

# PENTA

## Monocrystalline solar module

### ASM6610M Series

- ▶ With innovative 5-busbar mono cell
- ▶ Improved reliability
- ▶ Increased efficiency through reduced series resistance
- ▶ High module efficiency for optimal roof utilisation

275 280 285 290 EN

#### ELECTRICAL SPECIFICATIONS <sup>1</sup>

	275 Wp	280 Wp	285 Wp	290 Wp
STC <sup>2</sup> rated output (P <sub>mpp</sub> )*	275 Wp	280 Wp	285 Wp	290 Wp
Standard sorted output	-0/+3%			
Warranted power output STC (P <sub>nominal</sub> )	275 Wp	280 Wp	285 Wp	290 Wp
Rated voltage (V <sub>mpp</sub> ) at STC	31.07 V	31.25 V	31.42 V	31.60 V
Rated current (I <sub>mpp</sub> ) at STC	8.93 A	9.04 A	9.15 A	9.26 A
Open circuit voltage (V <sub>oc</sub> ) at STC	38.08 V	38.26 V	38.44 V	38.63 V
Short circuit current (I <sub>sc</sub> ) at STC	9.44 A	9.55 A	9.66 A	9.77 A
Module efficiency	16.81%	17.12%	17.42%	17.73%
Rated output (P <sub>mpp</sub> ) at NOCT <sup>3</sup>	204.7 Wp	208.3 Wp	212.0 Wp	215.7 Wp
Rated voltage (V <sub>mpp</sub> ) at NOCT	28.58 V	28.74 V	28.90 V	29.06 V
Rated current (I <sub>mpp</sub> ) at NOCT	7.16 A	7.25 A	7.33 A	7.42 A
Open circuit voltage (V <sub>oc</sub> ) at NOCT	35.20 V	35.36 V	35.53 V	35.70 V
Short circuit current (I <sub>sc</sub> ) at NOCT	7.63 A	7.72 A	7.81 A	7.90 A

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

<sup>1</sup> Measuring uncertainty P<sub>mpp</sub>: +/- 3 %; Tolerance for V<sub>oc</sub>, I<sub>sc</sub>, V<sub>mpp</sub> and I<sub>mpp</sub>: +/- 10 %

<sup>2</sup> Standard test conditions that are defined as follows:

1.000 W/m<sup>2</sup> irradiation at a spectral density of AM 1.5 and a cell temperature of 25 °C,

<sup>3</sup> Nominal operating temperature of the cell at 800 W/m<sup>2</sup> irradiation, 20 °C ambient temperature, wind speed of 1 m/s

<sup>4</sup> Manufactured in an ISO 9001/14001/50001 certified facility



## RELATED PARAMETERS

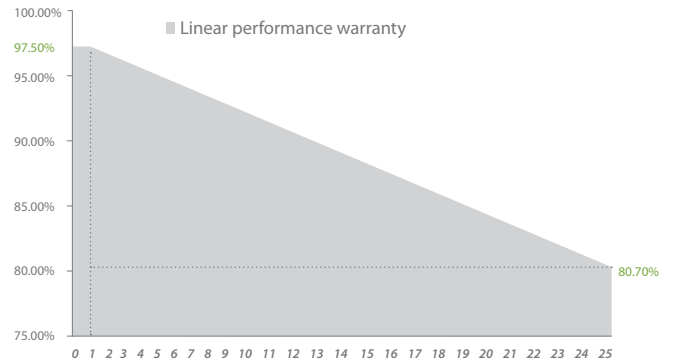
Cell type	Monocrystalline cell, 5-busbar technology
Number of cells / cell arrangement	60 / 6 x 10
Cells dimension	157 x 157 mm <sup>2</sup>

## MECHANICAL SPECIFICATIONS

Outer dimensions (L x W x H) <sup>5</sup>	1654 x 989 x 40 mm
Frame technology	Aluminum, silver anodized
Module composition	Glass / EVA / Backsheet (white)
Weight	18.2 kg
Front glass thickness	3.2 mm
Junction box IP rating	IP 67
Cable length	1000 mm (incl. connector)
Cable core diameter	4 mm <sup>2</sup>
Maximum load capacity <sup>6</sup>	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 <sup>7</sup>	12 years
Performance warranty <sup>7</sup>	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>Frame without mounting wholes</p>	

<sup>5</sup> Dimensional tolerance: +/-2 mm

<sup>6</sup> In accordance with IEC 61215 Ed. 2

<sup>7</sup> According to the current warranty conditions of Astronergy Solarmodule GmbH