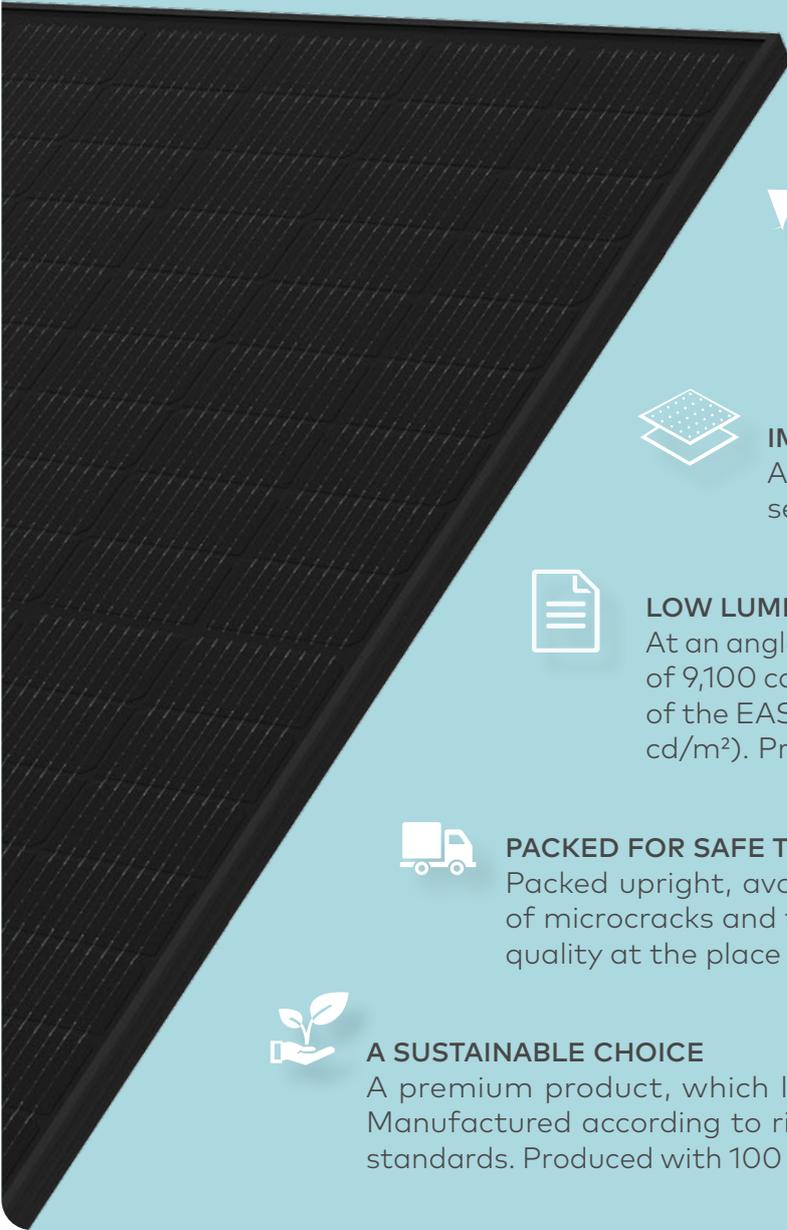


LEO Black 400 W Anti Glare

Premium PV panel



CONSTRUCTION CLOSE TO AIRPORTS
Perfect for use close to airports or highways.



LOW-REFLECTION SURFACE
Special glass structure and dark design reduce glare by a factor of 8 compared to standard PV glass.



IMPROVED SURFACE
Anti-reflective coating ensures optimum self-cleaning and higher yields.



LOW LUMINANCE
At an angle of irradiation of 10° , the max.luminance of $9,100 \text{ cd/m}^2$ is significantly below the limit value of the EASA Aerodrome Design Guideline ($20,000 \text{ cd/m}^2$). Proven by independent measurements.



PACKED FOR SAFE TRANSPORT
Packed upright, avoiding the emergence of microcracks and thus ensuring factory quality at the place of delivery.



