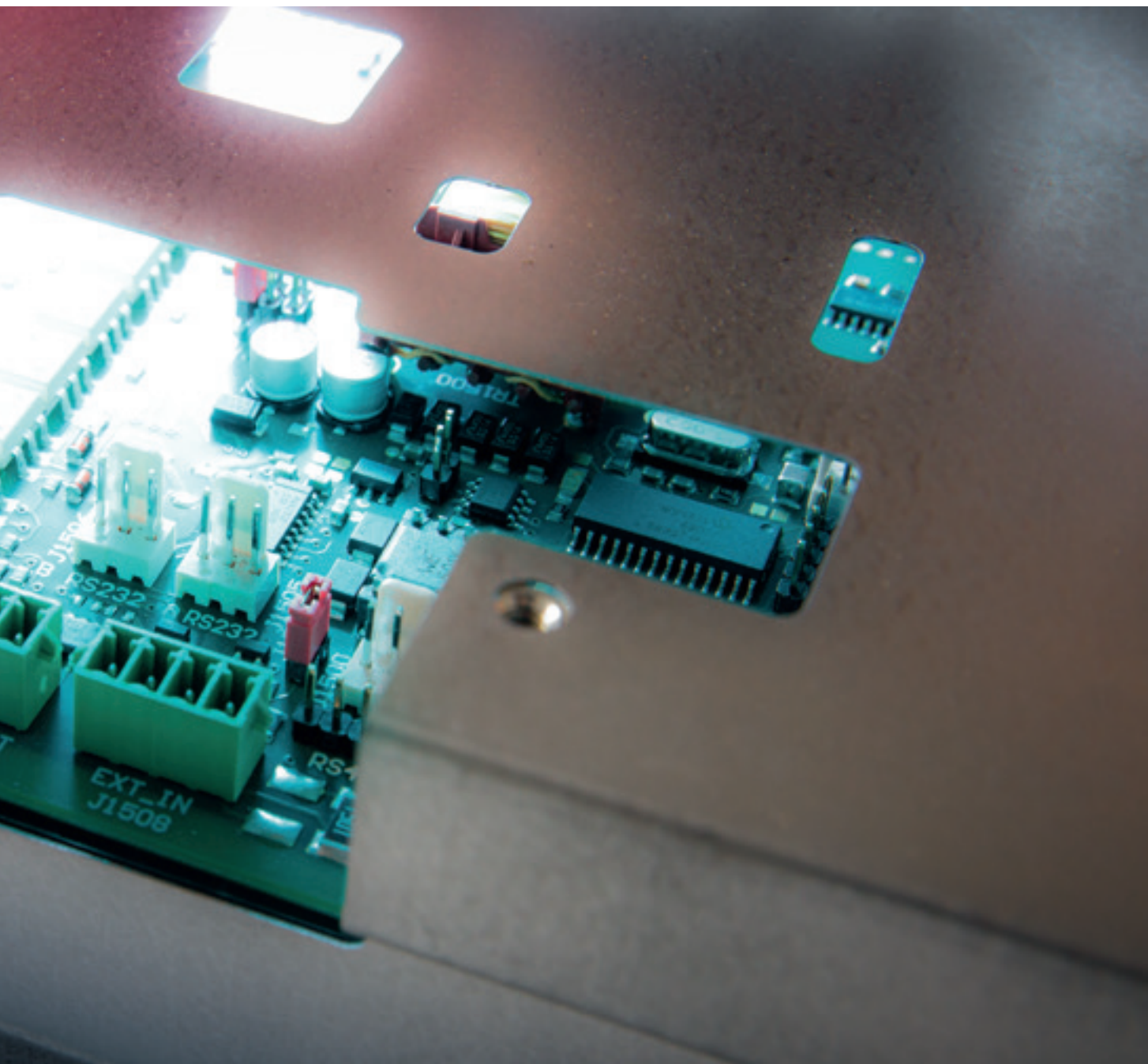


# The E3/DC warranty: 10 years without a care

The 10-year System Warranty is based on the high quality of our products. This means that efficient self-supply with E3/DC storage systems is absolutely future-proof! We permanently guarantee full functionality for an independent power supply.

The 10-year warranty ensures long-term satisfaction. Far beyond the usual replacement of the battery at its current market value, we offer a full System Warranty for all components, from the solar power inverter to the battery modules – and for the full functionality of the system!





# Made in Germany

E3/DC systems are based exclusively on the company's own development know-how and quality management. The entire power electronics, the unique energy management system and the software are developed by E3/DC specialists. Without exception, we manufacture the units and all electronic components in Germany – according to stringent industrial

quality guidelines. And we impose equally high standards on the battery modules that we integrate into our storage solutions. E3/DC therefore combines independence and climate protection with high manufacturing depth and value adding in Germany.

# Unique technology for the future

PV plus: our home power stations' PV output can be extended at any time – to 27 A per string for the X series and the PRO series and to 33 A for the S20 X PRO.

## **Power metering and intelligent energy management**

- Automatic reduction of electricity costs
- Efficient control of energy flows in the household
- Optimisation of self-produced PV electricity consumption
- Coupling with large consumers such as a heat pump, for example
- Remote control and monitoring at all times and anywhere
- Cutting-edge energy functions (weather forecast, home automation, virtual power station)
- Free software updates
- Storage capacity and PV output can be extended
- Energy farming
- PV output and storage capacity can be extended
- Battery module retrofitting is possible for 5 years with all home power stations (except S10 SE / S10 SE+)

## **Uncompromising quality**

- 3ph DC technology with optimum efficiencies
- 3ph backup power supply for the entire home including all consumers as part of the available power, backup power reserve adjustable
- 10-year System Warranty on all parts with free service





Lithium storage system

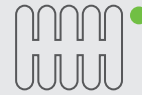


PV plus: flexible extension of the DC power

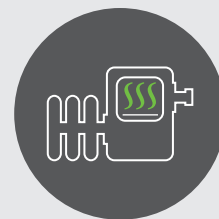
**Free heating** with your own solar electricity



CHP / fuel cell



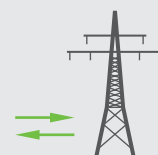
Electric heating element / infrared



Solar heat pump remotely controlled via SG Ready  
**Intelligent remote control of heat pumps**



