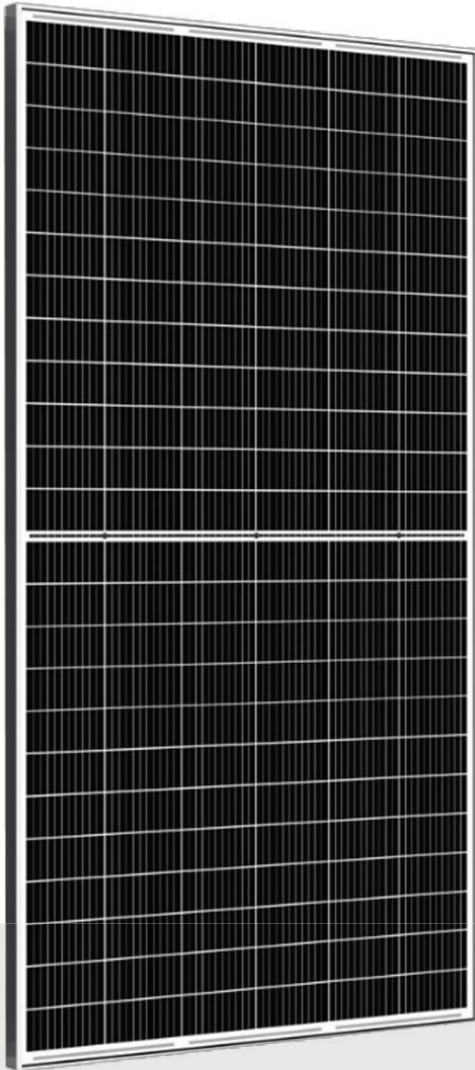









# SOLAR MODULES

KNR-RD 540 – 550 W<sub>p</sub> – MONO PERC 10BB  
BIFACIAL (144 CELLS)



## Key Features

-  Anti-Reflective (AR) Coated Glass for Enhanced Power
-  Excellent Module Efficiency with Bifacial Power Gain
-  Positive Power Tolerance with Current Binning to Prevent Mismatch Losses
-  Pre and Post EL Checking With High Resolution Camera
-  IP68 Junction Box for Long Term Endurance
-  100% Hi-Pot Testing to Ensure Safety
-  MBB Half-Cell Technology provides Better Performance under Partial Shading

## PRODUCT CERTIFICATES



MADE IN INDIA

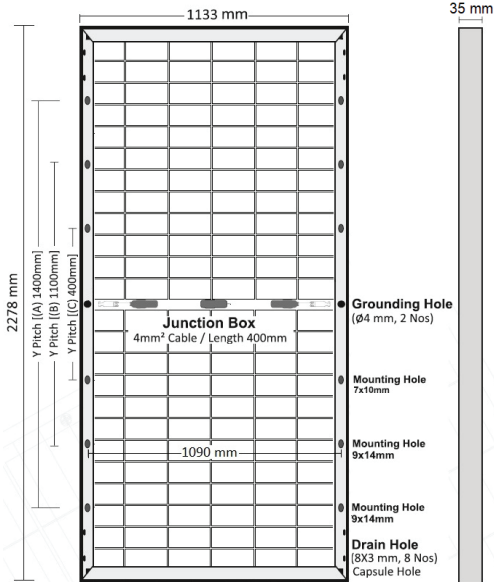
**30** Years Linear Performance Warranty\*

**15** Years Product warranty on materials and workmanship\*\*

\*\*15 years product warranty for Dual Glass modules and 12 years product warranty for modules with transparent backsheet.

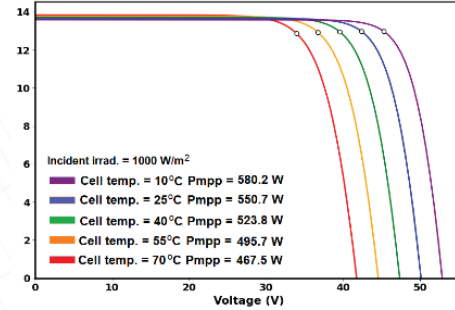
### BACK VIEW

### SIDEVIEW

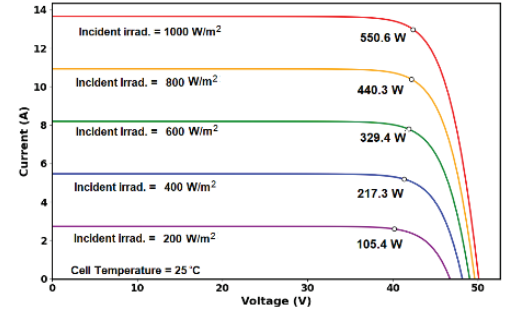


All dimensions are in mm with ±2 mm tolerance

#### IV Curve Variation with Temperature



#### IV Curve Variation with Irradiance



\*I-V curves shown for front-side illumination of 550 Wp panel.

