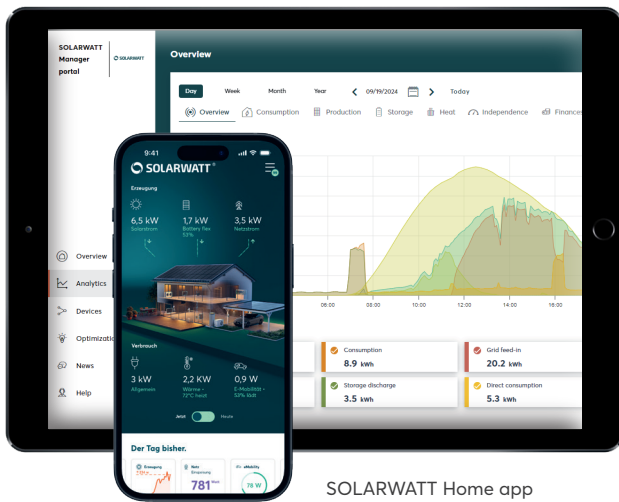


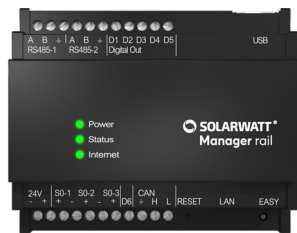
## PRODUCT



SOLARWATT Home app



Manager flex 1.5



Manager rail  
**Note:** Manager rail is not available in all countries

# Energy Management

## SOLARWATT Manager flex 1.5 SOLARWATT Manager rail

### 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 monitors energy flows within your household and automatically controls key electrical devices, so that they are powered by free, self-generated PV-Power and ensures worry-free convenience.

With the Manager, installers can remotely view, access and configure all installation data at a glance, providing remote support and helping their customers achieve a modern and future-oriented energy supply.

## ADVANTAGE

- overview of all energy data
- switching of appliances when surplus PV-power is available
- integration of water heating or e-mobility
- maximum data security