**Free driving** with the E3/DC-Dachtankstelle®



Public power grid



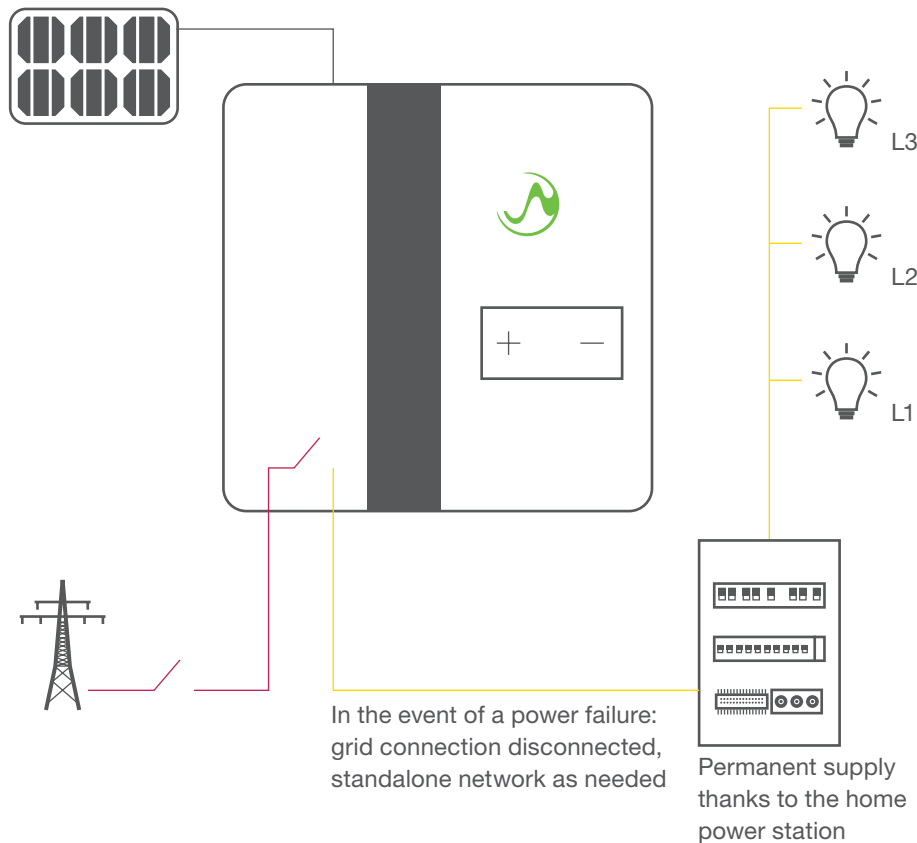
Backup power supply

**Our home power stations (except S10 SE/ S10 SE+) can be retrofitted with new batteries for 5 years.**





# Backup power supply with the home power stations



## S10 X, S10 X COMPACT, S10 E PRO COMPACT, S20 X PRO

- Full independence from your energy supplier in the event of a power failure
- 3-phase backup power supply <sup>1)</sup> – or permanent standalone supply for the entire home as part of the available power <sup>2)</sup>
- Complete home supply in independent, 3-phase home network operation, backup power reserve adjustable <sup>3)</sup>
- Can be recharged with the sun: thanks to the PV system, the home is continuously supplied with electricity via the home power station and the storage system is recharged
- Internally developed TriLINK® technology: no additional circuit components needed, no additional electricity requirements – everything is integrated
- Automatic switching: the home power station independently switches to backup power mode – and automatically back to the grid once the fault has been rectified

<sup>1)</sup> Additional motor switch required for the backup power function subject to a surcharge / switching in the event of grid failure.

<sup>2)</sup> Depending on the state of the system, temperature and weather conditions.

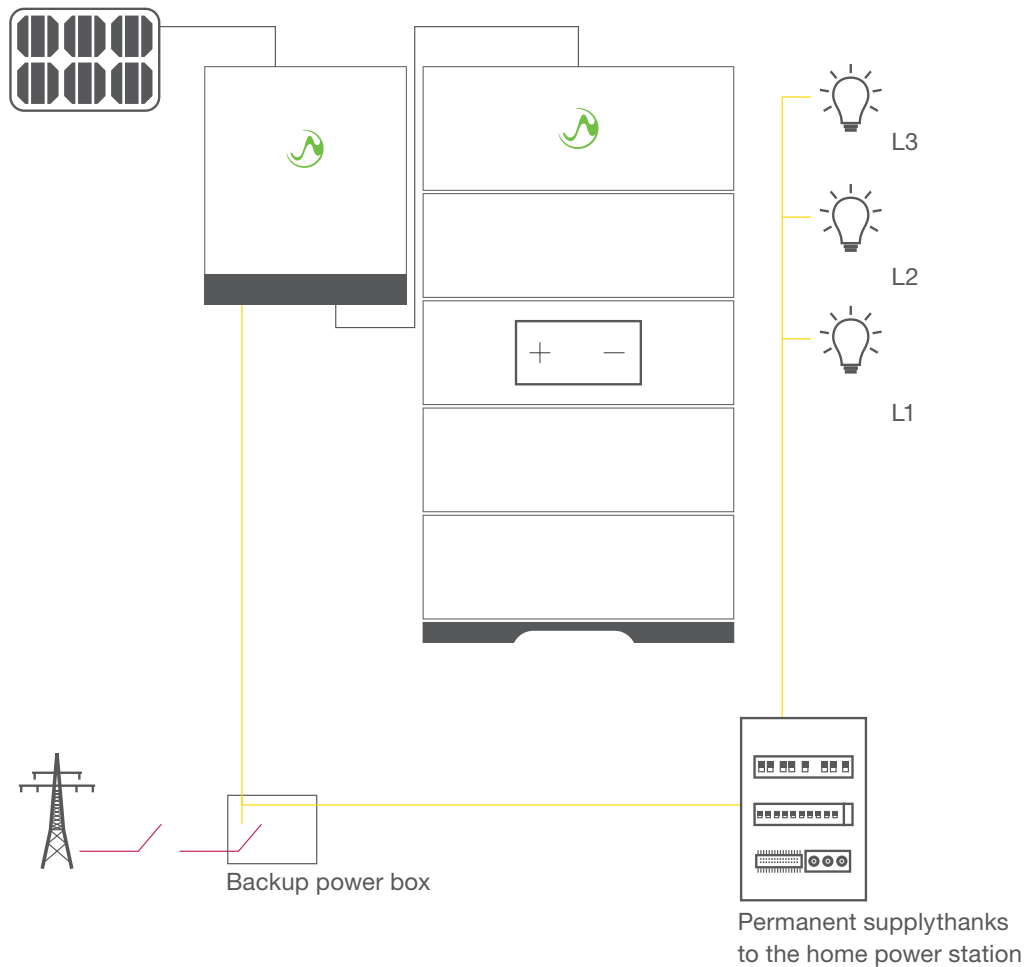
<sup>3)</sup> Information concerning backup power operation can be found in the "Backup power in the S10 home power station" flyer at [e3dc.com/en/infocentre/#Downloads](https://e3dc.com/en/infocentre/#Downloads)

### Requirements for backup power operation / availability

In acute cases, backup power operation is only reliable and stable if sufficient battery capacity is available. To keep a guaranteed capacity available irrespective of the discharge cycles of normal operation, a backup power reserve can be defined using the home power station operation menu.

