# **M310-60-b GG LEVEL**

Glass-glass / monocrystalline / 310 Wp / Full Black / LEVEL roof-integrated system



Made in Deitingen (Switzerland)



Meets highest aesthetic requirements



Withstands highest static loads



5-busbar technology



Lifespan of over 50 years due to glass-glass technology

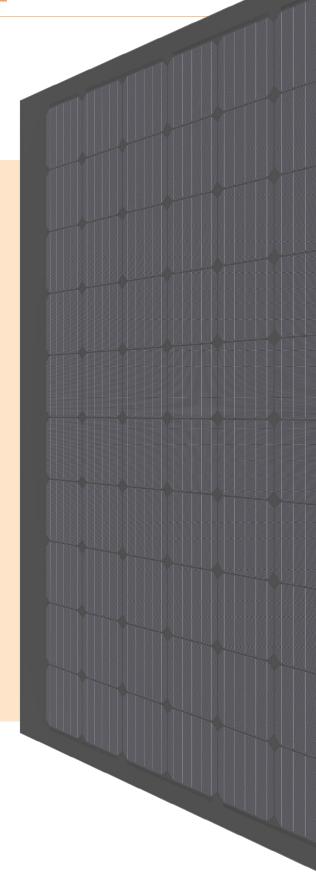


Full traceability of all raw materials



No tariff restrictions for exports to the EU

The LEVEL roof-integrated system consists of glass-glass solar modules that are overlapped – just like roofing shingles. Even complex surfaces can be covered, which makes it the perfect solution for entire and aesthetic roof integrations.



















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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/m², cell temperature 25 °C, AM 1.5 Measuring tolerances  $\pm 3$  % (Pmpp);  $\pm 10$  % (Umpp, Impp, Uoc, Isc)

Electrical data at partial load	800 W/m²
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)

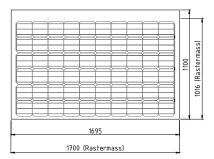
## Thermal properties

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 1500 V
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)	А
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
Salt spray test	IEC/EN 61701 I+II
Ammonium corrosion test	IEC/EN 62716

<sup>\*</sup> The maximum loads also 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



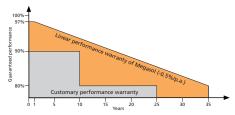
**Product variant** Junction box on the left (viewed from above)

3337.0401 Swiss Premium M310-60-b GG LEVEL Jbox L

Laminate structure	Glass-glass
Cell type	Monocrystalline, 5 busbars
Cell size	156 x 156 mm
Number of cells (matrix)	60 (6x 10)
Colour between cells	Black
Frame	Frameless LEVEL roof-integrated system
Front side	3.2 mm solar glass 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 Tempered/toughened
Junction box	3 bypass diodes, IP67
Cable cross section	4 mm²
Connectors	MC4 compatible, IP67
Dimensions (LxWxH) ±3.0 mm	1100x1695x8 mm
Modular dimensions (LxW)	1016x1700 mm
Weight	32.6 kg

## Quality and warranty

Quality characteristics	PID-free (no potential induced degradation) Yield-optimized low-light performance 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. At least 80 % of the minimum output after 35 years. At least 80 % of the minimum output after Warranties according to the respective latest Megasol Warranty Conditions which can be found on www.megasol.ch/warranty.

















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