

SMARWTIRE (SWCT)
Monocrystalline
280/285 W



SW PREMIUM PLUS



Highest guarantee

- Only **0.5%** of annual degradation
- **12-years** product warranty
- **30 years** of linear performance guarantee. At least **80 %** output after **30 years**



High Quality Materials

- Full tempered, AR coated, impact resistant, industry leading over 94% transmittance German glass
- ENCAPSULANT: thermoplastic polyolefin (TPO) is a water repellent material that significantly reduces the effects of module corrosion



High standard production line

- Fully automated line with set of high standard tests
- Hanplast manufacture powerful, efficient, and safe **SOLAR MODULES**, utilizing the latest technology from Switzerland in combination with the high standards of over **26 years** of manufacturing experience



SMARTWIRE Connection Technology (SWCT)

- SmartWire Connection Technology (SWCT) is a revolutionary low temperature (max 150 C) cell connection process for solar module manufacturing.
- Innovative and patented Foil-Wire Electrode Concept (Dense matrix) proven hotspot guarantee



Nature Friendly

- **PB** and **FREONS LEAD-FREE**
- Solar cells connected with **SWCT** can achieve a reduction up to **80% of silver consumption** in cell production



Durability

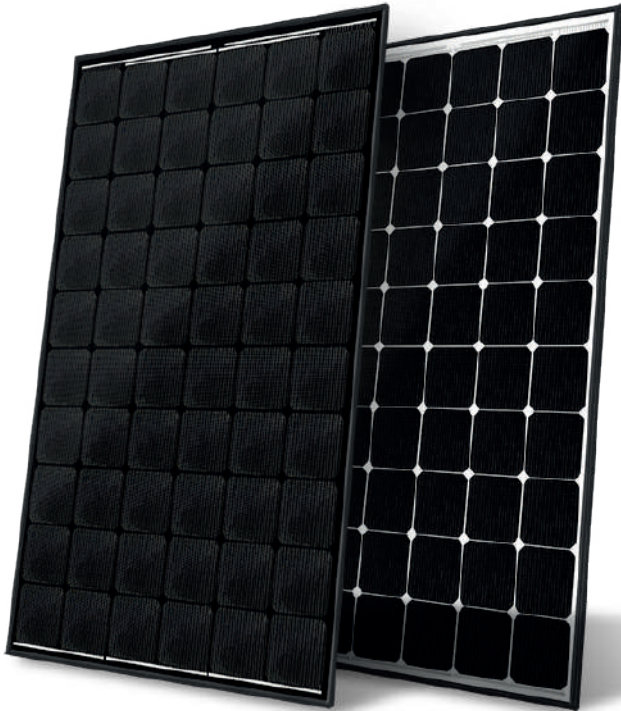
- SWCT reduces the impact of cell breakage by increasing the number of current collection pathways
- **Increased fire protection** due to SmartWire density connection

SW PREMIUM PLUS 280/285

280W		
Maximum Power	P _{max}	280 [W]
Maximum Power Point Voltage	V _{mpp}	31,6 [V]
Maximum Power Point Current	I _{mpp}	8,9 [A]
Open Circuit Voltage	V _{oc}	39,4 [V]
Short Circuit Current	I _{sc}	9,4 [A]
Module Efficiency		16,7 [%]
Fill Factor		76 [%]
Power tolerance		-0/+5W

285W		
Maximum Power	P _{max}	285 [W]
Maximum Power Point Voltage	V _{mpp}	31,8 [V]
Maximum Power Point Current	I _{mpp}	9,0 [A]
Open Circuit Voltage	V _{oc}	39,5 [V]
Short Circuit Current	I _{sc}	9,4 [A]
Module Efficiency		17 [%]
Fill Factor		76 [%]
Power tolerance		-0/+5W

Performance based on Standard Test Conditions (STC): 1000 W/m², 25 °C, AM 1.5



MECHANICAL SPECIFICATION

Dimensions [mm]	1672x1002x42mm
Glass Thickness	3,2 mm tempered solar glass with ARC surface
Weight approx.	19 kg
Module structure	glass / TPO/ cells / TPO / backsheet
Cell type	Monocrystalline
Cell connection	SmartWire Connection Technology (SWCT)
Cells amount	60

ELECTRICAL SPECIFICATION

The electrical characteristics are within +/- 3% of the indicated values P_{max}, V_{oc}, I_{sc}, under Standard Test Conditions (1000 W/m², 25 °C, AM 1.5 according to EN 60904-3)

(Electrical) junction box	Tyco with 3 bypass diodes
Maximum System Voltage	1000 V
Maximum series configuration	22
Reverse current overload	20A
Diameter of electric cables	4mm ²

TEMPERATURE COEFFICIENT

α (I _{sc})	+0.050 %/K (+/-0.002)
β (U _{oc})	-0.287 %/K (+/-0.003)
γ (P _{mpp})	-0.371 %/K (+/-0.005)

Each module has accurate information on its actual output power placed on the module label **(P_{Act})**

SAFETY

Module Fire Performance: _____ Type 4
Application Class _____ A

The fire rating of this module is valid only when mounted in the manner specified in the mechanical mounting instructions.

LOAD

Pressure load (snow) : _____ 5400 N/m²
Suction load (wind) : _____ 2400 N/m²

LOGISTICS

Packing - Cartoon Box

Modules per cartoon box _____ 25
Modules per container(40ft HC) _____ 700

Packing - EckPack

Modules per EckPack _____ 30
Modules per container (40ft) / fully loaded truck _____ 450

Stacking Factor:

Static* _____ 1+1
Dynamic* _____ 1+1

*Need to use wooden separator

Stacking Factor:

Static _____ 1+1
Dynamic _____ 1+0