### Shut-off and black start

Longer grid failures and darkness can cause the battery capacity to decrease so much that the home power station shuts itself off for safety reasons. As soon as the PV system supplies sufficient energy again, the home power station can start up in backup power mode independently of the power grid once more because the batteries are recharged. Depending on battery system, this process runs automatically or by actuating the tripped battery isolating switch.

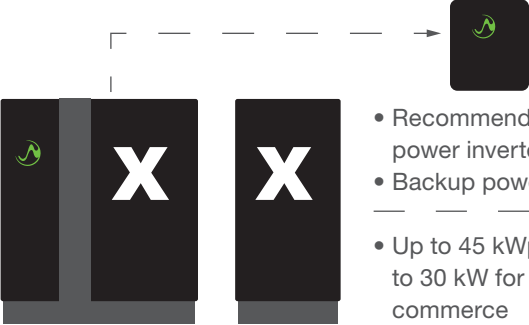


### S10 SE+

- Optional 3-phase backup power supply in accordance with VDE2510-2 via RJ45 communication
- External backup power box
- Backup power function available with the software update Q4/2023
- Independent supply within the framework of the available output<sup>2)</sup>
- Automatic switching: the home power station independently switches to backup power mode – and automatically back to the grid once the fault has been rectified

# Product design


## PV $\geq 1.5 \times$ electricity requirements



**S20 X PRO**

100 ... 200 kWp

- Recommended from farming or with additional solar power inverters up to 200 kWp and 90 kW output
- Backup power up to 30 kW in 63 A sub-distribution
- Up to 45 kWp with charging capacity of up to 30 kW for large residential buildings and commerce

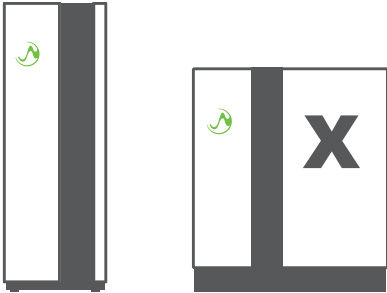


**S10 E PRO COMPACT**

30 ... 45 kWp

- Additional storage system for electric cars (24 x 7)
- Charging during the day/diversion to the car
- Additional solar power inverter for more PV and an external battery cabinet for more capacity establish reserves for maximum electrical independence

20 kWp




**COMPACT variant for S10 X**      **S10 X**

15 kWp

- Up to 18 kWp with heat pump or electric vehicle

### PV plus: simply connect more PV output as required

Are your electric car and heat pump already there or still in the planning stage? Should the 10-kWp limit not originally be exceeded? The solution is PV plus: this concept from E3/DC enables subsequent extension with technically identical solar modules – without a new power inverter or new meters.

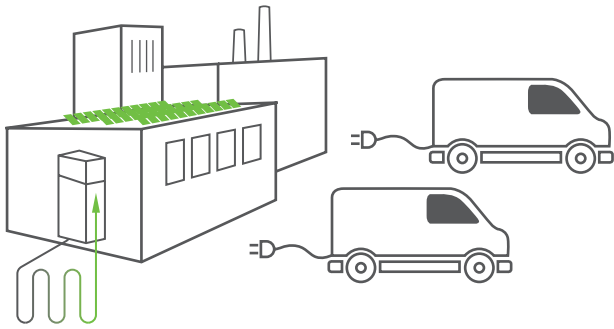


**S10 SE+ Battery system**      **S10 SE**

10 kWp

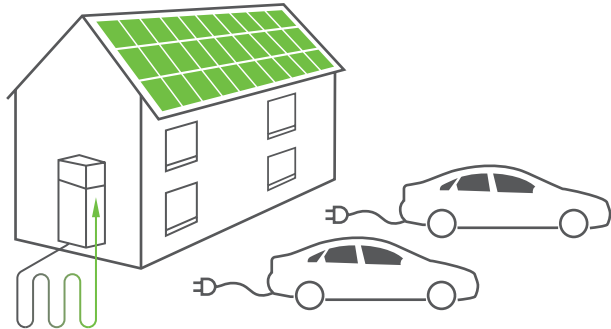
- Compact entry-level solution for smaller PV systems from approx. 5 kWp up to max. 12.5 kWp

## Possible saving (level of independence 80 %)



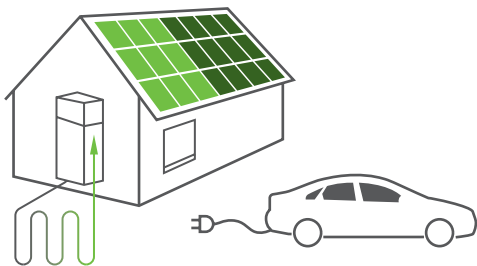
**100,000 kWh**

Large commercial PV systems cover electricity requirements of up to 100,000 kWh directly and via the storage system – and even more in farming.



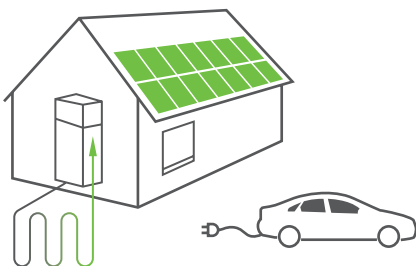
**25,000 kWh**

Maximum dimensioned PV systems (up to 20 or 30 kWp) and high storage capacities enable maximum independence and free car charging throughout the year (24/7).



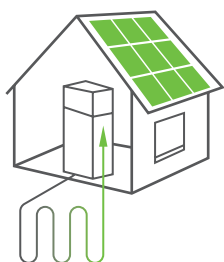
**12,000 kWh**

An additional 5 kWp are sufficient for high own consumption with a heat pump and an electric car.



