

Empowering Solar Living

Shaping Future Technologies

Product Catalogue

KOSOL Energie is an ISO 9001:2015, 14001:2015 & 18001:2007 certified leading organization in India having 2.25 GW production capacity, where we innovate to create and empower the world with functional products to harness and employ clean and green solar energy.

KOSOL provides solutions for solar photovoltaic systems and solar heating water under one roof with in-house R&D facility. Exceeding the high standards and commitment to excellence, our solar products are accepted in domestic as well as overseas markets like in US, Mexico, Africa, Middle East.

We offer a broad selection of Polycrystalline and Monocrystalline solar modules on grid / off grid connected systems. Our solar modules are certified to FIRE RATING TYPE-1 IEC CB 61215/61730/61701, 62804, 62716, LID & LeTID, UL61730, CEC, Bankable and Insured PV modules and conforming to International standards. Our modules are guaranteed with warranty for 25 years, for poly 2.5% for first year degradation and 0.729% from year 2 to 25, for mono 3% for first year degradation and 0.708% from year 2 to 25.



HIGH CONVERSION EFFICIENT Photo Voltaic Modules based on **State-of-the art European manufacturing technology**



Upto +3 Wp **POSITIVE POWER OUTPUT TOLERANCE GUARANTEED** ensuring return on investment



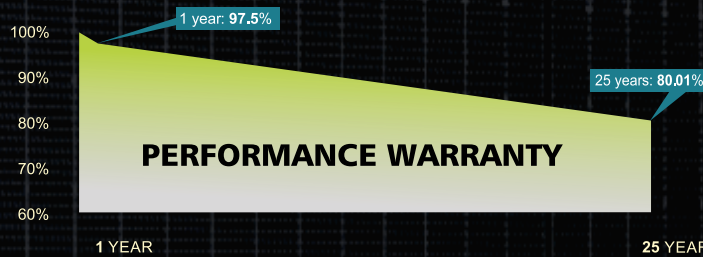
Extremely **RELIABLE PRODUCT** withstands high wind pressure and snow load and temperature variations



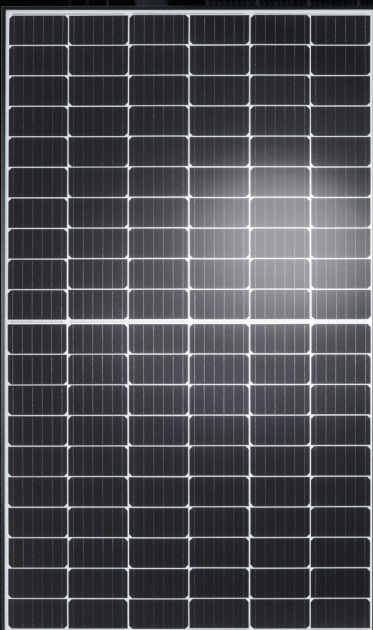
RIGOROUS QUALITY CONTROL meeting the highest International standards



