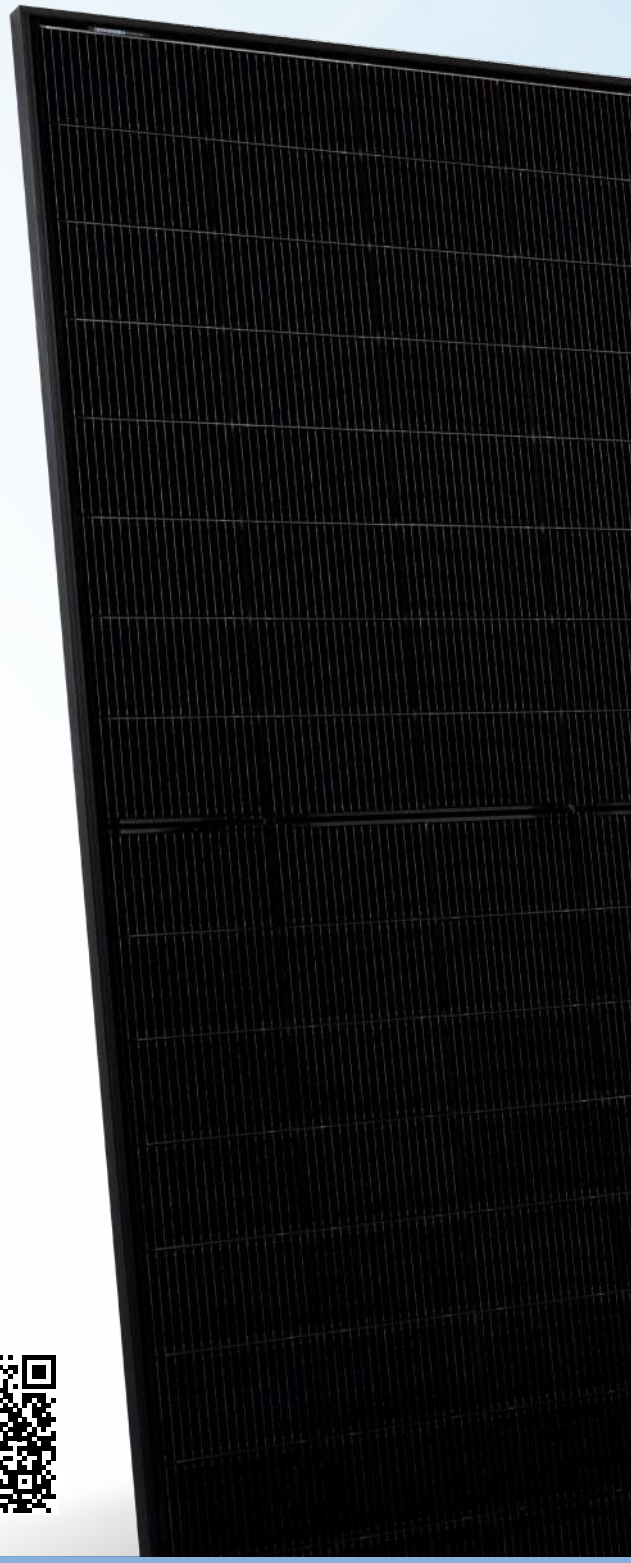
SOLYCO Design

R-BG 96n.5 /455-460

Improved efficiency, maximum reliability and seamless integration into architectural roof design: High-performance module with TOPCon technology in full-black design



Maximum energy generation

TOPCon double-glass module with an impressive efficiency of 23 %, providing higher energy yield.

Aesthetic roof integration

The aesthetic and appealing full-black design blends well with modern architecture.

Improved edge passivation

Optimized G12R cell size with improved cell edge passivation for more output on the same surface area.

Best cell quality

Exceptional reliability thanks to the exclusive use of Grade A cells. 100 % EL tested.

Improved warranty

Up to 30 years product warranty and 87.4 % performance guarantee after 30 years due to exceeded standards.

Certificates

- IEC 61215:2021 (module reliability)
- IEC 61730:2016 (module safety)
- IEC TS 62804-1:2015 (PID resistance)
- IEC 61701:2020 (salt mist resistance)
- IEC 62716:2013 (ammonia resistance)

