

R-TG 108p.3/400-405



Next-generation bifacial double-glass module



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.

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 warranty¹
- 30 years of linear benefit commitment
- Guaranteed plus tolerance

¹with system registration. Otherwise, 20 years.

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.

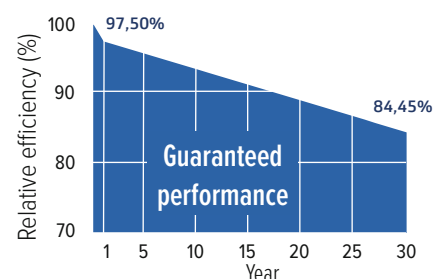
Performance

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

High specific yield - High power yield even in unfavourable weather conditions - thanks to excellent weak light behaviour and a good temperature coefficient. Bifacial solar cells also use scattered light on the rear of the module.

Highly efficient solar cells - Modern half-cell technology with multi-busbar interconnection forms the basis for the outstanding performance of our modules. The half-cell interconnection minimizes internal power losses and the risk of hot spots in the event of partial shade.

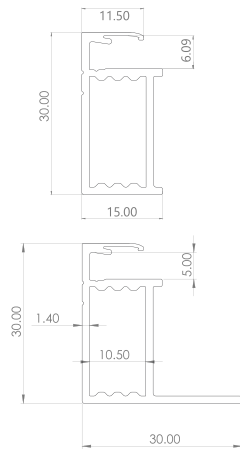
3x PID stable - The module is certified against potential-induced degradation (PID). The test cycle according to IEC TS 62804-1:2015 was even run 3 times (288h at T = 85°C and RH of 85%) and proves the top performance of the R-BF over a long period of time.



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Technical data



General data

| | |
|----------------------------|---|
| Cell technology | PERC, monocrystalline |
| Cell size and number | 182mm x 91mm; 108 pcs. |
| Module dimensions | 1722mm 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 | 4mm ² solar cable, length 120cm, original STÄUBLI MC4-Evo 2 |
| Packing | 36 modules vertical on pallet, 936 / 40ft. (Or 35 modules/pallet = 910/40ft.) |

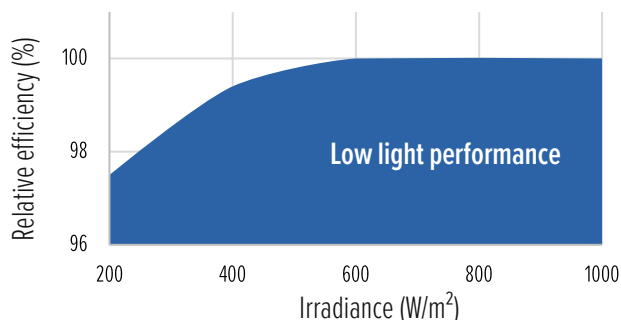
Connection and working conditions

| | |
|------------------------------------|---|
| 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 | A (UL 790) B _{ROOF} (t1) according to DIN EN 13501-5: 2016 |
| Hail resistance | Hailstones up to 30mm in size and at a speed of 23.9m/s (HW3) |

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

Temperature coefficients

| | |
|--|-------------|
| TC of the maximum power (P _{max}) | -0.35% /°C |
| TC of open circuit voltage (V _{oc}) | -0.28% /°C |
| TC of short circuit current (I _{sc}) | +0.048% /°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 P_{max} 0 to +5W

| Module type | R-TG 108p.3/400 | R-TG 108p.3/405 |
|---|-----------------|-----------------|
| STC power output P _{max} (Wp) | 400 | 405 |
| Nominal power voltage V _{mp} (V) | 31.18 | 31.35 |
| Nominal power current I _{mp} (A) | 12.83 | 12.92 |
| Open circuit voltage V _{oc} (V) | 37.21 | 37.38 |
| Short circuit current I _{sc} (A) | 13.67 | 13.76 |
| Module efficiency (%) | 20.5 | 20.7 |
| Bifacial coefficient (%) | >70 | >70 |

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-TG 108p.3/400 | R-TG 108p.3/405 |
|---|-----------------|-----------------|
| Solar cell temperature (°C) | 45 ± 2 | 45 ± 2 |
| Power output (Wp) | 294 | 298 |
| Nominal power voltage V _{mp} (V) | 28.65 | 28.82 |
| Nominal power current I _{mp} (A) | 10.26 | 10.34 |
| Open circuit voltage V _{oc} (V) | 34.42 | 34.58 |
| Short circuit current I _{sc} (A) | 11.02 | 11.09 |

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



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