

# BLACKSTAR

# 108 cell

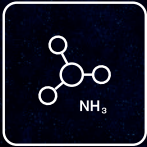
## SOLID Framed\_Glass/Glass\_Full\_Black



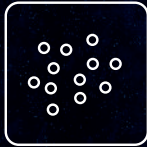
Fire class A



Extreme load resistance



Ammonia resistance



Salt mist resistance



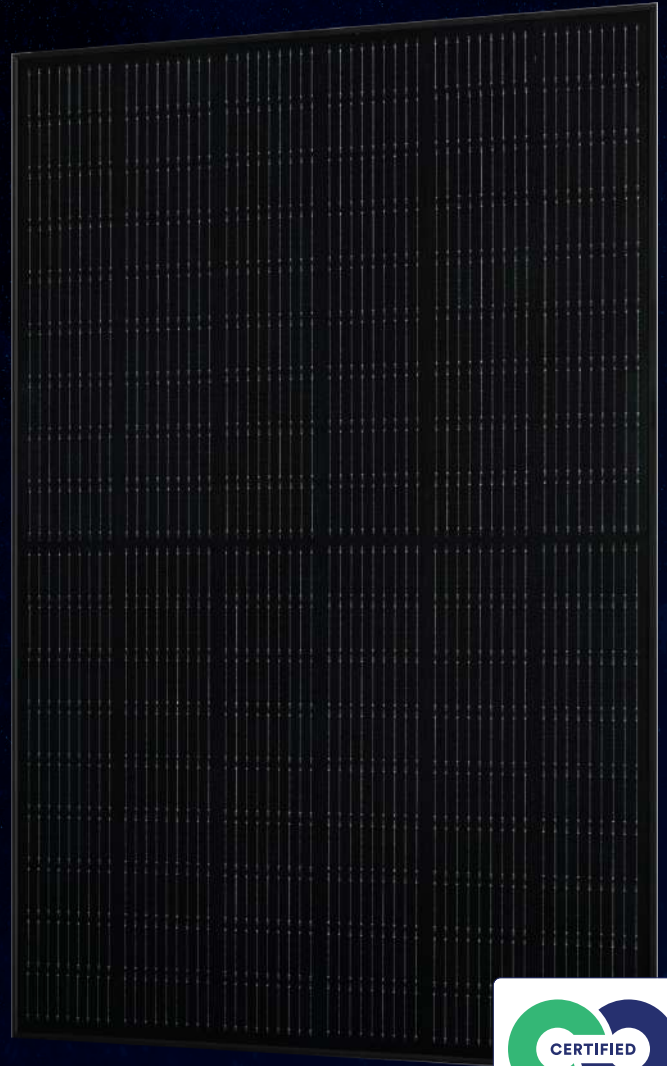
98,8% recyclable



35% of recycled glass content



Hail resistance



Positive sorting up to +5W

## Front side ⚡420 W

**30** Year product warranty

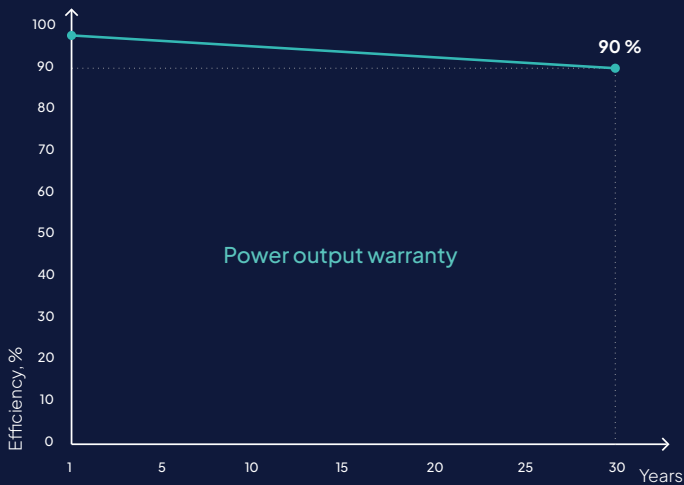
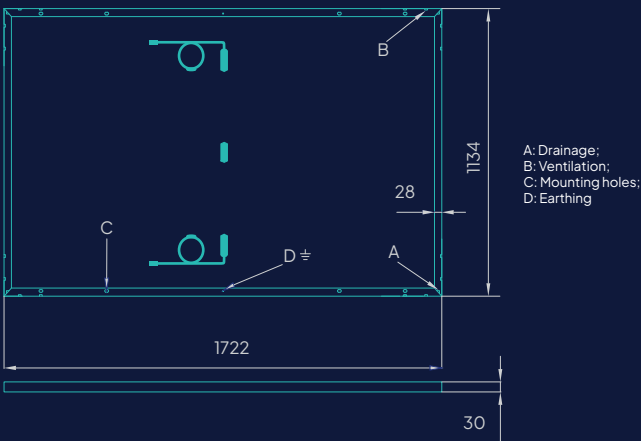
**90%** Power warranty

**30** Year efficiency warranty

Electrical data (STC*)	
Maximum power (W)	420
Cell technology	N type, TOPCon - bifacial
Open circuit voltage ( $V_{oc}/V$ )	37,68
Short circuit current ( $I_{sc}/A$ )	13,50
Max power voltage ( $V_{mpp}/V$ )	32,15
Max power current ( $I_{mpp}/A$ )	13,06
Module efficiency (n)	21,51%
Max system voltage (V)	1500
Max current (A)	15
Power tolerance	0/+5W

\*Under standard test conditions (STC) of irradiance of 1000W/sq.m., spectrum AM1.5 and cell temperature of 25°C. Flash testing measurement accuracy of +/-5%.

Warranty	
30 years product warranty	
30 years efficiency warranty	
First year degradation (%)	1%
Annual degradation (%)	0.31%
Power in year 30 (%)	90%



Temperature ratings	
Current temperature coefficient ( $\alpha$ )	+0.045% / °C
Voltage temperature coefficient ( $\beta$ )	-0.250% / °C
Power temperature coefficient ( $\delta$ )	-0.300% / °C
Nominal operating module temperature	46 °C
Mechanical data	
Dimensions (LxWxH) (mm)	1722x1134x30 mm
Weight (kg)	25
Front glass (mm)	2
Back glass (mm)	2, black
Cell Size (mm)	182x91
Busbars	10
Cell configuration	6x18
Frame	Black anodized aluminium frame
Rated operating altitude	Up to 2000 m
Operating temperature (°C)	-40 ÷ +85
Maximum test load (wind/snow) (Pa)	3600/8100
Junction box / IP class	Split junction box / IP68
Cable cross section size (mm <sup>2</sup> )	4
Cable length	1,2 m
Bypass diodes	3
Connector	MC4-EVO2

Packing information	
Modules per pallet	33 pcs
Dimensions of a pallet (LxWxH)	1770x1180x1219 mm
Weight of a pallet (gross)	839 kg
Pallets per 13.6 m truck	28 pcs
Modules per 13.6 m truck	924 pcs

Certifications	
IEC 61215:2021; IEC 61730:2016; UL 61730:2017	
Cradle to Cradle (C2C)	Silver level
IEC 62716:2013	Ammonia corrosion testing
IEC 61701:2020	Salt mist corrosion testing
IEC 61215-2:2021	Hailstone (25 mm)
ISO 9001:2015	Quality management systems
ISO 14001:2015	Environmental management systems
ISO 45001:2018	Occupational health and safety
SundaHus	A level assessment
Produced using 100% renewable energy	
Membership at Svensk Solenergi	



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