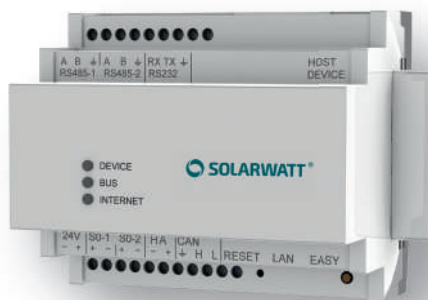


## PRODUKT



# SOLARWATT Manager flex 1.0

## EnergyManager pro

### Energy independence within reach

The SOLARWATT Manager reduces energy costs for your customers and allows them to look at electricity bills with a sense of relief.

It keeps an eye on all energy flows within your household and automatically actuates many key electrical devices, so that they are powered by free, self-generated PV-power and ensure worry-free convenience.

With the Manager, the installer receives all the installations data at a glance, can provide remote support and help his customers pave the way to a modern and future-oriented energy supply.

## ADVANTAGE

- Overview of all energy data
- Switching of appliances when surplus PV-power is available
- Integrating of water heating or e-mobility
- Maximum of data security



## OUR SERVICE

### FullCoverage

On purchasing a Solarwatt system solution\*

### Guaranty of origin

Quality Made in Germany

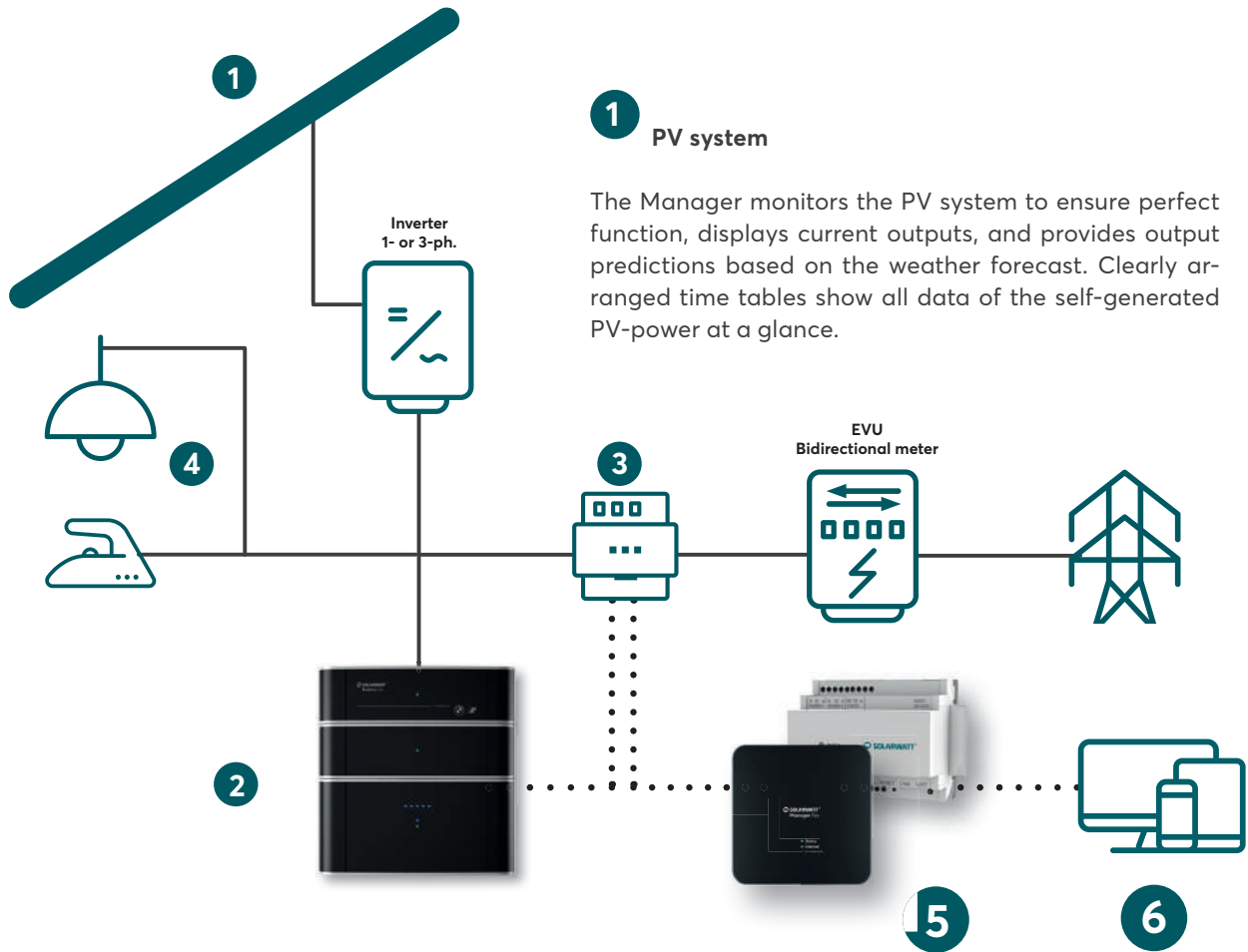
### Competent Consulting

Experts via hotline or on location

### SOLARWATT Battery flex ready

Perfect system integration

\* As specified in insurance conditions



**1 PV system**

The Manager monitors the PV system to ensure perfect function, displays current outputs, and provides output predictions based on the weather forecast. Clearly arranged time tables show all data of the self-generated PV-power at a glance.

**2 SOLARWATT Battery flex AC-1**

Battery flex increases the energy self-sufficiency. Via the AC sensor, the system measures the energy consumption and the surplus of generated energy. When energy is purchased from the public grid, Battery flex receives the information for discharging. As soon as a surplus of produced energy is detected that cannot be consumed, the battery storage is charged (fully automatic control strategy).

**3 AC-Sensor Flex**

The AC sensor Flex measures the electrical power for feed-in and consumption and sends it to Battery flex, which is regulated accordingly.

**4 Electrical devices in households**

By connecting the Battery flex and important energy consumers of the household like heat pump or wallbox to the energy system, it can be ensured that they are operated as much as possible with cost-effective PV-power. This leads to greater internal consumption while reducing costs and retaining the same level of comfort and convenience.

