

R-BF 108n.3/420

Full-black solar modules for highest requirements with TOPCon technology



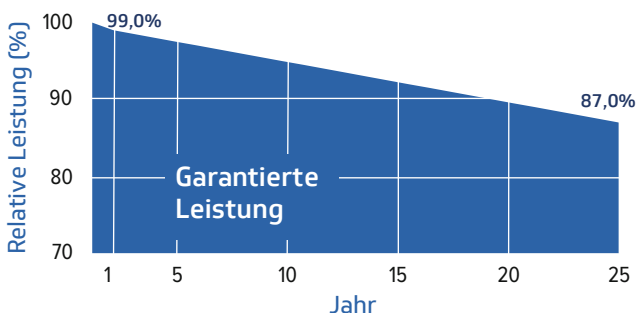
Warranty

- 25 year product warranty¹
- 25 years of linear benefit commitment
- Guaranteed plus tolerance

¹with system registration. Otherwise, 15 years.

Certifications

- IEC 61215: 2016 (Module reliability)
- IEC 61730: 2016 (Module safety)
- IEC TS 62804-1: 2015 (PID resistance)
- IEC 61701: 2020 (Salt spray resistance)



Safety

Electrical safety and mechanical robustness in all weather conditions are important aspects when choosing the right solar module.

Electric security - The R-BF is approved for a system voltage of up to 1500V. For maximum electrical safety, it is equipped with potted junction boxes rated IP68 and original STÄUBLI MC4-Evo 2 connectors.

Resilient - The specially hardened glass is resistant to the harshest weather conditions. The module is certified for resistance to salty air (class 5) and is therefore approved for use near the coast.

Reliability

A solar system is a long-lasting investment. The durability of the modules is an important a quality aspect.

Certified production facilities - All SOLYCO solar modules are produced in the most modern, highly automated factories with the highest manufacturing standards to ensure consistent quality.

Performance

A high electricity production under all operating conditions - in addition to the longevity – forms the basis for the economic viability of the solar system.

Highest peak power – With a nominal power of 420Wp and a module efficiency of over 21.5%, this module is the ideal choice for all roof systems.

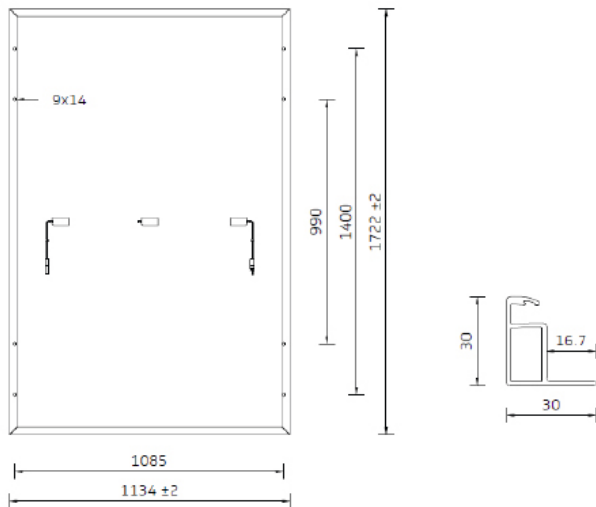
TOPCon solar cell technology – This technology enables a particularly high cell efficiency of >24%. It is characterized by very good temperature coefficients and excellent low light properties.

3x PID stable - The module is certified against potential-induced degradation (PID). The test cycle according to IEC TS 62804-1:2015 was even run 3 times (288h at T = 85°C and RH of 85%) and proves the top performance of the R-BF over a long period of time.

R-BF 108n.3/420

Module with black backsheet and black frame

Technical data



General data

Cell technology	TOPCon, monocrystalline
Cell size and number	182mm x 91mm, 108 pcs.
Module dimensions	1722mm x 1134mm x 30mm
Module weight	20.5kg
Frame	Aluminium anodized (black)
Front glass	3.2mm tempered solar glass with anti-reflective coating
Junction box and IP rating	3 pcs. with one bypass diode each potted junction box, IP68
Connectors	4mm ² solar cable, length 120cm, original STÄUBLI MCA-Evo 2
Packing	36 modules vertical on pallet, 936 / 40ft.

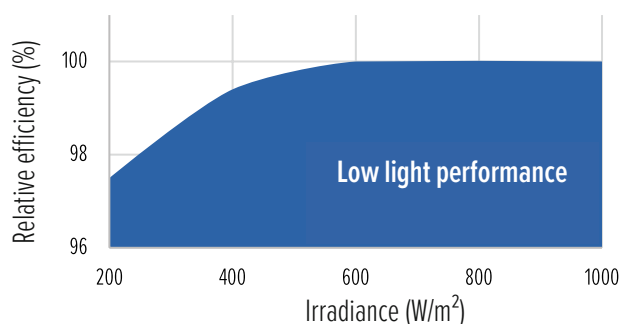
Connection and working conditions

Maximum system voltage	1500V
Temperature range	-40°C ... +85°C
Mechanical resilience ¹	Pressure resistance tested at 5400Pa Wind suction load capacity tested at 2400Pa
Safety class	II
Reverse current overload	20A
Fire class	C (UL 790)
Hail resistance	Hailstones up to 40mm in size and at a speed of 27.5m/s (HW4)

¹Specified pressure load resistance: 3600Pa and suction load resistance: 1600Pa

Temperature coefficients

TC of the maximum power (P _{max})	-0.30% /°C
TC of open circuit voltage (V _{oc})	-0.25% /°C
TC of short circuit current (I _{sc})	+0.045% /°C



Electrical data (STC)

Nominal data at standard testing conditions (STC): Irradiance 1000W/m²; Spectrum AM 1.5; module temperature 25°C; sorting for P_{max} 0 to +5W

Module type	R-BF 108n.3/420
STC power output P _{max} (W _p)	420
Nominal power voltage V _{mp} (V)	31.51
Nominal power current I _{mp} (A)	13.33
Open circuit voltage V _{oc} (V)	38.11
Short circuit current I _{sc} (A)	14.07
Module efficiency (%)	21.5

Tolerance P_{max}: ±3,0%; V_{oc}, V_{mp}, I_{sc}, I_{mp} tolerances: ±5,0%

Electrical data (NMOT)

Nominal data at NMOT (Nominal Module Operation Temperature): Irradiation intensity 800W/m²; spectral distribution AM 1.5; ambient temperature 20°C; wind velocity 1m/s

Module type	R-BF 108n.3/420
Solar cell temperature (°C)	45 ± 2
Power output (W _p)	319
Nominal power voltage V _{mp} (V)	29.70
Nominal power current I _{mp} (A)	10.74
Open circuit voltage V _{oc} (V)	36.10
Short circuit current I _{sc} (A)	11.34

Tolerance P_{max}: ±3,0%; V_{oc}, V_{mp}, I_{sc}, I_{mp} tolerances: ±5,0%

This data sheet corresponds to DIN EN 50380.
Developed and designed in Germany.



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