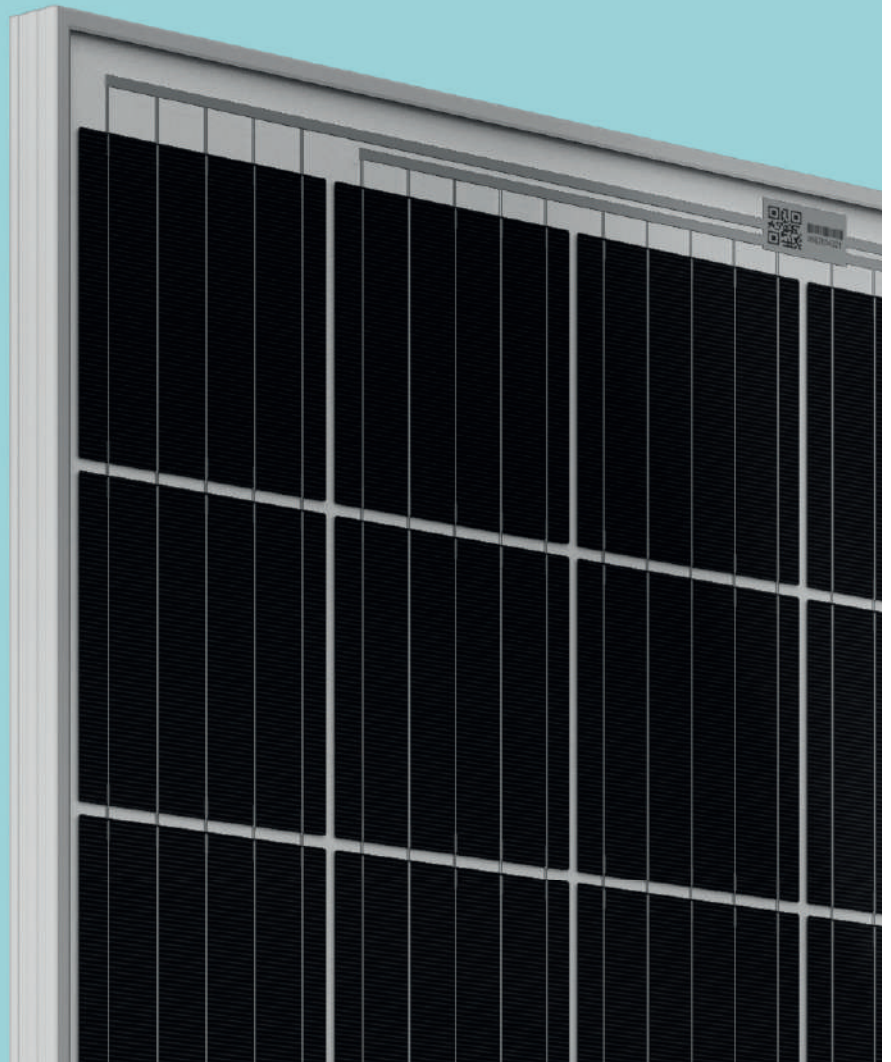


P23

320 - 325 W



 Made in
GERMANY



GERMAN ENGINEERING AND MANUFACTURING

Incorporated in 2001, aleo is recognized as one of the most trustworthy manufacturers of solar panels. We produce all our products in our certified production plant in Prenzlau, Germany.

POWERFUL AND RELIABLE. FOR YEARS.

-  25 Years linear Performance Guarantee
-  12 Years Product Guarantee upgradeable to 25 Years as a premium option

OUR QUALITY IS CERTIFIED

This module is certified according to the latest international standards: **IEC 61215:2016** and **IEC 61730:2016**.

Additionally, this module obtained the following certificates:

- + Snail Trail Free
- + Salt mist corrosion resistance
- + Ammonia corrosion resistance
- + Hail Resistant Class 4
- + PID free



aleo solar module P23

ELECTRICAL DATA (STC)		P23L320	P23L325	BASIC MODULE DATA	
Rated power	P_{MPP} [W]	320	325	Length x width x height	[mm] 1716 x 1023 x 35
Rated voltage	V_{MPP} [V]	32.6	32.8	Weight	[kg] 19.3
Rated current	I_{MPP} [A]	9.81	9.90	Number of cells	60
Open-circuit voltage	V_{OC} [V]	40.3	40.5	Cell size	[mm] 158.75 x 158.75
Short-circuit current	I_{SC} [A]	10.32	10.40	Cell material	Monocrystalline Si, PERC
Efficiency	η [%]	18.2	18.5	Number of bus bars	5

Electrical values measured under standard test conditions (STC): 1000 W/m²; 25°C; AM 1.5

