

Power classes
235 | 240 W

ÖKO-TEST
LIFE WORTH LIVING

Photovoltaic modules
aleo S_18

very good

Issue 04/2010

Good Reasons

- 10-year product guarantee
- 25-year power guarantee
- Positive power classification
- Best components according to German quality standards
- Professional customer service
- Certified according to IEC/EN 61215 (ed. 2)
- Certified according to IEC/EN 61730, protection class II
- German consumer report magazine Öko-Test: “very good“



aleo

Electrical data (STC)			S 18.235	S 18.240
Rated power	P_{MPP}	[W]	235	240
Rated voltage	U_{MPP}	[V]	29.3	29.5
Rated current	I_{MPP}	[A]	8.01	8.13
Open-circuit voltage	U_{OC}	[V]	36.8	37.0
Short-circuit current	I_{SC}	[A]	8.54	8.65
Efficiency	η	[%]	14.3	14.6
Area-to-power ratio	A_p	[m ² /kW _p]	6.99	6.85

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

Electrical data (NOCT)			S 18.235	S 18.240
Power	P_{MPP}	[W]	169	173
Voltage	U_{MPP}	[V]	27.9	28.3
Current	I_{MPP}	[A]	6.05	6.11
Open-circuit voltage	U_{OC}	[V]	33.8	34.0
Short-circuit current	I_{SC}	[A]	6.67	6.72
Efficiency	η	[%]	12.8	13.1

Electrical values measured under nominal operating conditions of cells: 800 W/m²; 20°C; AM 1.5; wind speed 1 m/s

NOCT: 48°C (nominal operating cell temperature)

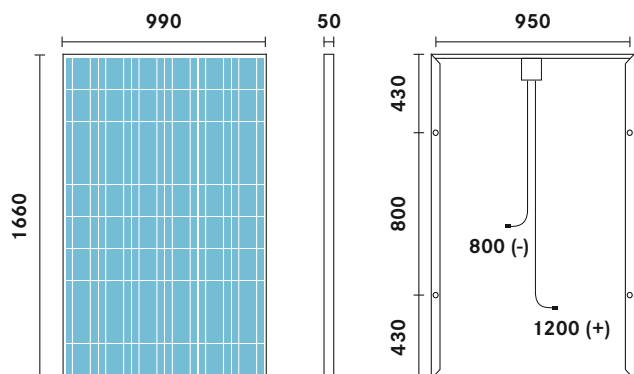
Additional electrical data		
Reduction of STC efficiency from 1000 W/m ² to 200 W/m ²	[%]	< 6
Classification range (positive classification)	[W]	-0/+4.99
Measurement accuracy of P_{MPP} under STC	[%]	-3/+3
Accuracy of other electrical values	[%]	-10/+10

Loads		
Mechanical load	[Pa]	5400
Maximum system voltage	[V _{DC}]	1000
Reverse current load	I_R [A]	15

Mechanical load acc. to IEC/EN 61215

Temperature coefficients		
1 st temperature coefficient	$\alpha (I_{SC})$ [%/K]	+0.04
2 nd temperature coefficient	$\beta (U_{OC})$ [%/K]	-0.34
3 rd temperature coefficient	$\gamma (P_{MPP})$ [%/K]	-0.46

Dimensions [mm]



Address
aleo solar AG
Gewerbegebiet Nord
Krummer Weg 1
17291 Prenzlau
Germany

Contact details
aleo solar
Osterstrasse 15
26122 Oldenburg
Germany
T +49 (0) 441 219 88-0
info@aleo-solar.com
www.aleo-solar.com

Efficiency relating to gross module area

Basic data		
Length x width x height	[mm ³]	1660 x 990 x 50
Weight	[kg]	21
Number of cells		60
Cell size	[mm ²]	156 x 156
Cell material		Polycrystalline Si
Front sheet		Solar glass (TSG)
Back sheet		Polymer
Frame material		Al alloy
Cable length	[mm]	1200 (+), 800 (-)
Connectors		MC3 class
IP class		IP65
Bypass diodes		3

Detailed information regarding our product and power guarantees can be requested from us at any time. It is also available online at www.aleo-solar.com.

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Please contact your authorised aleo dealer