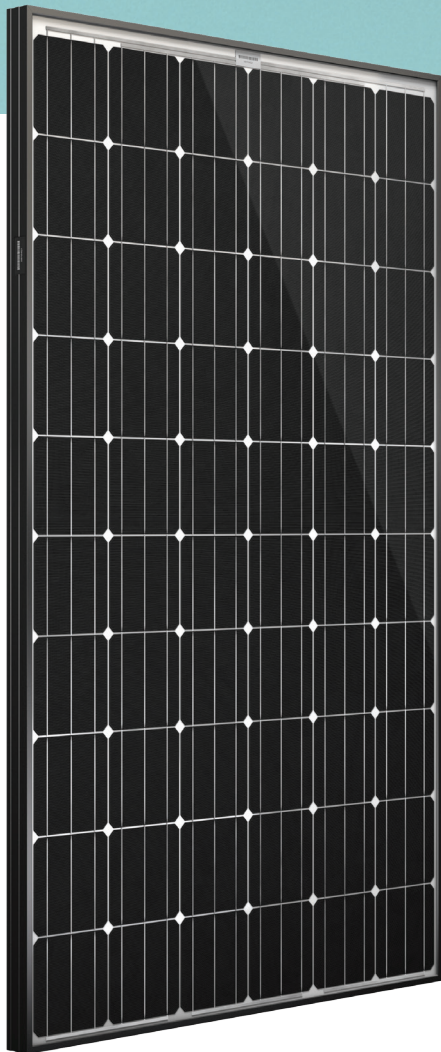


aleo

More Power.  
Endless possibilities.



S59 HE

300-310 W



QUALITY SIGNED AND SEALED



black

frame

25 year

Product Guarantee

optional available

98% of nominal  
power guaranteed

the first two years



**PID FREE**

PID tested with excellent results  
under the harshest conditions



**CRAFTED WITH PASSION**



**12 YEARS PRODUCT GUARANTEE  
UPGRADEABLE TO 25 YEARS AS A  
PREMIUM OPTION**



**CONSTANTLY HIGH CELL QUALITY**  
through strict quality examinations  
by highresolution electroluminescence  
and infraredmeasurements



**25 YEARS LINEAR  
PERFORMANCE WARRANTY**



Made in Germany

# aleo solar module S59 HE

| ELECTRICAL DATA (STC) |               | S59_300 | S59_305 | S59_310 |
|-----------------------|---------------|---------|---------|---------|
| Rated power           | $P_{MPP}$ [W] | 300     | 305     | 310     |
| Rated voltage         | $V_{MPP}$ [V] | 31.2    | 31.4    | 31.7    |
| Rated current         | $I_{MPP}$ [A] | 9.63    | 9.72    | 9.80    |
| Open-circuit voltage  | $V_{OC}$ [V]  | 39.4    | 39.6    | 39.7    |
| Short-circuit current | $I_{SC}$ [A]  | 9.97    | 10.06   | 10.12   |
| Efficiency            | $\eta$ [%]    | 18.3    | 18.6    | 18.9    |

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

| ELECTRICAL DATA (NOCT) |               | S59_300 | S59_305 | S59_310 |
|------------------------|---------------|---------|---------|---------|
| Power                  | $P_{MPP}$ [W] | 220     | 224     | 228     |
| Voltage                | $V_{MPP}$ [V] | 28.5    | 28.5    | 28.6    |
| Current                | $I_{MPP}$ [A] | 7.72    | 7.86    | 7.93    |
| Open-circuit voltage   | $V_{OC}$ [V]  | 36.3    | 36.4    | 36.4    |
| Short-circuit current  | $I_{SC}$ [A]  | 8.07    | 8.15    | 8.23    |
| Efficiency             | $\eta$ [%]    | 16.7    | 17.0    | 17.3    |