**8,500 kWh**

The PV output has to be increased accordingly to operate a heat pump.

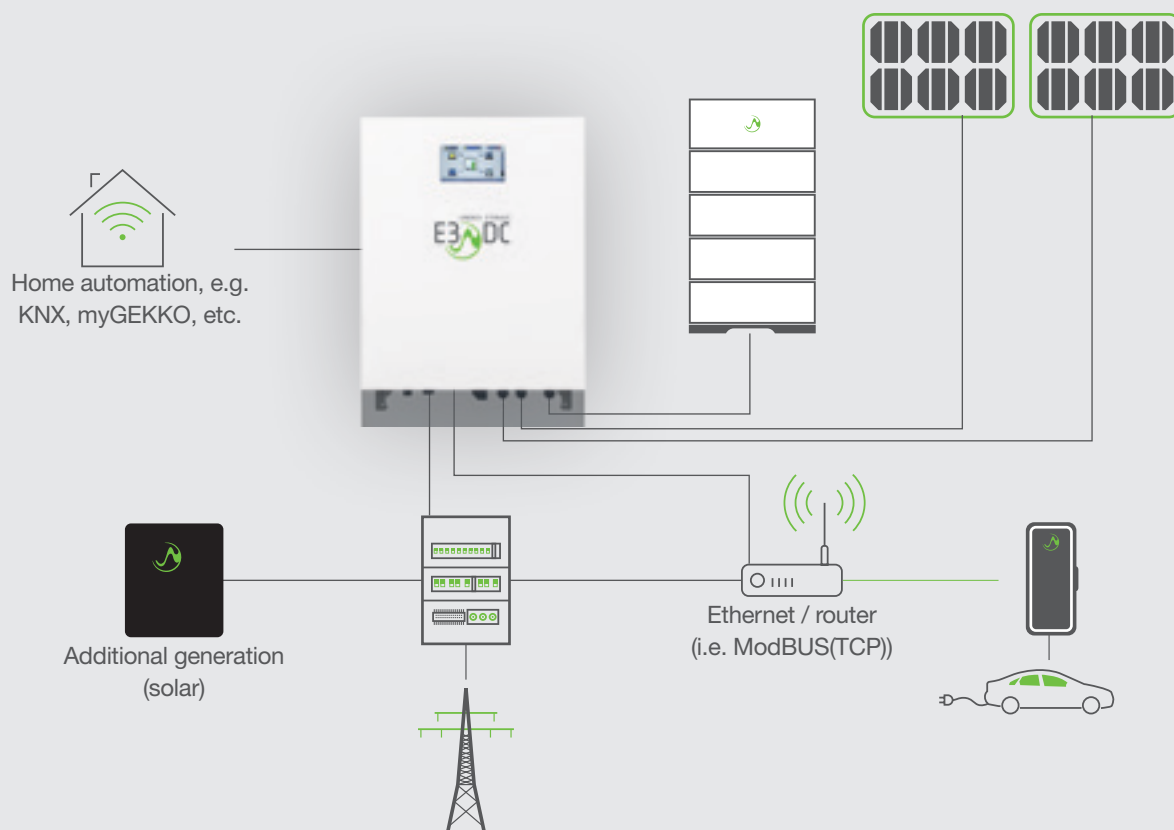


**5,000 kWh**

Initially design your PV system so that the yield is 1.5 times the electricity you need to be comfortable.

