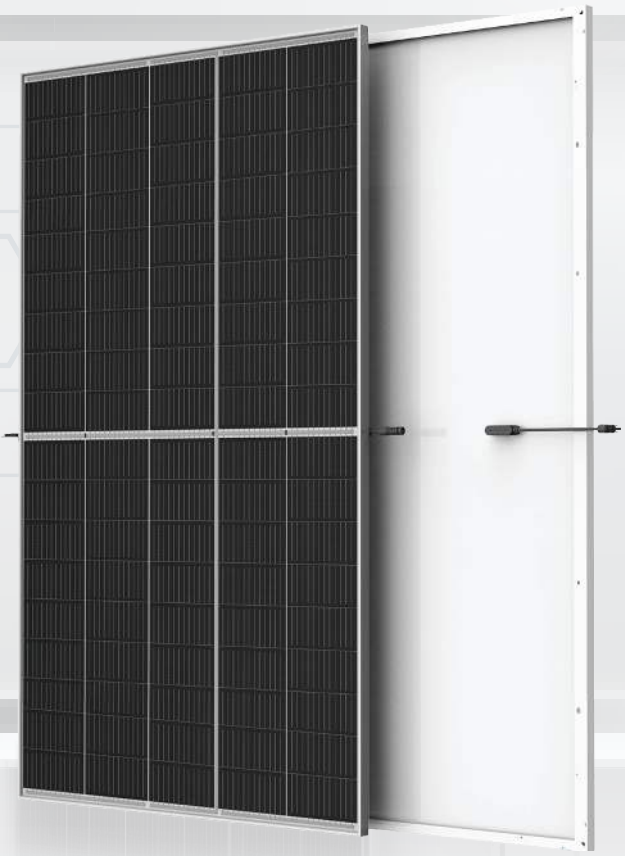
SOLAR PPM

SPPM-MG12-SS 440W - 460W

MONO-FACIAL MODULE



Worldwide Standard

IEC CE UL CERTIFIED

Thai Industrial standard :

Made in Thailand

ISO 9001:2015 COMPANY ISO 14001:2015 COMPANY ISO 45001:2018 COMPANY

Key Features

Smart Technology G12
Monocrystalline silicon wafer

SMBB Technology (12BB)
Better light trapping with multi busbar decreasing resistance and power loss

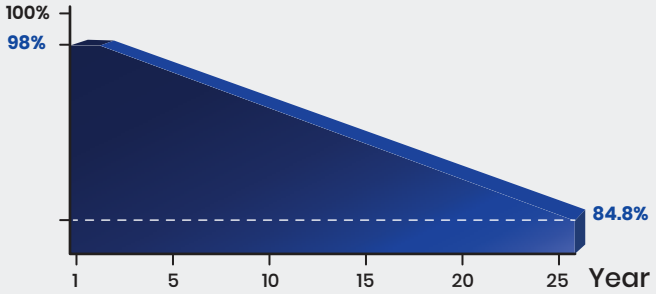
PID Resistance excellence
Anti-performance deterioration induced by negative potential to ground

Anti – reflective and anti- soiling
Reducing reflection loss and dust adhesion and improving power conversion efficiency (PCE)