## ELECTRICAL DATA PERFORMANCE - DUAL GLASS

Conditions	Unit	STC	NOCT	STC	NOCT	STC	NOCT
Model number		KNR540WC		KNR545WC		KNR550WC	
Peak Power P <sub>max</sub> (0 ~ + 4.99)	W <sub>p</sub>	540 W	400 W	545 W	403 W	550 W	407 W
Maximum voltage	V <sub>mp</sub>	41.86 V	38.54 V	42.01 V	38.68 V	42.14 V	38.80 V
Maximum current	I <sub>mp</sub>	12.91 A	10.37 A	12.98 A	10.43 A	13.07 A	10.49 A
Open circuit voltage,	V <sub>oc</sub>	49.78 V	46.82 V	49.91 V	46.94 V	50.06 V	47.09 V
Short circuit current,	I <sub>sc</sub>	13.53 A	10.96 A	13.59 A	11.01 A	13.65 A	11.06 A
Module Efficiency(%)		20.94 %		21.13 %		21.32 %	
Operating Temperature(C)		-40°C to +85°C					
Maximum system voltage		1500V		<b>STACKING STANDARD</b>		<b>40FT</b>	
Maximum series fuse rating		25A		No. of Modules per Container:		620	
Temperature coefficients of P <sub>max</sub>		-0.3164 %/°C		No. of Pallets per Container:		20	
Temperature coefficients of V <sub>oc</sub>		-0.2355 %/°C		Modules per Pallet/Weight:		31 Nos/ 1070 Kg	
Temperature coefficients of I <sub>sc</sub>		+0.0271 %/°C		Pallet Dimensions:		2320*1130*1275	

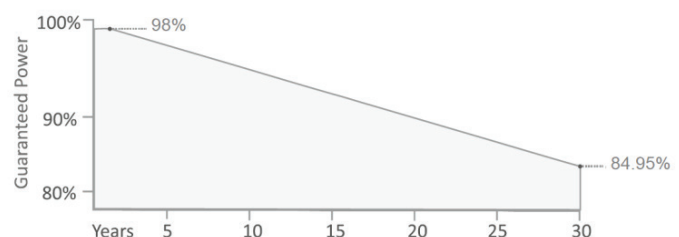
Bifacial Gain	Measurement	Unit	STC	NOCT	NOCT
5 %	Maximum Power(P <sub>max</sub> )	W <sub>p</sub>	567	573	578
	Module Efficiency	%	21.99	22.18	22.39
10 %	Maximum Power(P <sub>max</sub> )	W <sub>p</sub>	594	600	605
	Module Efficiency	%	23.03	23.24	23.46
25 %	Maximum Power(P <sub>max</sub> )	W <sub>p</sub>	676	682	688
	Module Efficiency	%	26.17	26.41	26.65

\*\*STC: Irradiance 1000 W/m<sup>2</sup> module temperature 25°C, A<sub>m</sub>=1.5; NOCT : Irradiance 800 W/m<sup>2</sup>, ambient temperature 20°C, A<sub>m</sub>=1.5, Wind speed 1m/s. Average power reduction of 4.5% at 200 W/m<sup>2</sup> as per IEC 60904-1. Measuring Uncertainty +/- 3%  
 \*\*Power gain from rear side depends upon the ground reflectance (Albedo) & Bifaciality factor

## MODULE MECHANICAL DATA

SPECIFICATION	DATA
Dimensions (L x W x H in mm)	2278 x 1133 x 35
Weight (kg)	33
No. of Cells	144 Half-cut cells
Frame	Anodized Aluminum Alloy (6063, Temper T5, silver color)
Front Cover	Low Iron Heat-strengthened AR coated Glass (2 mm thick)
Back Cover	Low Iron Heat-strengthened Glass (2 mm thick)
Junction Box	Split Junction Box (3 nos. with individual Bypass Diode) – Weatherproof (IP68)
Cables	4 sq. mm, 400 mm length (1200 mm available on request)
Connectors	MC4 compatible (MC4 original available on request)
Application Class Rating	Class A
Safety Class Rating	Class II
Mechanical Load Test (as per IEC & UL)	5400 Pa-Front; 2400 Pa-Back

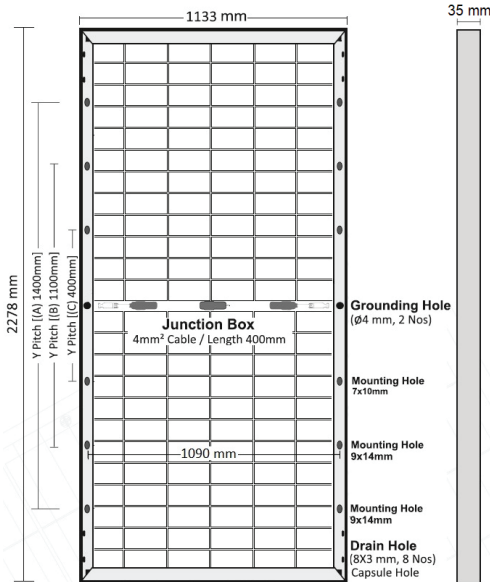
## PERFORMANCE WARRANTY



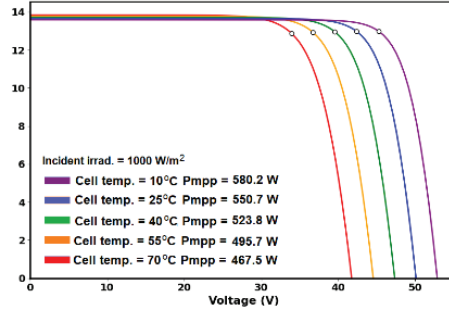
\*Graphics shown herein above are for reference purpose only