# Connection

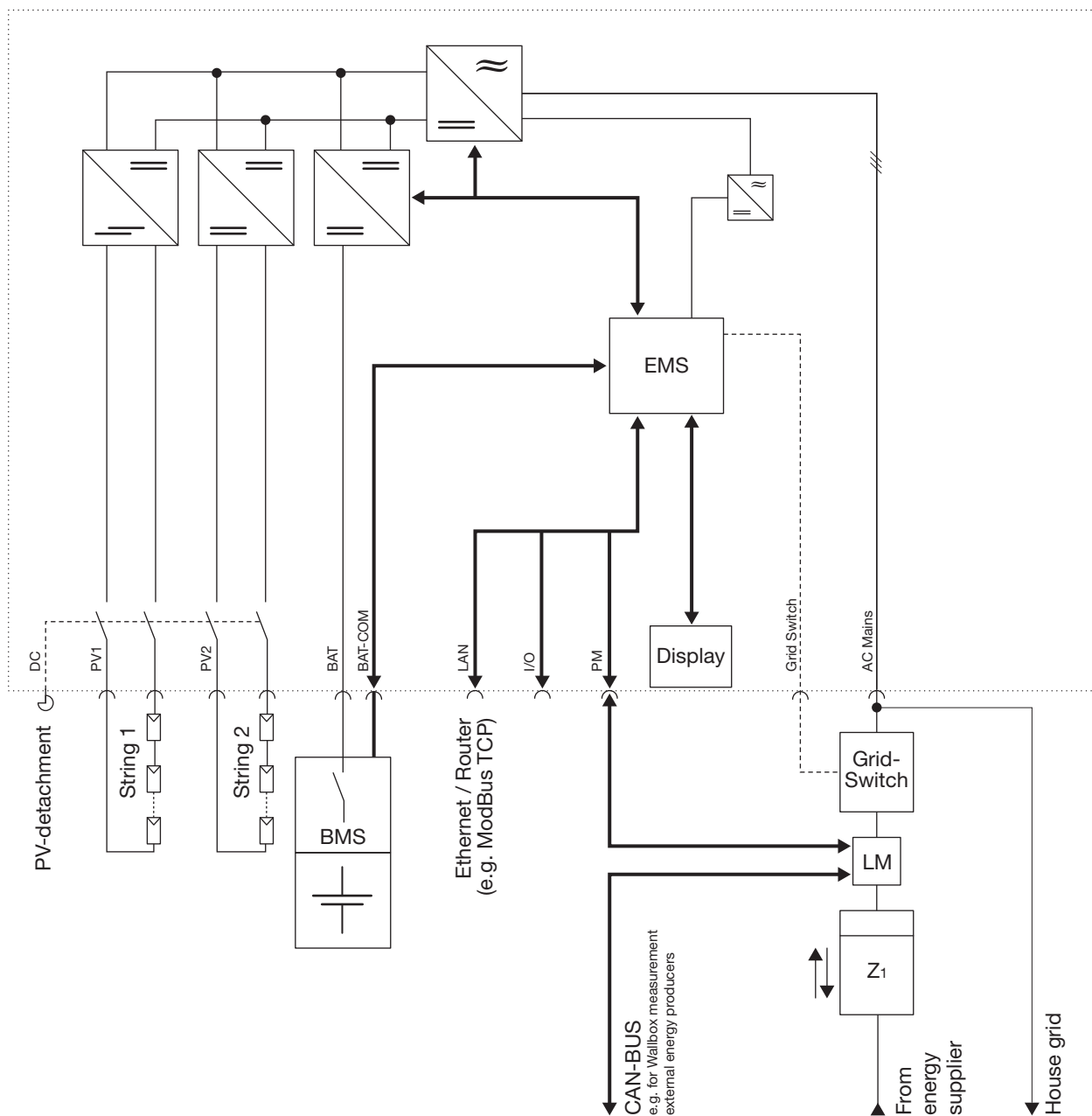
## S10 SE+





# System circuit diagram

S10 SE+



# Connection

**S10 X / COMPACT variant for S10 X /  
S10 E PRO / S10 E PRO COMPACT**

2nd battery converter only  
with the PRO series and  
**INFINITY retrofitting**

Battery converter



Power inverter

E3/DC technology cell <sup>1)</sup>  
Power metering  
Meter field (optional)



Overvoltage protection House connection Power grid



## Connection options to the home power station



**PV plus**  
DC power can be retrofitted



**Additional generation**  
for more power



**Additional battery  
cabinet module**  
for more capacity



**Wallbox**  
Free charging 24/7



**Home automation**, e.g. KNX,  
X-Comfort, myGEKKO, etc.



**Ethernet / router**  
(i.e. ModBUS(TCP))

E3/DC technology cell



**S10 E PRO design**

E3/DC technology cell <sup>1)</sup>



**Design of COMPACT units  
(battery cabinet for S10 E  
PRO COMPACT different)**

E3/DC technology cell



**S10 X design**

## S10 X and COMPACT variant for S10 X

The battery cabinet can be  
installed spatially separate  
(cable length 10 m) from the  
technology cell, including for  
**INFINITY retrofitting**.

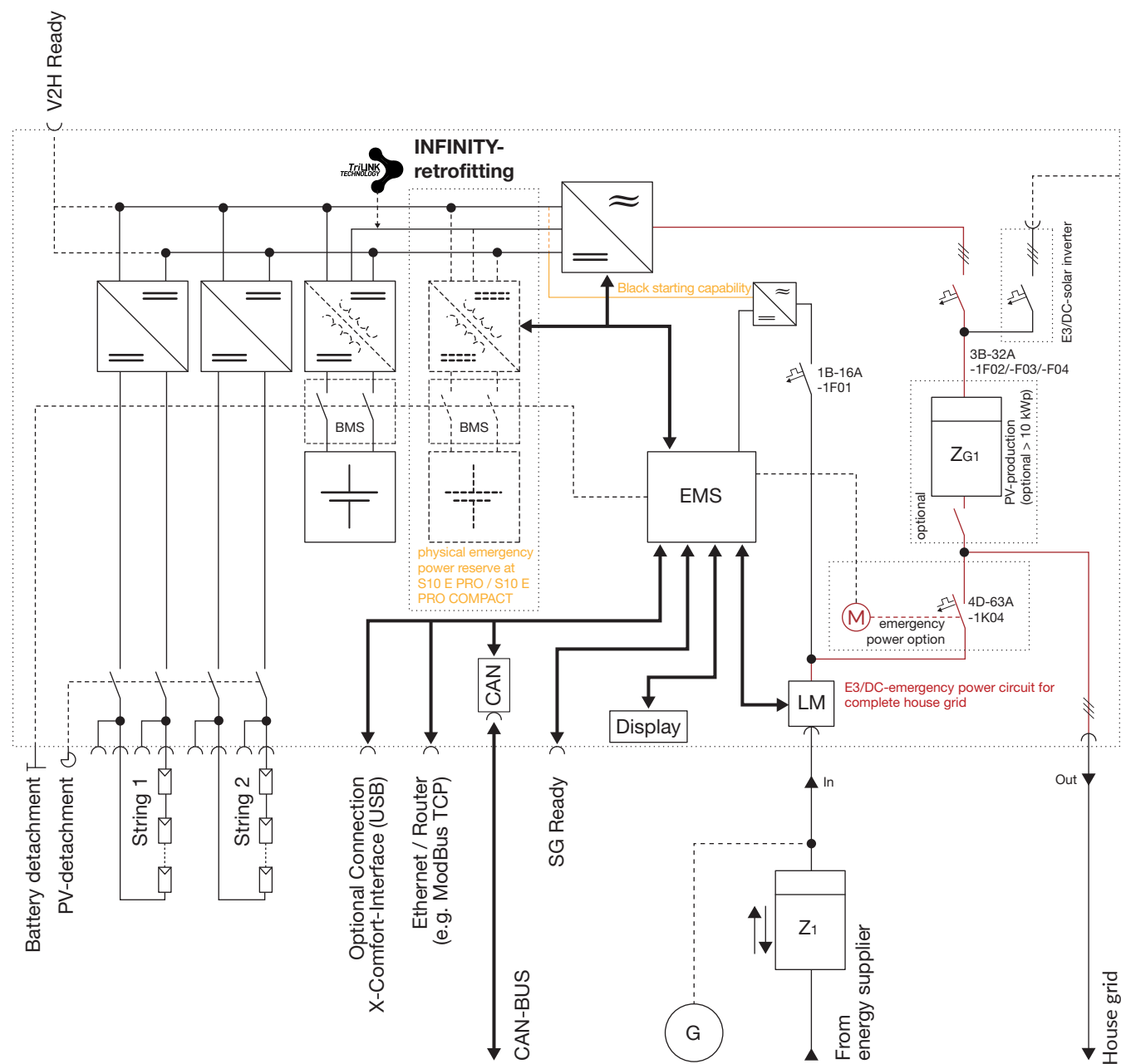


<sup>1)</sup> Illustration shows full equipment with all possible options. Delivery scope can deviate as per purchase order. Illustrations can deviate depending on type and output. Subject to modifications and errors. The illustrations are for an understanding of the function and make no claim to technical completeness.