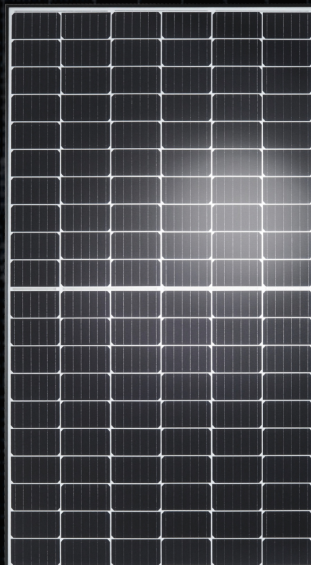
SCAN ME



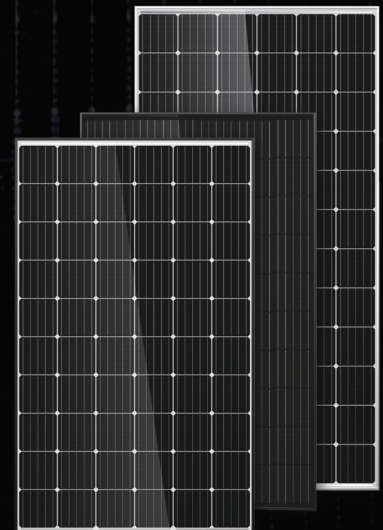
M12 Series : 540 Wp - 670 Wp



M10 Series : 400 Wp - 570 Wp



MONO Series : 50 Wp - 410 Wp



Neptune Mono Series



Mono-Perc Solar PV Modules 72 Cells

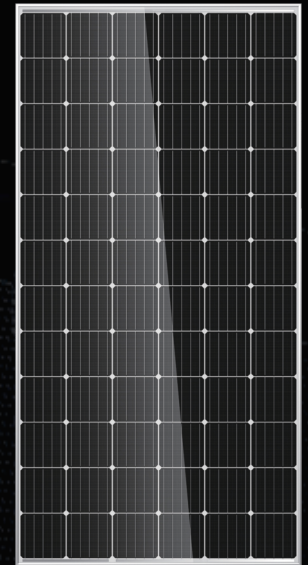
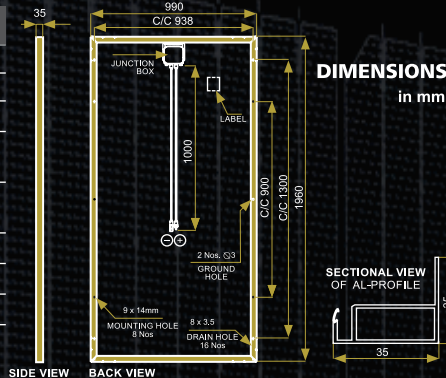
TECHNICAL SPECIFICATIONS - (M Series Module)

TYPE	KE 340	KE 345	KE 350	KE 355	KE 360	KE 365	KE 370	KE 375	KE 380	KE 385	KE 390	KE 395	KE 400	KE 405	KE 410
Pmp/W*	340	345	350	355	360	365	370	375	380	385	390	395	400	405	410
Imp/A	8.9	9	9.09	9.17	9.24	9.77	9.33	9.37	9.39	9.44	9.47	9.52	9.57	9.60	9.64
Vmp/V	38.2	38.4	38.5	38.7	39.0	39.3	39.7	41.1	40.5	40.8	41.2	41.5	41.8	42.2	42.6
Isc/A	9.45	9.5	9.6	9.69	9.70	9.88	9.83	9.88	9.75	9.92	9.93	9.93	9.94	9.96	9.97
Voc/V	46.5	46.7	46.9	47	47.7	48.0	48.3	48.5	48.9	49.10	49.30	49.5	49.7	49.90	50.10

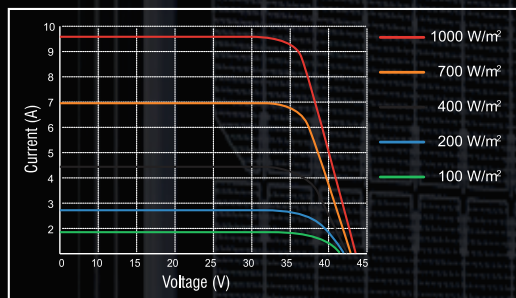
MECHANICAL DATA

L x W x H (mm)	1960 × 990 × 35 and 1979 × 1002 × 35
Weight	20.5 kg
Junction Box	IP67
Cable & Connectors	1000 mm length with 4 mm ² MC4 connector
Superstrate	High transmission low iron AR Coated tempered glass
Frame	Anodized Aluminium frame
Mechanical Load Test	5400 Pa
Maximum Series Fuse Rating	20 A

* STC: 1000 w/m², 25 °C, AM 1.5



IV CURVES



The specifications are for reference purpose only. KOSOL reserves the right to change the specifications without prior notice.

