

0322.1316 Swiss Premium

# M310-60-b GG2

Frameless glass-glass module / monocrystalline /  
310Wp / black



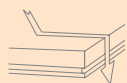
Made in Deitingen (Switzerland)



Meets highest aesthetic requirements



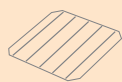
Safety glass for overhead glazing and facades



Snow and soiling cannot stick



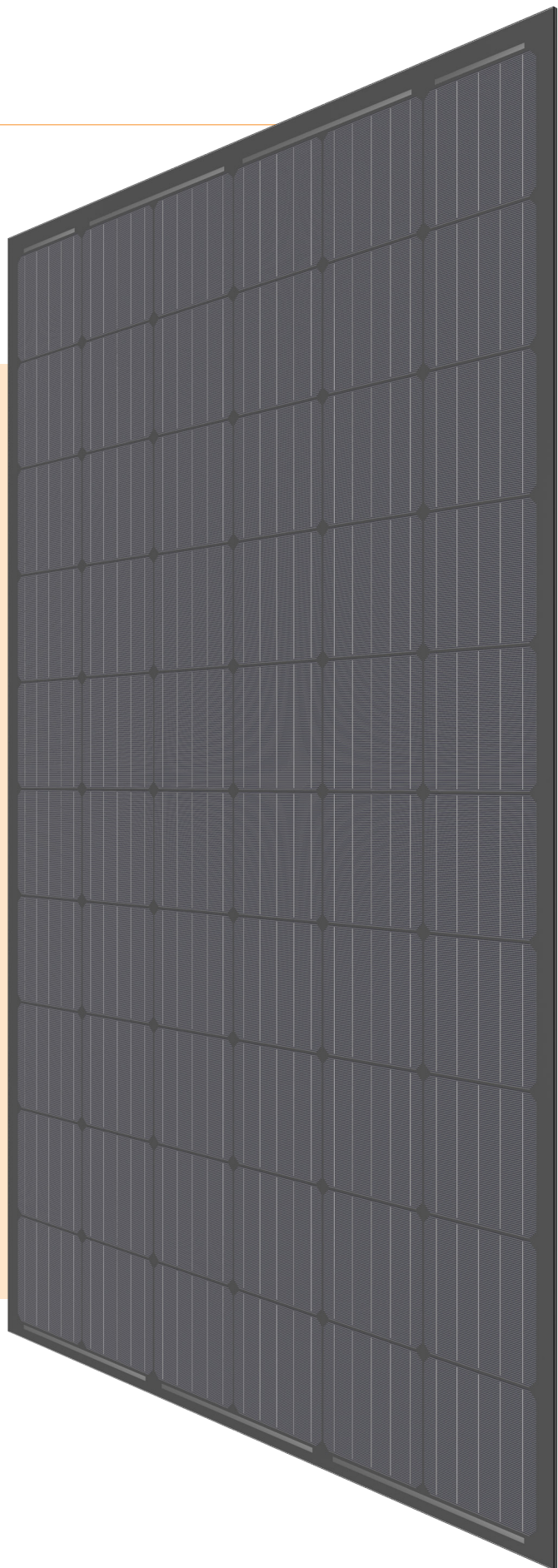
Lifespan of over 50 years due to glass-glass technology



5-busbar technology



Full traceability of all raw materials



The trend-setting Megasol glass-glass modules' front and back side consist of two identical glass panels. By deploying a particularly high-quality encapsulation material, Swiss Premium solar modules feature a very long lifespan of over 50 years.



innovation in power



Electrical data STC

|                             |         |
|-----------------------------|---------|
| Nominal power (Pmpp)        | 310 Wp  |
| Nominal voltage (Umpp)      | 32.8 V  |
| Nominal current (Impp)      | 9.47 A  |
| Open circuit voltage (Uoc)  | 39.1 V  |
| Short circuit current (Isc) | 9.81 A  |
| Cell efficiency             | 21.70 % |
| Module efficiency           | 19.05 % |
| Power sorting               | -0/+5 % |

STC (Standard Test Conditions): irradiance 1000 W/m<sup>2</sup>, cell temperature 25°C, AM 1.5  
 Measuring tolerances ±3 % (Pmpp); ±10 % (Umpp, Impp, Uoc, Isc)

Electrical data at partial load

800 W/m<sup>2</sup>

|                             |        |
|-----------------------------|--------|
| Nominal power (Pmpp)        | 234 Wp |
| Nominal voltage (Umpp)      | 30.4 V |
| Nominal current (Impp)      | 7.72 A |
| Open circuit voltage (Uoc)  | 36.7 V |
| Short circuit current (Isc) | 7.64 A |