# System circuit diagram

S10 X / COMPACT variant for S10 X /

S10 E PRO / S10 E PRO COMPACT



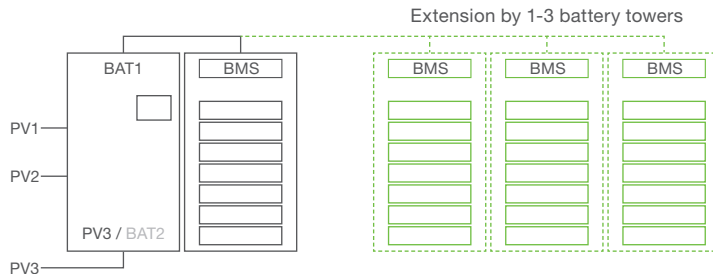
## S20 X PRO



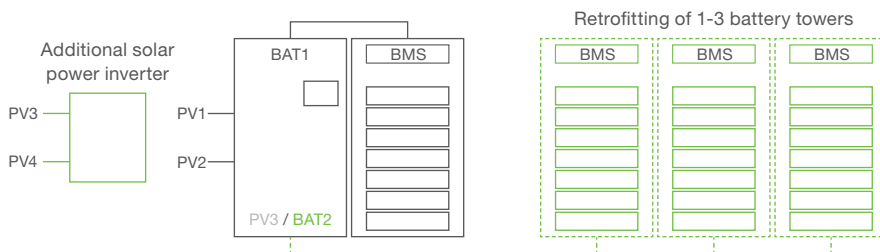
# Example configurations

## S20 X PRO

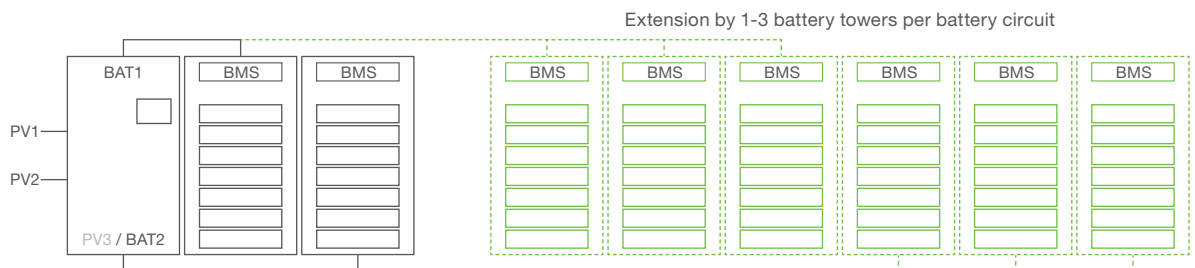
### S20 X PRO BT1 (1 battery tower) with extension (up to 1 year)



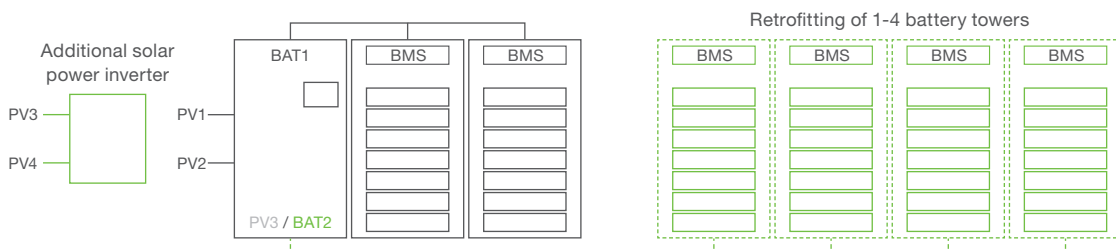
### S20 X PRO BT1 (1 battery tower) with INFINITY retrofitting (from 1 to 5 years)



### S20 X PRO BT2 (2 battery towers) with extension (up to 1 year)



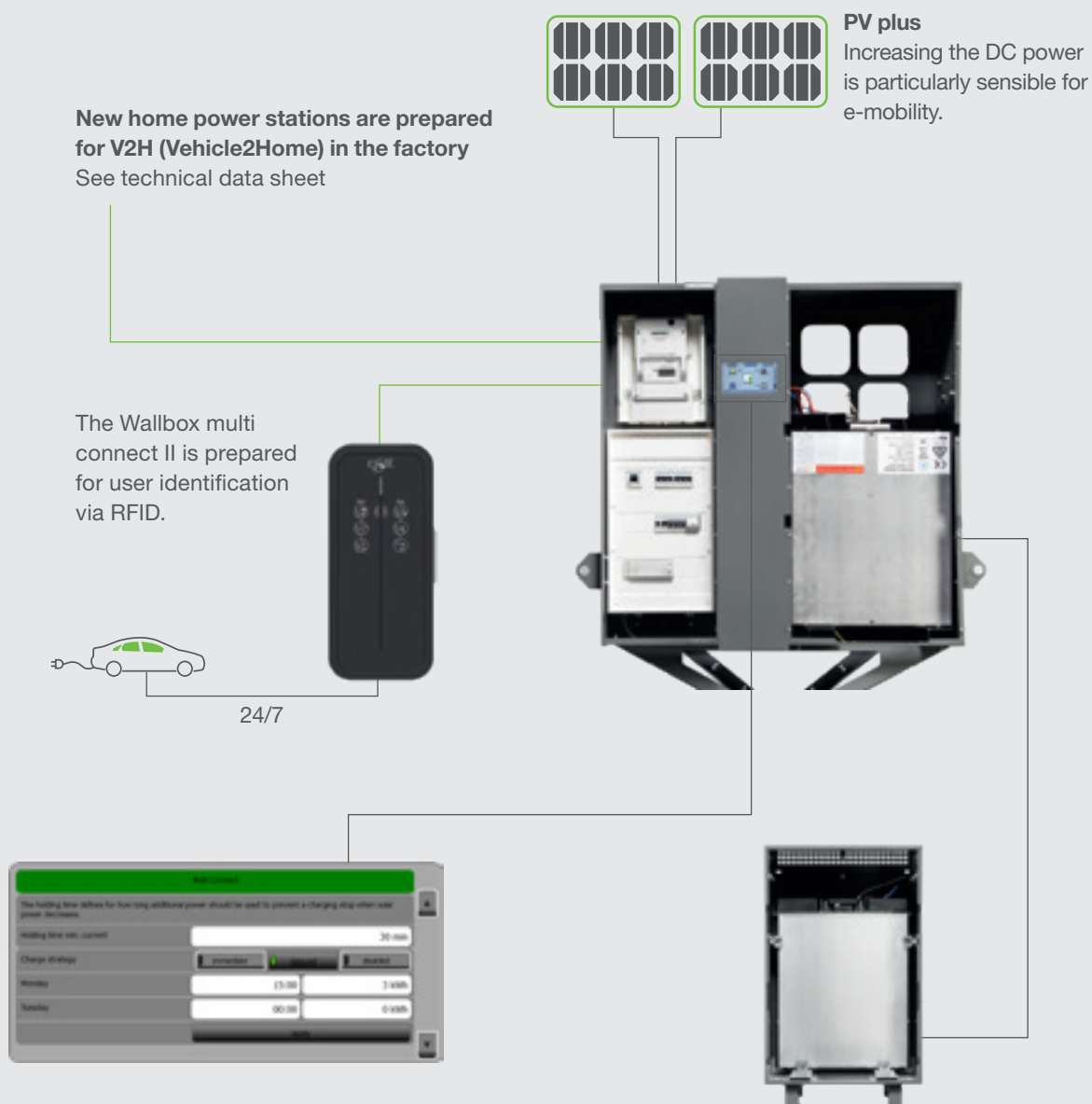
### S20 X PRO BT2 (2 battery towers) with INFINITY retrofitting (from 1 to 5 years)