THERMAL PARAMETERS

Tc of Open Circuit Voltage	- 0.36% / °C
Tc of Short Circuit Current	0.06% / °C
Tc of Power	- 0.36% / °C
Maximum System Voltage	1000 V - 1500 V
NOCT	44 °C ± 2 °C
Operating Range	- 40 °C to +85 °C

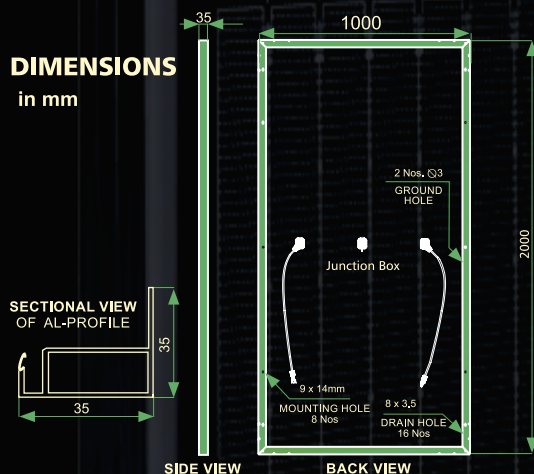
Saturn Mono Split Cell Series

Mono-Perc Solar PV Module 144 Half-cut Cell

TECHNICAL SPECIFICATIONS - (MX Series Module)

TYPE	KE 350	KE 355	KE 360	KE 365	KE 370	KE 375	KE 380	KE 385	KE 390	KE 395	KE 400	KE 405	KE 410
Pmp/W*	350	355	360	365	370	375	380	385	390	395	400	405	410
Imp/A	9.13	9.21	9.28	9.37	9.44	9.52	9.60	9.61	9.64	9.69	9.72	9.76	9.80
Vmp/V	38.4	38.6	38.8	39.0	39.2	39.4	39.6	40.1	40.5	40.8	41.16	41.51	41.86
Isc/A	9.60	9.68	9.73	9.83	9.88	9.93	9.99	10.03	10.08	10.13	10.18	10.23	10.28
Voc/V	46.5	46.9	47.2	47.4	47.6	47.8	48.0	48.5	49.7	50.1	51.03	51.83	52.63

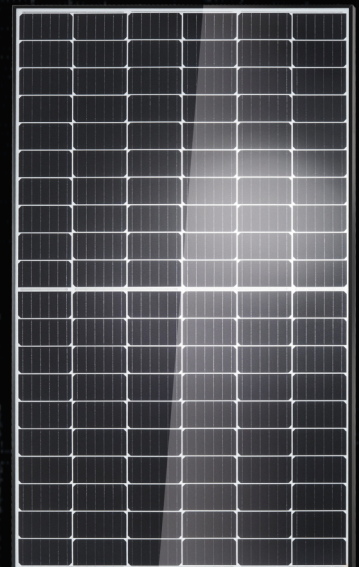
DIMENSIONS in mm



MECHANICAL DATA

L x W x H (mm)	2000 × 1000 × 35
Weight	22.5 kg
Junction Box	IP68
Cable & Connectors	300 mm length with 4 mm ² MC4 connector
Superstrate	High transmission low iron AR Coated tempered glass
Frame	Anodized Aluminium frame
Mechanical Load Test	5400 Pa
Maximum Series Fuse Rating	20 A

* STC: 1000 w/m², 25 °C, AM 1.5



Galaxy Mono M12 Series

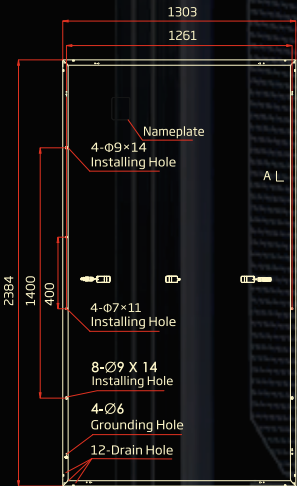
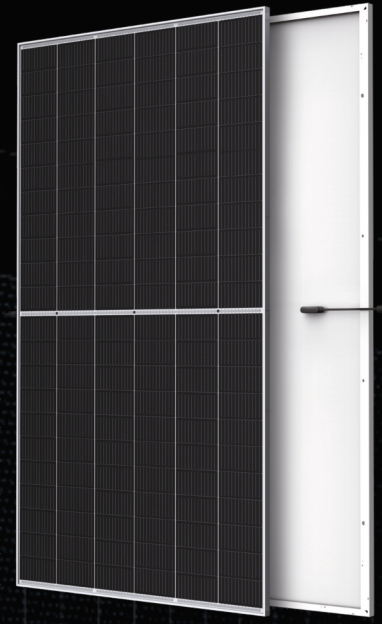