## OUR SERVICE

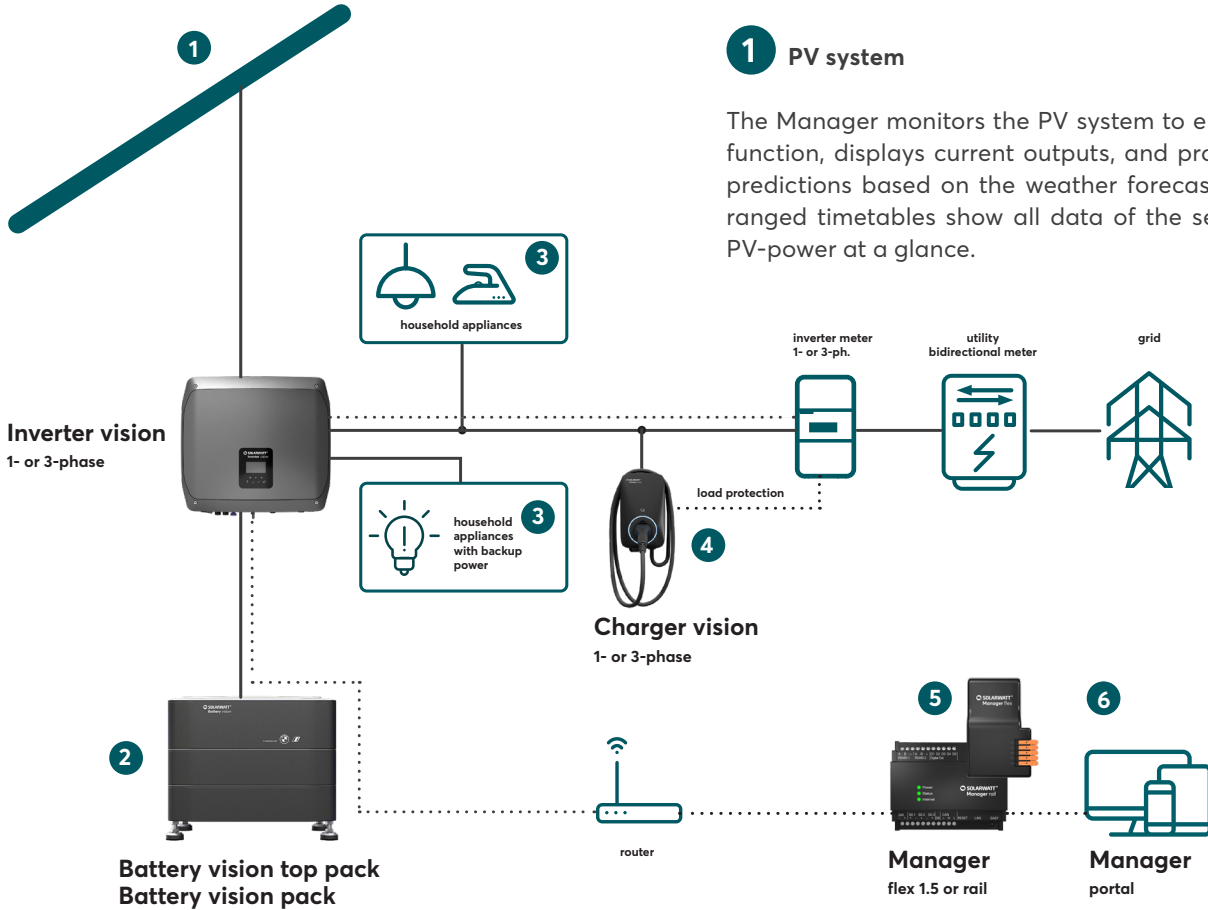
### Sales & Service

support available from the local team

### SOLARWATT Battery ready

perfect system integration

## SYSTEM



### 2 SOLARWATT Battery vision

Battery vision is designed to increase energy self-sufficiency. The battery vision meter measures the grid import vs. the grid export from surplus PV energy, and communicates this information to the Battery vision. When energy is purchased from the grid, the Battery vision discharges to support the household consumption. When energy is exported to the grid, the Battery vision then charges to store the excess energy for later use.

### 3 Other electrical devices in households

By linking the Battery vision with major energy consumers and the SOLARWATT Manager, they can be optimized to harness as much low-cost solar power as possible. This leads to higher self-consumption at lower cost without compromising the level of comfort and convenience.

### 4 SOLARWATT Charger vision 1.0

The SOLARWATT Charger vision is the price/performance champion for PV-optimized charging. The Charger can be intelligently integrated into the energy management system to charge with self-generated PV electricity when it is best for the household for more self-consumption and sustainable electromobility.

### 5 SOLARWATT Manager (flex or rail)

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

- monitor and analyse electricity flows
- detect energy wasters
- intelligent appliance control

### 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)

#### Installer Center for electrical installers

- monitor Manager installations online
- identify problems and their causes automatically
- access all Manager configurations remotely

# SOLARWATT Manager consumption-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.

Supplied with information on weather conditions and/or the current development of electricity prices, 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.

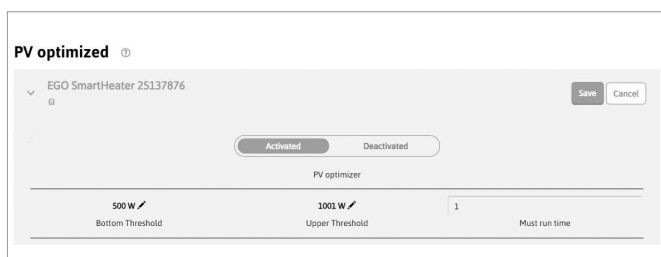
## CONSUMPTION OPTIMIZATION WITH THE SOLARWATT MANAGER

### PV optimization

If the 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.



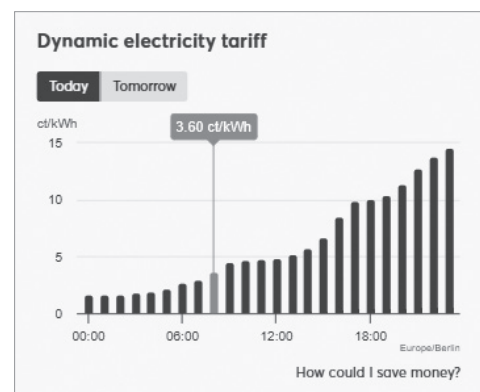
The consumption strategy for devices can be a combination of PV optimization and time control as well. The Manager portal also offers the option of defining time periods in which PV-optimization is compulsively deactivated.