Measuring tolerances ±5 % (Pmpp); ±10 % (Umpp, Impp)

Thermal properties

|   |             |
|---|-------------|
| Nominal operating cell temperature (NOCT) | 45 ± 2 °C   |
| Temperature coefficient Uoc               | -0.26 %/°C  |
| Temperature coefficient Isc               | +0.031 %/°C |
| Temperature coefficient Pmpp              | -0.37 %/°C  |

Operating conditions

|   |  |
|---|--|
| Temperature range                       | -40 ... +85 °C                           |
| Max. system voltage                     | 1000 V optionally available for 1500V    |
| Max. reverse current                    | 20 A                                     |
| Max. string fuse                        | 16 A                                     |
| Max. wind and snow loads *              | Up to 13'000 N/m <sup>2</sup>            |
| Hail resistance                         | Ø40 mm at 23 m/s Hail protection class 4 |
| Application class (acc. to IEC/EN61730) | A  |

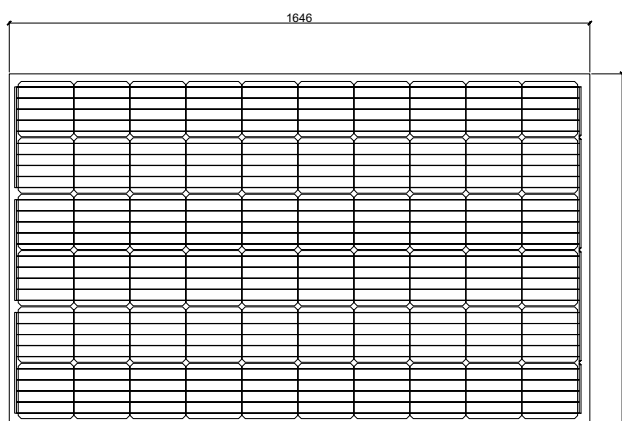
Fire protection

Top and back layer are made of heat-resistant glass. The component is considered to be non-combustible material as defined by the Cantonal Fire Insurances.

|                         |                     |
|-------------------------|---------------------|
| Protection class        | II                  |
| Standards               | IEC/EN 61215, 61730 |
| Salt spray test         | IEC/EN 61701 I+II   |
| Ammonium corrosion test | IEC/EN 62716        |

\* Max. possible forces acting on the module. The maximum values in mounted condition depend on the substructure as well as the installation situation. If the requirements are higher than IEC/EN 61215, a project-specific dimensioning of the mounting system is necessary.

Technical drawing



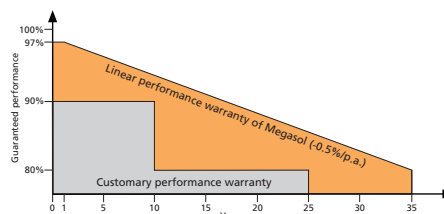
Note: The instructions in the installation manual must be strictly complied with. Further information about approved utilization of products can be found in the installation manual or can be requested from the technical service.

General data

|                            |   |
|----------------------------|---|
| Laminate structure         | Glass-glass   |
| Cell type                  | Monocrystalline, 5 busbars  |
| Cell size                  | 156x156 mm  |
| Number of cells (matrix)   | 60 (6x 10)  |
| Colour between cells       | Black   |
| Frame                      | Frameless   |
| Front side                 | 3.2 mm solar glass<br>High-transmission, tempered/toughened, nano-finished/antireflective surface |
| Encapsulation material     | Special EVA (UV+ / IR+) with lowest water vapour permeability                                     |
| Back side                  | 3.2 mm solar glass<br>Tempered/toughened  |
| Junction box               | 3 bypass diodes, IP 67  |
| Cable cross section        | 4 mm <sup>2</sup>   |
| Connectors                 | MC4 compatible, IP67  |
| Dimensions (LxWxH) ±3.0 mm | 1646x999x8 mm   |
| Modular dimensions (LxW)   | Depending on the installation situation   |
| Weight                     | 28.8 kg   |

Quality and warranty

|                             |  |
|-----------------------------|--|
| Quality characteristics     | PID-free (no potential induced degradation)<br>Yield-optimized low-light performance<br>Full traceability of all raw materials |
| Product warranty            | 10 years   |
| Linear performance warranty | 35 years   |



Relative efficiency level in relation to the minimal output (%). At least 97% of the minimum output during the first year. Afterwards, max. 0.5% degradation per annum. At least 92.5% of the minimum output after 10 years. At least 85% of the minimum output after 25 years. At least 80% of the minimum output after 35 years. All data within the measuring tolerances. Warranties according to the respective latest Megasol Warranty Conditions which can be found on [www.megasol.ch/warranty](http://www.megasol.ch/warranty).



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