**5 SOLARWATT Manager (flex or pro)**

The SOLARWATT Manager leads the combination of PV system and Battery flex to the optimum - maximum independence and minimum costs.

- Record and analyze power flows
- Keep an eye on power guzzlers
- Intelligently switch devices on and off

**6 SOLARWATT Manager Portal**

Manager Portal and InstallerCenter allow users to view their energy data via Internet – on a computer, tablet or smartphone.

**Manager Portal for end customers**

- Obtain all energy data wherever you are
- Meter and switch electrical devices conveniently
- Benefit from maximum data security (online banking standards)

**InstallerCenter for electrical installers**

- Monitor Manager installations online
- Identify problems and their causes automatically
- Access all Manager configurations remotely

# SOLARWATT Manager PV-optimization – key to independence

The SOLARWATT Manager monitors the current PV-energy production and consumption in the household at all times to determine whether surplus PV-power is available.

The Manager can control many important home appliances, so they can be powered with free, self-generated PV-power - allowing users to save money, gain independence, and reduce their impact on the environment.

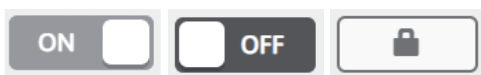
## CONSUMPTION OPTIMIZATION WITH THE SOLARWATT MANAGER PORTAL

There are three ways to switch appliances and thus optimize their consumption with the SOLARWATT Manager Portal:

### Manual

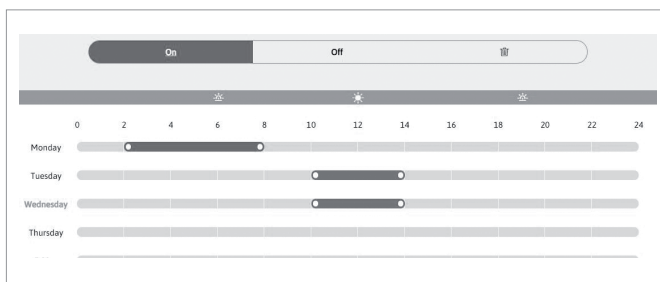
The Control app in the Manager Portal shows all appliances available for switching and optimizing consumption. The app can be used to switch an appliance on or off directly using a digital switch.

The Lock icon shows that manual switching is not possible – because it's not conducive to the appliance's functions, for example.



### Time-optimized

Time optimization allows the Portal user to set specific times when an appliance is switched on or off, no matter whether there is surplus PV-power or not.

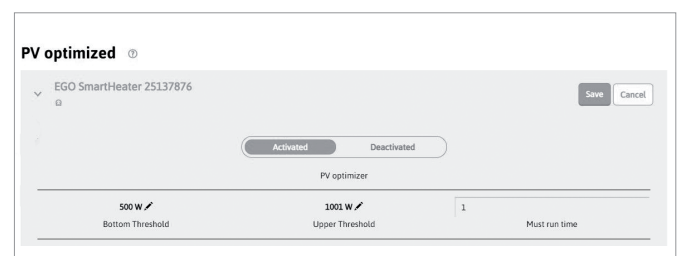


### PV-optimized

If PV optimization is activated, the appliance concerned is automatically switched on when there is a surplus of PV-power.

