DUOSOLIS

More efficient together

# HYBRID TECHNOLOGY

## DUOSOLIS 1940W

More efficient together: one solar module, two technologies, photovoltaic and thermal. 850 W of power per square metre and up to 1940 W per module.

## TECHNOLOGY

Our DuoSolis hybrid solar module uses a microchannel aluminium serpentine heat absorber and a photovoltaic laminate enclosed in a low-emissivity insulating glass unit. Solar energy is thus converted into electricity and heat (solar cogeneration), with an average efficiency exceeding 70% of total incident solar energy.

## THERMAL RECOVERY

The principle is simple: solar energy not converted into electricity is recovered by the heat absorber to warm the heat-transfer fluid circulating through the module. Special rear insulation prevents thermal losses to the environment.

## OVERALL EFFICIENCY

DuoSolis maximizes the use of solar energy: a single panel and integrated system simultaneously generate electricity and heat, covering a large share of a building's energy needs. Lower photovoltaic cell operating temperatures also increase electricity generation throughout the year.

## IMPROVED HEAT PUMP PERFORMANCE

DuoSolis can also serve as a large external heat source for a heat pump, improving its seasonal performance (SCOP). It can also recharge deep geothermal probes or compact shallow-ground collectors.



**SYNTROPIA SRL**

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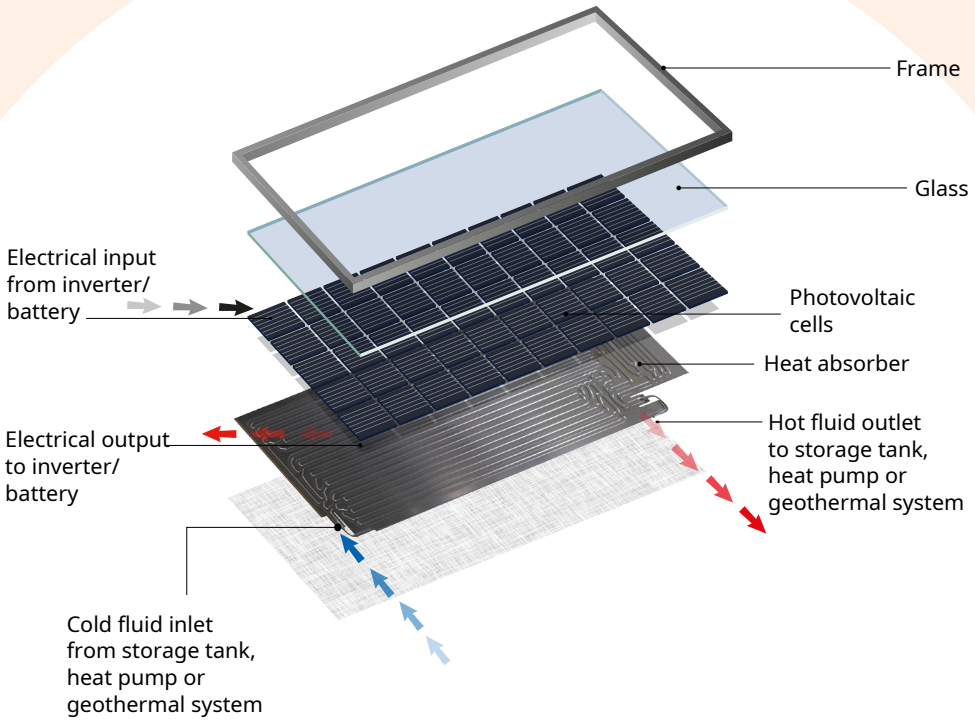
## DUOSOLIS FUNCTIONAL OVERVIEW




## THERMAL PERFORMANCE PARAMETERS

**According to UNI EN 12975**

| | | | |
|---|---|---|---|
| Optical efficiency | 60 % | Collector volume | 1,3 L |
| Coefficient A1 | 6 W/m²K | Module weight | 45 Kg |
| Stagnation temperature | 90°C | Collector area | 2,33 m² |
| Nominal flow rate | 120 L / H | Pipe connection diameter | 1/2" F |
| Pressure drop (100 L/h) | 80 mBAR | Rated thermal output | 1400 W |

## ELECTRICAL PERFORMANCE PARAMETERS

**Measured under standard test conditions (STC) I=1000 W/m² • AM=1.5 • Tcell=25°C**

| | | | |
|---|---|---|---|
| Pmax – Rated power | 535 WP | Impp – Current at Pmax | 13,78 A |
| Voc – Open-circuit voltage | 45,91 V | Module efficiency – Overall module efficiency | 22,82 % |
| Vmpp – Voltage at Pmax | 38,3 V | Pmax coefficient – Pmax temperature coefficient | -0,29 % / K |
| Isc – Short-circuit current | 14,6 A | Voc coefficient – Voc temperature coefficient | -0,25 % / K |

## MODULE DIMENSIONS

**1.13 × 2.06 × 0.05 m**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