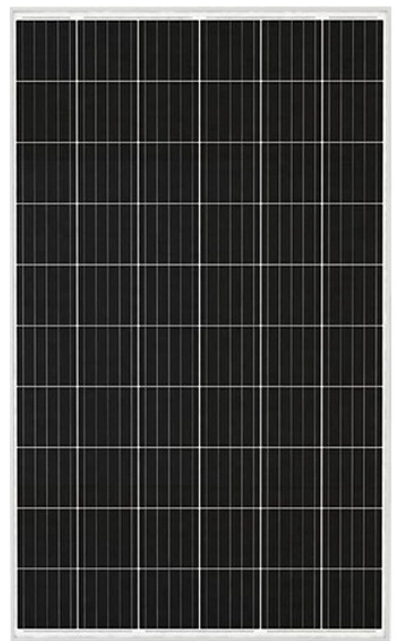


MOTECH

POWER UP NOW



FULL CELL 60 CELL

MONOCRYSTALLINE MODULE

390-410W

POWER OUTPUT RANGE

22.60%

MAXIMUM EFFICIENCY

0~+5W

BINNING TOLERANCE

5BB

BUSSBAR

PERC CELL TECHNOLOGY

SYSTEM CERTIFICATES

IEC61215/IEC61730/IEC61701/IEC62716

ISO 9001: Quality Management System

ISO 14001: Environmental Management

ISO45001: Occupational Health and Safety



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



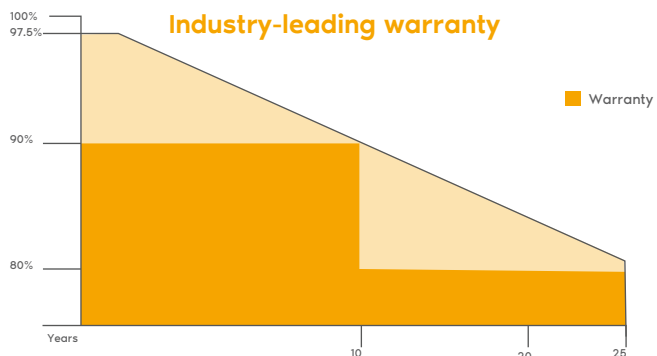
STRONG AIR RESISTANCE

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

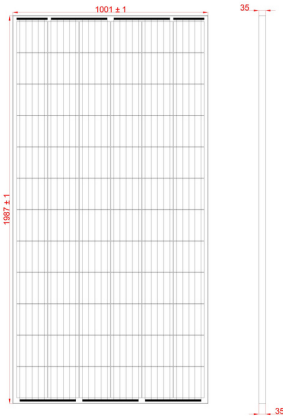


HIGH PERFORMANCE

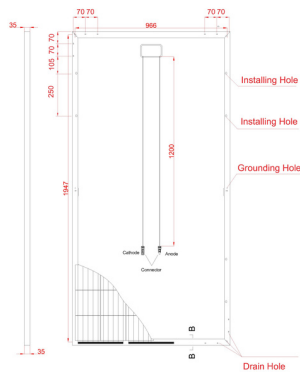
Excellent performance under low light environments (mornings, evenings and cloudy days)



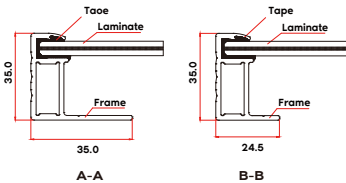
DIMENSIONS OF PV MODULE(mm)



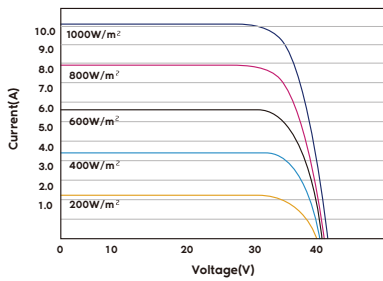
Front View



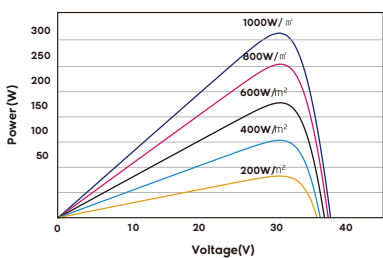
Back View



I-V CURVES OF PV MODULE(400W)



P-V CURVES OF PV MODULE(400W)



ELECTRICAL DATA (STC)

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 η_m (%)	19,3	19,8	20,11	20,40	20,61

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.
*Measuring tolerance: ±3%.