DE 63944028

Superior Solar Solutions

German Warranty Provider

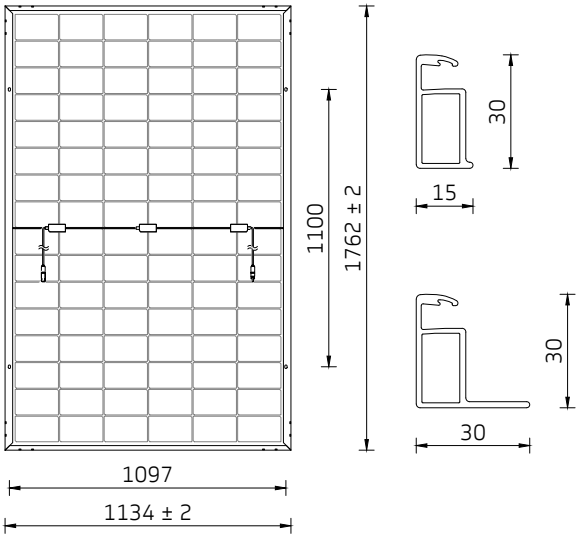
G12R
182 mm x 105 mm

+5 W
positive sorting

23 %
module efficiency

MC4-Evo 2
original STÄUBLI

R-BG 96n.5 /455-460



Mechanical data

Cell technology	TOPCon, monocrystalline
Cell size and quantity	182 mm x 105 mm; 96 half cells
Module dimensions	1762 mm x 1134 mm x 30 mm
Module weight	24,5 kg
Frame	Black anodised aluminium
Front glass	2.0 mm tempered solar glass with anti-reflective coating
Back glass	2.0 mm tempered solar glass
Junction box and IP rating	3 pcs with one bypass diode each, potted in accordance with IP68
Cable and connector	4 mm^2 solar cable, length 120 cm, STÄUBLI MC4-Evo 2 connector

Electrical data

	455 Wp			460 Wp		
Conditions	STC	NMOT	BNPI	STC	NMOT	BNPI
STC power output Pmax (Wp)	455	347	503	460	351	509
Nominal power voltage Vmp (V)	30.69	28.80	30.83	30.95	29.04	31.09
Nominal power current Imp (A)	14.83	12.05	16.30	14.87	12.08	16.34
Open circuit voltage Voc (V)	36.18	34.82	36.49	36.32	34.96	36.62
Short circuit current Isc (A)	15.78	12.72	17.60	15.83	12.76	17.66
Bifacial coefficient (%)	80 ± 5			80 ± 5		
Module efficiency (%)	22.8			23.0		

STC (nominal data under standard test conditions): irradiance 1000 W/m2; AM 1.5 spectrum; module temperature 25 °C; sorting for Pmax 0 to +5 W. NMOT (nominal data at Nominal Module Operating Temperature): irradiance 800 W/m2; AM 1.5 spectrum; ambient temperature 20 °C; wind velocity 1 m/s.BNPI (Bifacial Nameplate Irradiance): irradiance 1000 W/m2 at the front and 135 W/m2 at the back; applied according to a method defined in IEC TS 60904-1-2.
Pmax tolerance: ±3.0 %; Voc, Vmp, Isc, Imp tolerances: ±5.0 %.

Packaging

36
modules vertically per pallet

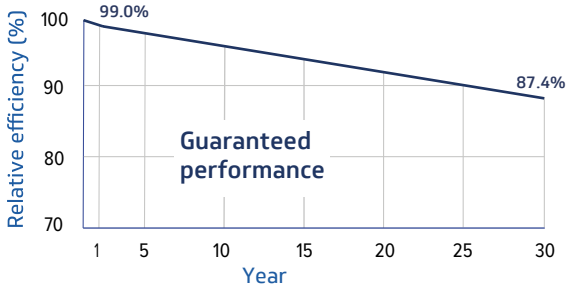
936
modules per truck

936
kg per pallet

Connection and operating conditions

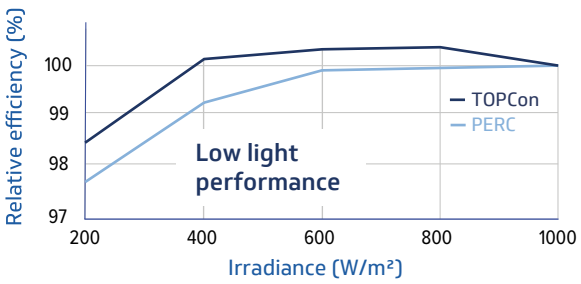
Maximum system voltage	1500 V
Operating temperature range	-40 °C ... +85 °C
Mechanical resilience[1]	Pressure resistance tested at 5400 Pa Wind suction load resistance tested at 2400 Pa
Safety class	II
Reverse current overload	30 A
Fire classes[2]	A (UL 790) B_{ROOF} (t1) according to DIN EN 13501-5:2016
Hail resistance	Hailstones up to 30 mm in size and at a speed of 23.9 m/s (HW3)

[1] Specified pressure load resistance: 3600 Pa and suction load resistance: 1600 Pa;
[2] For all roof slopes.



Temperature coefficients

TC of the maximum power (Pmax)	-0.29 %/°C
TC of open circuit voltage (Voc)	-0.25 %/°C
TC of short circuit current (Isc)	+0.045 %/°C
Nominal module operating temperature (NMOT)	42 ± 2



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