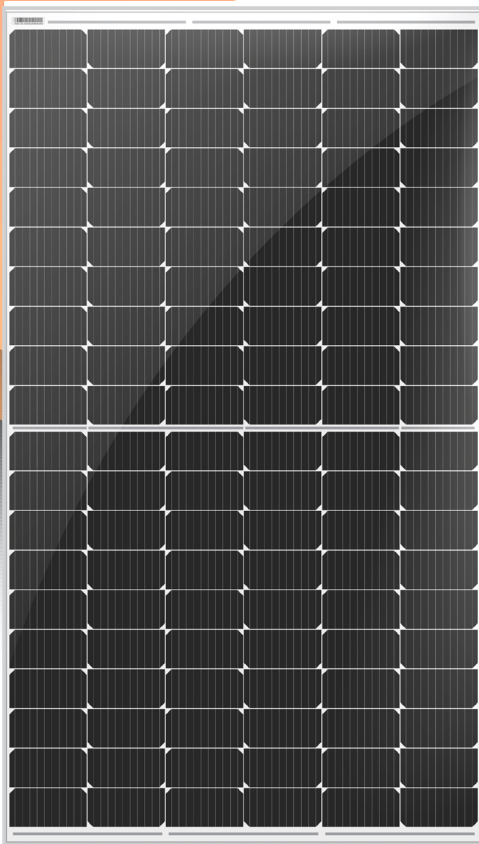
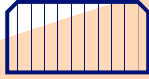


# Tapi™

## 440-465 Watt



### HOW YOU BENEFIT

  
**120 Half Cell**



Optimal yield in all weather conditions; excellent lowlight and temperature behaviour

  
**Up to 21.44%**



Excellent stability; tested for wind loads up to 2,400 Pa and snow loads up to 5,400 Pa

  
**Up to 465Wp**



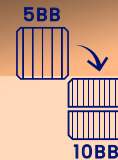
Better Performance under shade; separate operation of upper & lower half of the module

**+**  
**Up to +2.99Wp Positive**



Minimized micro-cracks with innovative non-destructive cutting technology

  
**23.5 kg**



Lower Internal Resistance; Boosts module power that helps in achieving minimal power loss as compare to previous generation module

**12**  
YEARS  
**27**  
YEARS

12-years product warranty & 27-years linear performance warranty

IS 14286: 2010  
IS/IEC 61730-1: 2004  
IS/IEC 61730-2: 2004



R-72008125

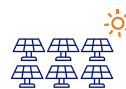


### QUALITY & RELIABILITY

- ✓ Manufactured in an ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Certified Facility.
- ✓ IEC Certificates  
IEC 61215-1 & 2 : 2016, IEC 61730-1 & 2 : 2016  
IEC 61701 : 2020, IEC 62804 : 2015  
IEC 61853-1 & 2 : 2016, IEC 60068-2-68 : 1994  
IEC 62716 : 2013, IEC 60904-1  
IEC TS 63342 : 2022  
IEC 61215-2 (MQT 08, 19.1)  
UL 61730-1 & 2 : 2017  
CEC 300 : 2018
- ✓ IP68 Rated Junction Box for Long-Term Weather Endurance.

- ✓ Made with high-grade raw material to achieve Quality, Durability, Efficiency, and through output.

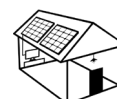
### IDEAL SOLUTION FOR



Ground Mounted Installations



Commercial and Industrial Rooftop installations



Residential Rooftop Installation

# TECHNICAL DATASHEET

## TECHNICAL DATA FOR SMF60HM10-AAA (440-465) - MONOCRYSTALLINE MODULE AND SMB60HM10-AAA (440-465) - BI-FACIAL MONOCRYSTALLINE MODULE

### ELECTRICAL PARAMETER AT STC<sup>#1,2</sup>

MODULE TYPE	SMF/SMB60HM10*-AAA (440-465)					
Capacity rating - Pmax (Wp)	440	445	450	455	460	465
Power Tolerance (Wp)	0-3	0-3	0-3	0-3	0-3	0-3
Open circuit voltage - Voc(V)	41.67	41.84	41.99	42.16	42.31	42.44
Short circuit current - Isc(A)	13.34	13.43	13.52	13.60	13.69	13.78
Rated voltage - Vmp(V)	34.57	34.74	34.89	35.06	35.21	35.34
Rated current - Imp(A)	12.73	12.81	12.90	12.98	13.07	13.16
Module efficiency (%)	20.29	20.51	20.75	20.98	21.21	21.44

<sup>#1</sup> Under Standard Test Conditions (STC) of irradiance 1000 W/m<sup>2</sup>, spectrum AM 1.5 and cell temperature of 25°C.

<sup>#2</sup> Except Pmax other parameters have a tolerance of ± 3%.

### BI-FACIAL OUTPUT - REAR SIDE POWER GAIN\*\*

5 % Gain	462	467	473	478	483	488
10 % Gain	484	490	495	501	506	512
15 % Gain	506	512	518	523	529	535
20 % Gain	528	534	540	546	552	558

\*\* Additional Power Gain from rear side is depends on albedo. (Higher albedo, the higher power gain.)