A SUSTAINABLE CHOICE
A premium product, which lasts for decades. Manufactured according to rigid environmental standards. Produced with 100 % green electricity.

MADE IN GERMANY!

Right here. In Prenzlau. In our production facility.
Here we manufacture under the aspects of quality & durability since 2001.

FULL SERENITY



25 Years linear
Power Guarantee



25 Years
Product Warranty

100% cost recovery of guarantee claims.
Under the terms and conditions of the respective guarantee certificate.

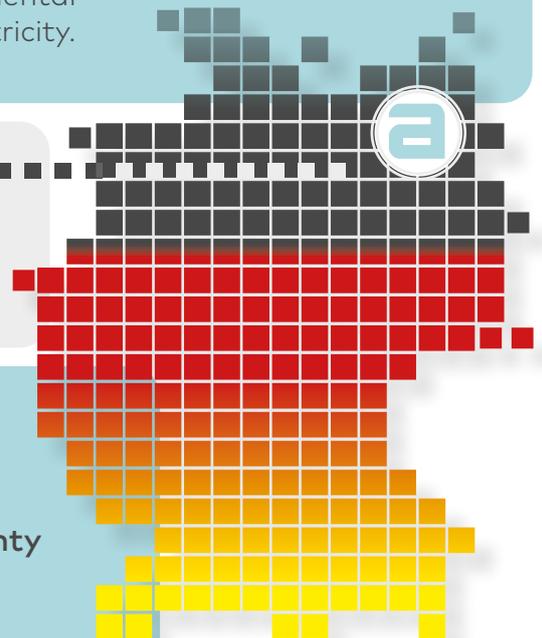
QUALITY UNDER HAND AND SEAL



Design optimized with

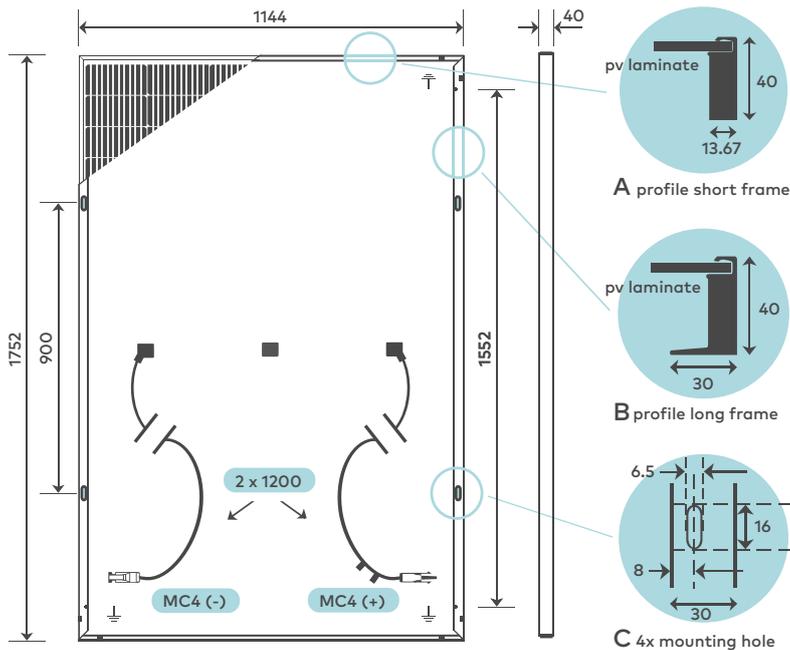
SmartCalc.Module

aleo
www.aleo-solar.com



aleo solar panel LEO Black 400 W Premium Anti-Glare

DIMENSIONS [mm]



BASIC MODULE DATA

Length x width x height	[mm]	1752 x 1144 x 40
Weight	[kg]	22
Number of cells		108
Cell size	[mm]	182 x 91
Cell material		Monocrystalline Si, PERC
Number of Busbars		10
Front sheet		3.2 mm Solar glass (TSG) with anti-reflective coating, minimal reflection
Back sheet		Polymer sheet, black
Frame material		Al alloy, black