Mono Facial/ Bi- Facial 132/ 120/ 110 Half-cut Cell

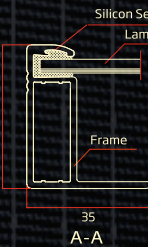
ELECTRICAL DATA (STC)

Peak Power Watts- P_{MAX} (Wp)*	645	650	655	660	665	670
Maximum Power Voltage- V_{MPP} (V)	37.2	37.4	37.6	37.8	38.0	38.2
Maximum Power Current- I_{MPP} (A)	17.35	17.39	17.43	17.47	17.51	17.55
Open Circuit Voltage- V_{oc} (V)	45.1	45.3	45.5	45.7	45.9	46.1
Short Circuit Current- I_{sc} (A)	18.39	18.44	18.48	18.53	18.57	18.62
Module Efficiency η (%)	20.8	20.9	21.1	21.2	21.4	21.6

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. *Measuring tolerance: $\pm 3\%$.



Front View



MECHANICAL DATA

Solar Cells	Mono Perc
Module Dimensions	2384×1303×35 mm (93.86×51.30×1.38 inches)
Weight	33.6 kg (74.1 lb)
Glass	3.2 mm / G G 2.0 mm
J-Box	IP 68 rated
Connector	MC4
Max. load capacity	5400 Pa(Front Surface) & 2400 Pa (Back Surface)

TEMPERATURE RATINGS

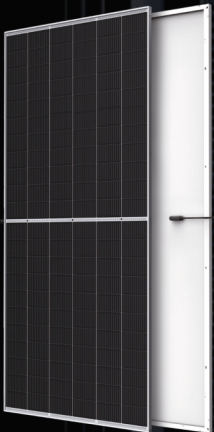
NOCT (Nominal Operating Cell Temperature)	43°C ($\pm 2^\circ\text{C}$)
Temperature Coefficient of P_{MAX}	-0.34%/°C
Temperature Coefficient of V_{oc}	-0.25%/°C
Temperature Coefficient of I_{sc}	0.04%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	30A

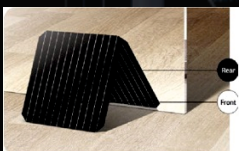
Sun Mono M10 Series

Mono Facial/ Bi- Facial 144 Half-cut Cell



ELECTRICAL DATA (STC)

Maximum Power (P_{max})	530Wp	535Wp	540Wp	545Wp	550Wp	555Wp	560Wp	565Wp	570Wp
Maximum Power Voltage (V_{mp})	40.56V	40.63V	40.70V	40.80V	40.90V	41.02V	41.13V	41.23V	41.33V
Maximum Power Current (I_{mp})	13.07A	13.17A	13.27A	13.36A	13.45A	13.54A	13.63A	13.72A	13.81A
Open-circuit Voltage (V_{oc})	49.26V	49.34V	49.42V	49.52V	49.62V	49.72V	49.82V	49.92V	50.02V
Short-circuit Current (I_{sc})	13.71A	13.79A	13.85A	13.94A	14.03A	14.12A	14.21A	14.30A	14.39A
Module Efficiency STC (%)	20.55%	20.75%	20.94%	21.13%	21.33%	21.52%	21.71%	21.91%	22.10%



TEMPERATURE RATINGS

Operating Temperature(°C)	-40°C~+85°C
Maximum series fuse rating	25A
Temperature coefficients of P_{max}	-0.34%/°C
Temperature coefficients of V_{oc}	-0.259%/°C
Temperature coefficients of I_{sc}	0.04%/°C
Nominal operating cell temperature (NOCT)	45 $\pm 2^\circ\text{C}$

