

PV Heater

Paradigm change – Solar power for warm water



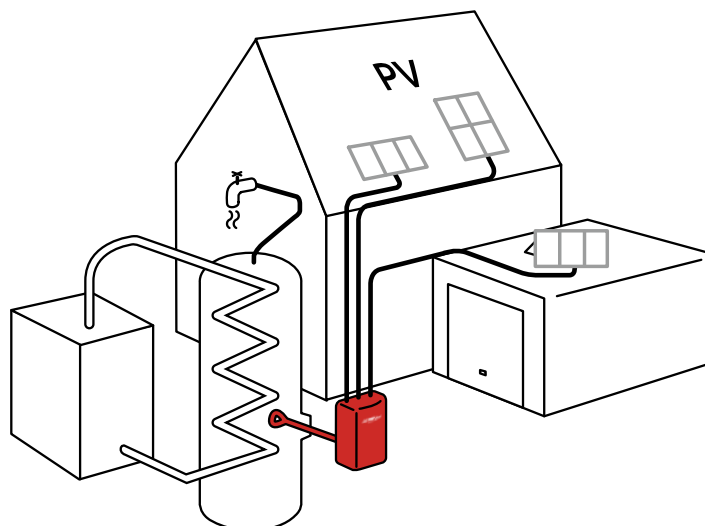
- Easy installation
- Flexible positioning of PV-modules
- Highest efficiency (99%)
- Monitoring available
- Reliable

We have developed the PV Heater for everyone who wants to generate efficient heat in their house with photovoltaics. The PV Heater is a new approach in heating technology: It utilizes power from photovoltaic modules in order to heat up tap water with a heating rod in the home hot water tank with.

The PV Heater can save up to **60 percent of heating energy for hot water generation**, with an efficiency of 99

percent. That means: Nearly all energy that the photovoltaic modules provided to the PV Heater flows in the form of heat in the heating circuit of your house.

The PV Heater can be integrated into existing heating systems. The tank only requires a free 1.5 inch connection. Elaborate heat exchangers and lines for transport media can be omitted.



TECHNICAL DATA	PV Heater
Item no.	401R1K5
ELECTRICAL DATA	
Recommended max. PV power, kWp	1.5 - 2.7
Heat output, W	1500
MPPT range, V	18 ... 42
DC start voltage, V	16
Max. DC voltage, V	50
Max. DC current, A	3 x 20 (oversizing up to 30A allowed)
Recommended module type	60, 66 or 72 cells, mono or poly
MPP tracker	3
Number of DC connections	3 x cage clamp 2.5 - 6 mm ²
Max. efficiency, %	> 99
European efficiency, %	> 99
Production, starting at, W	2
Internal consumption in night operation, W	0
AMBIENT CONDITIONS	
Cooling	Natural convection
Ambient temperature, °C	-25 ... +50, derating 4 %/K up to 70 °C
Site altitude, m above sea level	4000
Noise, dBA	< 35
STANDARDS AND APPROVALS	
Product standard	EN60730-1:2011, EN60730-2-11:2008
EMV	EN 61000-6-3, EN 61000-6-2
Internal overvoltage protection, type	Type 3 (according to EN 61643-1)
Protection class	III (according to IEC 62103), PELV
Overvoltage category	DC: II (according to IEC 60664-1)
Certificates	CE
OPERATION, COMMUNICATION	
Interfaces	6 status LED, Ethernet, 1x switching contact, (5A, 30VDC), 1 dig. input, 2 external PT1000 sensors
Monitoring	Integrated data logger, energy meter, REFUlog
Max. heating temperature (configurable), °C	up to 80
Safety limit, °C	85
HOUSING MECHANICAL DATA	
Type of protection	IP21 according to EN 60529
Dimensions Width/Height/Depth, mm	210 x 235 x 90
Weight, kg	1.7
HEATING ROD MECHANICAL DATA	
Heating rod material	high-grade nickel-iron-chromium alloy
Max. operating pressure, bar	10
Unheated area, mm	100
Dimensions Length/Diameter, mm	400 x 40
Connection thread	1 1/2"
Fitting length, mm	14
Use	Potable water, hot water
Weight, kg	1.0

Subject to modification. Technical specifications are subject to change without notice.

REFUso| GmbH | Uracher Straße 91 | 72555 Metzingen | Germany | Tel. +49 7123 969-0 | Fax +49 7123 969-165 | info@refusol.com