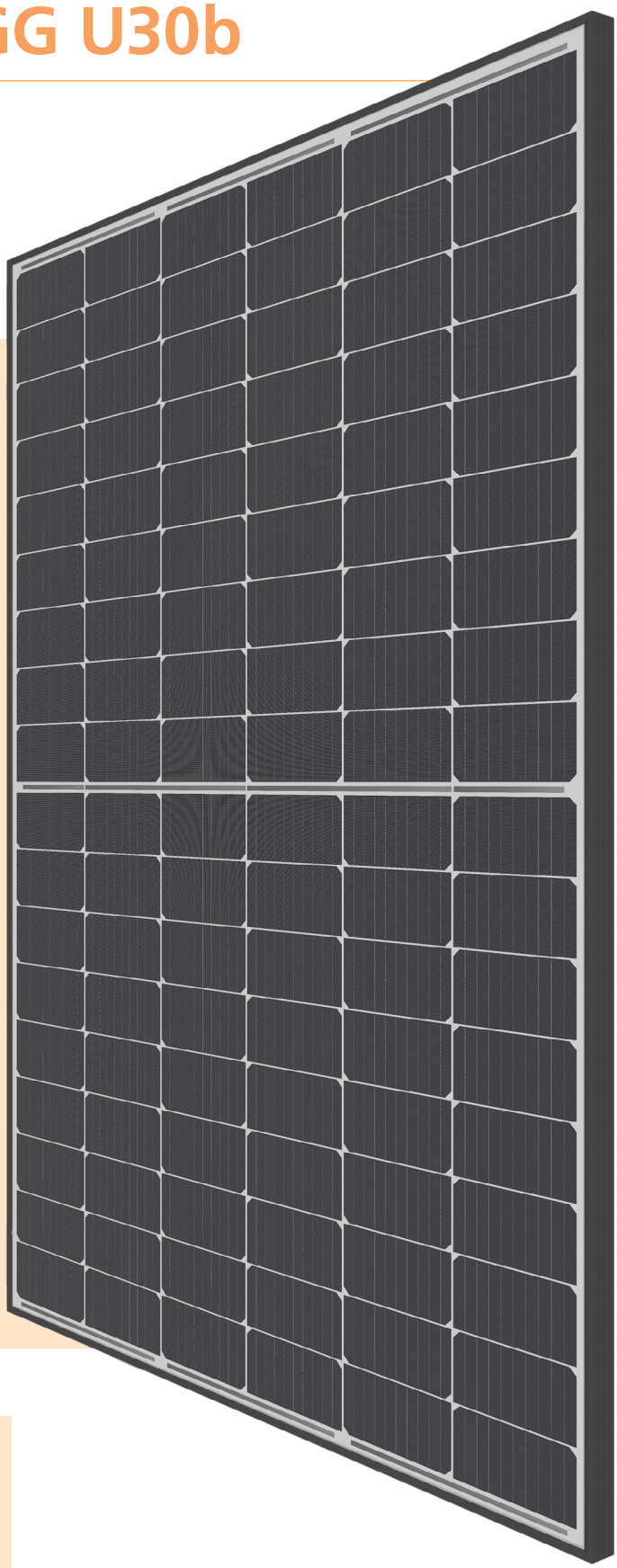
0322.1585 High performance module

M440-HC108-w BF GG U30b

Bifacial glass-glass module / white / 440 Wp /
Mono HiR half-cut / black 30 mm U-frame



n-type HiR half-cut technology

Additional yields through enhanced bifaciality factor

High performance stability and maximum efficiency

Meets highest aesthetic requirements

50+

Very high durability due to glass-glass technology

Full traceability of all raw materials

Swiss development and warranty

Bifacial gain[1]		
Low reflecting surface	*e.g. grass, brick*	**5 - 15 %**
Well reflecting surface	*e.g. sand, bright gravel or paint*	**15 - 25 %**
Highly reflecting surface	*e.g. ice, snow*	**25 - 35 %**

megasol
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IEC CE PV CYCLE SENS eRecycling Recyclable Packaging

High performance module M440-HC108-w BF GG U30b

Art. 0322.1585

Electrical data STC

Nominal power (Pmpp)	440 Wp
Nominal voltage (Umpp)	32.5 V
Nominal current (Impp)	13.55 A
Open circuit voltage (Uoc)	39.1 V
Short circuit current (Isc)	14.34 A
Cell efficiency	24.80 %
Bifaciality factor	≥ 90 %
Module efficiency	22.55 %
Power sorting	-0/+5 %

With bifacial gain [1]

5 %	462 Wp
10 %	484 Wp
15 %	506 Wp
20 %	528 Wp
30 %	572 Wp

[1] Depending on installation situation, albedo of the substrate and external factors.

