

SOLAR PV MODULE

120 HALF CUT TOPCon CELL

BIFACIAL TRANSPARENT BACKSHEET 440-465 W

Transition to a Brighter Tomorrow



SMBB TECHNOLOGY

Better light trapping and current collection to improve module power output and reliability



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control



Higher Power Output

Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR



Auto Bussing & Soldering Technology

Induction based Improved soldering quality without pollution to module



Enhanced Mechanical Load

Certified to withstand wind load (2400 Pascal) and snow load (5400 Pascal)

High Performance Guarantee!



**LINEAR POWER
OUTPUT WARRANTY**



**PRODUCT
WARRANTY**

Suitable for



RESIDENTIAL



UTILITY



COMMERCIAL



OFF-GRID

Certification



IEC 61215 | IEC 61730 | IEC 61701 (Salt Mist) | IEC 62716 (Ammonia)

IEC 61853-2 (IAM) | LID, LETID | IEC 60068 (Sand & Dust) | IEC 62804 (PID)

CE | UL 61730

MADE WITH PREMIER ENERGIES M10 CELLS

M10-182MM WAFER, IDEAL FOR ULTRA-LARGE POWER PLANT

AVAILABLE IN ALL BLACK RANGE



Electrical Characteristics (STC)

MODULE TYPE	PE-440 THB 120 PEI-120-440 THB-M10	PE-445 THB 120 PEI-120-445 THB-M10	PE-450 THB 120 PEI-120-450 THB-M10	PE-455 THB 120 PEI-120-455 THB-M10	PE-460 THB 120 PEI-120-460 THB-M10	PE-465 THB 120 PEI-120-465 THB-M10
Maximum Power (Pmp)	440	445	450	445	460	465
Open Circuit Voltage (Voc)	42.45	42.49	42.53	42.57	42.61	42.65
Short Circuit Current (Isc)	12.70	12.83	12.96	13.08	13.22	13.35
Maximum Power Voltage (Vmp)	36.40	36.44	36.48	36.52	3.56	36.60
Maximum Power Current (Imp)	12.09	12.22	12.34	12.46	12.59	12.71
Module Efficiency %	20.32	20.55	20.78	21.01	21.25	21.48
Power Tolerance	0 to +5W					
Maximum System Voltage	1500V(UL & IEC)					
Maximum Series Fuse Rating	25 Amp					
*STC Irradiance 1000W/m ² , Module Temperature 25°C and AM 1.5				Measuring Tolerance: ±3%		

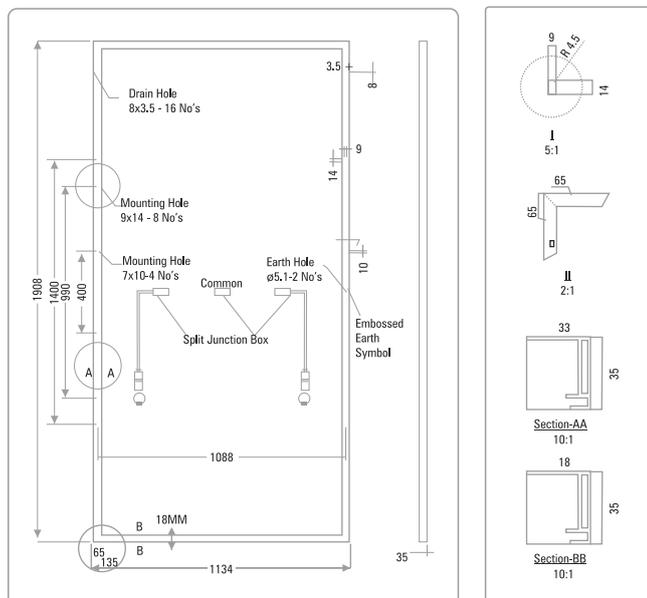
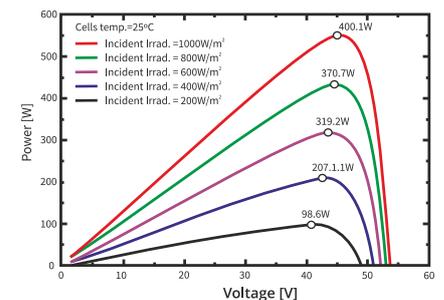
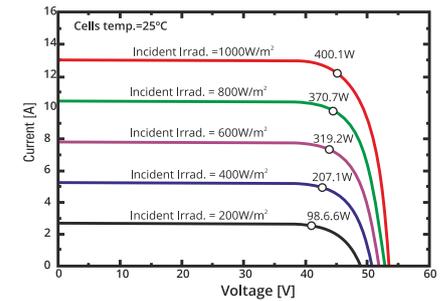
Electrical Characteristics (NOCT)

