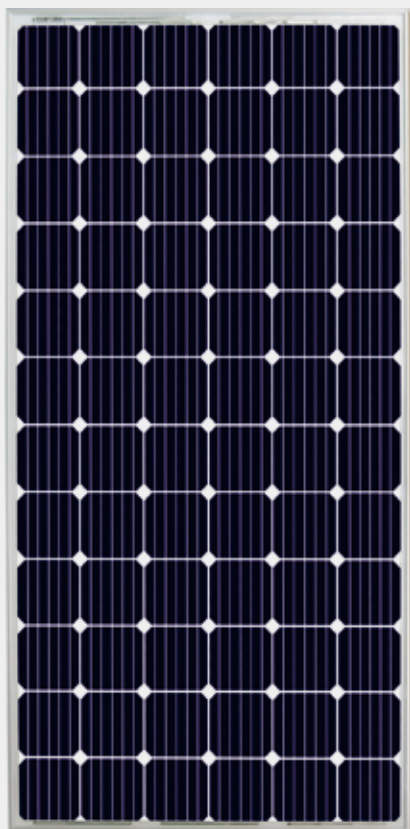
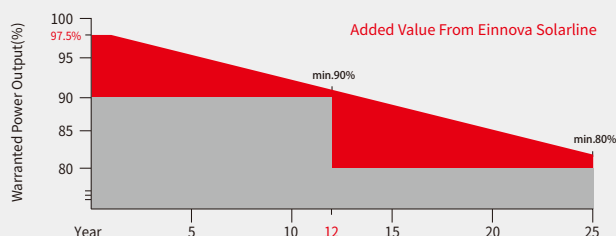


Einnova Solarline

invented for solar



CERTIFICATE



Mono Crystalline Solar Module ESM 435/440/445/450

Einnova Solarline modules strictly comply with IEC standards, following stringent BOM quality testing and 100% EL testing along the fully-automated production line to assure each piece of module the best performance.

KEY FEATURES



Excellent module efficiency of up to: 20.84%



IP68 junction box for long-term weather endurance



Heavy snow load up to 5400 Pa, wind load up to 3600 Pa*



PID: Selected material and stringent quality system ensure PID free



Applicable to harsh environment of deserts, farmlands and seashores



Much lower risk of Hot Spot

WARRANTY



Linear power output warranty*
-12 years minimum 90% power output
-25 years minimum 80% power output



Product warranty on materials and workmanship*
According to the applicable Einnova Solarline limited Warranty Statement

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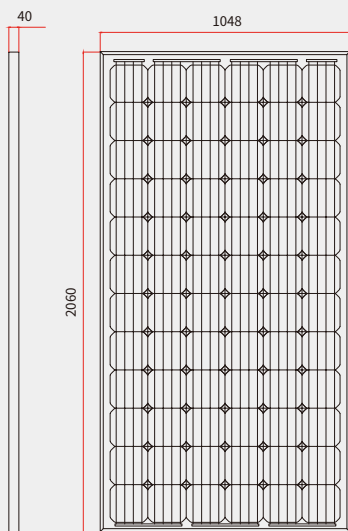
EN

The specifications are subject to change without prior notice.

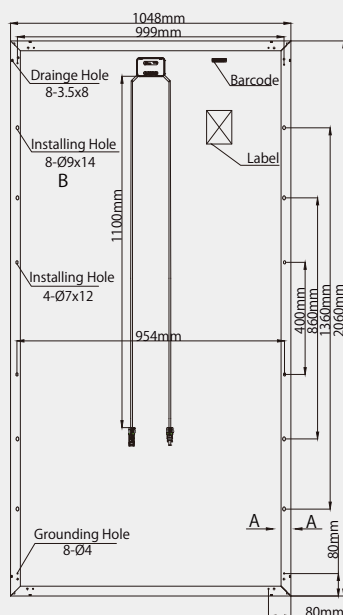
Ennova Solarline

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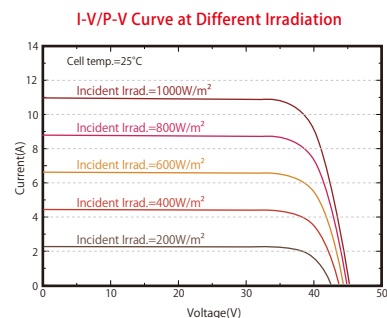
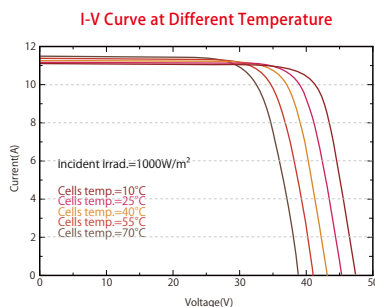
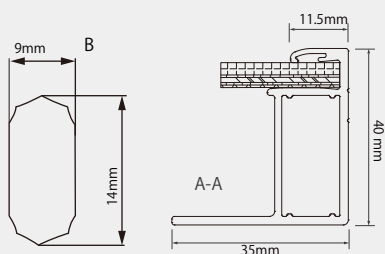
DIMENSIONS OF PV MODULE (unit:mm)



Engineering Drawings



Back View



ELECTRICAL DATA @ STC	ESM-435	ESM-440	ESM-445	ESM-450
Pmax(with tolerance) [W]	435	440	445	450
Vmax [V]	41.08	41.32	41.55	41.78
IPmax [A]	10.59	10.65	10.71	10.77
Voc(with tolerance) [V]	49.30	49.50	49.70	49.90
Isc(with tolerance) [A]	11.61	11.70	11.79	11.88
Module Efficiency-ηm(%)	20.15	20.38	20.61	20.84
Power Output Tolerance(W)	0-+5W			
STC:Irradiance:1000 W/m²,Module Temperature:25°C,Air Mass:1.5				

ELECTRICAL DATA@NOCT	ESM-435	ESM-440	ESM-445	ESM-450
Pmax(with tolerance) [W]	307.92	311.71	315.50	319.29
Vmax [V]	8.14	8.2	8.26	8.32
IPmax [A]	46.9	47.1	47.3	47.5
Voc(with tolerance) [V]	11.61	11.7	11.79	11.88
Isc(with tolerance) [A]	8.6	8.67	8.74	8.81
NOCT:Irradiance:800W/m ² , Ambient Temperature:20°C,Air Mass:1.5,Wind Speed:1m/s				

MECHANICAL SPECIFICATIONS

Solar Cell Type	Mono-crystalline 166x166mm
Number of Cells	72pcs (12x6)
Module Size	2060*1048*40mm
Weight	25kg
Glass	High Transparency self-cleaning solar glass 3.2mm
Back Sheet	White TPT
Frame	Silver Anodized Aluminium Alloy
Junction Box	IP67
Number of Diodes	3pcs
Cable	4.0mm ² 1100mm
Connector	MC4 Compatible
Wind/Snow Load	2400pa/5400pa

TEMPERATURE COEFFICIENT

Nominal Operating Temp (NOCT)	45±2°C
Temperature Coefficient of ISC	0.060%/°C
Temperature Coefficient of VOC	-0.309%/°C
Temperature Coefficient of Pmax	-0.39°C

MAXIMUM RATINGS

Operational Temperature	-40 to +85°C
Maximum System Voltage	1500V DC(IEC) 1500V DC (UL)
Max Series Fuse Rating	20 A
Snow Load	5400 Pa (3600 Pa*)
Wind Load	2400 Pa (1600 Pa*)

PACKAGING CONFIGURATION

Modules per box:	26 pieces
Modules per 40' HQ:	594 pieces

*design load with safety factor 1.5
(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)