The S20 X PRO series can be very flexibly retrofitted with battery towers for 5 years by connecting the existing battery set to a battery tracker and the new battery set to the battery tracker that is or becomes free. A maximum of four battery towers can be assigned to each battery tracker, but extending a battery tracker that is already occupied is only possible within one year after installation.



# Electromobility with E3/DC



## Forecast-based charging function

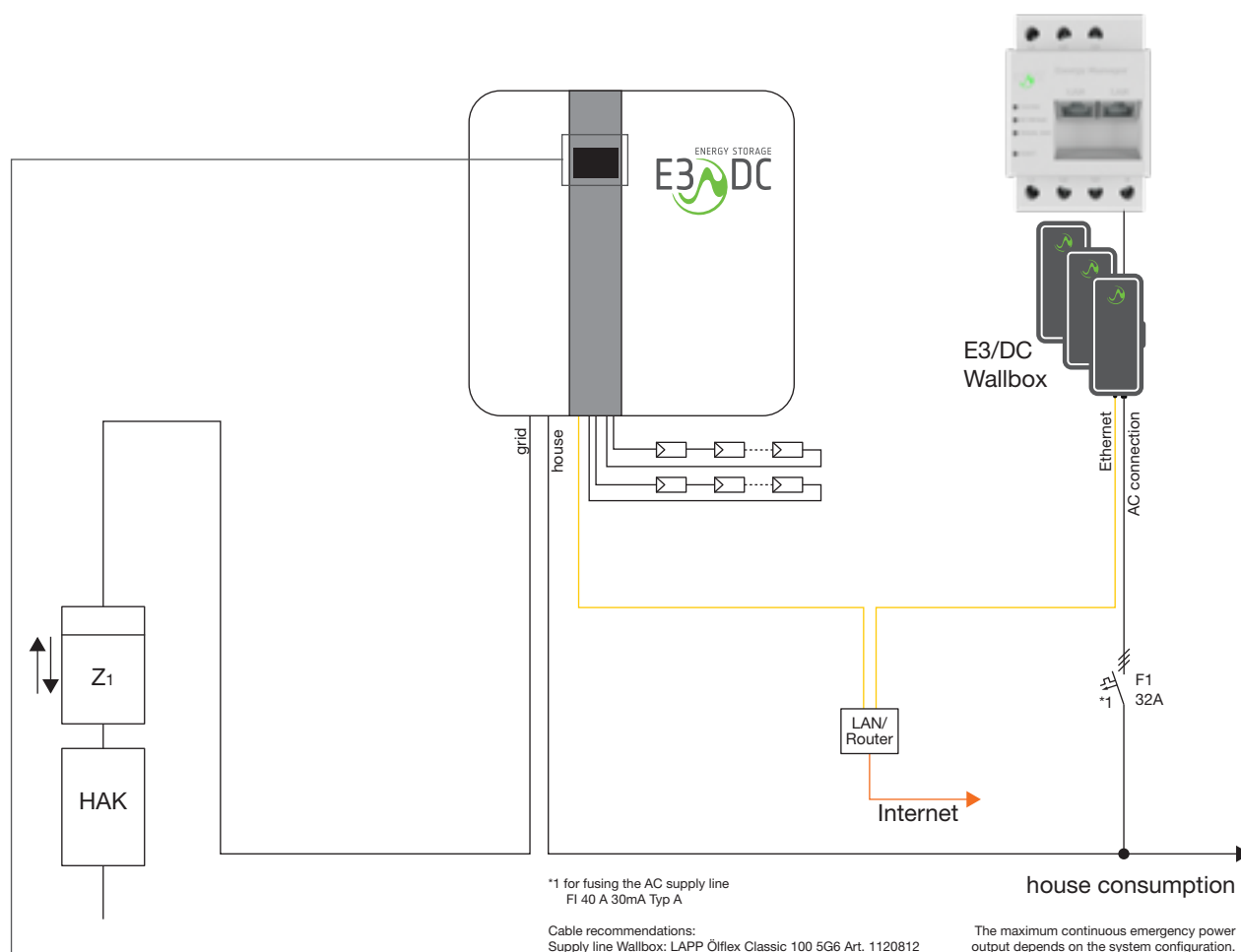
The user defines his or her charging strategy via the software. The function combines a minimum range needed at a specific time with the priority of solar charging. Surpluses from generation and the storage system can be consistently used for electromobility.

## Our home power stations (except S10 SE/ S10 SE+) can be retrofitted with new batteries for five years.

In this way, we offer the unique night-time charging function with our system.

# Intelligent load management

The external energy management controller enables solar charging with the E3/DC Wallbox even in systems **without** a home power station.