Mechanical Characteristics

Solar Cells	Mono Perc
No. of cells	144 (6×24)
Dimensions	2278×1134×35mm (89.68×44.65×1.38 inch)(± 2 mm)
Weight	28 kg (61.73 lbs)
Glass	3.2 mm / G G 2.0 mm High Transmission, AR Coated Heat Strengthened Glass
Junction Box	IP68 Rated
Max. load capacity	5400 Pa(Front Surface) & 2400 Pa (Back Surface)

Traditional

Mechanical separation

Front side

Cell

Rear side

Laser melting

>1500 °C

Front side

Rear side

Low Temperature Non-destructive cutting(NDC) Process

Light source

Busbar

Wire

Bifaciality Factor: 70 \pm 5%.

** Back-side power gain varies depending upon the specific project albedo

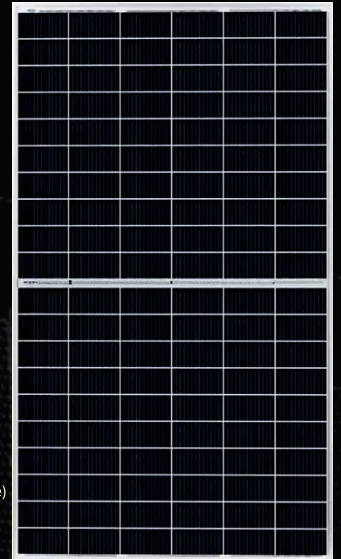
Star Module M10 120 Cells



ELECTRICAL DATA

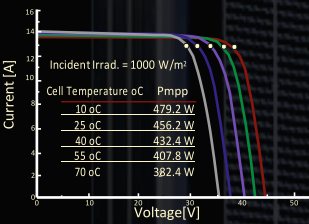
STAR 120	430	435	440	445	450	455	460
Rated power (Pmax), Wp	430	435	440	445	450	455	460
Max. power voltage (Vmp), V	35.00	35.21	35.39	35.52	35.64	35.78	35.92
Max. power current (Imp), A	12.31	12.37	12.45	12.55	12.65	12.74	12.86
Open circuit voltage (Voc), V	41.16	41.20	41.37	41.60	41.85	42.10	42.35
Short circuit current (Isc), A	12.94	13.08	13.16	13.23	13.31	13.37	13.45
Module efficiency (%)	19.76	19.99	20.22	20.45	20.68	20.91	21.14

Test uncertainty for Pmax ± 3%

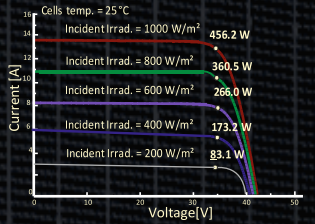


IV Curves

Cell temperature sensitivity chart



Incident irradiance sensitivity chart



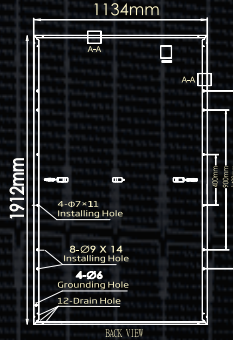
Mechanical Characteristics

Cable	No. 12 AWG, 4mm², (300mm Standard)
PV Connectors	MC4 Compatible
Frame	Anodized Aluminum Alloy
Junction box	IP68 Split junction box with 3 bypass diodes
Glass	3.2mm Thick low iron tempered
Max. load capacity	5400 Pa(Front Surface) & 2400 Pa (Back Surface)

Frame Cross Section



Module Dimension Diagram (mm)



Operating Conditions

Temperature, OC	-40 to +85
Max. system voltage, Vdc	1500
Hail impact velocity, m/sec	23
Max. surface load capacity, Pa	5400
Max. wind speed capacity, Pa	2400
Series fuse rating, A	25

Cell Temperature Coefficient

Open circuit voltage	-0.2597 % / OC
Short circuit current	+0.04 % / OC
Peak power	-0.34 % / OC

