R-TG 108n.3/420

Bifacial double-glass module with TOPCon solar cells

Safety

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

Electric security - The R-TG 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.

Fire protection – the R-TG 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 solar system is a long-lasting investment. The durability of the modules is thus a key quality criterion.

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.

Double glass composite – glass is a particularly durable material and resistant to all weather influences (cold, heat, UV, gases, acids). In the R-TG modules, the solar cells are embedded between two glass panels, thus providing particularly effective and permanent protection against weather influences.

Embedding material POE – the particularly high-quality POE is used as embedding material. In the usual EVA, acetic acid can form under the influence of UV light, which attacks the soldering connections in the module and leads to creeping loss of power. This is not possible with POE.

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.

TOPCon solar cell technology – this technology enables a particularly high cell efficiency of > 24%. It is characterized by very good temperature behaviour, excellent weak light properties and a high degree of bifaciality. In this way, particularly high power yields are achieved.

Highest peak performance – with a nominal power of 420Wp at a module efficiency of 21,5%, this module is the ideal choice for all roof systems. You can achieve maximum power output from your roof.

Best long-term stability – the combination of state-of-the-art cell and module technologies is the basis for a permanently high power production. The modules are free from any loss of performance due to lid, PID and LeTID, which is reflected in particularly good warranty conditions.

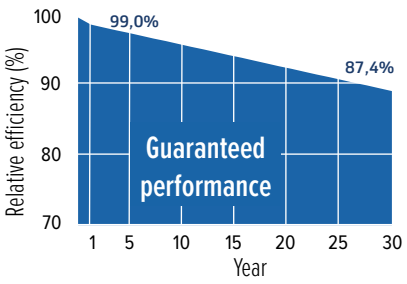
Certifications

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

Warranty

- 30 year product warranty[1]
- 30 years of linear benefit commitment
- Guaranteed plus tolerance

[1]with system registration. Otherwise, 20 years.



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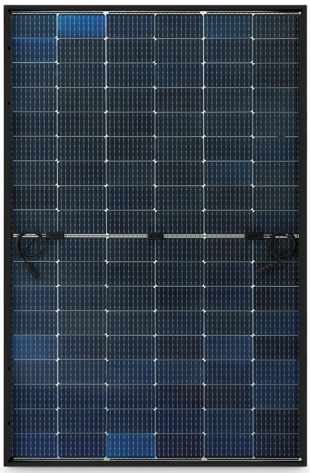
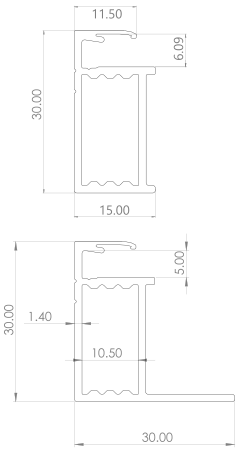
Technical data





General data

Cell technology	TOPCon, monocrystalline
Cell size and number	182mm x 91mm; 108 pcs.
Module dimensions	1723mm x 1134mm x 30mm
Module weight	24.5kg
Frame	Aluminium anodized (black)
Glass	2 x 2.0mm tempered solar glass with anti-reflective coating
Junction box and IP rating	3 pcs. with one bypass diode each potted junction box, IP68
Connectors	4mm² solar cable, length 120cm, original STÄUBLI MC4-Evo 2
Packing	36 modules vertical on pallet, 936 / 40ft.

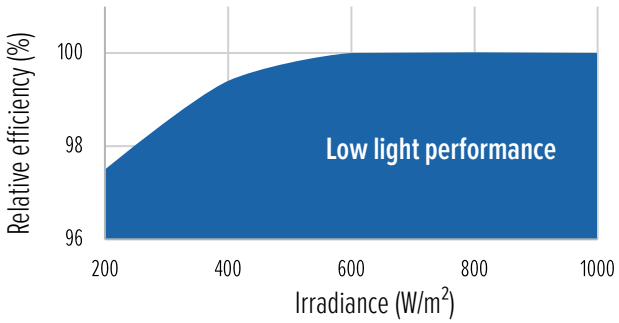
Connection and working conditions

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 classes[2]	C (UL 790) B_{ROOF} (t1) according to DIN EN 13501-5: 2016
Hail resistance	Hailstones up to 25mm in size and at a speed of 23m/s

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

Temperature coefficients

TC of the maximum power (Pmax)	-0.32% /°C
TC of open circuit voltage (Voc)	-0.25% /°C
TC of short circuit current (Isc)	+0.045% /°C



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

Electrical data (STC)

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

Module type	R-TG 108n.3/420
STC power output Pmax (Wp)	420
Nominal power voltage Vmp (V)	32.52
Nominal power current Imp (A)	14.92
Open circuit voltage Voc (V)	38.07
Short circuit current Isc (A)	13.55
Bifacial coefficient (%)	80 ± 5
Module efficiency (%)	21.5

Tolerance Pmax: ±3,0%; Voc, Vmp, Isc, Imp 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-TG 108n.3/420
Solar cell temperature (°C)	42 ± 2
Power output (Wp)	317
Nominal power voltage Vmp (V)	30.60
Nominal power current Imp (A)	10.36
Open circuit voltage Voc (V)	36.56
Short circuit current Isc (A)	10.87

Tolerance Pmax: ±3,0%; Voc, Vmp, Isc, Imp tolerances: ±5,0%

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