BASIC DATA JUNCTION BOX

3 parts junction box acc. to IEC 62790	[mm]	left & right: 62 x 58 x 14 middle: 49 x 55 x 14
Bypass diodes		3 (one per box)
IP class		IP68
Cable	[mm]	1200 (+), 1200 (-) acc. to EN 50618
Connectors		genuine MC4 acc. to EN 62852

ELECTRICAL DATA (STC)

		L84S400	
Rated power	P_{MPP} [W]		400
Rated voltage	V_{MPP} [V]		31.79
Rated current	I_{MPP} [A]		12.58
Open-circuit voltage	V_{OC} [V]		37.41
Short-circuit current	I_{SC} [A]		13.18
Efficiency	η [%]		20.0

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

ELECTRICAL DATA (LOW IRRADIANCE)

		L84S400	
Power	P_{MPP} [W]		77

Electrical values measured under: 200 W/m²; 25 °C; AM 1.5
Measurement tolerance of P_{MPP} under STC -3/+3 %; Accuracy of other electrical values -10/+10 %
Efficiency related to gross module area

REFLECTION PROPERTIES

Angle	[%]	10	20	30	40	50	60	70	80
Luminance	[cd/m ²]	9.1X10 ³	9.1X10 ³	1.1X10 ⁴	1.5X10 ⁴	3.3X10 ⁴	7.9X10 ⁴	3.6X10 ⁵	2.9X10 ⁶
Partial reflection factor	[%]	0.001	0.001	0.001	0.001	0.002	0.005	0.023	0.179

CERTIFICATIONS

Fire Resistance	Class C (IEC 61730), E (EN 13501-1), B2 (DIN 4102-1)
Protection Against Electric Shock	II
IEC 61215:2021, IEC 61730:2016 including:	
- IEC 62804 – PID Resistance	
- IEC/TS 62782:2016 - Dynamic mechanical load testing	
LeTID Resistance	
Snail trail free (AgNP Test)	
System Certifications acc. to DIN EN ISO 9001:2015, 14001:2015, 50001:2018 and DIN ISO 45001:2018	

LOADS

Max. module pressure load (Testload)	[Pa]	8100 ¹
Max. module pressure load (Designload) ²	[Pa]	5400 ¹
Max. module suction load (Testload)	[Pa]	3600 ¹
Max. module suction load (Designload) ²	[Pa]	2400 ¹
Max. system voltage	[V _{DC}]	1000
Reverse current load	I_R [A]	25

Mechanical load acc. to IEC/EN 61215:2021

¹ Please observe the mounting conditions in the installation manual
² Testload/Safety factor 1.5 = Designload

CLASSIFICATION

Classification range (positive classification)	[W]	0/+4.99
--	-----	---------

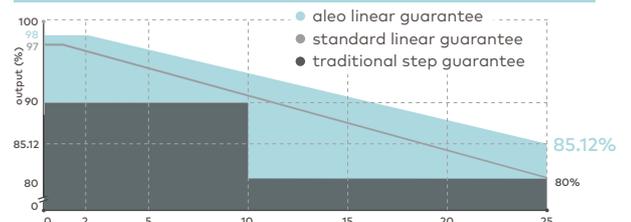
TEMPERATURE COEFFICIENTS

Temperature coefficient I_{SC}	$\alpha (I_{SC})$	[%/K]	+0.03
Temperature coefficient V_{OC}	$\beta (V_{OC})$	[%/K]	-0.26
Temperature coefficient P_{MPP}	$\gamma (P_{MPP})$	[%/K]	-0.34

GUARANTEES

Product Guarantee	25 years
Power Guarantee	25 years – Linear

PERFORMANCE GUARANTEE



PLEASE CONTACT YOUR AUTHORISED ALEO DEALER

ALEO SOLAR GMBH

Marius-Eriksen-Straße 1
17291 PRENZLAU
GERMANY

CONTACT

+49 3984-8328-0
info@aleo-solar.com
www.aleo-solar.com

©aleo solar GmbH 01/2024

aleo