Physical Parameters

No. of cells	120
Module dimension (mm)	1912 X 1134 (67.83' X 44.64') (± 2 mm)
Module thickness (mm)	35(1.38' D)
Approximate weight (kg)	24 (52.91 lbs)

- Please refer to the installation manual for detailed information

Black Hole-Rooftop Series Module

Electrical Data

Model - STC	KE390B	KE395B	KE400B	KE405B	KE410B	KE415B
Maximum Rating Power (Pmax) [W]	390	395	400	405	410	415
Module Efficiency [%]	19.98	20.23	20.49	20.75	20.99	21.23
Open Circuit Voltage (Voc) [V]	36.84	37.03	37.20	37.36	37.90	38.09
Maximum Power Voltage [V]	30.82	31.00	31.17	31.36	31.61	31.96
Short Circuit Current [A]	13.50	13.59	13.68	13.78	13.64	13.89
Maximum Power Current [A]	12.66	12.75	12.84	12.92	12.95	13.14

*Values without tolerance are typical numbers. Measurement tolerance: ± 3% *Standard Test Condition (STC): Cell Temperature 25°C, Irradiance 1000W/m², AM 1.5

Mechanical Data

Item	Specification
Dimensions	1723 mm (L) x 1134 mm (W) x 30/35 mm (D) / 67.83' (L) 44.64' (W) x 1.18/1.38' (D)
Weight	21.7 kg / 47.84 lbs
Solar Cell	12x9 pieces monocrystalline solar cells series strings
Front Glass	White toughened safety glass, 3.2mm thickness
Cell Encapsulation	EVA (Ethylene-Vinyl-Acetate)
Frame	Black anodized aluminum profile
Junction Box	IP≥68, 3 diodes
Cable & Connector	Potrait : 300 mm (cable length can be customized), 1 x 4 mm² compatible with MC4
Package Configuration	31 pcs Per Pallet, 806 pcs per OR 36 pcs Per Pallet, 936 pcs per 40' HQ container

Operating Conditions

Item	Specification
Mechanical Load	5400 Pa
Maximum System Voltage	1500 V
Series Fuse Rating	25 A
Operating Temperature	-40 to 85 °C

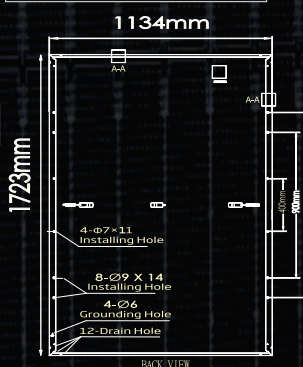
Temperature Characteristics

Item	Specification
Nominal Module Operating Temperature	45 °C ± 2 °C
Temperature Coefficient of Isc	-0.04 % / °C
Temperature Coefficient of Voc	-0.259 % / °C
Temperature Coefficient of Pmax	-0.34 % / °C

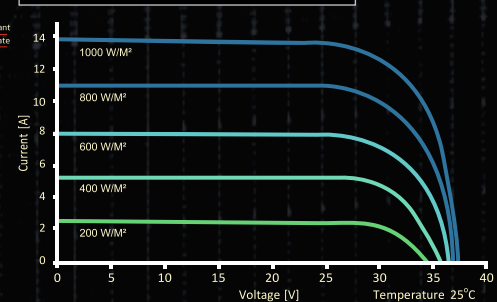
*Nominal module operating temperature (NMOT): Air mass AM 1.5, irradiance 800W/m², temperature 20°C, windspeed 1 m/s.

*Reduction in efficiency from 1000W/m² to 200W/m² at 25°C: 3.5 ± 2%.

Engineering Drawing (mm)



Dependence on Irradiance



KOSOL ENERGIE 445 Hotel Cir S, San Diego, CA 92108, USA

Contact us @ +1 619 400 6667

Email: globalsales@kosol.solar | www.kosol.solar

Warehouse: 46711 FREMONT BLVD/FREMONT CA 94538USA

CAUTION

READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT. Specifications included in this datasheet are subject to change without notice. All electrical data without guarantee. Please confirm your exact requirement with the company representative while placing the order and order confirmation.