

# Heckert Solar

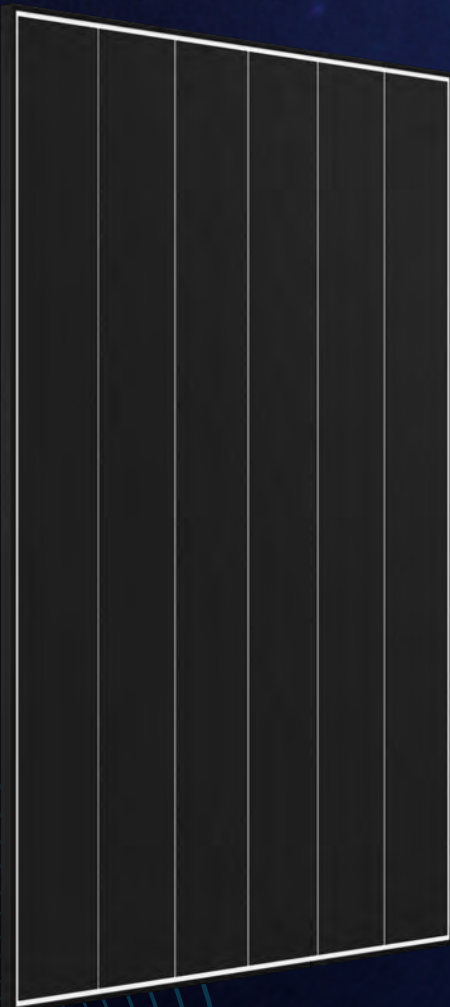
FUTURE STARTS IN GERMANY



Bifacial Back-Contact-Module

# ZEUS 3.0<sup>+</sup> White

## 485 - 490WP



OPTIMAL SHADING BEHAVIOUR



BETTER TEMPERATURE BEHAVIOUR



MODULE EFFICIENCY UP TO 24.5%



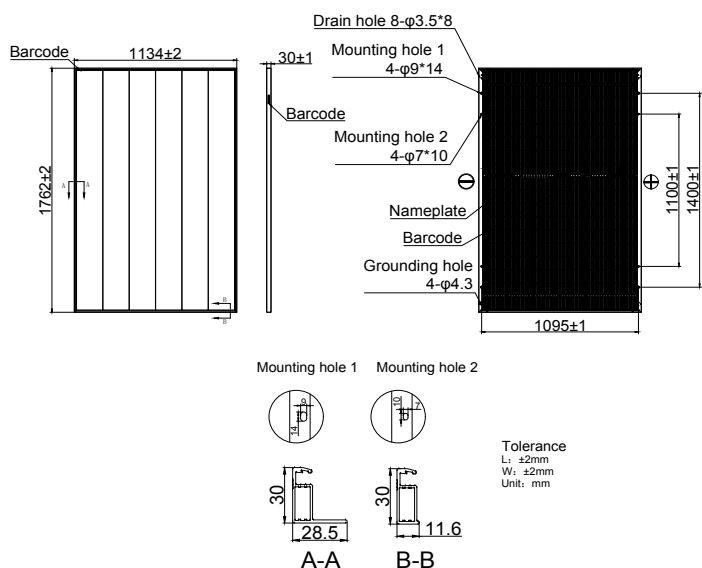
HIGH MODULE POWER UP TO 490WP



HIGH AREA PERFORMANCE 245.23wp / m<sup>2</sup>



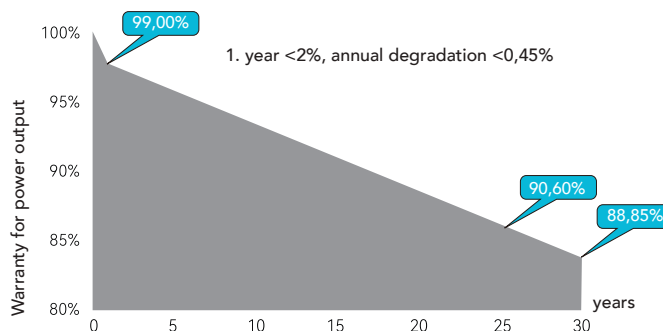
## DIMENSIONS IN MM



## MODULE SPECIFICATIONS

Cell Technology	N-type ABC Back Contact
Cells	108 half cut cells (6x18)
Dimensions	1762 x 1134 x 30mm
Weight	24,2 kg
Front Glass	2mm partially heat strengthened AR glass
Rear Glass	2mm partially heat strengthened glass
Frame	30mm black anodized aluminium frame
Junction Box	3 diodes, IP68, according to IEC 62790
Connecting Cable	4mm <sup>2</sup> Stäubli MC4-EVO 2A plug +/- (1500V)
Cable Length	2 x 1200mm
Max. Test-Load, push/pull	+5400Pa / -2400Pa
Max. Design-Load, push/pull	+3600Pa / -1600Pa

## LINEAR POWER OUTPUT WARRANTY



## ELECTRICAL SPECIFICATIONS<sup>1</sup> (STC<sup>2</sup>)

Rated Power $P_{MPP}$ (Wp)	485	490
Max. Power Current $I_{MPP}$ (A)	14,02	14,13
Max. Power Voltage $V_{MPP}$ (V)	34,60	34,70
Short-circuit Current $I_{SC}$ (A)	14,84	14,88
Open-circuit Voltage $V_{OC}$ (V)	41,00	41,10
Module Efficiency (%)	24,3	24,5

## ELECTRICAL SPECIFICATIONS<sup>1</sup> (NOCT)

Rated Power $P_{MPP}$ (Wp)	367	371
Max. Power Current $I_{MPP}$ (A)	11,21	11,39
Max. Power Voltage $V_{MPP}$ (V)	32,83	32,92
Short-circuit Current $I_{SC}$ (A)	11,99	12,02
Open-circuit Voltage $V_{OC}$ (V)	38,90	38,99

