



## Strong performance

Due to the unique combination of components, the high-efficiency modules from aleo solar are particularly powerful. With the high efficiency, the aleo S19 offers maximum performance compared to the small overall area required. This also means: less effort and less material for installation. This increase in efficiency and the long-term high energy yields of aleo S19 ensure efficient operation of your photovoltaic system. The quality of aleo modules is continuously tested and confirmed by independent institutes. aleo modules are sorted with a positive power classification. The performance is guaranteed by aleo solar for 25 years, the product guarantee is for 10 years.



### High Efficiency

Efficient use of sunlight due to unique combination of module components



### Known worldwide and certified

VDE (IEC 61215 Ed. 2, EC 61730-1 Ed. 1 and IEC 61730-2 Ed. 1)

Our modules – Quality signed and sealed



# Solar module aleo S19

Electrical data (STC)			S19L280	S19L285	S19L290
Rated power	$P_{MPP}$	[W]	280	285	290
Rated voltage	$V_{MPP}$	[V]	31.2	31.3	31.3
Rated current	$I_{MPP}$	[A]	8.97	9.10	9.25
Open-circuit voltage	$V_{OC}$	[V]	39.2	39.2	39.3
Short-circuit current	$I_{SC}$	[A]	9.67	9.73	9.80
Efficiency	$\eta$	[%]	17.0	17.3	17.6

Electrical values measured under standard test conditions (STC): 1000 W/m<sup>2</sup>; 25°C; AM 1.5

Electrical data (NOCT)			S19L280	S19L285	S19L290
Power	$P_{MPP}$	[W]	205	208	212
Voltage	$V_{MPP}$	[V]	28.4	28.4	28.4
Current	$I_{MPP}$	[A]	7.21	7.33	7.45
Open-circuit voltage	$V_{OC}$	[V]	36.1	36.1	36.2
Short-circuit current	$I_{SC}$	[A]	7.82	7.87	7.93
Efficiency	$\eta$	[%]	15.6	15.8	16.1

Electrical values measured under nominal operating conditions of cells: 800 W/m<sup>2</sup>; 20°C; AM 1.5; wind 1 m/s

NOCT: 48°C (nominal operating cell temperature)

Additional electrical data		
Reduction of STC efficiency from 1000 W/m <sup>2</sup> to 200 W/m <sup>2</sup>	[%] rel.	< 2
Classification range (positive classification)	[W]	0/+4.99

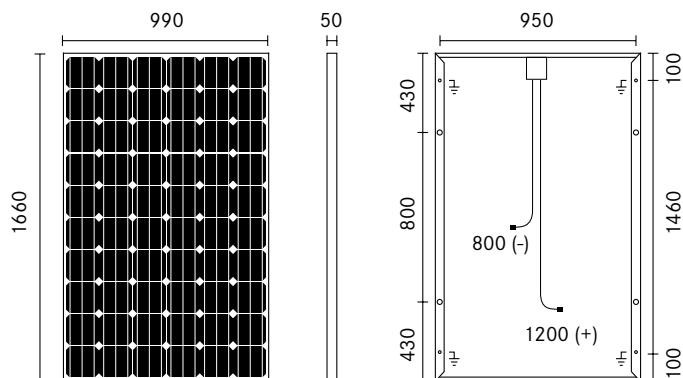
Loads		
Max. module pressure load	[Pa]	5400
Max. module suction load	[Pa]	5400
Max. system voltage	[V <sub>DC</sub> ]	1000
Reverse current load	$I_R$ [A]	20

Mechanical load acc. to IEC/EN 61215

Temperature coefficients			
Temperature coefficient $I_{SC}$	$\alpha (I_{SC})$	[%/K]	+0.05
Temperature coefficient $V_{OC}$	$\beta (V_{OC})$	[%/K]	-0.30
Temperature coefficient $P_{MPP}$	$\gamma (P_{MPP})$	[%/K]	-0.43

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

## Dimensions [mm]



Basic module data		
Length x width x height	[mm <sup>3</sup> ]	1660 x 990 x 50
Weight	[kg]	20
Number of cells		60
Cell size	[mm <sup>2</sup> ]	156 x 156
Cell material		Monocrystalline Si
Front sheet		Solar glass (TSG)
Back sheet		Polymer sheet
Frame material		Al alloy

Basic data junction box		
Length x width x height	[mm <sup>3</sup> ]	148 x 123 x 27 132 x 107 x 27
IP class		IP65
Cable length	[mm]	1200 (+), 800 (-)
Connectors		MC4
Bypass diodes		3

Please contact your authorised aleo dealer