The user can configure the activation threshold and a minimum runtime and/or a minimum rest period for the appliance.

If several appliances are activated for PV optimization a prioritization can be easily determined in the Portal. This prioritization specifies which device should benefit from surplus PV-power first.



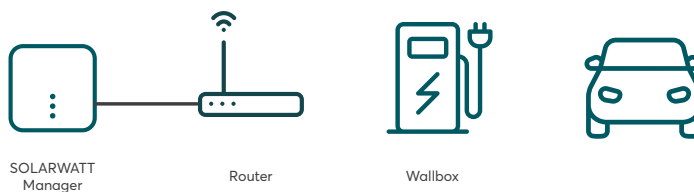
If the consumption strategy for devices is to be a combination of PV optimization and time control, the Manager Portal also offers the option of defining time periods in which PV-optimization is compulsively deactivated.



## HARDWARE OPTIONS FOR PV-OPTIMIZATION

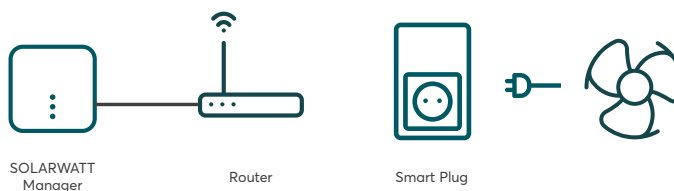
### Optimization using Ethernet connection

Example: Charging of electric vehicles  
The Keba or Webasto wallbox is connected to the SOLARWATT Manager via the router using an Ethernet cable.



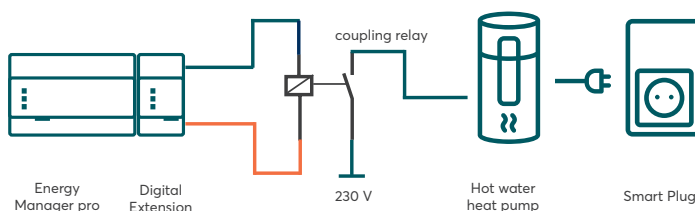
### Optimization using smart plug connection

Example: Small electrical devices with standard plug  
A smart plug is connected between the device and socket, communicating with the SOLARWATT Manager via the router.



### Optimization using coupling relay connection

Example: heat pump or immersion heater  
A relay and, consequently, a signal are controlled via the digital extension. This is used to implement the (SG-ready) heat pump.



## TECHNICAL SPECIFICATIONS

### SOLARWATT MANAGER FLEX 1.0

|                     |  |
|---------------------|--|
| Device supply       | internal universal power supply<br>120-240 V; 50/60 Hz |
| Power input         | nom. 3 W; max. 12 W                                    |
| Ambient temperature | -10 °C to +50 °C                                       |
| Housing             | Composite  |
| Dimensions (BxHxD)  | 130 x 130 x 40 mm                                      |
| Installation type   | Wall installation                                      |
| IP rating           | IP20   |

### ENERGYMANAGER PRO

|                     |   |
|---------------------|---|
| Device supply       | via external top hat rail power supply<br>(230 V AC/24 V DC; 1,5 A; 3 TE) |
| Power input         | 2,4 W   |
| Ambient temperature | -10 °C to +40 °C  |
| Housing             | Composite   |
| Dimensions (BxHxD)  | 108 x 90 x 70 mm, 6 TE (horizontal pitch)                                 |
| Installation type   | Top-hat rail TS35   |
| IP rating           | IP20  |

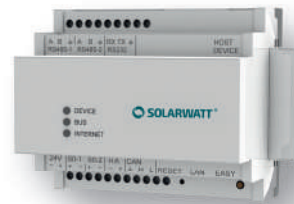
### I/O INTERFACES AND CONNECTABLE DEVICES

|                     |                                     |
|---------------------|-------------------------------------|
| Ethernet            | 1x RJ-45 10/100Mbit                 |
| PLC                 | AV Home Green Phy                   |
| Terminal connection | 2x SO/Digital In                    |
| USB                 | 2x USB-2.0-Host<br>USB Buchse Typ A |

### I/O INTERFACES AND CONNECTABLE DEVICES

|                  |                                     |                          |
|------------------|-------------------------------------|--------------------------|
| Ethernet         | 1x RJ-45 10/100Mbit                 |                          |
|                  | 2x RS485                            | 10 devices per interface |
| Clamp connection | 2x SO/ Digital In                   | 1 device per interface   |
|                  | 1x CAN                              | AC-Sensor                |
| USB              | 2x USB-2.0-Host<br>USB Buchse Typ A |                          |