Example: setting a 22 kW Wallbox to a maximum house output of 30 kW with a 10 kW PV system

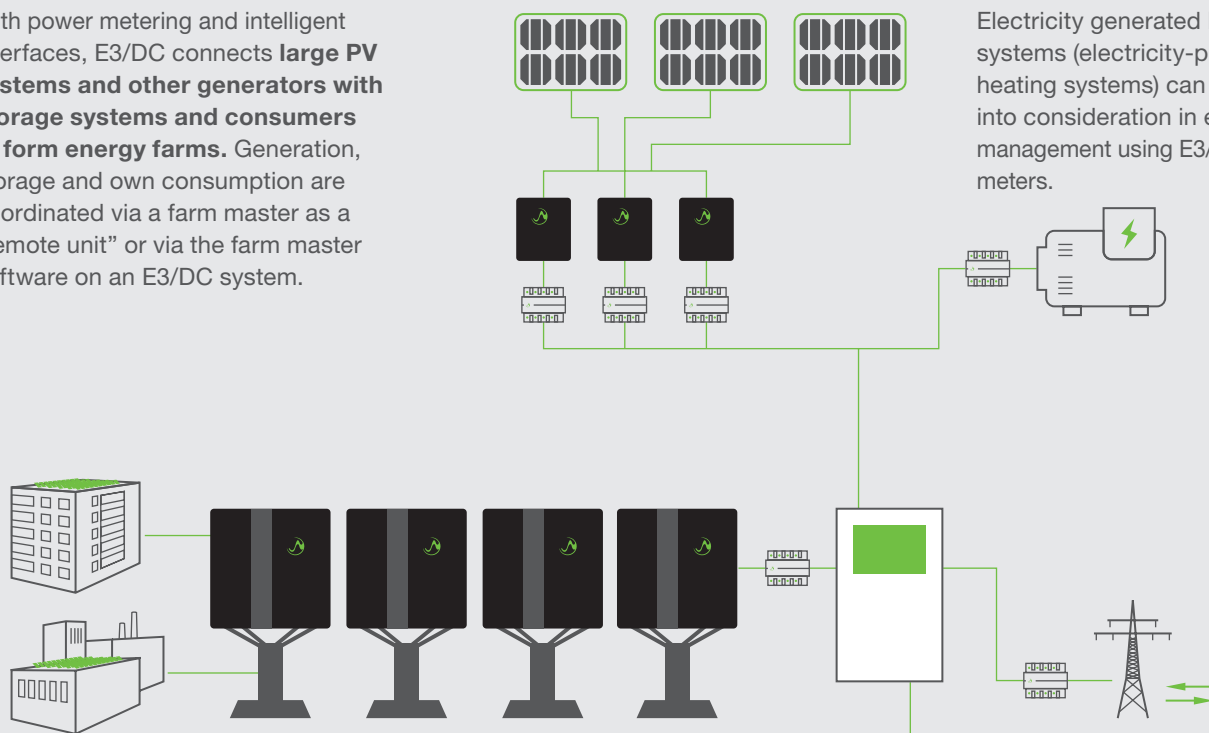
## E3/DC load management

- Solar energy from the roof to the electric car – instead of mains electricity
- Avoidance of grid connection overload

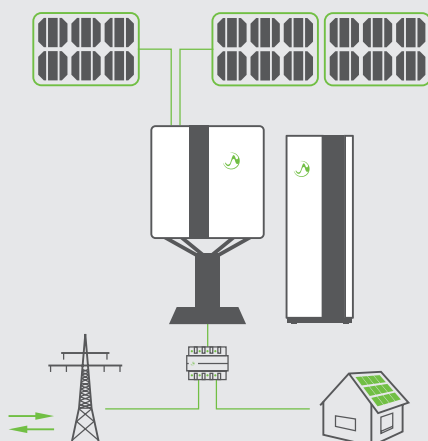
# Energy farming with E3/DC

Extend existing and new units and form energy farms

With power metering and intelligent interfaces, E3/DC connects **large PV systems and other generators with storage systems and consumers to form energy farms**. Generation, storage and own consumption are coordinated via a farm master as a “remote unit” or via the farm master software on an E3/DC system.



E3/DC storage systems can be **extended for more extensive applications in farming operation** in both new and existing systems (without time limit) (e.g. 4 x S10 E PRO in an apartment building or 2 x S20 X PRO in commercial use). Together with a second home power station, even an older S10 can form an energy farm to extend self-supply as electricity requirements increase.



Electricity generated by CHP systems (electricity-producing heating systems) can be taken into consideration in energy management using E3/DC power meters.

## Electromobility with your own solar electricity:

electric vehicle charging systems (EVCS) and individual Wallboxes can be intelligently controlled as flexible consumers for surplus solar power via the E3/DC systems. Up to 7 charging stations can be intelligently networked and specific users can be invoiced for charged volumes of electricity via the RFID function.

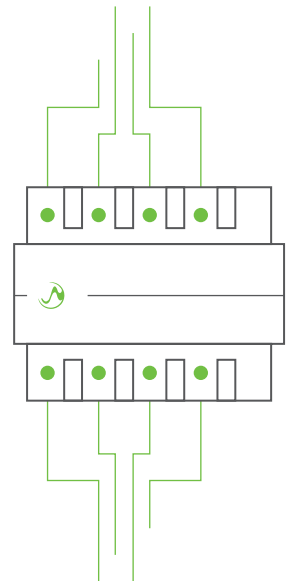
**Heat pumps** are also intelligently controlled as consumers and operated primarily with your own electricity as variable loads. The **SG Ready interface** is fitted as standard in the home power station.

# Power metering from E3/DC

Easily installed power metering on cables and busbars up to 800 A

E3/DC offers fully certified **LM3iSP power meters** calibrated in its own laboratory with a rated power of 40 A (**63 A distribution**). E3/DC's power meters are networked via CAN and supply measurement data at a very high speed.

The performance values of the generators and consumers can be stored and visualised in the energy portal. They are an essential element of E3/DC's own consumption and feed-in control in individual storage systems or in an energy farm.



New power sensors for distribution systems with large cable cross-sections (100 A, 200 A and 400 A) or for **distribution systems with busbars (80 mm / 120 mm)** can be flexibly connected to the LM3 power meter per phase using cables.



The combination of a power meter with a pre-installed top-hat rail and the new folding sensors is also calibrated in the laboratory by E3/DC. E3/DC therefore offers a **precise, fast and easily installed solution for all kinds of electrical distribution systems in commercial use** and enables intelligently controlled, large-scale use of your own electricity.

Important: this type of metering does not involve pure electricity or combined voltage metering, but **genuine power metering**.



The E3/DC solution for energy and load management independently of the S10 home power station: the external XEM 470 energy management controller (on a top-hat rail) enables intelligent charging even for existing PV systems or in configurations with a storage system from other manufacturers. The remote local energy/load management system analyses the generation and load situation and actuates the E3/DC-Wallbox to charge the vehicle with surplus solar power.



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