



VIOLIN™

Crystalline PV Module ASM6610M Series

- ▶ With innovational 4-busbar cells
- ▶ Reducing cell series resistance
- ▶ Increasing cell efficiency
- ▶ More power output

275 280 285 290 295 300

EN

ELECTRICAL SPECIFICATIONS ¹

STC ² rated output (P _{max})	275 Wp	280 Wp	285 Wp	290 Wp	295 Wp	300 Wp
Standard sorted output	-0/+3%					
Warranted power output STC (P _{nominal})	275Wp	280 Wp	285 Wp	290Wp	295 Wp	300 Wp
Rated voltage (V _{mpp}) at STC	31.45 V	31.55 V	31.65 V	31.75 V	31.85 V	31.95 V
Rated current (I _{mp}) at STC	8.86 A	8.98 A	9.09 A	9.21 A	9.32 A	9.44 A
Open circuit voltage (V _{oc}) at STC	38.05 V	38.15 V	38.25 V	38.35 V	38.45 V	38.55 V
Short circuit current (I _{sc}) at STC	9.40 A	9.50 A	9.60 A	9.70 A	9.80 A	9.90 A
Module efficiency	16.81%	17.12%	17.42%	17.73%	18.03%	18.34%
Rated output (P _{mpp}) at NOCT ³	205.6 Wp	208.9 Wp	212.2 Wp	215.6 Wp	219.0 Wp	222.4 Wp
Rated voltage (V _{mpp}) at NOCT	28.93 V	29.02 V	29.11 V	29.20 V	29.30 V	29.39 V
Rated current (I _{mp}) at NOCT	7.11 A	7.20 A	7.29 A	7.38 A	7.47 A	7.57 A
Open circuit voltage (V _{oc}) at NOCT	35.17 V	35.26 V	35.35 V	35.44 V	35.54 V	35.63 V
Short circuit current (I _{sc}) at NOCT	7.60 A	7.68 A	7.76 A	7.84 A	7.92 A	8.00 A

Temperature coefficient (P _{mpp})	- 0.42 % / K	Maximum system voltage	1000 V _{dc}
Temperature coefficient (I _{sc})	+0.059 % / K	Number of diodes	3
Temperature coefficient (V _{oc})	- 0.32 % / K	Reverse current loadability (IR)	20 A
Normal operating cell temperature (NOCT)	46 °C ±2 °C	Maximum series fuse rating	15 A

¹ Measuring uncertainty P_{mpp}: +/-3 %; Tolerance for V_{oc}, I_{sc}, V_{mpp} and I_{mp}: +/-10 %

² Standard test conditions that are defined as follows:
1.000 W/m² irradiation at a spectral density of AM 1.5 and a cell temperature of 25° C,

³ Nominal operating temperature of the cell at 800 W/m² irradiation, 20°C ambient temperature, wind speed of 1 m/s

⁴ Manufactured in an ISO9001/14001 certified facility



RELATED PARAMETERS

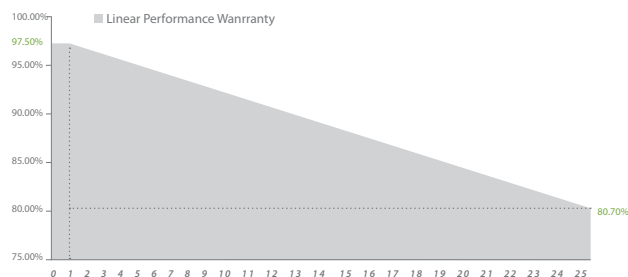
Cell type	Monocrystalline cell, 4-busbar technology
Number of cells / cell arrangement	60 / 6 x 10
Cells dimension	157 x 157 mm ²

MECHANICAL SPECIFICATIONS

Outer dimensions (L x W x H) ⁵	1654 x 989 x 40 mm
Frame technology	Aluminum, silver anodized
Module composition	Glass / EVA / Backsheet (white)
Weight (module only)	18.2 kg
Front glass thickness	3.2 mm
Junction box IP rating	IP 67
Cable length	1000 mm
Cable diameter	4 mm ²
Maximum load capacity ⁶	6000 Pa
Fire class (IEC 61730)	C
Connector type	MC4 pluggable