## FIGURE



### DEVICE SOFTWARE

|                          |   |
|--------------------------|---|
| Operating system         | Linux, Kernel 7.x   |
| Communications platform  | SOLARWATT Manager Portal (Cloud)  |
| Management               | Cloud-Zugang  |
| Security                 | VPN tunnel based on the IPSec standard, secure protocols (SSH/SSL, SFTP, HTTPS) |
| Firmware and app-updates | via Update-Server   |
| Language                 | English, French, German, Spanish, Italian, Dutch, Swedish                       |

### SOLARWATT MANAGER PORTAL

|                         |   |
|-------------------------|---|
| Supported display media | Desktop PC, Tablets, Smartphones  |
| Supported browsers      | Google Chrome, Mozilla Firefox, MS Explorer, Apple Safari                       |
| Security                | VPN tunnel based on the IPSec standard, secure protocols (SSH/SSL, SFTP, HTTPS) |
| Language                | English, French, German, Spanish, Italian, Dutch, Swedish                       |

## TECHNICAL SPECIFICATIONS

### SUPPORTED INVERTERS AND STORAGES

|                   | Connection via |       |    | Unit type                     | Functions                        | Manager flex | EnergyManager pro |
|-------------------|----------------|-------|----|-------------------------------|----------------------------------|--------------|-------------------|
|                   | Ether-net      | RS485 | SO |                               |                                  |              |                   |
| Fronius           | X              |       |    |                               | measuring/ dynamic curtailment * | X            | X                 |
|                   |                |       | X  |                               | measuring                        | X            | X                 |
| SMA               | X              |       |    | SunSpec-certified             | measuring/ dynamic curtailment * | X            | X                 |
|                   |                | X     |    | older generation              | measuring/ dynamic curtailment   |              | X                 |
|                   |                |       | X  |                               | measuring                        | X            | X                 |
| KOSTAL            | X              |       |    | PLENTICORE, PIKO IQ           | measuring/ dynamic curtailment * | X            | X                 |
|                   |                | X     |    | PIKO (established generation) | measuring/ dynamic curtailment * |              | X                 |
|                   |                |       | X  |                               | measuring                        | X            | X                 |
| Steca             | X              |       |    | coolcept Flex XL              | measuring/ dynamic curtailment * | X            | X                 |
|                   |                | X     |    | coolcept                      | measuring/ dynamic curtailment * |              | X                 |
|                   |                |       | X  |                               | measuring                        | X            | X                 |
| SolarEdge         |                | X     |    |                               | measuring                        |              | X                 |
|                   |                |       | X  |                               | measuring                        | X            | X                 |
| Other inverters   |                |       | X  |                               | measuring                        | X            | X                 |
| Battery flex AC-1 |                |       |    |                               | measuring/ monitoring            | X            | X                 |

\* in compliance with German renewable energy legislation

### SUPPORTED ELECTRIC CHARGING STATIONS

|                               | Connection | Functions           | Manager flex | EnergyManager pro |
|-------------------------------|------------|---------------------|--------------|-------------------|
| Keba P30 (X series, C series) | Ethernet   | measuring/switching | X            | X                 |
| Webasto Live                  | Ethernet   | measuring/switching |              | X                 |

### SUPPORTED SMART HOME COMPONENTS

|                    | Technology | Supported plugs     |   | Functions                      | Manager flex | EnergyManager pro |
|--------------------|------------|---------------------|---|--------------------------------|--------------|-------------------|
| myStrom Smart Home | WLAN       | myStrom WiFi Switch | devices with standard plug (Type F, Type J) | measuring/switching (max 16 A) | X            | X                 |

### OTHER ELECTRICAL LOADS SUPPORTED

|  | Connection   | Functions           | Manager flex | EnergyManager pro |
|--|--|---------------------|--------------|-------------------|
| Appliances without standard plug             | EnergyMeter (SO pulse measurement)                     | measuring           | X            | X                 |
| EGO Smart Heater                             | Ethernet   | measuring/switching | X            | X                 |
| Heating element (fixed wiring)               | Digital Extension, EnergyMeter, coupling relay         | measuring/switching |              | X                 |
| Hot water pump (SG-ready/with standard plug) | Digital Extension, myStrom WiFi Switch, coupling relay | measuring/switching |              | X                 |
| Hot water pump (SG-ready/fixed wired)        | Digital Extension, EnergyMeter, coupling relay         | measuring/switching |              | X                 |