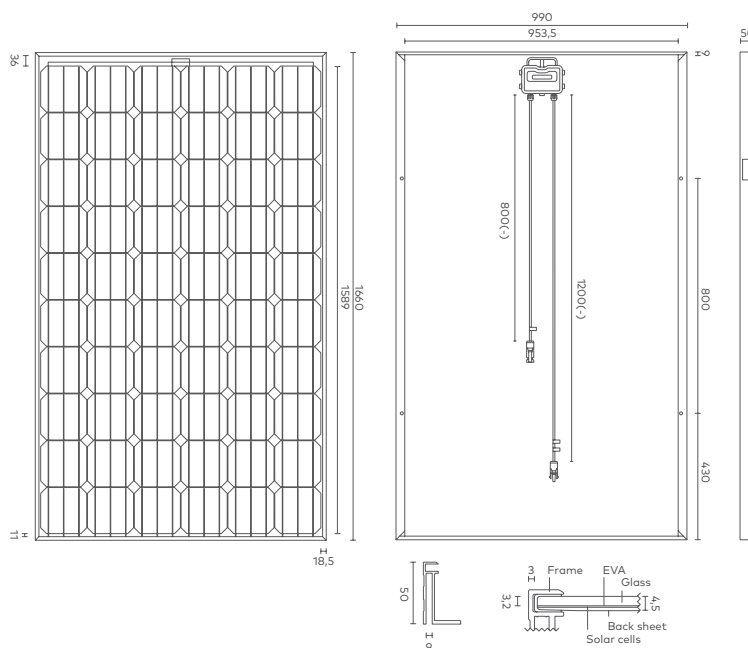
Electrical values measured under nominal operating conditions of cells: 800 W/m<sup>2</sup>; 20°C; AM 1.5; wind 1 m/s  
NOCT: 48°C (nominal operating cell temperature)

| 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              | MC4                    |
| Bypass diodes           | 3                      |

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] 1660 x 990 x 50 |
| Weight                  | [kg] 20              |
| Number of cells         | 60                   |
| Cell size               | [mm] 156.75 x 156.75 |
| Cell material           | Monocrystalline Si   |
| Number of bus bars      | 3 / 4 / 5            |
| Front sheet             | Solar glass (TSG)    |
| Back sheet              | Polymer sheet, white |
| Frame material          | Al alloy, black      |

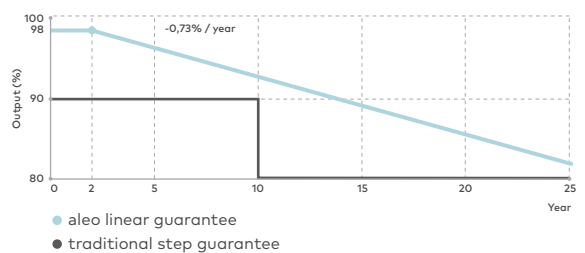
| CERTIFICATIONS AND WARRANTY       |   |
|-----------------------------------|---|
| Product Guarantee                 | 12 years, optional 25 years   |
| Power Guarantee                   | 25 years - Linear   |
| Fire Resistance                   | Class C   |
| Protection Against Electric Shock | II  |
| Certifications                    | IEC 61215, IEC 61730-1/-2<br>IEC 62716 - Ammonia Resistance<br>IEC 61701 - Salt mist Resistance<br>IEC 62804 - PID Resistance<br>MCS 010; MCS 005 |

| LOADS                     |                    |       |
|---------------------------|--------------------|-------|
| Max. module pressure load | [Pa]               | 5400* |
| Max. module suction load  | [Pa]               | 5400* |
| Max. system voltage       | [V <sub>oc</sub> ] | 1000  |
| Reverse current load      | $I_R$ [A]          | 20    |

Mechanical load acc. to IEC/EN 61215  
\* Please observe the mounting conditions in the installation manual

| 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 |

## PERFORMANCE GUARANTEE



**PLEASE CONTACT YOUR AUTHORISED ALEO DEALER**