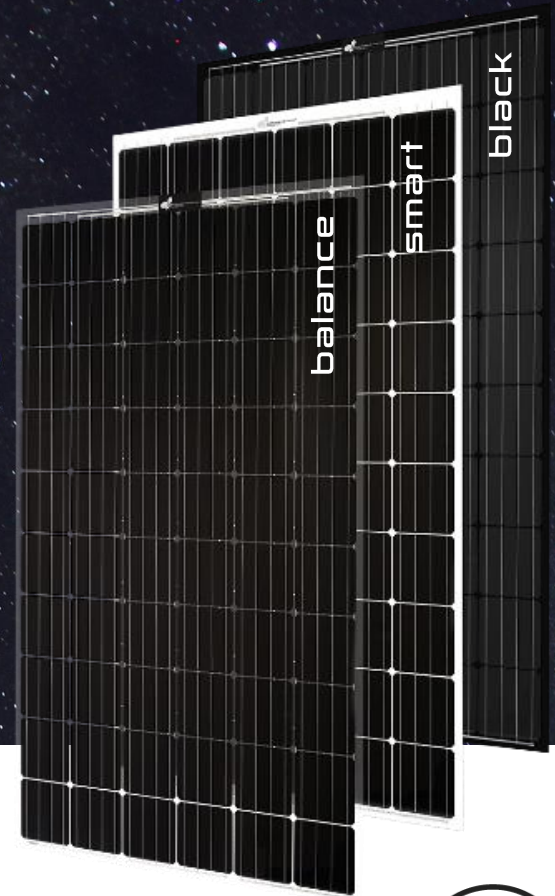


**Optional**  
**1500 volts module edition**  
**optional in transparent, white, full black**  
**Total Care for the entire system**  
**Extended product guarantee**



**EXCELLENT GLASS/GLASS PERC60**  
**balance | smart | black frameless**

PERC 290-305 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 <sup>2</sup>

**Optimized for performance**

PID-free PERC 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 <sup>3</sup>

PV-module safety qualification according to IEC 61730:2016 <sup>3</sup>

**Guaranteed performance <sup>1</sup>**

30 years of linear performance guarantee

20 years product guarantee, optional extension to 30 years

Total Care for the entire system (optional)

<sup>1</sup> For detailed information please consult the CS Wismar GmbH warranty conditions

<sup>2</sup> See backside for detailed test loads

<sup>3</sup> Subject to recertification

# EXCELLENT GLASS/GLASS 290 | 295 | 300 | 305 PERC60

balance | smart | black frameless

## Performance STC

Under standard Test Conditions STC:  
1000 W/m<sup>2</sup>; spectrum AM 1.5;  
Cell temperature 25°C  
Measurement tolerance STC:  
P<sub>mpp</sub> ±3%; I<sub>sc</sub> ±10%; U<sub>oc</sub> ±10%

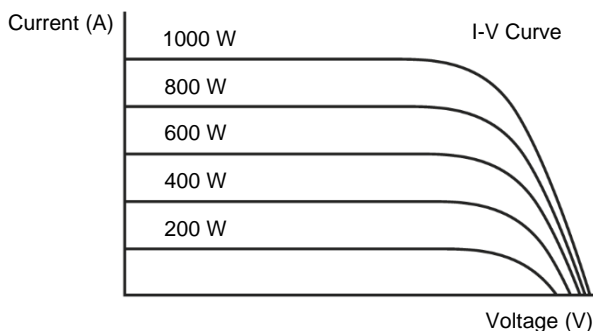
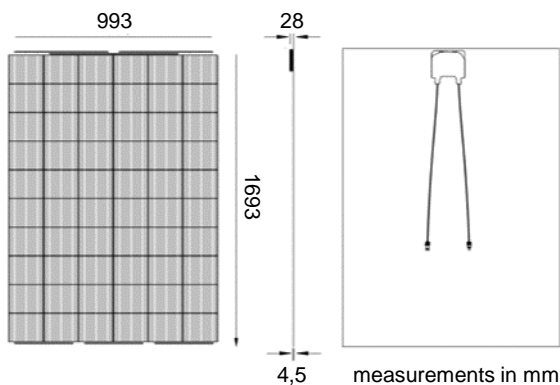
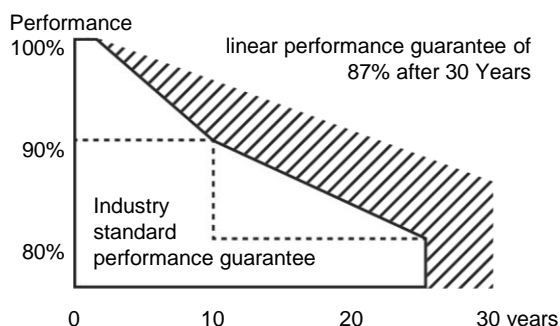
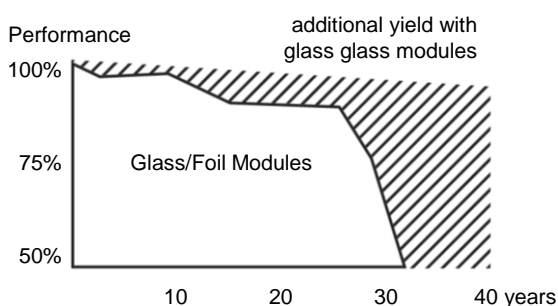
Nominal Power P <sub>mpp</sub> (Wp)	290	295	300	305
Open Circuit Voltage U <sub>oc</sub> (V)	38,83	39,15	39,28	39,62
Voltage U <sub>mpp</sub> (V)	32,26	32,52	32,72	32,94
Short Circuit Current I <sub>sc</sub> (A)	9,58	9,66	9,76	9,87
Current I <sub>mpp</sub> (A)	8,99	9,07	9,17	9,26
Efficiency η (%)	17,3	17,5	17,8	18,1

Reduction of module efficiency at reduction from 1000 W/m<sup>2</sup> to 200 W/m<sup>2</sup>: 2,5% ± 0,2% (relative)

## Performance NMOT

Nominal operating temperature of module  
800 W/m<sup>2</sup>, NMOT, AM 1.5

Nominal Power P <sub>mpp</sub> (Wp)	227	231	235	239
Open Circuit Voltage U <sub>oc</sub> (V)	36,31	36,61	36,74	37,05
Voltage U <sub>mpp</sub> (V)	31,6	31,86	32,05	32,29
Short Circuit Current I <sub>sc</sub> (A)	7,74	7,81	7,89	7,97
Current I <sub>mpp</sub> (A)	7,17	7,24	7,32	7,39



## 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 <sub>mpp</sub>	-0.39 %/K
TC U <sub>oc</sub>	-0.28 %/K
TC I <sub>sc</sub>	0.040 %/K
NMOT	45 +/- 2 °C

## Material Used

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