1500 VDC IES Compatibility
Safe measurement from series circuit connection up to 1500 voltage

PERC Technology
Passivated emitter and rear contact

Power Performance



Linear Performance Warranty

15 Year Product Warranty

25 Year Linear Power Warranty

0.55% Annual Degradation Over 25 years

SOLAR PPM

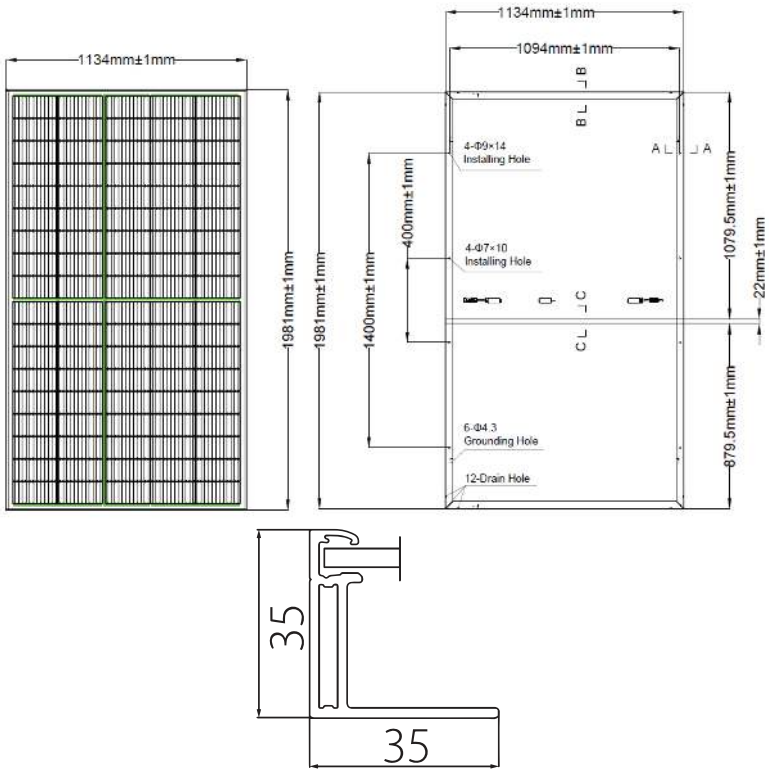
SPPM-MG12-SS
440W - 460W

MECHANICAL PARAMETERS

Cell (mm)	MONO-PERC 210 x 210(12 BB)
Weight (Kg)	25
Glass Thickness (mm)	3.2 + Transparent BS
Dimensions (L x W x H)(mm)	1134 x 1981 x 35
Cable Cross Section Size (mm2)	4.0
No. of Cells and Connections	90 (5 x 9) x 2
Junction Box	IP68,3 Schottky diode
Connector	MC4 Compatible
Packaging Configuration	31

WORKING CONDITIONS

Maximum System Voltage	DC1500V (IEC)
Operating Temperature	-40°C +85°C
Maximum Series Fuse	30A
Maximum Static Load, Front(e.g., snow and wind)	5400Pa
Maximum Static Load, Back(e.g., wind)	2400Pa
NOCT	45+2 °C
Application Class	A
Fire Performance Class	Class C / Type 1



ELECTRICAL PARAMETERS

TYPE	SPPM-MG12-SS 440W	SPPM-MG12-SS 445W	SPPM-MG12-SS 450W	SPPM-MG12-SS 455W	SPPM-MG12-SS 460W
Rated Maximum Power at STC (W)	440	445	450	455	460
Open Circuit Voltage (Voc/V)	32.41	32.49	32.58	32.59	32.71
Maximum Power Voltage (Vmp/V)	27.06	27.16	27.25	27.34	27.43
Short Circuit Current (Isc/A)	17.05	17.15	17.24	17.31	17.41
Maximum Power Current (Imp/A)	16.27	16.39	16.54	16.65	16.77
Module efficiency (%)	19.60%	19.80%	20.32%	20.25%	20.48%
Power tolerance	-0 to +5 Watt				
Temperature Coefficient of Isc	0.07%/ °C				
Temperature Coefficient of Voc	-0.26%/ °C				
Temperature Coefficient of Pmax	-0.35%/ °C				
STC	Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5				

NOCT

TYPE	SPPM-MG12-SS 440W	SPPM-MG12-SS 445W	SPPM-MG12-SS 450W	SPPM-MG12-SS 455W	SPPM-MG12-SS 460W
Maximum Power (Pmax) (W)	332.64	336.48	340.49	344.02	347.85
Open Circuit Voltage (Voc/V)	28.99	29.06	29.12	29.19	29.26
Maximum Power Voltage (Vmp/V)	24.21	24.30	24.40	24.47	24.55
Short Circuit Current (Isc/A)	14.45	14.52	14.60	14.67	14.75
Maximum Power Current (Imp/A)	13.74	13.85	13.95	14.06	14.17
Condition	Under Normal Operating Cell Temperature, Irradiance of 800W/m², Spectrum AM1.5, ambient temperature 20°C, wind speed 1 m/s				

PACKAGE CONFIGURATION

Modules per box: 31 pieces

Modules per 40' container: 620 pieces

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Manufacturer : Solar PPM Co . , Ltd. (Chonburi)
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