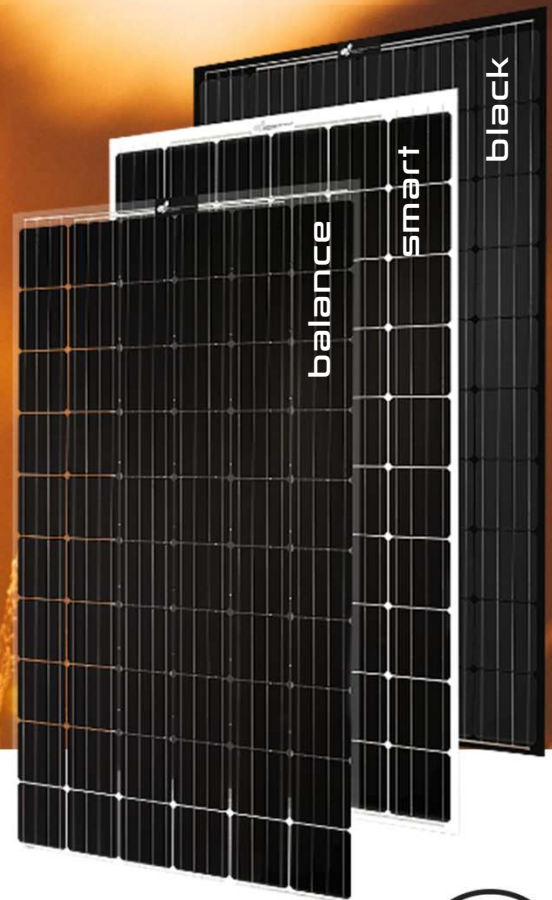


Optional
1500 volts module edition
optional in transparent, white, full black
Total Care for the entire system
Extended product guarantee



EXCELLENT GLASS/GLASS M60
balance | smart | black frameless

MONOCRYSTALLINE 285–295 WP



Long lifetime even under extreme conditions

2 x 2 mm strong, hardened and scratchresistant solar glass

Protection of cells against microcracks through double glass composite

Maximum test load 2.400 Pascal ²

Optimized for performance

PID-free monocrystalline high performance solar cells

Antireflective coated solar glass

Low-light optimized

Positively classified -0/+4.99 Wp

Industry-leading NMOT values

Highest quality standards

Manufactured according to
DIN EN ISO 9001:2015
DIN EN ISO 14001:2015
BS OHSAS 18001:2007

PV-module type approval according to IEC 61215:2016 ³

PV-module safety qualification according to IEC 61730:2016 ³

Guaranteed performance ¹

30 years of linear performance guarantee

20 years product guarantee, optional extension to 30 years

Total Care for the entire system (optional)

¹ For detailed information please consult the CS Wismar GmbH warranty conditions

² See backside for detailed test loads

³ Subject to recertification

EXCELLENT GLASS/GLASS 285 | 290 | 295 M60

balance | smart | black frameless

Performance STC

Under standard Test Conditions STC:
1000 W/m²; spectrum AM 1.5;
Cell temperature 25°C
Measurement tolerance STC:
P_{mpp} ±3%; I_{sc} ±10%; U_{oc} ±10%

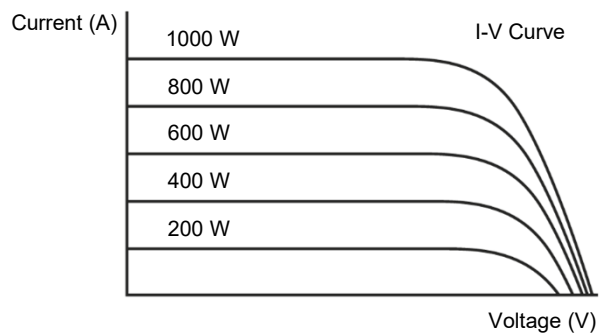
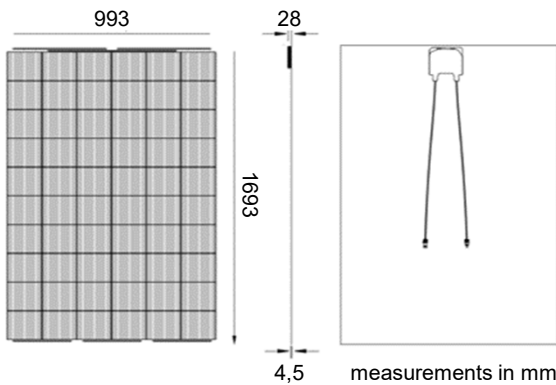
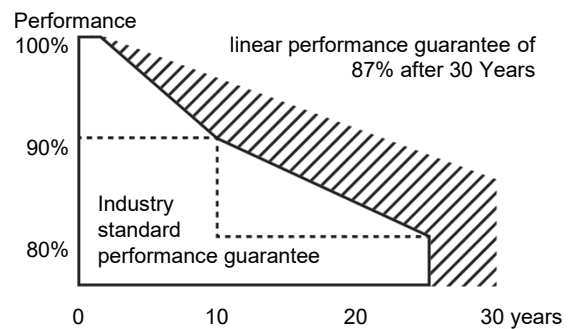
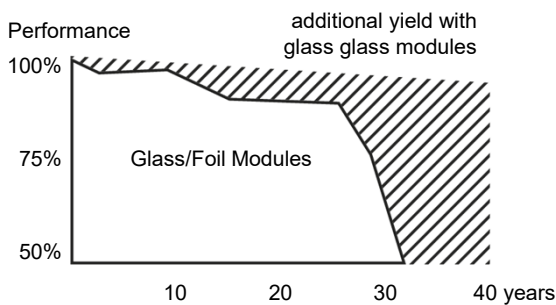
Nominal Power P _{mpp} (Wp)	285	290	295
Open Circuit Voltage U _{oc} (V)	39,33	39,48	39,64
Voltage U _{mpp} (V)	32,01	32,37	32,66
Short Circuit Current I _{sc} (A)	9,54	9,63	9,71
Current I _{mpp} (A)	8,90	8,95	9,02
Efficiency η (%)	17,0	17,3	17,5

Reduction of module efficiency at reduction from 1000 W/m² to 200 W/m²: 2,3% ± 0,5% (relative)

Performance NMOT

Nominal operating temperature of module
800 W/m², NMOT, AM 1.5

Nominal Power P _{mpp} (Wp)	222	226	229
Open Circuit Voltage U _{oc} (V)	36,52	36,66	36,81
Voltage U _{mpp} (V)	31,23	31,55	31,81
Short Circuit Current I _{sc} (A)	7,72	7,79	7,86
Current I _{mpp} (A)	7,11	7,15	7,21



Other Technical Specification

Max. system voltage	1000 V
Weight	20.0 ± 0.5 kg
Reverse Current Load IR	15 A
Junction box	IP 67 with 3 bypass diodes
Connectors	IP 67, MC4
Fire rating	class C
Operating temperature	-40°C ... +85°C
Design load: snow	1.600 Pa *
Max test load	2.400 Pa
Design load: wind	1.600 Pa *
Max test load	2.400 Pa

* safety factor 1.5

Thermal Properties

TC P _{mpp}	-0.41 %/K
TC U _{oc}	-0.31 %/K
TC I _{sc}	0.045 %/K
NMOT	45 +/- 2 °C

Material Used

No. of cells	60 cells
Type of cells	monocrystalline
Front	hardened solar glass
Frame	n/a
Frame height	n/a

