



Power-2-Heat with Max-Heater F12

Heating support and hot water production with
PV electricity

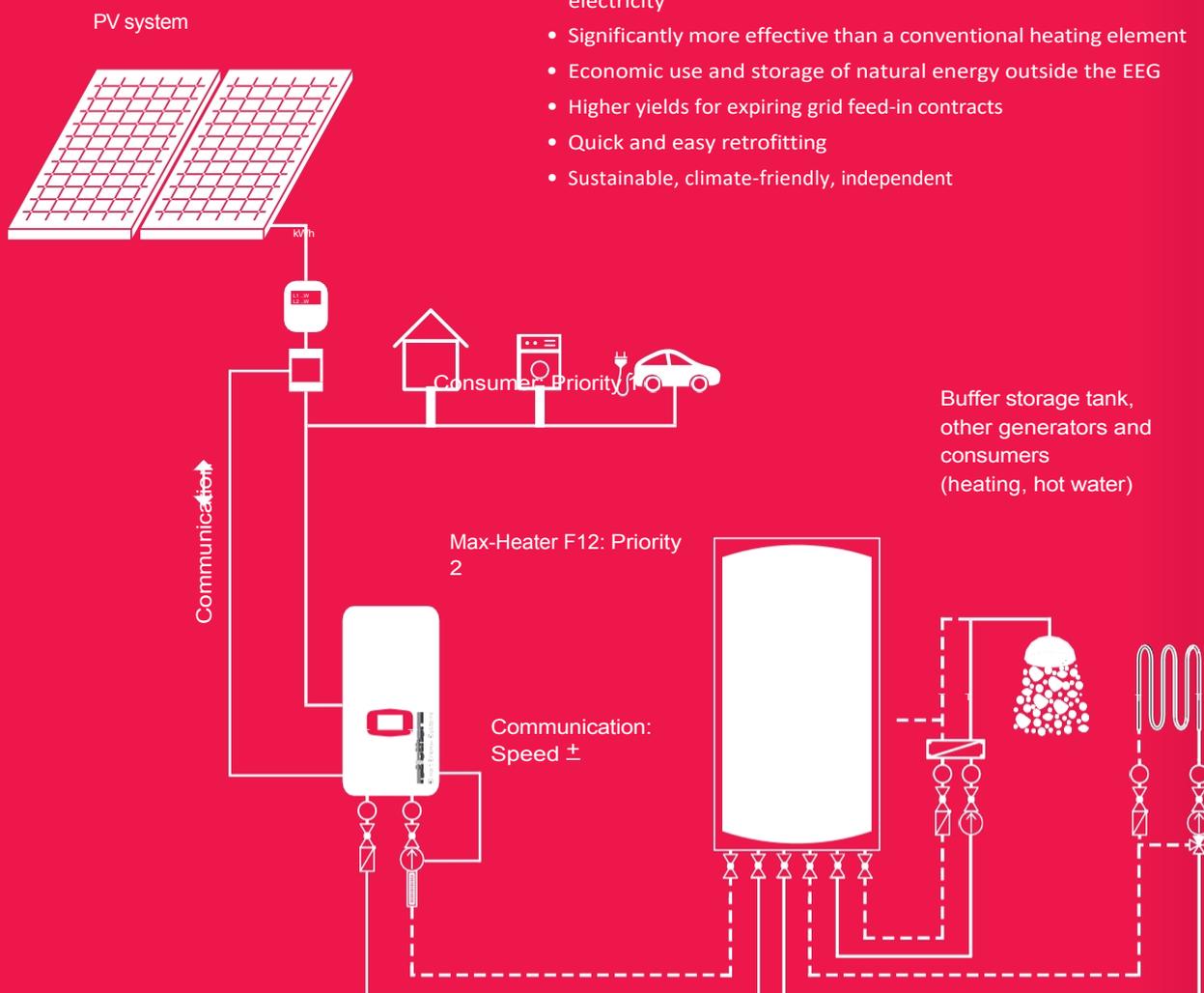
What to do with surplus photovoltaic electricity?

For operators of PV systems, for example, feeding electricity into the grid has been the main focus up to now for reasons of profitability. However, feed-in tariffs have now fallen well below the tariffs for purchased electricity. In addition, PV electricity has become significantly cheaper because the costs of the systems have fallen sharply. Storing the electricity generated in batteries is also still very expensive.

Regardless of what is decided in the future with regard to the Renewable Energy Sources Act (EEG), the continuously rising energy costs of oil and gas mean that generating heat from solar, wind or hydro power is now an economical solution. Make your own energy transition!

The advantages of the system

- Direct heating support and hot water production with surplus PV electricity
- Significantly more effective than a conventional heating element
- Economic use and storage of natural energy outside the EEG
- Higher yields for expiring grid feed-in contracts
- Quick and easy retrofitting
- Sustainable, climate-friendly, independent



Over three quarters of the energy consumed in private households is used for heating and hot water. This presents significant potential for savings. Surplus electricity, for example from a PV system, can be converted into hot water using Max-Heater F12, stored in a buffer tank and distributed to consumers as required.

How it works

The Max-Heater F12 device was specially developed for the use of surplus electricity from green energy systems, e.g. PV systems. The associated measuring device reliably records surplus electricity and determines the available energy in real time. This is forwarded to the continuously adjustable device (up to 12 kW), which heats the hydraulically integrated heat storage tank for later use in heating and domestic hot water. Max-Heater F12 varies the speed of the integrated pump depending on the amount of electricity available in order to always produce water at the flow temperature set by the user – comparable to a conventional heating system. This is also the biggest advantage over conventional heating rods, as only heat at the required temperature level is produced.

In this way, the surplus output of the PV system is converted into thermal energy and stored as renewable energy. Intelligent control increases the amount of renewable electricity consumed on site and reduces the costs of conventional generation.



Technical data

Max-Heater F12	12 kW	
Dimensions	1364 x 460 x 198	W x H x D (mm)
Empty weight	39 kg	kg
Capacity in litres	approx. 4	litres
Mass flow	0.1 – 5.0	m3/h
Connections	1" AG	
Maximum pressure	3 bar	bar
Power Three-phase current (400 V) max.	12,000 (3 x 25A, 4 mm2)	W

Possible implementation variants for Max-Heater F12

- Surplus electricity used for own consumption to generate hot water
- Use of surplus electricity from inverters capped by the electricity supplier (70% regulation)
- Combination of battery storage and Max-Heater F12
- Connection of additional consumers via radio-based applications possible
- Can also be used as a sole heat generator
- Further variations possible at any time; adaptation of Max-Heater F12 according to customer specifications by our programmers

Your advantages at a glance

For users

- The solution for the post-EEG remuneration era.
- Convert and store your own electricity from the PV system into heat at low cost.
- Optimisation of PV generation.
- Reduction in the use of fossil fuels.
- Full support for heating and domestic hot water preparation, even in existing buildings.
- Increase in the degree of self-sufficiency.
- The Max-Heater F12 emergency heater can also be used as a fully-fledged heating system.

For tradespeople and installation companies

- Easy integration into the customer's existing heating system.
- Existing buffer tanks do not need to be emptied for installation.
- Configuration and adjustment of the generation strategy possible on site, or the device can be delivered pre-configured.
- ratiotherm covers the entire portfolio of renewable heating technology.
- Convenient commissioning of the device by our service team on request.

For the environment and the energy transition

- CO₂reduction for progress in the heating transition.
- Active sector coupling of heat and electricity.
- Shifting generation peaks towards heat (Power-2-Heat).

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