ELECTRICAL DATA (NMOT)

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/m², 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 ² / 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)

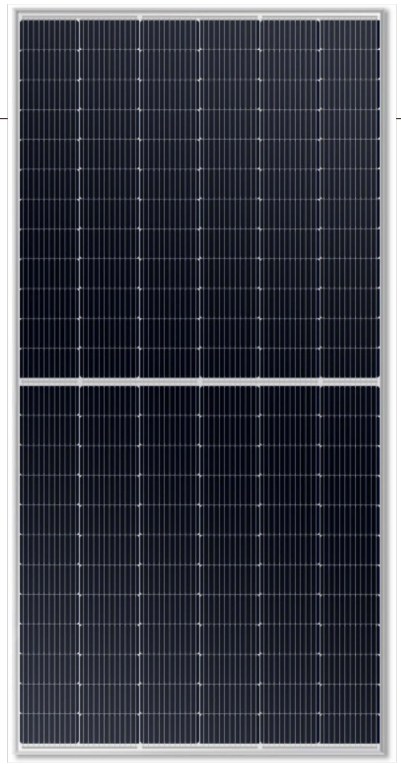
PACKAGING CONFIGURATION

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



MOTECH

POWER UP NOW



HALF CUT 144 CELL

MONOCRYSTALLINE MODULE

525-550W

POWER OUTPUT RANGE

21.28%

MAXIMUM EFFICIENCY

0~+5W

BINNING TOLERANCE

10BB

MULTI BUSBAR

PERC CELL TECHNOLOGY

PRODUCTS

Tokyo Series

POWER RANGE

525-550W



High power Mono Perc

- Up to 550W front power and 21.28% module efficiency with half cut tech
- MBB (Multi Busbar) technology bringing more BOS savings
- Lower resistance and good reflection effect of MBB ensure high power



High reliability

- Ensured PID resistance through cell process and module material control
- Resistant to salt, acid and ammonia
- Proven to be reliable in high temperature and humidity areas
- Certified to fire class A
- Minimizes micro-crack and snail trails
- Mechanical performance: Up to 5400 Pa positive load and 2400 Pa negative



High energy generation

- Up to 25% additional power gain from back side depending on the design
- Excellent current and low light performance validated by 3rd party
- Perfect cell process and module material optimization
- Lower temp coefficient (-0.35%) and NMOT bring more energy
- Better anti-shading performance and lower operating temperature

