

# R-TG 108h.3/430

Bifacial double glass module with heterojunction solar cells



## Safety

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

**Electric security** - The module 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 Module has achieved the classification B<sub>ROOF</sub> (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 warranty<sup>1</sup>
- 30 years of linear benefit commitment
- Guaranteed plus tolerance

<sup>1</sup>with system registration. Otherwise, 20 years.

## Reliability

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

**Additional sealing** – Modules are always sealed to prevent foreign materials from entering between the layers. An additional butyl tape around the glass laminates provides double protection.

**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.

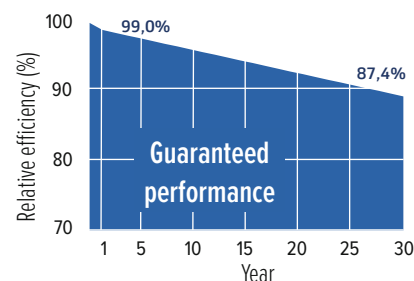
## Performance

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

**Heterojunction solar cell technology** – This technology enables a particularly high cell efficiency of >24 %. It is characterized by very good temperature behaviour, excellent low light properties and a high bifacial coefficient.

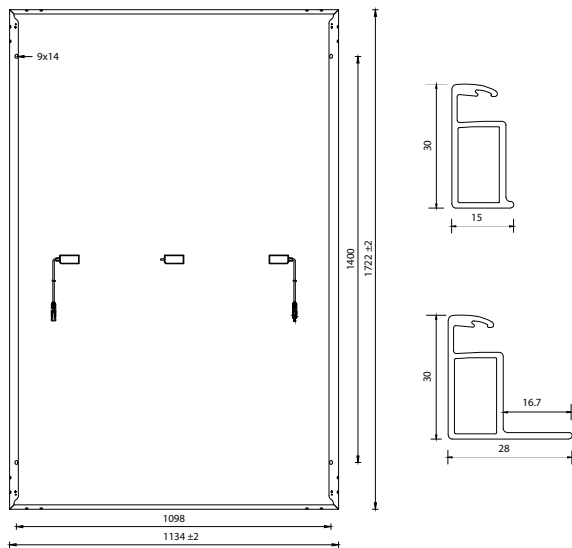
**Highest peak power** – With a nominal power of 430 Wp and a module efficiency of over 22 %, this module is the ideal choice for all roof systems.

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



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### Bifacial double glass module with heterojunction solar cells



#### Connection and working conditions

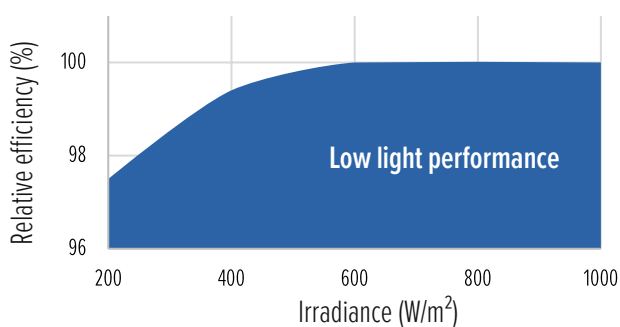
|                                    |   |
|------------------------------------|---|
| Maximum system voltage             | 1500 V  |
| Temperature range                  | -40 °C ... +85 °C   |
| Mechanical resilience <sup>1</sup> | Pressure resistance tested at 5400 Pa<br>Wind suction load capacity tested at 2400 Pa |
| Safety class                       | II  |
| Reverse current overload           | 20 A  |
| Fire classes <sup>2</sup>          | A (UL 790)<br>B <sub>ROOF</sub> (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)                       |

<sup>1</sup>Specified pressure load resistance: 3600 Pa and suction load resistance: 1600 Pa;

<sup>2</sup>For all roof slopes

#### Temperature coefficients

|  |            |
|--|------------|
| TC of the maximum power (P <sub>max</sub> )    | -0.26 %/°C |
| TC of open circuit voltage (V <sub>oc</sub> )  | -0.24 %/°C |
| TC of short circuit current (I <sub>sc</sub> ) | +0.04 %/°C |



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



#### General data

|                            |  |
|----------------------------|--|
| Cell technology            | HJT, monocrystalline   |
| Cell size and number       | 182 mm x 91 mm; 108 pcs.   |
| Module dimensions          | 1722 mm x 1134 mm x 30 mm  |
| Module weight              | 24,5 kg  |
| Frame                      | Aluminium anodized (black)   |
| 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 junction box, IP68              |
| Connectors                 | 4 mm <sup>2</sup> solar cable, length 120 cm, original STÄUBLI MCA-Evo 2 |
| Packing                    | 36 modules vertical on pallet, 936/40ft.                                 |

#### Electrical data (STC)

Nominal data at standard testing conditions (STC): irradiance 1000 W/m<sup>2</sup>; spectrum AM 1.5; module temperature 25 °C; sorting for P<sub>max</sub> 0 to +5 W

|   |                 |
|---|-----------------|
| Module type   | R-TG 108h.3/430 |
| STC power output P <sub>max</sub> (W <sub>p</sub> ) | 430             |
| Nominal power voltage V <sub>mp</sub> (V)           | 34.60           |
| Nominal power current I <sub>mp</sub> (A)           | 12.43           |
| Open circuit voltage V <sub>oc</sub> (V)            | 40.87           |
| Short circuit current I <sub>sc</sub> (A)           | 12.95           |
| Module efficiency (%)                               | 22.02           |
| Bifacial coefficient (%)                            | 90 ± 5          |

Tolerance P<sub>max</sub>: ±3,0 %; V<sub>oc</sub>, V<sub>mp</sub>, I<sub>sc</sub>, I<sub>mp</sub> tolerances: ±5,0 %

#### Electrical data (NMOT)

Nominal data at NMOT (Nominal Module Operation Temperature): irradiation intensity 800 W/m<sup>2</sup>; spectral distribution AM 1.5; ambient temperature 20 °C; wind velocity 1 m/s

|   |                 |
|---|-----------------|
| Module type                               | R-TG 108h.3/430 |
| Solar cell temperature (°C)               | 45 ± 2          |
| Power output (W <sub>p</sub> )            | 328             |
| Nominal power voltage V <sub>mp</sub> (V) | 29.92           |
| Nominal power current I <sub>mp</sub> (A) | 10.97           |
| Open circuit voltage V <sub>oc</sub> (V)  | 38.35           |
| Short circuit current I <sub>sc</sub> (A) | 11.49           |

Tolerance P<sub>max</sub>: ±3,0 %; V<sub>oc</sub>, V<sub>mp</sub>, I<sub>sc</sub>, I<sub>mp</sub> tolerances: ±5,0 %

#### Electrical data (BNPI)

Power increase through bifaciality (BNPI): irradiation front 1000 W/m<sup>2</sup>; rear 135 W/m<sup>2</sup>; spectral distribution AM 1.5; ambient temperature 25 °C;

|  |       |
|--|-------|
| Module power output P <sub>max</sub> (W <sub>p</sub> ) | 475   |
| Nominal power voltage V <sub>mp</sub> (V)              | 33.49 |
| Nominal power current I <sub>mp</sub> (A)              | 14.18 |
| Open circuit voltage V <sub>oc</sub> (V)               | 40.30 |
| Short circuit current I <sub>sc</sub> (A)              | 14.69 |

Tolerance P<sub>max</sub>: ±3,0 %; V<sub>oc</sub>, V<sub>mp</sub>, I<sub>sc</sub>, I<sub>mp</sub> tolerances: ±5,0 %