### Time of Use (coming soon)

For this function, the manager takes time-of-use tariffs into account. The times for energy storage and consumption can then be flexibly adapted to the development of the

electricity price. This is because the electricity price for the exact period in which the household or certain consumers are drawing electricity is incurred.

Using the time-of-use function increases energy efficiency and reduces costs.



### Load Management (coming soon)

If there is a possibility that a local power grid will not be able to provide sufficient power, load management can avoid consumption peaks. The power provided - for example for charging an electric vehicle - is dynamically adapted to the power consumption of the household or building by load management.

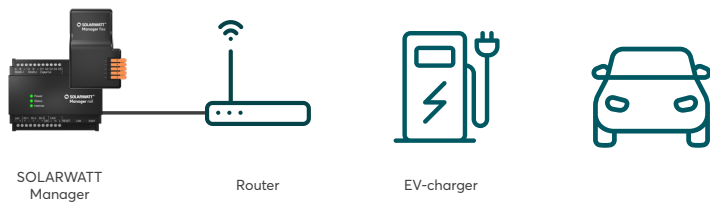


## HARDWARE OPTIONS FOR PV-OPTIMIZATION

### Optimization using LAN connection

Example: Charging of electric vehicles

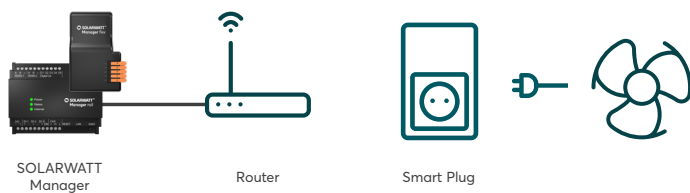
The Solarwatt EV-charger is connected to the SOLARWATT Manager via the router using an LAN cable.



### Optimization using smart plug connection

Example: Small electrical devices with standard plug

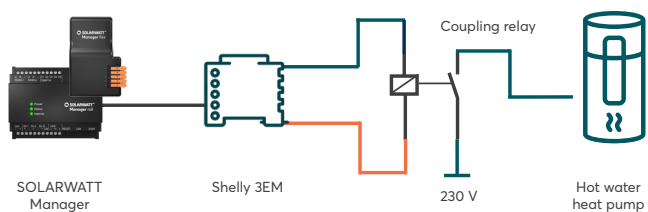
A smart plug is connected between the device and socket, communicating with the SOLARWATT Manager via the router.



### Optimization using SG Ready connection

Example: heat pump or immersion heater

A relay and thus a signal is sent via the Shelly 3EM, which the (SG Ready) heat pump converts.



## TECHNICAL SPECIFICATIONS

### GENERAL DATA

	Manager rail	Manager flex 1.5
Device supply	via external top hat rail power supply (230 V AC/24 V DC; 1,5 A; 3 TE)	external USB-C power supply (230 V; 50 Hz)
Power input	min. 1.7 W; max. 18 W	min. 2 W; max. 10 W
Ambient temperature	0°C to +50°C	0 °C to +50 °C
Housing	Composite	Composite
Dimensions (BxHxT)	108 x 90 x 60 mm, 6 TE (horizontal pitch)	65 x 102 x 24 mm
Installation type	Top-hat rail TS35	Wall installation; alternatively: with adhesive pad or magnets on a suitable surface
IP rating	IP20	IP20
Operating system	KiwiOS.edge 10	KiwiOS.edge 10
Communications platform	SOLARWATT Manager portal (Cloud), SOLARWATT Home app	
Security	VPN tunnel based on the IPSec standard, secure protocols (SSH/SSL, SFTP, HTTPS)	
Firmware and app-updates	via Update-Server	
Language Manager portal	de, en, fr, it, nl, es, se	

### I/O INTERFACES AND CONNECTABLE DEVICES

	Manager rail	Manager flex 1.5
Ethernet	1x RJ-45 10/100Mbit	1x RJ-45 10/100Mbit
Clamp connection	2x RS485	1x RS485
	3x S0/Digital In	1x S0
	6x Digital Out	2x Digital Out
USB	1x USB-2.0-Host, USB socket type A	1x USB-2.0-Host, Micro USB

