



Ningbo Zhongyi New Energy Co., Ltd.

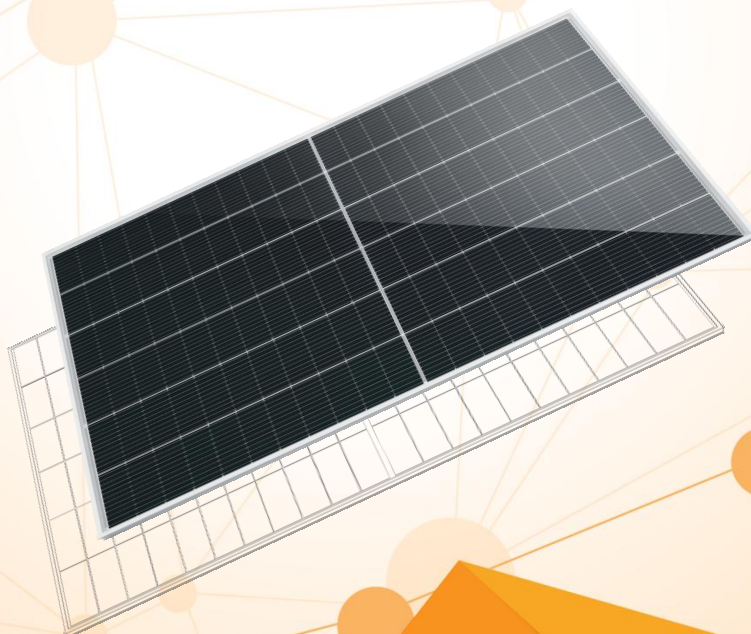
Ningbo Reneled New Energy Co., Ltd.

TOPCon Mono-crystalline PV Module

210R Cell-16BB | Non-destructive Cut | Bifacial

Module Type: ☐ ZY-G12R-48 | ☐ ZY-G12R-54

☐ ZY-G12R-60 | ☒ ZY-G12R-66



High Power High Compatibility

Outstanding performance in weak-light conditions, lower operating temperature

Different types of modules are suitable for various application scenarios



Product
Warranty



Performance
Warranty (Monofacial)



Performance
Warranty (Bifacial)



www.renepv.com

Mono-crystalline Solar PV Modules

www.renepv.com

M210R-66N
TOPCon

590W

21.8%

Module efficiency

ZY590G12RNHB-132

TOPCon Mono-crystalline Bifacial Module

Electrical Specifications

Module Type		ZY590G12RNHB-132	
STC: AM1.5 Temperature 25°C Irradiance 1000 W/m ²	Peak Power(Pmax)±3%	(W)	590
	Power Tolerance	(W)	0~+5
	Max.Power Voltage(Vmp)	(V)	39.21
	Max.Power Current(Imp)	(A)	15.05
	Open-circuit Voltage(Voc)±3%	(V)	46.80
NMOT: AM1.5 Temperature 20°C Wind speed 1m/s Irradiance 800 W/m ²	Short-circuit Current(Isc)+3%	(A)	16.02
	Peak Power(Pmax)±3%	(W)	443.7
	Max.Power Voltage(Vmp)	(V)	36.46
	Max.Power Current(Imp)	(A)	12.17
	Open-circuit Voltage(Voc)	(V)	43.52
Operating Temperature	Short-circuit Current(Isc)	(A)	12.96
		(°C)	-40~+85
Max. Series Fuse Rating		(A)	30
Max. System Voltage(DC)		(V)	1500 (IEC)

Mechanical Specifications

Solar Cells	N-Mono-182*105mm
Arrangement	Type-6*11*2
Front Glass	2.0mm tempered glass
Back Glass	2.0mm tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68, 3 diodes
Cables	4.0mm ² photovoltaic cables
Connectors	MC4 compatible/IP68
Maximum Load Capacity	Snow-5400Pa/Wind-2400Pa
Safety Rate	Class II (IEC)
Fire Rate	Class C (TUV)

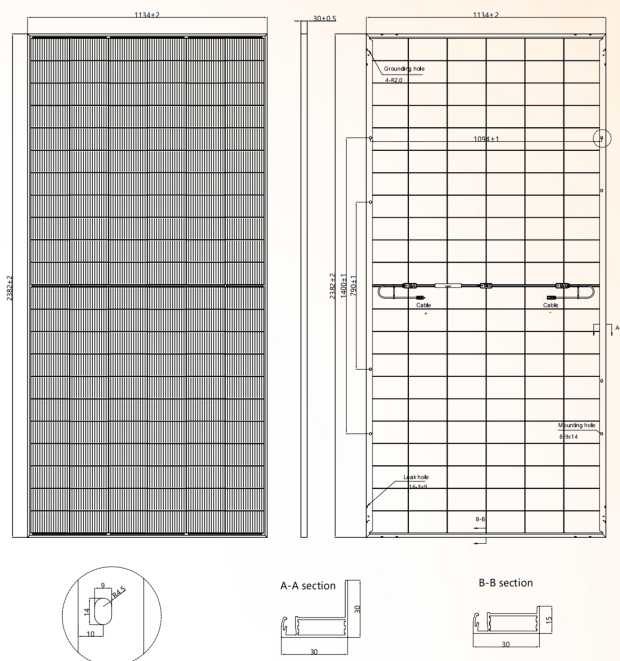
Packing Configuration

Package Weight & Size	1235Kg/pallet & 2395*1130*1260mm		
20'GP Container	2 pcs/carton	124 cartons/20'GP	248 pcs
40'HQ Container	37 pcs/pallet	20 pallets/40'HQ	740 pcs
13.5m Land Truck	37 pcs/pallet	22 pallets/truck	814 pcs

Dimensions of PV Module

Module Dimensions 2382(±2)*1134(±2)*30mm

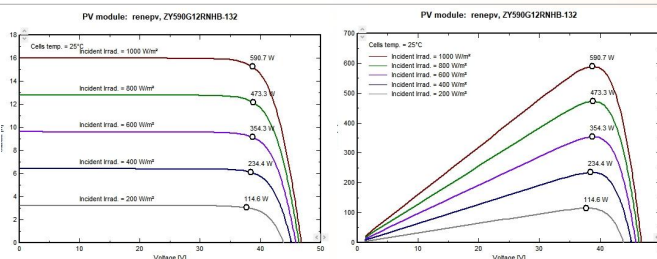
Module Weight 32.0 kg(±3%)



Temperature Characteristics

Temperature Coefficient (Pmax)	δ[%/°C]	-0.30
Temperature Coefficient (Voc)	β[%/°C]	-0.25
Temperature Coefficient (Isc)	α[%/°C]	+0.05
Nominal Operating Cell Temperature	NMOT	45°C±2°C

I-V & P-V Curves



Current-Voltage Characteristic

Power-Voltage Characteristic

Different Backside Power Gain

Power Gain		5%	15%	25%
Maximum Power(Pmax)	(W)	619.5	678.5	737.5
Max.Power Voltage(Vmp)	(V)	39.21	39.21	39.21
Max.Power Current(Imp)	(A)	15.80	17.30	18.81
Open-circuit Voltage(Voc)	(V)	46.80	46.80	46.80
Short-circuit Current(Isc)	(A)	16.76	18.35	19.95



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