

PV-Therm

Connection of the Future

The WIOSUN PV-Therm module is a product of WIOSUN's internal research and development and has been awarded the „Bundespreis (German National Award) for excellent innovational achievements in trade.“

It successfully combines the benefits of a **thermal solar system** and a **photovoltaic system** which for a long time used to be separate systems. This combined module, with a surface temperature of up to 80° C, can be cooled down to a temperature below 20° C in a very short period of time using water at a temperature of 12°C. This equals an increase in efficiency of up to 30 percent.

Based on an average outdoor temperature of 25°C an **increase in output of up to 15 percent** per year can be achieved.

The benefits of combining thermal solar systems and photovoltaic systems include easy mounting, reduced space requirements and higher efficiency. The grants available for photovoltaic and thermal output can help to lower the purchase costs of such systems.

Benefits:

- Efficiency increase by up to 30%
- Output increase by up to 15%
- Heating of swimming pools
- In combination with a thermal heat pump:
 - Heat energy storage in the ground
 - Pre-heating of ground water
 - Heating of sole
- Hot water generation
- Supplementary heating
- Defrosting of snow and ice



Polyurethane frame

- 25 years manufacturer's guarantee for UV resistance

Fully-galvanised steel tub

- with KTL finish

PV + Thermie

- up to 185 Wp PV
- 550 W/m² collector output

Easy mounting

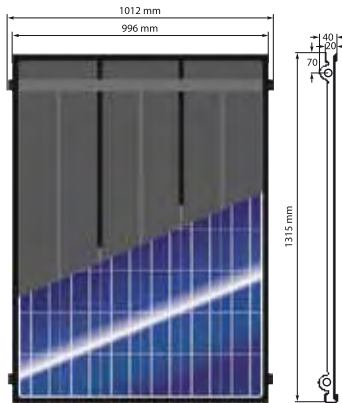
- via plug-in connectors

High static load bearing capacity

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Hybridmodul WIOSUN PV-Therm

Measured at Standard Test Conditions (STC): Irradiation 1000W/m², AM 1.5, Cell temperature 25 °C



Module Characteristics	
System Voltage max	1000 V
Capacity Tolerance	-0/+3 %
Size of Cells	156 x 156 mm
Number/Type/Size of Cells	48, polykristalline, 8 x 6
NOCT	48 °C ± 2 °C
Temperature Coefficient I _{sc}	+ 0.04 % / °C
Temperature Coefficient U _{oc}	- 0.35 % / °C
Temperature Coefficient P _{MPP}	- 0.5 % / °C
Overall Size L x W x H	1315 x 1012 (996) x 20 mm
Weight	37 kg
Glass thickness	3.2 mm
Maximum Surface Load Capacity	5400 Pa
Connecting System	MC4
Product warranty	2 Years
Performance guarantee, electric	90/80% - 10/25 Years
Safety Class	II
TÜV/Keymark/ANSI/UL	IEC 61215 / IEC 61730 / 1703 i.P.

Thermal Characteristics	
Absorber Surface Area	1.1 m ²
Connections	DN 18
Fluid Capacity	5 l
Operating Pressure	max 1.5 bar
Test Pressure	max 3.0 bar
Flow rate	30 - 100 l/h and Module
Delta T	approx. 5K at STB
Operating Temperature	approx. 10 °C - 60 °C
Stagnation Temperature	approx. 70 °C
Thermal efficiency eta 0	approx. 55%
Collector yield	approx. 550 W/m ²

			PVT170P	PVT175P	PVT180P	PVT185P
Capacity Rating - 0 / + 3 %	P _{max} (STC)	Wp	170	175	180	185
Rated Voltage	U _{MPP}	V	23.3	23.6	23.8	24.0
Rated Current	I _{MPP}	A	7.30	7.42	7.56	7.71
Short Circuit Current	I _{sc}	A	8.05	8.21	8.32	8.49
Open Circuit Voltage	U _{oc}	V	27.98	28.32	28.56	28.8
Cell efficiency		%	14.55	15.00	15.41	15.83
Module efficiency		%	12.97	13.35	13.73	14.11



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