## TEMPERATURE CHARACTERISTICS

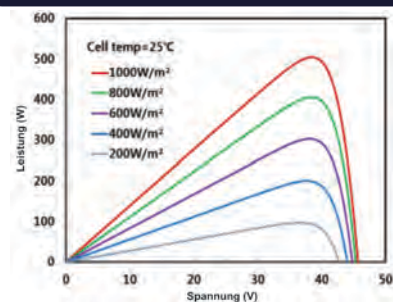
Nominal Module Operating Temperature <sup>3</sup>	45 ± 2°C
Temperature Coefficient $P_{MAX}$ (%/°C)	- 0,26
Temperature Coefficient $V_{OC}$ (%/°C)	- 0,22
Temperature Coefficient $I_{SC}$ (%/°C)	+ 0,05

## OPERATING CONDITIONS

Operating Temperature Range	-40 ~ +70°C
Max.System Voltage (VDC)	1500
Reverse Current Feed $I_R$ (A)	30
Power Performance Tolerance (Wp)	0 / +4,99
Max. Bifaciality (%)	43,6 ± 5

<sup>1</sup>Measurements according to IEC 60904-3, measurements tolerance:  $I_{SC}$  ±5%,  $V_{OC}$  ±5%,  $P_{MPP}$  ±4%, Bifaciality: ± 5% <sup>2</sup>Standard Test Conditions STC: irradiation 1.000 W/m<sup>2</sup> with a spectrum of AM 1,5 at a cell temperature of 25°C. Maximum reduction in efficiency at 200W/m<sup>2</sup>: 2%. <sup>3</sup>NMOT-Wert: Nominal Module Operating Temperature at irradiation of 800W/m<sup>2</sup> and an ambient temperature of 20 °C. Operating temperature range between -40°C bis +85°C. Dimensions +/-3mm. Technical specifications are subject to change without notice. All information is provided without guarantee. Design load = rated load, test load = test load. Please refer to our installation instructions.

## I-V CURVES



## CERTIFICATES & WARRANTIES

- IEC 61215, IEC 61730\*
- IEC 62716: Ammonia Corrosion\*
- IEC 60068 Sand & Dust\*
- IEC 61701 Salt Mist Corrosion
- 2PfG2387: PID
- 2PfG2689: LeTID
- Fire Protection Class: IEC Class A\*
- Hail Resistance Class: HW3
- Product Warranty: 30 Years
- Performance Warranty: 30 Years
- WEEE-Reg.-No.: DE 42676826
- 37 Modules/Palettes, 962 Modules/40'HC

