

PowerMax[®] STRONG

Advanced solar power for high performance and superior aesthetics

Thin Film CIS Technology

Manufactured in Avancis plants, Saint-Gobain Group factories.

Saint-Gobain Solar is present at all stages of the photovoltaic (PV) industry, and it designs, manufactures and markets a range of innovative and effective solar PV solutions. It is a wholly owned operating division of the Saint-Gobain Group (established 1665 with turnover of 42bn euro across 64 countries).

- Module efficiency: up to 12,8%
- Nominal power: from 115 to 140 Wp
- Positive power tolerance: -0/+5 W
- High snow load: 551 kg/m² (5400 Pa).



Advantages

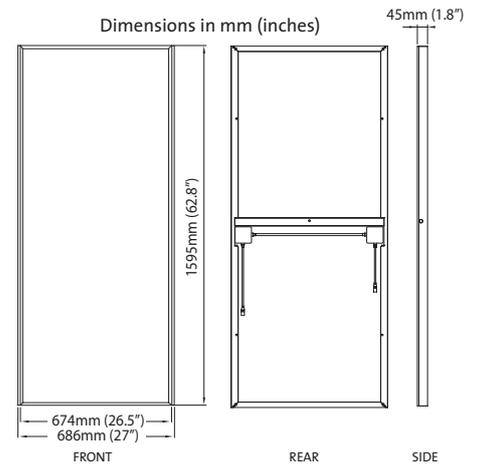
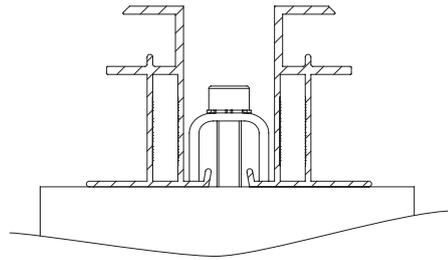
- **Highest yields**
 - NOCT of 40°C
 - Optimal behaviour in partial shadowing
 - Higher performance in high temperatures and at low light conditions
 - Broader spectral response enables higher electricity generation
- **Unique aesthetics/Simple installation**
 - Black appearance
 - Mounting via lips integrated in the frame for a homogenous and aesthetically innovative installation
 - Four M6 holes for back side mounting
 - Water drainage thanks to specific holes
- **Extreme durability**
 - Saint-Gobain high transmission solar glass
 - Glass mounted with a highly elastic polymer glue: not exposed to any mechanical point loads
 - Aluminium hollow chamber profile mounting frame resistant to torsion and corrosion
 - A butyl seal protects the cells against moisture

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Mechanical characteristics			Thermal characteristics		
Module dimensions	mm ²	674 x 1595	Operating temperatures	°C	from -40 to +80
Module thickness	mm	45	NOCT	°C	40
Module weight	kg	19,6	Temperature coefficient - P _{nom}	%/°C	-0,39
Junction box protection class		IP65	Temperature coefficient - V _{oc}	mV/°C	-170
Power supply cables	mm ²	2,5	Temperature coefficient - I _{sc}	mA/°C	0,1
Connectors		TPCB-4	Temperature coefficient - V _{mp}	mV/°C	-140

Cross section through frames, mounting structure and clamp



Safety, installation and operation

For more information about handling, installation and operation of PowerMax[®] modules, refer to the installation, operating and safety manual for AVANCIS PowerMax[®] photovoltaic modules.

Electrical characteristics

Data measured under STC*

*STC = Standard Test Conditions: irradiance 1000 W/m², cell temperature 25°C, AM 1,5

	W	115	120	125	130	135	140
Nominal power - P _{nom}	W	115	120	125	130	135	140
Tolerance of nominal power	%	- 0/+ 5	- 0/+ 5	- 0/+ 4	- 0/+ 4	- 0/+ 4	- 0/+ 4
Module efficiency - η	%	10,5	11,0	11,4	11,9	12,3	12,8
Voltage at maximum power - V _{mp}	V	41,7	42,8	43,8	44,9	45,9	47,0
Current at maximum power - I _{mp}	A	2,77	2,81	2,85	2,90	2,94	2,98
Open-circuit voltage - V _{oc}	V	57,5	58,3	59,1	59,9	60,7	61,5
Short-circuit current - I _{sc}	A	3,19	3,22	3,24	3,26	3,29	3,31

Data measured at NOCT* and AM 1,5

*NOCT = Nominal Operating Cell Temperature: module operating temperature at 800 W/m² irradiance, air temperature 20°C (68°F), wind speed 1 m/s and open-circuit condition

	W	85,8	89,5	93,2	96,9	100,7	104,4
Nominal power	W	85,8	89,5	93,2	96,9	100,7	104,4
Voltage at maximum power	V	38,8	39,9	40,9	41,9	42,9	44,0
Open circuit voltage	V	53,9	54,6	55,4	56,2	57,0	57,8
Short circuit current	A	2,57	2,57	2,57	2,57	2,57	2,57

Warranties

- Product warranty: 10 years
- Nominal power warranty:
 - 90% nominal power output over 10 years
 - 80% nominal power output over 20 years

Protection characteristics

Acceptance reverse current	A	5,0
Maximum system voltage (IEC)	V	1000
Maximum system voltage (UL)	V	600

Certifications

- ▶ IEC 61646, IEC 61730
- ▶ Ammonia and Salt Water (IEC 61701) tested
- ▶ MCS and KITE
- ▶ ISO certification 9001:2008, OHSAS 18001, ISO 14001:2009
- ▶ Factory Inspection made in Europe
- ▶ UL 1703

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