



## FULL CELL 60 CELL

MONOCRYSTALLINE MODULE

### 390-410W

POWER OUTPUT RANGE

### 22.60%

MAXIMUM EFFICIENCY

### 0~+5W

BINNING TOLERANCE

### 5BB

BUSSBAR

PERC CELL TECHNOLOGY

#### PRODUCTS

Berlin Series

#### POWER RANGE

390-410W



#### HIGH POWER MODULE

High module conversion efficiency (up to 22.6%) , through superior manufacturing technology



#### POSITIVE TOLERANCE

Guaranteed 0~+5W positive power output tolerance ensures high reliability



#### SELF CLEANING

Anti-reflective, hydrophobic coating improves light absorption and reduces surface dust



#### STRONG AIR RESISTANCE

Entire module certified to withstand high wind loads (2400 Pascal) and snow loads (5400 Pascal)



#### HIGH PERFORMANCE

Excellent performance under low light environments (mornings, evenings and cloudy days)

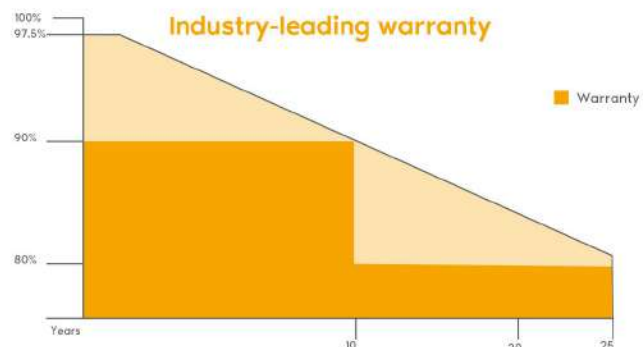
#### SYSTEM CERTIFICATES

IEC61215 / IEC61730 / IEC61701 / IEC62716

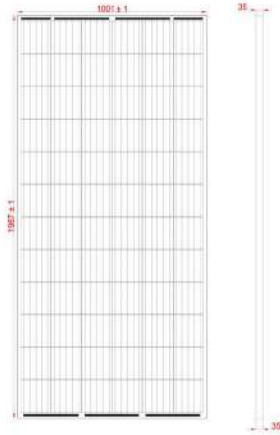
ISO 9001: Quality Management System

ISO 14001: Environmental Management

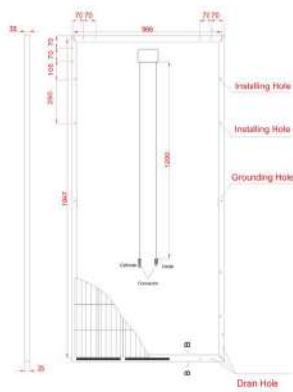
ISO45001: Occupational Health and Safety



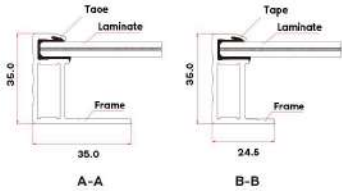
## DIMENSIONS OF PV MODULE(mm)



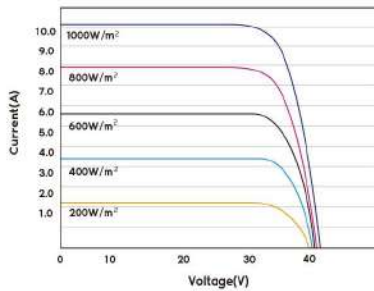
Front View



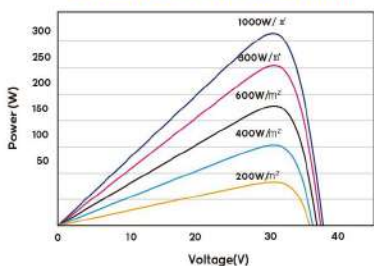
Back View



## I-V CURVES OF PV MODULE(400W)



## P-V CURVES OF PV MODULE(400W)



## ELECTRICAL DATA (STC)

Parameter	390	395	400	405	410
Peak Power Watts-PMAX (Wp)*	390	395	400	405	410
Power Tolerance Range-PMAX (W)	0 - +5				
Maximum Power Voltage-VMPP (V)	40,10	45,60	41,20	41,30	41,42
Maximum Power Current-IMPP (A)	9,73	9,82	9,71	9,82	9,90
Open Circuit Voltage-VOC (V)	45,40	40,20	49,44	49,43	49,70
Short Circuit Current-ISC (A)	9,99	9,99	10,24	10,32	10,44
Module Efficiency $\eta$ m (%)	19,3	19,8	20,11	20,40	20,61

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.  
 \*Measuring tolerance: ±3%.

## ELECTRICAL DATA (NMOT)

Parameter	293	295	300	303	307
Maximum Power-PMAX (Wp)	293	295	300	303	307
Maximum Power Voltage-VMPP (V)	37,90	38,10	38,32	38,5	38,6
Maximum Power Current-IMPP (A)	7,71	7,78	7,83	7,88	7,98
Open Circuit Voltage-VOC (V)	46,01	46,25	46,47	46,6	46,72
Short Circuit Current-ISC (A)	8,05	8,25	8,38	8,45	8,55

NMOT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

## MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	72 cells (6 × 12)
Module Dimensions	1987×1001×35 mm (±1%)
Weight	22 KG
Front Glass	3,2 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	POE/EVA
Back Sheet	KPF Type
Frame	35mm Anodized Aluminium Alloy
J-Box	IP67 / IP68 3 Diodes
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> / 1000mm
Connector	MC4

## TEMPERATURE RATINGS

NMOT(Nominal Module Operating Temperature)	45°C (±2 °C)
Temperature Coefficient of PMAX	-0.360% °C
Temperature Coefficient of VOC	-0.270% °C
Temperature Coefficient of ISC	0.040% °C

## MAXIMUM RATINGS

Operational Temperature	-40 ~ +85 °C
Maximum System Voltage	1000V DC (IEC)
Max Series Fuse Rating	15A

## WARRANTY

10 year Product Workmanship Warranty
25 year Power Warranty
2% first year degradation
0.45% Annual Power Attenuation

(Please refer to product warranty for details)

## PACKAGING CONFIGURATION

Modules per box	32 pcs
Modules per 20' / 40' Container	384 / 876 pcs

