

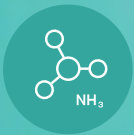


BLACKSTAR

 **455 W**

 **Made in the EU**

2+2 mm glass



Ammonia
resistance



Hail resistance
class 3



98,8 %
recyclable



35% of recycled
glass content



Salt mist
resistance

30 Product &
Efficiency
Guarantee
YEAR

90%
POWER WARRANTY



Electrical data	STC*	BNPI**
Maximum power (W)	455	500
Cell technology	N type, TOPCon - bifacial	
Open circuit voltage (V_{oc}/V)	35,43	35,43
Short circuit current (I_{sc}/A)	15,97	17,57
Max power voltage (V_{mpp}/V)	29,71	
Max power current (I_{mpp}/A)	15,31	
Module efficiency (%)	22,77 %	
Max system voltage (V)	1500	
Max current (A)	30	
Power tolerance	0/+5W	

*Under standard test conditions (STC) of irradiance of 1000W/sq.m., spectrum AM 1.5 and cell temperature of 25°C. Flash testing measurement accuracy of +/-5%.

**BNPI: front 1000W/m2, rear 135W/m2

Warranty

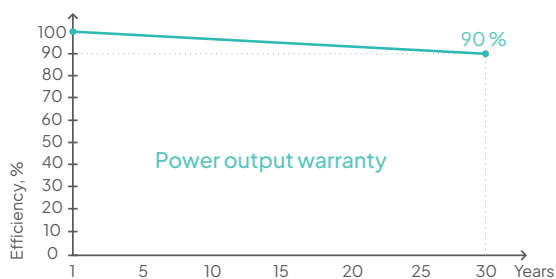
30 years product warranty

30 years efficiency warranty

First year degradation (%) 1

Annual degradation (%) 0,31

Power in year 30 (%) 90



Certifications

IEC 61215:2021; IEC 61730:2023

C2C Certified®*** Full Scope, Silver level, Version 4.1

IEC 62716:2013 Ammonia corrosion testing

IEC 61701:2020 Salt mist corrosion testing

IEC 61215-2:2021 30 mm hailstone - Hail resistance class 3 (HW3)

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



Packing information

Modules per pallet (pcs)	33
Dimensions of a pallet (LxWxH) (mm)	1854x1205x1219
Weight of a pallet (gross) (kg)	889
Pallets per 13,6 m truck (pcs)	27
Modules per 13,6 m truck (pcs)	891

*** - the certification scope is limited to the laminate and does not include the frames

Temperature ratings

Current temperature coefficient (α) +0,0371% / °C

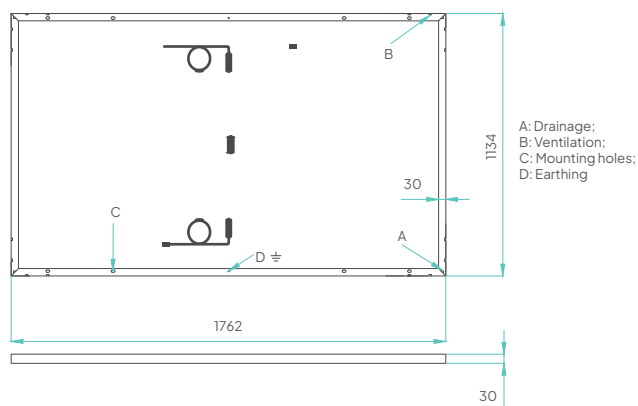
Voltage temperature coefficient (β) -0,2173% / °C

Power temperature coefficient (δ) -0,2791% / °C

Nominal operating module temperature 46 °C

Mechanical data

Dimensions (LxWxH) (mm)	1762x1134x30
Weight (kg)	25,5
Front glass (mm)	2, structured, low reflection, with AR coating
Back glass (mm)	2, black
Cell Size (mm)	182,2x105
Busbars	16
Cell configuration	6x16
Frame	Black anodized aluminium frame
Rated operating altitude (m)	Up to 2000
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 (mm²)	4
Cable length (m)	1,2
Bypass diodes	3
Connector	MC4-EVO2



Performance at Low Irradiance