MODULE TYPE	PE-440 THB 120 PEI-120-440 THB-M10	PE-445 THB 120 PEI-120-445 THB-M10	PE-450 THB 120 PEI-120-450 THB-M10	PE-455 THB 120 PEI-120-455 THB-M10	PE-460 THB 120 PEI-120-460 THB-M10	PE-465 THB 120 PEI-120-465 THB-M10
Maximum Power (Pmp)	320	324	327	331	335	338
Open Circuit Voltage (Voc)	34.42	38.23	38.34	38.44	38.52	38.62
Short Circuit Current (Isc)	10.77	10.88	10.95	11.03	11.12	11.21
Maximum Power Voltage (Vmp)	31.81	31.91	31.99	32.10	32.18	32.27
Maximum Power Current (Imp)	10.06	10.14	10.23	10.31	10.40	10.48
Module Efficiency %	14.79	14.96	15.13	15.30	15.47	15.64
*NOCT- Irradiance 800 W/m ² , AM 1.5, Ambient Temperature 25°C & Wind speed 1m/s				Measuring Tolerance: ±3%		

GAIN		PE-440 THB 120 PEI-120-440 THB-M10	PE-445 THB 120 PEI-120-445 THB-M10	PE-450 THB 120 PEI-120-450 THB-M10	PE-455 THB 120 PEI-120-455 THB-M10	PE-460 THB 120 PEI-120-460 THB-M10	PE-465 THB 120 PEI-120-465 THB-M10
10%	Power Pmp	484.0	489.5	495.0	500.5	506.0	511.5
20%	Power Pmp	528.0	534.0	540.0	546.0	552.0	558.0
30%	Power Pmp	528.0	578.5	585.0	591.5	598.0	604.0
• Bifacial gains depends on the power plant design & albedo of installation site							
• Power Bifaciality=Pmax(Rear)/Pmax(Front) are tested under STC							
						Measuring Tolerance: ±3%	

Temperature Characteristics

Pmax Temperature Coefficient Up to	-0.30%/°C
Voc Temperature Coefficient Up to	-0.27%/°C
Isc Temperature Coefficient	0.04%/°C
Operating Temperature	-40°C To + 85°C
Nominal Operating Cell Temperature	42 ± 3° C



Mechanical Specifications

External Dimensions	1908(±2mm) x 1134 (±2mm) x 35(±1mm)
Weight	24 (± 3%) Kg
Solar Cells	10BB, TOPCon 91mm x 182mm ± 1mm
Front Glass	3.2 mm, High Transmission, Low Iron Tempered Glass
Rear Cover	High Transparent / Black / White Backsheet
Frame	Anodized Aluminium Alloy (Silver/Black)
Junction Box	3 Split, IP 68 Rated
Connector	Mc4 Compatible
Mechanical Load	5400 Pa For Snow Load, 2400 Pa Wind Load
Fire Performance	TYPE 4 (UL 61730) Or Class C (IEC 61730)
Output Cable	4.0 mm ² 400 mm Length

Frame Profile 35x33(Long) & 35x18mm(Short)
Also Available 30x30(Long) & 30x15mm(Short)

Packing Configuration

Container	40'HQ
Pieces per Pallet	31
Pallets per Container	26
Pieces per Container	806

FIRST YEAR
DEGRADATION
< 1.0%

YEAR 2-30 POWER
DEGRADATION
< 0.40%

