R-BG 108n.4/440-445

SOLYCO
Superior Solar Solutions

Bifacial double-glass module with TOPCon solar cells in full-black design



Safety

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

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

Resilient – The specially tempered 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.

Fire protection – The module has achieved the classification B_{ROOF} (t1) for all roof slopes in accordance with DIN EN 13501-5:2016. This means a particularly high fire resistance and resistance to fire spread as proven by German standards.

Reliability

A PV system is a long-term investment. The durability of the modules is therefore an important quality aspect.

Certified production facilities – All SOLYCO solar modules are produced in state-of-the-art, highly automated factories that operate to the highest manufacturing standards to ensure consistent quality.

Additional sealing – All modules are sealed to prevent foreign materials from penetrating between the layers. An additional butyl tape around the glass laminates provides double protection, allowing us to offer better warranty conditions.

Double glass composite – Glass is a particularly durable material and resistant to all weather effects. The module's solar cells are embedded between two glass panes, providing highly effective and permanent protection against weather effects. A black pattern on the back gives the module a completely black design.

Performance

A combination of longevity and high electricity production – whatever the operating conditions – forms the basis for the economic viability of the PV system.

TOPCon solar cell technology – This technology enables a particularly high cell efficiency. It features excellent temperature properties, outstanding low light performance and a high bifacial coefficient.

Optimal peak power – With a nominal power of up to 445 Wp and a module efficiency of 22.3 %, this module is the ideal choice for all roof systems.

Maximum long-term stability – The combination of state-of-the-art cell and module technologies ensures consistently high electricity production. The modules do not suffer any loss of performance due to LID, PID and LeTID, which is reflected in excellent warranty conditions.

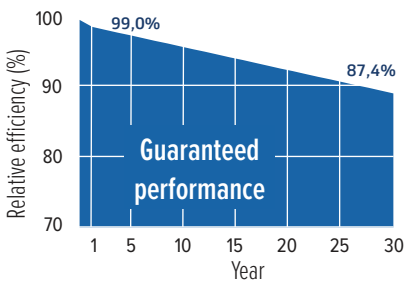
Certifications

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

Warranty

- 30-year product warranty[1]
- 30-year linear performance guarantee
- Guaranteed positive tolerance

[1] If the system is registered; otherwise, 20 years.

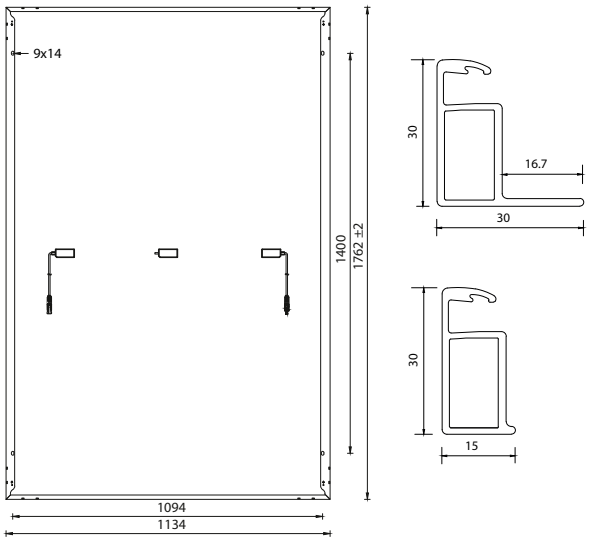


SOLYCO Solar AG
Flughafen 1, building H/ZKSI
13405 Berlin, Germany

T: +49 30 403 619 42
M: info@solyco.com
W: www.solyco.com

R-BG 108n.4/440-445

Bifacial double-glass module with TOPCon solar cells



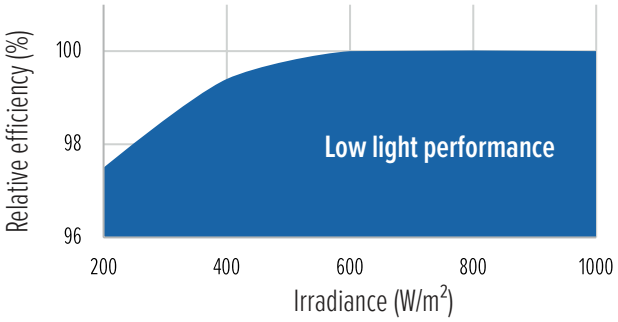
Connection and operating conditions

Maximum system voltage	1500 V
Permissible temperature range	–40 °C to +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 25 mm in size and at a speed of 23 m/s

[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)	–0.31 %/°C
TC of open circuit voltage (Voc)	–0.26 %/°C
TC of short circuit current (Isc)	+0.038 %/°C



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

DE 63944028

General data

Cell technology	TOPCon, monocrystalline
Cell size and quantity	182 mm x 93.4 mm; 108 pcs
Module dimensions	1762 mm x 1134 mm x 30 mm
Module weight	24.5 kg
Frame	Black anodised aluminium
Glass	2 x 2.0 mm tempered solar glass with anti-reflective coating
Junction box and IP rating	3 pcs with one bypass diode each, potted in accordance with IP68
Cable and connector	4 mm² solar cable, length 120 cm, STÄUBLI MC4-Evo 2 connector
Packaging unit	36 modules arranged vertically on a pallet, 936/40 ft container

Electrical data (STC)

Nominal data under standard test conditions (STC): irradiance 1000 W/m²; AM 1.5 spectrum; module temperature 25 °C; sorting for Pmax 0 to +5 W

Module type	R-BG 108n.4/440	R-BG 108n.4/445
STC power output Pmax (Wp)	440	445
Nominal power voltage Vmp (V)	32.90	33.12
Nominal power current Imp (A)	13.39	13.45
Open circuit voltage Voc (V)	39.40	39.60
Short circuit current Isc (A)	13.84	13.90
Bifacial coefficient (%)	80 ±10	80 ±10
Module efficiency (%)	22.02	22.27

Pmax tolerance: ±3.0 %; Voc, Vmp, Isc, Imp tolerances: ±5.0 %

Electrical data (NMOT)

Nominal data at NMOT (Nominal Module Operating Temperature): irradiance 800 W/m²; AM 1.5 spectrum; ambient temperature 20 °C; wind velocity 1 m/s

Module type	R-BG 108n.4/440	R-BG 108n.4/445
Solar cell temperature (°C)	45 ±2	45 ±2
Power output Pmax (Wp)	331	335
Nominal power voltage Vmp (V)	30.65	30.86
Nominal power current Imp (A)	10.84	10.89
Open circuit voltage Voc (V)	37.32	37.51
Short circuit current Isc (A)	11.20	11.25

Pmax tolerance: ±3.0 %; Voc, Vmp, Isc, Imp tolerances: ±5.0 %

Electrical data when power is increased by bifaciality (e.g. 440 Wp)

Power gain	5 %	10 %	15 %
Power output Pmax (Wp)	462	484	506
Nominal power voltage Vmp (V)	33.10	33.17	33.22
Nominal power current Imp (A)	13.96	14.60	15.24
Open circuit voltage Voc (V)	39.81	39.88	39.93
Short circuit current Isc (A)	14.53	15.22	15.92

DS SOLYCO R-BG 108n.4 440-445 2024-05-v2_en