STC (Standard Test Conditions): irradiance 1000 W/m², cell temperature 25 °C, AM 1.5
Measuring tolerances ±3 % (Pmpp); ±10 % (Umpp, Impp, %, Uoc, Isc)

Electrical data at partial load

800 W/m²

Nominal power (Pmpp)	357 Wp
Nominal voltage (Umpp)	32.5 V
Nominal current (Impp)	10.99 A
Open circuit voltage (Uoc)	39.0 V
Short circuit current (Isc)	11.62 A

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

Thermal properties

Nominal operating cell temperature (NOCT)	42 ±2 °C
Temperature coefficient Uoc	-0.260 %/°C
Temperature coefficient Isc	+0.046 %/°C
Temperature coefficient Pmpp	-0.320 %/°C

Operating conditions

Temperature range	-40 ... +85 °C
Max. system voltage	1500 V
Max. string fuse	25 A
Max. snow loads *	Up to 5'400 N/m²
Hail resistance	ø 30 mm at 23 m/s Hail protection class 3
Application class (acc. to IEC/EN 61730)	A
Fire protection class (acc. to EN 13501-1)	B - s1, d0
Protection class	II
Standards	IEC/EN 61215, 61730
Salt spray test	IEC/EN 61701 I+II
Ammonium corrosion test	IEC/EN 62716

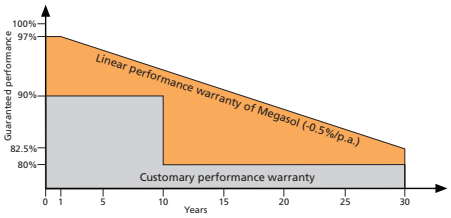
* Max. possible forces acting on the module. The maximum values in mounted condition depend on the substructure as well as the installation situation. If the requirements are higher than IEC/EN 61215, a project-specific dimensioning of the mounting system is necessary.

General data

Laminate structure	Glass-glass
Cell technology	Megasol Mono HiR Bifacial
Cell format	M10 Half-cut 182 x 91 mm
Number of cells (matrix)	108 (6x 18)
Colour between cells	White
Frame	U-frame 30 mm Aluminium, anodized black
Front side	2.0 mm TVG High-transmission, nano-finished/antireflective surface
Encapsulation material	Special EVA (UV+/IR+) with lowest water vapour permeability
Back side	2.0 mm TVG
Junction box	Split Box, IP68
Cable cross section	4 mm²
Connectors	Original Stäubli MC4-Evo 2
Dimensions (L x W x H) ±3.0 mm	1722 x 1134 x 30 mm
Modular dimensions (L x W)	Depending on the installation situation
Weight	25 kg

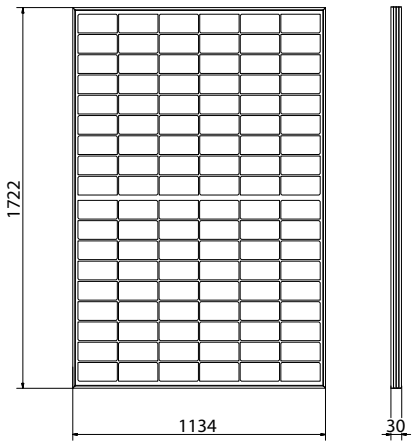
Quality and warranty

Quality characteristics	PID-free (no potential induced degradation) Yield-optimized low-light performance Full traceability of all raw materials HiR cell technology with enhanced bifaciality factor: additional yields when mounted on flat roof, railing, carport, etc. (depending on mounting distance and albedo of the substrate)
Product warranty	15 years
Linear performance warranty	30 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 87.5 % of the minimum output after 20 years. At least 82.5 % of the minimum output after 30 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.

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.

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