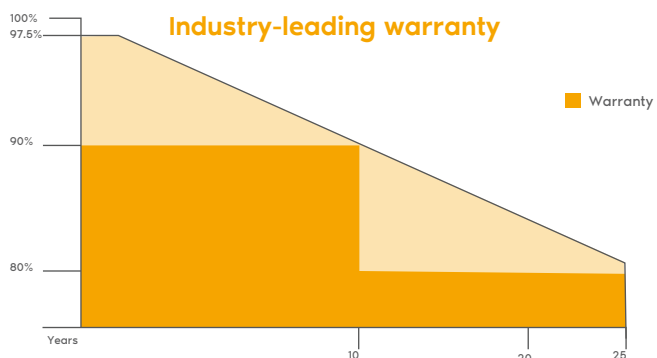


Easy to install

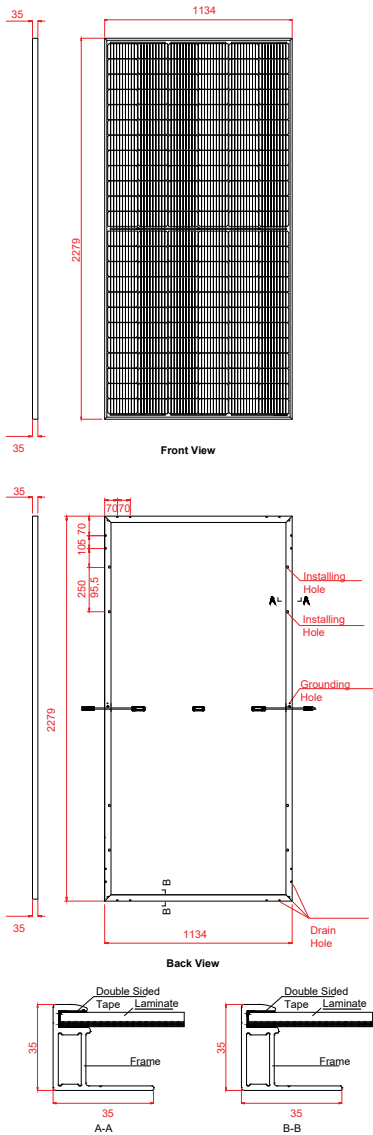
- Frame design makes module compatible with all racking and installation methods
- Easy to handle and install as normal framed module during transportation

SYSTEM CERTIFICATES

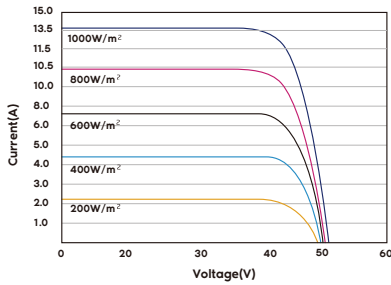
IEC61215/IEC61730/IEC61701/IEC62716
 ISO 9001: Quality Management System
 ISO 14001: Environmental Management
 ISO45001: Occupational Health and Safety



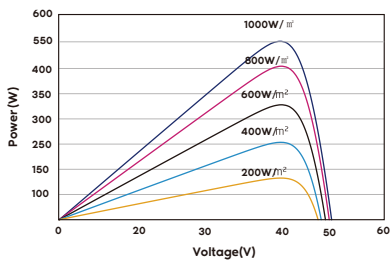
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(550W)



P-V CURVES OF PV MODULE(550W)



ELECTRICAL DATA (STC)

Peak Power Watts-PMAX (Wp)*	525	530	535	540	545	550
Power Tolerance Range-PMAX (W)	0 - +5					
Maximum Power Voltage-VMPP (V)	41,3	41,4	41,5	41,65	41,80	41,96
Maximum Power Current-IMPP (A)	12,72	12,80	12,89	12,97	13,04	13,11
Open Circuit Voltage-VOC (V)	49,56	49,68	49,8	49,98	50,16	50,35
Short Circuit Current-ISC (A)	13,41	13,5	13,60	13,68	13,75	13,83
Module Efficiency ° m (%)	20,31	20,51	20,7	20,89	21,09	21,28

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.
 *Measuring tolerance: ±3%.

ELECTRICAL DATA (NMOT)

Maximum Power-PMAX (Wp)	394	398	401	405	409	413
Maximum Power Voltage-VMPP (V)	38,41	38,50	38,60	38,73	38,87	39,02
Maximum Power Current-IMPP (A)	10,25	10,32	10,40	10,46	10,51	10,57
Open Circuit Voltage-VOC (V)	46,59	46,70	48,81	46,98	47,15	47,33
Short Circuit Current-ISC (A)	10,98	11,05	11,13	11,20	11,26	11,32

NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	144 cells (6 × 24)
Module Dimensions	2279×1134×35 mm (±1%)
Weight	28.KG
Front Glass	3,2 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	POE/EVA
Back Glass	KPF Type
Frame	35mm Anodized Aluminium Alloy
J-Box	IP 68 rated and 30cm or (optional 120cm cable)
Cables	Photovoltaic Technology Cable 4.0mm2
Connector	MC4 EVO2 / TS4

TEMPERATURE RATINGS

NMOT(Nominal Module Operating Temperature)	45°C (±2°C)
Temperature Coefficient of PMAX	-0.35 °C%
Temperature Coefficient of VOC	-0.28 °C%
Temperature Coefficient of ISC	+0.048%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85 °C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	25A

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 40' Container	704 pcs