### BACK VIEW

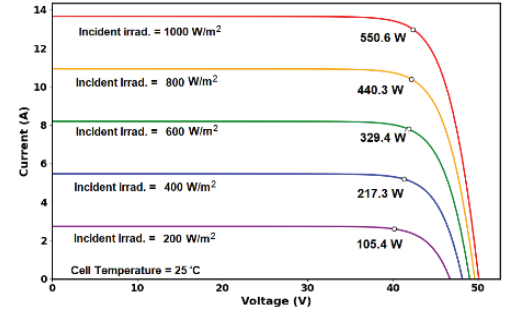
### SIDEVIEW



#### IV Curve Variation with Temperature



#### IV Curve Variation with Irradiance



All dimensions are in mm with ±2 mm tolerance

\*I-V curves shown for front-side illumination of 550 Wp panel.

## ELECTRICAL DATA PERFORMANCE - TRANSPARENT SHEET

Conditions	Unit	STC	NOCT	STC	NOCT	STC	NOCT
Model number		KNR540WC		KNR545WC		KNR550WC	
Peak Power Pmax(0 ~ + 4.99)	Wp	540 W	400 W	545 W	403 W	550 W	407 W
Maximum voltage	Vmp	41.86 V	38.54 V	42.01 V	38.68 V	42.14 V	38.80 V
Maximum current	Imp	12.91 A	10.37 A	12.98 A	10.43 A	13.07 A	10.49 A
Open circuit voltage,	Voc	49.78 V	46.82 V	49.91 V	46.94 V	50.06 V	47.09 V
Short circuit current,	Isc	13.53 A	10.96 A	13.59 A	11.01 A	13.65 A	11.06 A
Module Efficiency(%)		20.94 %		21.13 %		21.32 %	
Operating Temperature(C)		-40°C to +85°C					
Maximum system voltage		1500V		<b>STACKING STANDARD</b>		<b>40FT</b>	
Maximum series fuse rating		25A		No. of Modules per Container:		620	
Temperature coefficients of Pmax		-0.3164 %/°C		No. of Pallets per Container:		20	
Temperature coefficients of Voc		-0.2355 %/°C		Modules per Pallet/Weight:		31 Nos/ 940 Kg	
Temperature coefficients of Isc		+0.0271 %/°C		Pallet Dimensions:		2320*1130*1275	

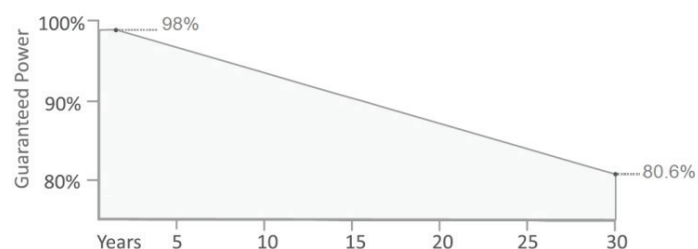
Bifacial Gain	Measurement	Unit	STC	NOCT	NOCT
5 %	Maximum Power(Pmax)	Wp	567	573	578
	Module Efficiency	%	21.99	22.18	22.39
10 %	Maximum Power(Pmax)	Wp	594	600	605
	Module Efficiency	%	23.03	23.24	23.46
25 %	Maximum Power(Pmax)	Wp	676	682	688
	Module Efficiency	%	26.17	26.41	26.65

\*\*STC: Irradiance 1000 W/m2 module temperature 25 °C, Am=1.5; NOCT : Irradiance 800 W/m2, ambient temperature 20°C, Am=1.5, Wind speed 1m/s. Average power reduction of 4.5% at 200 W/m2 as per IEC 60904-1. Measuring Uncertainty +/- 3%  
 \*\*Power gain from rear side depends upon the ground reflectance (Albedo) & Bifaciality factor

### MODULE MECHANICAL DATA

SPECIFICATION	DATA
Dimensions (L x W x H in mm)	2278 x 1133 x 35
Weight (kg)	28.6
No. of Cells	144 Half-cut cells
Frame	Anodized Aluminum Alloy (6063, Temper T5, silver color)
Front Cover	Low Iron Tempered Glass (3.2 mm thick)
Back Cover	Corona treated PVDF
Junction Box	Fluoro-polymer based transparent backsheet Split type (3 nos. with individual Bypass Diode) – Weatherproof (IP68)
Cables	4 sq. mm, 400 mm length (1200 mm available on request)
Connectors	MC4 compatible (MC4 original available on request)
Application Class Rating	Class A
Safety Class Rating	Class II
Mechanical Load Test (as per IEC & UL)	5400 Pa-Front; 2400 Pa-Back

### PERFORMANCE WARRANTY



\*Graphics shown herein above are for reference purpose only