### SUPPORTED METERS

	Connection via				Functions
	LAN	WIFI	RS485	S0	
Battery vision meter (DDSU/DTSU)	✓				Main meter* connected with Inverter vision
AC-Sensor Flex	✓				Main meter* connected with Battery flex
KDK PRO380-S				✓	Main meter*, energy meter, generation meter
Shelly 3EM		✓			Main meter*, energy meter, generation meter
Shelly Pro 3EM	✓	✓			Main meter*, energy meter, generation meter
EnergyMeter				✓	Energy meter, generation meter
Manager meter 1-phase				✓	Energy meter, generation meter

\* Requirements for use as main meter for energy management: bidirectional meter, balancing measuring method (consumption/purchase of the individual phases are netted against each other)

### SUPPORTED APPLIANCES SECTOR E-MOBILITY (EV-CHARGERS)

	Connection	Functions	Number of devices*
Charger vision 1.0	LAN	measuring/switching	1 device
Keba P30 (x-series, c-series)	LAN	measuring/switching	3 devices
Webasto Live	LAN	measuring/switching	1 device
Webasto Next	LAN	measuring/switching	1 device
Alfen (Eve Single S-line, Eve Single Pro-line) **	LAN	measuring/switching	3 devices

\* Number of devices that can be controlled by the manager at the same time.

\*\* For the connection to Energy Management, the Alfen software licence 'Active Load Balancing' is required.

## TECHNICAL SPECIFICATIONS

### SUPPORTED INVERTERS AND STORAGES

	Connection via		Type	Functions		Manager rail	Manager flex 1.5
	LAN	S0		measuring	dyn. curtailing via:		
Inverter vision	✓			✓	SOLARWATT Manager	✓	✓
Fronius	✓			✓	SOLARWATT Manager	✓	✓
		✓		✓	Inverter features*	✓	✓
SMA	✓		SunSpec-certified	✓	SOLARWATT Manager	✓	✓
		✓		✓	Inverter features*	✓	✓
KOSTAL	✓		PLENTICORE, PIKO IQ	✓	SOLARWATT Manager	✓	✓
		✓		✓	Inverter features*	✓	✓
Steca	✓		coolcept Flex XL	✓	SOLARWATT Manager	✓	✓
		✓		✓	Inverter features*	✓	✓
KACO	✓		NX3	✓	SOLARWATT Manager		✓
		✓	NX1	✓	Inverter features*	✓	✓
APsystems		✓		✓	Inverter features*	✓	✓
SolarEdge		✓		✓	Inverter features*	✓	✓
Other inverters via S0-meter		✓		✓	Inverter features*	✓	✓
Other inverters via Shelly 3 EM or Shelly Pro 3EM	✓			✓	Inverter features*	✓	✓
Battery vision via Inverter vision	✓			✓	-	✓	✓
Battery flex AC-1	✓			✓	-	✓	✓
VARTA battery	✓			✓	-	✓	

\* Follow the manufacturer's instructions for installing and setting up the inverter. Additional accessories from the manufacturer may be necessary.

### SUPPORTED APPLIANCES SECTOR HEAT

	Connection	Functions	Number of devices*
Appliances without standard plug	EnergyMeter (S0-pulse measurement)	measuring	1 device
Heating element my-PV AC ELWA-E Heating element my-PV AC ELWA 2	LAN	measuring/ switching	3 devices
Power-Manager my-PV AC THOR /AC-THOR 9s	LAN	measuring/ switching	3 devices
Heating element (fix cable)	Shelly 3EM WiFi	measuring/ switching	3 devices
Heating heat pump or hot water pump (SG Ready)	Shelly 3EM WiFi	measuring/ switching	3 devices
Heating heat pump (Stiebel Eltron - Thermal EM)	Stiebel Eltron ISG web, LAN	measuring/ switching	1 device

\* Number of devices that can be controlled by the manager at the same time.

### SUPPORTED SMART HOME COMPONENTS

	Connection	Functions
Shelly Pro 1PM, Pro 2PM, Pro 4PM	WIFI, LAN	DIN rail
Shelly Plus 1PM, Plus 2PM	WIFI	flush mounting installation
Shelly (Plus) Plug S	WIFI, Bluetooth	appliances with standard plug
myStrom WiFi Switch	WIFI	appliances with standard plug (Typ F, Typ J)