



Heckert Solar

FUTURE STARTS IN GERMANY



Bifacial Back-Contact-Module

ZEUS 3.0 FullBlack

480-485WP



OPTIMAL SHADING BEHAVIOUR



BETTER TEMPERATURE BEHAVIOUR



MODULE EFFICIENCY UP TO 23.8%



HIGH MODULE PERFORMANCE TO 485WP



BRILLANT FULL BLACK DESIGN

DE

GERMAN
WARRANTOR



DIRECT
SERVICE

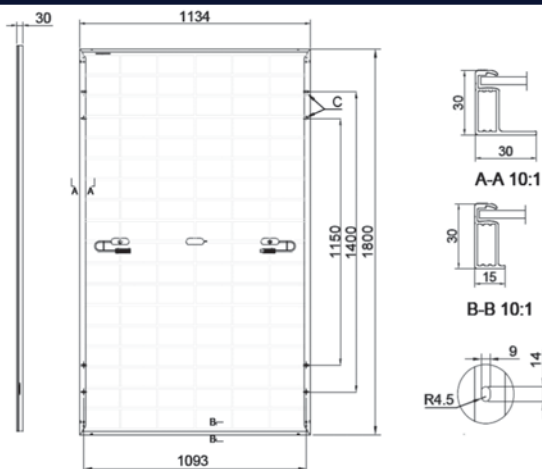
**30
JAHRE**

PRODUCT
WARRANTY

**30
JAHRE**

PERFORMANCE
WARRANTY

DIMENSIONS IN MM



ELECTRICAL SPECIFICATIONS¹ (STC²)

Rated Power P_{MPP} (Wp)	480	485
Max. Power Current I_{MPP} (A)	14,33	14,43
Max. Power Voltage V_{MPP} (V)	33,51	33,62
Short-circuit Current I_{SC} (A)	14,98	15,08
Open-circuit Voltage V_{OC} (V)	40,53	40,64
Modulwirkungsgrad (%)	23,5	23,8

ELECTRICAL SPECIFICATIONS¹ (NMOT³)

Rated Power P_{MPP} (Wp)	365	369
Max. Power Current I_{MPP} (A)	11,48	11,56
Max. Power Voltage V_{MPP} (V)	31,82	31,93
Short-circuit Current I_{SC} (A)	12,02	12,10
Open-circuit Voltage V_{OC} (V)	38,50	38,61

BIFACIAL PERFORMANCE (STC)

5%	P_{max} (Wp)	504	509
10%	P_{max} (Wp)	528	534
15%	P_{max} (Wp)	552	558
20%	P_{max} (Wp)	576	582
25%	P_{max} (Wp)	600	606

TEMPERATURE CHARACTERISTICS

Nominal Module Operating Temperature ³	$42 \pm 2^{\circ}\text{C}$
Temperature Coefficient P_{MAX} (%/ $^{\circ}\text{C}$)	- 0,26
Temperature Coefficient V_{OC} (%/ $^{\circ}\text{C}$)	- 0,20
Temperature Coefficient I_{SC} (%/ $^{\circ}\text{C}$)	+ 0,05

OPERATING CONDITIONS

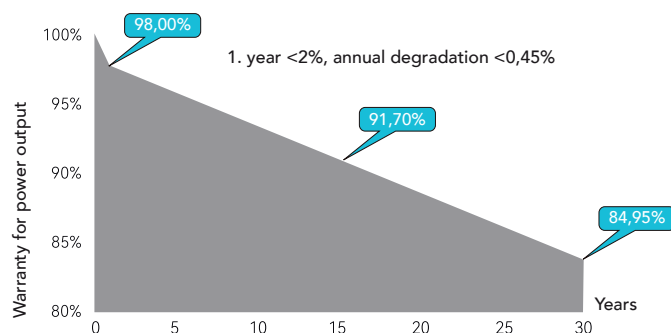
Operating temperature	$-40 \sim +85^{\circ}\text{C}$
Max. System Voltage (VDC)	1500
Reverse current I_R (A)	30
Max. Power tolerance (Wp)	0 / +4,99
Maximum bifaciality (%)	80 ± 5

¹Measurements according to IEC 60904-3, measurements tolerance: $I_{SC} \pm 5\%$, $V_{OC} \pm 5\%$, $PMPP \pm 4\%$, bifaciality: $80\% \pm 5\%$ ²Standard Test Conditions STC: irradiation 1.000 W/m² with a spectrum of AM 1,5 at a cell temperature of 25°C. Maximum reduction in efficiency of 200W/m²: 2%. ³NMOT-Data: Nominal Module Operating Temperature at irradiation of 800W/m² and an ambient temperature of 20 °C. Operation temperature range between -40°C and +85°C. All dimensions +/-3mm. Technical specifications subject to change. No liability is assumed for particulars. Designload= Rated Load, Testload = Test Load. Please follow our installations instructions.

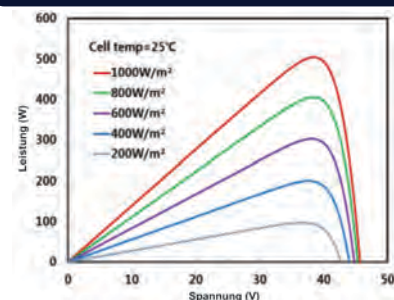
MODULE SPECIFICATIONS

Cell Technology	N-type Back-Contact Technology
Cell Type	108 half cut cells (6x18)
Dimensions	1800 x 1134 x 30mm
Weight	25,0 kg
Front Glass	2mm heat strengthened AR-glass
Rear Glass	2mm heat strengthened glass
Frame	30mm black anodized aluminium frame
Junction Box	3 Diodes, IP68, according to IEC 62790
Connection Cable	4mm ² Stäubli MC4-EVO 2A connector +/- (1500V)
Cable Length	2 x 1200mm
Max. Test-Load, push/pull	+5400Pa / -2400Pa
Max. Design-Load, push/pull	+3600Pa / -1600Pa

LINEAR POWER OUTPUT WARRANTY



I-V CURVE



CERTIFICATES & WARRANTIES

IEC 61215, IEC 61730
 IEC 62716: Ammonia Corrosion*
 IEC 61701: Salt Mist Corrosion*
 IEC TS 62804: PID; IEC TS 63342: LeTID*
 IEC 60068: Dust & Sand*
 Fire protection class: A (according to UL 790)*
 Hail resistance class: HW5
 Product Warranty: 30 Years
 Performance Warranty: 30 Years
 WEEE-Reg.-No.: DE 42676826
 36 Modules/Palettes, 864 Modules/40'HC
 Palette dimensions (L-B-H): 1820x1110x1246mm / weight: 901kg/Palette

*under certification



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