QUALIFICATION AND LINEAR WARRANTIES

Product standard	IEC 61215 Ed. 2, IEC 61730
Extended product warranty ⁷	12 years
Performance warranty ⁷	Linear performance warranty
Year 1	>97.5% of warranted output power
Year 25	>80.7% of warranted output power



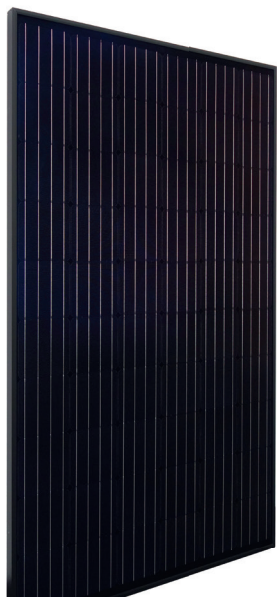
MODULE DIMENSION DETAILS

Front view	Side view	Rear view	Frame cross section
		<p>○ No mounting holes on the frame.</p>	

⁵ Dimensional tolerance: +/-2 mm

⁶ In accordance with IEC 61215 Ed. 2

⁷ According to the current warranty conditions of Astronergy Solarmodule GmbH



VIOLINTM

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270 275 280 285 290 295

EN

ELECTRICAL SPECIFICATIONS ¹

STC ² rated output (P _{max})	270 Wp	275 Wp	280 Wp	285 Wp	290 Wp	295 Wp
Standard sorted output	-0/+3%					
Warranted power output STC (P _{nominal})	270 Wp	275 Wp	280 Wp	285 Wp	290 Wp	295 Wp
Rated voltage (V _{mpp}) at STC	31.35 V	31.45 V	31.55 V	31.65 V	31.75 V	31.85 V
Rated current (I _{mp}) at STC	8.75 A	8.86 A	8.98 A	9.09 A	9.21 A	9.32 A
Open circuit voltage (V _{oc}) at STC	37.95 V	38.05 V	38.15 V	38.25 V	38.35 V	38.45 V
Short circuit current (I _{sc}) at STC	9.18 A	9.28 A	9.38 A	9.48 A	9.58 A	9.68 A
Module efficiency	16.51%	16.81%	17.12%	17.42%	17.73%	18.03%
Rated output (P _{mp}) at NOCT ³	201.1 Wp	204.4 Wp	207.7 Wp	211.0 Wp	214.4 Wp	217.7 Wp
Rated voltage (V _{mpp}) at NOCT	28.64 V	28.73 V	28.82 V	28.91 V	29.00 V	29.09 V
Rated current (I _{mp}) at NOCT	7.02 A	7.11 A	7.21 A	7.30 A	7.39 A	7.48 A
Open circuit voltage (V _{oc}) at NOCT	34.83 V	34.93 V	35.02 V	35.11 V	35.20 V	35.29 V
Short circuit current (I _{sc}) at NOCT	7.43 A	7.51 A	7.59 A	7.67 A	7.75 A	7.83 A

Temperature coefficient (P _{mp})	- 0.42 % / K	Maximum system voltage	1000 V _{dc}
Temperature coefficient (I _{sc})	+0.059 % / K	Number of diodes	3
Temperature coefficient (V _{oc})	- 0.32 % / K	Reverse current loadability (IR)	20 A
Normal operating cell temperature (NOCT)	48 °C ± 2 °C	Maximum series fuse rating	15 A

¹ Measuring uncertainty P_{mp}: +/- 3 %; Tolerance for V_{oc}, I_{sc}, V_{mpp} and I_{mp}: +/- 10 %

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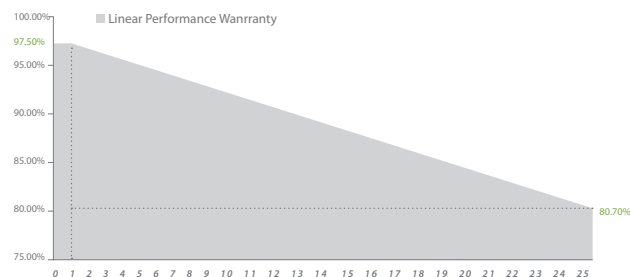
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