

Check list Updated 08/2016

SmartPvCharge

The most eco-friendly of e-mobility!

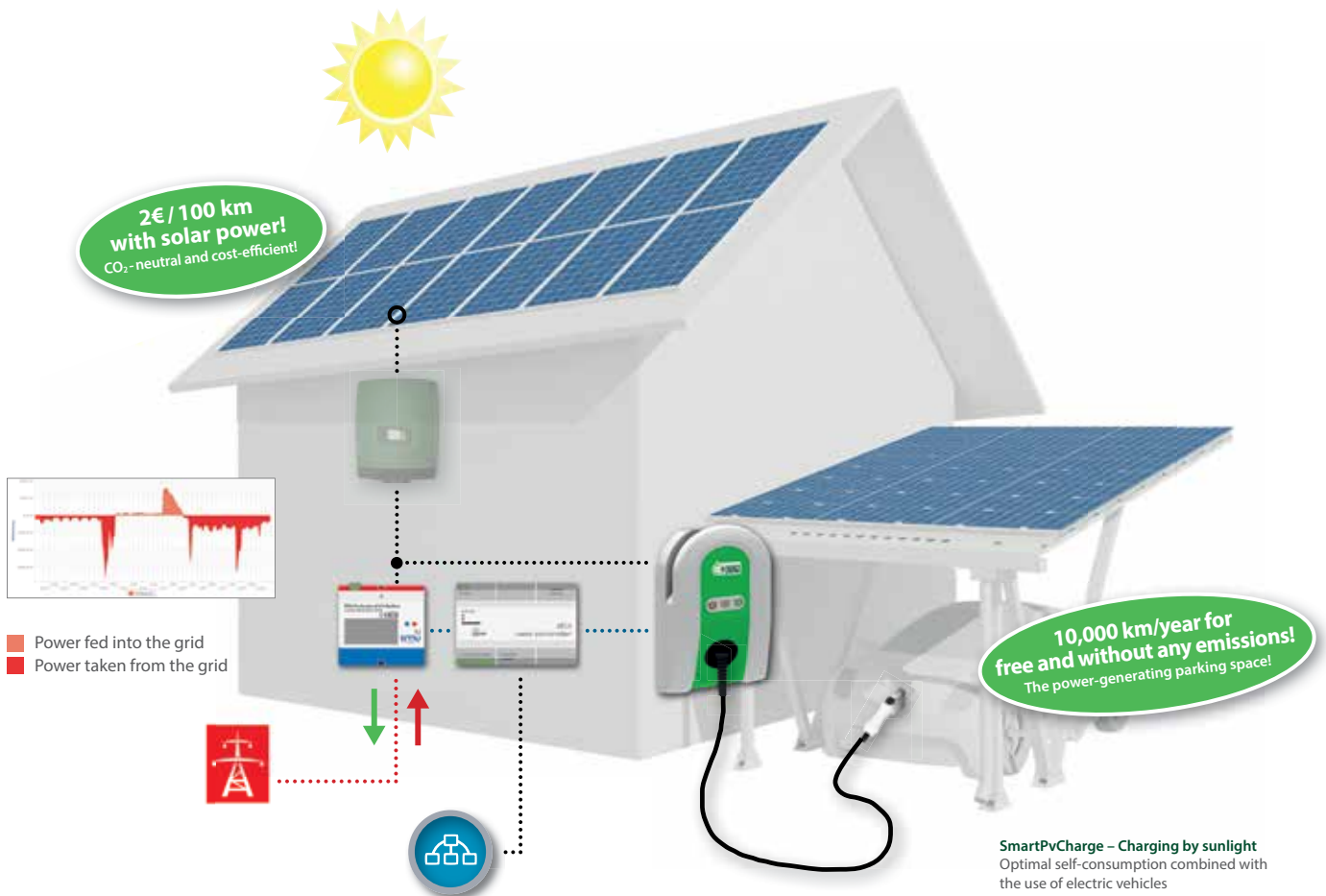


Fig.: SmartPvCharge 2.0

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SmartPvCharge planning aid

This check list is supposed to facilitate your planning. In order to facilitate the planning, please answer the following questions.

