SOLEX ENERGY

30 YEARS OF ENERGY EXCELLENCE

Tapi Black

400-420 Watt

The all-new era of efficiency and perfomance will set new standards in the industry

12 12-years product warranty

30 30-years linear performance warranty

Manufactured in an ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 Certified Facility.

IP68 Rated Junction Box for Long-Term Weather Endurance.

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

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

Module Efficiency Upto 21.50%

108 Half Cell

Weather Resistant

Excellent Outdoor Power Genration

Module Image Is For Reference Only, Actual Appearance May Vary.

TECHNICAL DATASHEET

TECHNICAL DATA FOR SMFB54HM10-AAA (400- 420) - ALL BLACK MONOCRYSTALLINE MODULE AND SMBB54HM10-AAA (400-420) - ALL BLACK BI-FACIAL MONOCRYSTALLINE MODULE

ELECTRICAL PARAMETER AT STC #1,2

MODULE TYPE	SMFB/SMBB54HM10*-AAA (400- 420)				
Capacity rating – Pmax (Wp)	400	405	410	415	420
Power Tolerance (Wp)	0-4.99	0-4.99	0-4.99	0-4.99	0-4.99
Open circuit voltage - Voc(V)	38.57	38.74	38.95	39.12	39.31
Short circuit current - Isc(A)	13.33	13.42	13.50	13.58	13.66
Rated voltage - Vmp(V)	31.47	31.64	31.85	32.02	32.21
Rated current - Imp(A)	12.72	12.80	12.88	12.96	13.04
Module efficiency (%)	20.49	20.73	21.00	21.24	21.50

#1 Under Standard Test Conditions (STC) of irradiance 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.
#2 Except Pmax other parameters have a tolerance of ± 3%

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

5% Gain	420	425	431	436	441
10% Gain	440	445	451	456	462
15% Gain	460	466	472	477	483
20% Gain	480	486	492	498	504

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

ELECTRICAL PARAMETER AT NOCT#3

Power (W)	295.95	299.42	303.29	306.80	310.53
Vmp (V)	29.06	29.21	29.41	29.56	29.74
Imp (A)	10.19	10.25	10.31	10.38	10.44
Voc (V)	35.92	36.08	36.27	36.43	36.61
Isc (A)	10.78	10.85	10.92	10.98	11.05

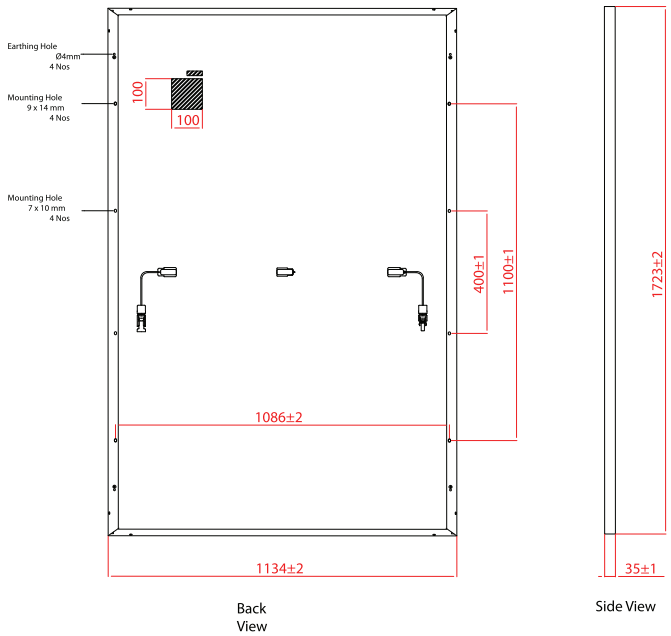
#3 NOCT irradiance 800 W/m2, ambient temperature 20°C, wind speed 1 m/sec

WARRANTY

Product warranty**	12 years
Performance warranty**	30 years Linear Power Warranty for with 2% for 1st Year degradation and 0.55% from year 2 to year 30

**applicable only when module instalation done as per Solex's installation manual

DRAWING (MEASUREMENTS ARE IN MM)



Back View

Side View

MECHANICAL SPECIFICATION

SPECIFICATION	DETAILS
Solar cells	Monocrystalline Silicon (PERC), Bi facial MBB
Encapsulation	Ultra - clear PID free EVA (Ethylene-Vinyl-Acetate)
Backside	UV protected Black/Transparent backsheet
Front glass	3.2 mm, High Transmission, ARC Tempered Glass
Frame	Black Anodized Aluminium Alloy
Dimensions	(L) 1723 mm x (W) 1134 mm x (H) 35mm
Weight	~21.3 kg
J-box	IP 68 certified, 3 diodes junction box
Cable	Solar cable 400 mm length, 4 mm²
Connectors	Compatible with MC4 connectors
Application Class	Class A
Electrical Safety	Class II
Fire Safety	Class C (Type 1)
Surface load	Snow load 5400 Pa, wind load 2400 Pa

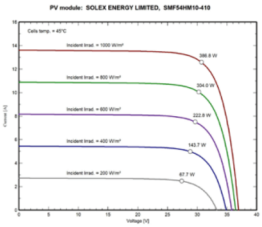
TEMPRATURE COEFFICIENT (TC)

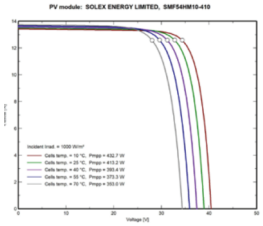
Temperature Coefficient (Voc)	-0.24%/°C & -0.27%/°C (BF)
Temperature Coefficient (Isc)	0.04%/°C & 0.05%/°C (BF)
Temperature Coefficient (Pmax)	-0.32%/°C & -0.33%/°C (BF)

PERMISSIBLE OPERATING CONDITIONS

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

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	26
Modules per Container	806

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