### ELECTRICAL PARAMETER AT NOCT<sup>#3</sup>

Power (W)	325.36	329.01	332.75	336.45	340.23	343.84
Vmp (V)	31.92	32.07	32.21	32.37	32.51	32.63
Imp (A)	10.19	10.26	10.33	10.39	10.47	10.54
Voc (V)	38.81	38.97	39.11	39.26	39.40	39.52
Isc (A)	10.79	10.86	10.93	11.00	11.07	11.14

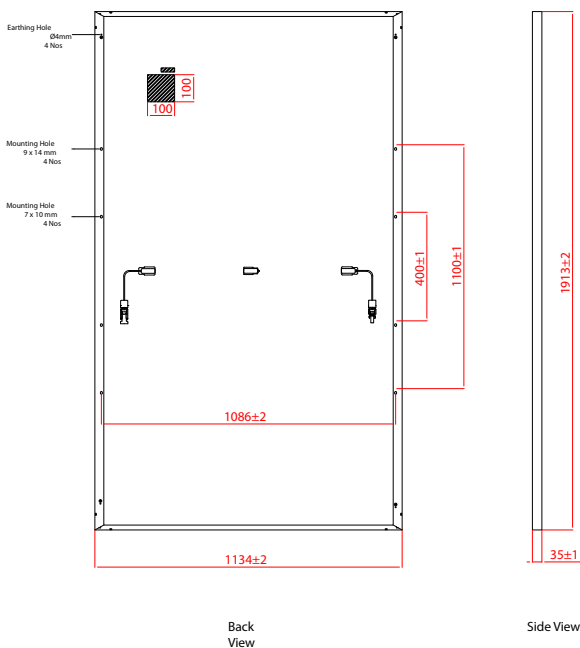
<sup>#3</sup> NOCT irradiance 800 W/m<sup>2</sup>, ambient temperature 20°C, wind speed 1 m/sec

### WARRANTY

Product warranty <sup>**</sup>	12 years
Performance warranty <sup>**</sup>	27 years Linear Power Warranty for with 2% for 1st Year degradation and 0.55% from year 2 to year 27

<sup>\*\*</sup>applicable only when module installation done as per Solex's installation manual.

### DRAWING (MEASUREMENTS ARE IN MM)



### MECHANICAL SPECIFICATION

SPECIFICATION	DETAILS
Solar cells	Monocrystalline Silicon (PERC), Bi facial MBB
Encapsulation	Ultra - clear PID free EVA (Ethylene-Vinyl-Acetate)
Backside	UV protected White/Transparent backsheets
Frame	Silver Anodized Aluminium Alloy
Front glass	3.2 mm, High Transmission, ARC Tempered Glass
Dimensions	(L) 1913 mm x (W) 1134 mm x (H) 35mm
Weight	~23.5 kg
J-box	IP 68 certified, 3 diodes junction box
Cable	Solar cable 400 mm length, 4 mm <sup>2</sup>
Connectors	Compatible with MC4 connectors
Application Class	Class A
Electrical Safety	Class II
Fire Safety	Class C (Type I)
Surface load	Snow load 5400 Pa, wind load 2400 Pa

### TEMPERATURE COEFFICIENT (TC)

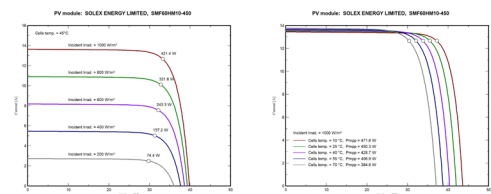
Temperature Coefficient (Voc)	-0.24% /°C
Temperature Coefficient (Isc)	0.04% /°C
Temperature Coefficient (Pmax)	-0.32% /°C

### PERMISSIBLE OPERATING CONDITIONS

Temperature range	-40°C to +85°C
Max. system voltage	1500/1000 VDC
NOCT	45±2°C
Hail resistance	Max. diameter of 25 mm with velocity 23 m/s

<sup>\*\*</sup>applicable only when module installation done as per Solex's installation manual.

### IV CURVE



- For unpacking, handling & installation instructions refer to Solex Energy's Manual guidelines available on the company website.
- Before placing an order confirm your requirements with our sales representative.
- The technical details, drawings and IV Curve here are for reference purposes only.
- Due to constant product modifications, Solex Energy Limited reserves the right to amend the above specifications without prior notice.
- Dispose-off the product as E-Waste after the end of its working life.

### PACKING CONFIGURATION

Container	40'HQ
Modules per Pallet	31
Pallets per Container	24
Modules per Container	744

## SOLEX ENERGY LTD.

Corp. Office: 301-303, Trinity Business Park, Near Madhuvan Circle, L.P. Savani Road, Pal, Surat - 395009, Gujarat, India

Regd. Office: Plot No. 131/A, Phase - 1, H.M.Road, G.I.D.C., Vitthal Udyognagar, Anand - 388121, Gujarat, India