1. Do you know which typed of electric vehicles will be charged?

YES Type _____ Charging power _____ Phases _____

 Type _____ Charging power _____ Phases _____

 Type _____ Charging power _____ Phases _____

NO

2. Which power generating plants are used for self consumption?

_____ Power _____

_____ Power _____

_____ Power _____

3. Alignment of the solar plant

South West East *(several answers possible)*

4. Is there a generation control? *(heat guided, time-controlled, zero feed in regulation)*

YES _____

NO

5. Is there a power diagram (generation and consumption)?

YES *(please enclose)* NO

➡ *If NO: Which appliances have been installed in the solar plant. (for example heat pumps, electric heatings)*

6. Are other control systems in use? *(storage batteries, power cut-offs, etc.)*

YES _____

NO

➡ *If YES Are there wiring diagrams?*

YES *(please enclose)* NO

7. When is the vehicle connected to the charging station?

(Please mark below)

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 hours



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8. Check of the installation situation

- Space required for SmartPvCharge calculator
- Space required for the energy meter
- Data connection to the meters possible (RS485)
- Data connection to the charging station is possible (Ethernet cable)
- Sufficient dimensioning of the main circuit breaker
- The maximum unbalanced load is considered.
- Sufficient dimensioning of the power lines.
- Adherence to the technical standards
- Is there a Ethernet network

9. Are further controls intended?

- Heating rod Additional charging boxes

10. Comments

Combining the electric car in household with the charging process SmartPvCharge, is the ideal means of regulating the self-consumption of power. An electric car powered by the SmartPvCharge system can facilitate a PV self-consumption rate of over 80 % in the long term due to high storage capacity and the time-oriented flexibility of the charging process. At the same time, the ideal of "CO₂-neutral" mobility can be achieved, which is fuelling an electric car with solar power only.

Prerequisite to the use of SmartPvCharge is an electric vehicle that is used in the household and is parked for long periods for charging at a PV plant. In many cases, (e.g. for use as a second car in the household or as a commuter vehicle on the parking area of one's employer), it is possible to recharge the vehicle between two short journeys and in periods of optimum irradiation to maintain the desired user profile without restriction.

A purely time-oriented charging process would - in the case of usual PV plant sizes - result in a higher percentage use of electricity from the grid in order to sustain a consistent level of EV charging performance.

SmartPvCharge monitors the generation of PV electricity along with the household energy consumers and initiates the charging process as soon as the minimum capacity becomes available. With increasing energy yield, the charging parameters are increased to maximum capacity and are regulated according to the irradiation. This ensures that the vehicle is charged fully and exclusively with surplus PV energy, generated from the sun!

The priority of the charging process can, of course, be adjusted to meet immediate demand, with the effect that if a vehicle needs to be charged quickly, the process can be induced irrespective of the irradiation levels.

This charging process has already thoroughly and extensively been tested by Schletter, using various types of vehicle. The practical experiences gained from those tests have been implemented accordingly. However, there may be limitations.

Prerequisite for the deployment of SmartPvCharge

- Vehicle used at the location of the PV plant
- Electric vehicle used for short distances
- Charging mode 3 in accordance with IEC 61851-1
- PV plant used for self-consumption
- In combination with or as an upgrade and retrofitting for products of the P-CHARGE series with integrated EWS Box.

At present, SSL Energie offers three variants of SmartPvCharge kits: SmartPvCharge Basic consists of a controller, meter, power supply unit, SD card with operating software, cable set with 230V supply and a cable set 24V meter connection. SmartPvCharge Professional is supplied with two meters and SmartPvCharge Premium kit with three meters. The more meters there are, the higher the adjustment options and the more comfortable the charging system.

Do you have any questions?

The hotline to our specialists +49 8072 3767-0