ELECTRICAL DATA (NMOT)		P23L320	P23L325
Power	P_{MPP} [W]	236	240
Voltage	V_{MPP} [V]	30.2	30.4
Current	I_{MPP} [A]	7.82	7.90
Open-circuit voltage	V_{OC} [V]	37.7	37.9
Short-circuit current	I_{SC} [A]	8.31	8.38
Efficiency	η [%]	16.8	17.1

Electrical values measured under nominal module operating temperature: 800 W/m²; 20°C; AM 1.5; wind 1 m/s; Module temperature NMOT : 44.5°C

ELECTRICAL DATA (LOW IRRADIANCE)		P23L320	P23L325
Power	P_{MPP} [W]	62	63

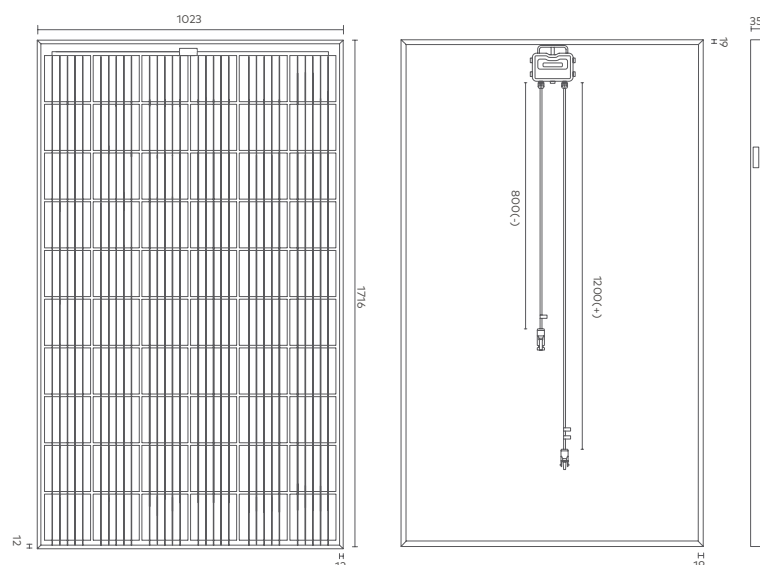
Electrical values measured under: 200 W/m²; 25°C; AM 1.5

TEMPERATURE COEFFICIENTS			
Temperature coefficient I_{SC}	$\alpha (I_{SC})$	[%/K]	+0.05
Temperature coefficient V_{OC}	$\beta (V_{OC})$	[%/K]	-0.29
Temperature coefficient P_{MPP}	$\gamma (P_{MPP})$	[%/K]	-0.40

BASIC DATA JUNCTION BOX			
Length x width x height	[mm]	148 x 123 x 27	
IP class		IP67	
Cable length	[mm]	1200 (+), 800 (-)	
Connectors		Genuine MC4	
Bypass diodes		3	

CLASSIFICATION		P23L320	P23L325
Classification range (positive classification)	[W]	0/+4.99	0/+4.99

DIMENSIONS [mm]



Front sheet	3.2 mm Solar glass (TSG)
Back sheet	Polymer sheet, white
Frame material	Al alloy, silver

CERTIFICATIONS AND GUARANTEES

Product Guarantee	12 years, optional 25 years
Power Guarantee	25 years – Linear
Fire Resistance	Class C
Protection Against Electric Shock	II
Certifications	IEC 61215, IEC 61730
	IEC 62716 – Ammonia Resistance
	IEC 61701 – Salt mist Resistance
	IEC 62804 – PID Resistance

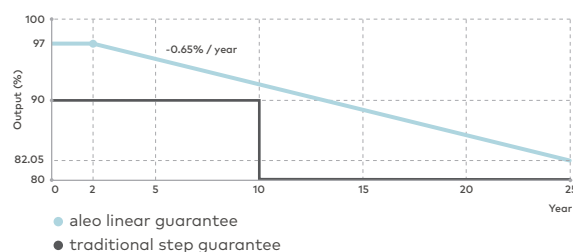
LOADS

Max. module pressure load (Testload)	[Pa]	5400 ¹
Max. module pressure load (Designload) ²	[Pa]	3600 ¹
Max. module suction load (Testload)	[Pa]	2400 ¹
Max. module suction load (Designload) ²	[Pa]	1600 ¹
Max. system voltage	[V _{DC}]	1000
Reverse current load	I_R [A]	20

Mechanical load acc. to IEC/EN 61215:2016
¹ Please observe the mounting conditions in the installation manual
² Testload/ Safety factor 1.5 = Designload

Measurement tolerance of P_{MPP} under STC -3/+3% |
 Accuracy of other electrical values -10/+10%
 Efficiency relating to gross module area

PERFORMANCE GUARANTEE



PLEASE CONTACT YOUR AUTHORISED ALEO DEALER



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