



Smart MPPT

MAXIMUM POWER POINT TRACKING

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Smart MPPT

Harness solar energy to lower the costs of heating domestic hot water. This solar controller is designed specifically for photovoltaic water heating through a resistive load. It is also compatible with the NZÚ and NZÚ Light programs.

The system includes:

- a controller optimized for maximum solar energy utilization
- a water heater equipped with heating elements for both photovoltaic and grid-based heating

Thanks to the unique design of the water heater, our system enables parallel heating of domestic hot water using both solar panels and the electrical grid. Instead of switching between energy sources, our system uses two galvanically isolated circuits, meaning it prioritizes solar energy usage, only drawing from the grid when sunlight is unavailable. This technology ensures efficient use of each energy source, maximizing the return on your investment, providing long-term energy savings, and increasing the overall economic benefit of the system.

Quick installation and maximum flexibility:

Only 4 to 6 photovoltaic panels with a maximum power output of 4000 Wp are required.

For the NZÚ Light program, an installation of 4 panels with a minimum output of 500 Wp per panel is sufficient.

The controller allows for convenient monitoring and adjustment of the system through a mobile application, enabled by an integrated Wi-Fi interface. Receive real-time updates on the system's status and automatic updates directly from the Cloud.



Smart MPPT Parameters:

- Heating of hot water from 4 photovoltaic panels
- Parallel operation of heating from PV panels and the electrical grid
- Remote controller management via Wi-Fi network and web application
- Graphical display showing information such as: panel output, water temperature, operating mode
- 3 integrated temperature sensors in the water heater for smart thermostat functions
- Support for island operation, heating from PV panels only
- Quiet operation with passive cooling
- High MPPT controller efficiency of over 99%
- Integrated electronic thermal fuse protects the water heater from overheating
- Overheat protection for the controller
- Anti-scald protection
- Relay contact for TUV heating signal
- Made in the Czech Republic

Technical Specifications of Smart MPPT:

- DC input voltage: 50 – 350 VDC
- AC input voltage: 230 VAC
- Maximum output power from panels: 3000 W
- Maximum installed solar panel power: 4000 Wp
- Maximum AC output power: 3000 W
- Maximum solar current: 16 A
- Operating voltage of MPPT regulation: 80 – 300 V
- MPPT efficiency: >99%
- PV panel connection: 2x MC4
- Regulated PV output: terminal block
- Grid connection: 230 VAC power cable
- AC output: terminal block
- Temperature sensor connection: RJ-45
- Protection rating: IP52
- Dimensions: 200x270x80 mm (HxWxD)
- Weight: 2 kg

Technical Specifications of Water Heater:

- Tank volume: 100 L / 120 L / 140 L
- AC heating element power: 2100 W / 230 VAC
- DC heating element power: 2100 W / 150 VDC
- Type of heating elements: dry
- Temperature sensors: 4x temperature sensor, RJ-45 connection
- Maximum working pressure: 0.6 MPa
- Maximum temperature: 80 °C



Water heating time from 10°C to 55°C at nominal power:

Volume [L]	PV Only	FV + 230V AC
120	3h 2min	1h 31min
140	3h 32min	1h 46min

6 Operating Modes:

- ECO** heating from PV panels only
- COMBI** combinete heating from PV panels and the electrical grid
- SMART** self-learning mode, uses weather forecasts *
- BOOST** one-time quick heating to the set temperature
- VACATION** vacation setting in the calendar – during this period, heating from PV panels only
- COMFORT** prepares hot water according to a set schedule, intelligently combining energy from PV panels and the electrical grid *

* available in 2025 updates