



ALPINE N Series

Half-Cell N-Type Bifacial Module

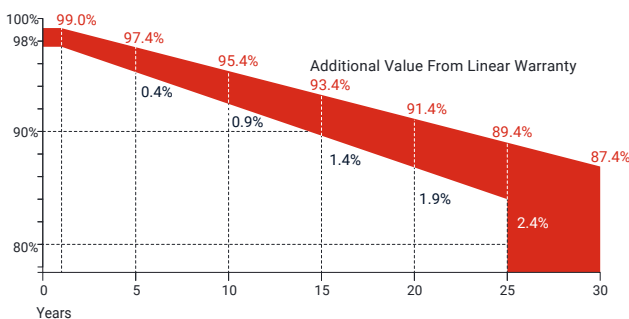
435-450Wp | **22.52%**
Module Power Output | Max Efficiency



Key Features

- High module conversion efficiency
- Better temperature coefficient
- Super multi busbar technology
- Low attenuation long warranty
- Superior load capacity
- Higher bifaciality
- USA based liability insurance
- Houston, Texas based company

Warranty



30 Years Guarantee on product material and workmanship

30 Years Linear power output warranty

Product Certification

IEC61215; IEC61730; UL61215; UL61730	
IEC62804	PID
IEC61701	Salt Mist
IEC62716	Ammonia Resistance
IEC60068	Dust and Sand
IEC61215	Hailstone
Fire Type (UL61730): Type 29	
ISO14001:2015; ISO9001:2015; ISO45001:2018	

About SEG Solar

Founded in 2016, SEG is a leading vertically integrated PV manufacturer headquartered in Houston, Texas, U.S., and is dedicated to delivering reliable and cost-effective solar modules to the utility, commercial, and residential markets. By the end of 2024, SEG had shipped over 6 GW of solar modules worldwide and have achieved a module production capacity of 6 GW.



Download Datasheet

Electrical Characteristics

Module Type	SEG-435-BTE-BG			SEG-440-BTE-BG			SEG-445-BTE-BG			SEG-450-BTE-BG		
	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC
Maximum Power -Pmp(Wp)*	435	329	348	440	333	352	445	337	356	450	341	360
Open Circuit Voltage -Voc(V)	35.29	33.40	35.28	35.47	33.60	35.48	35.64	33.70	35.58	35.82	33.90	35.78
Short Circuit Current -Isc(A)	15.70	12.66	12.53	15.77	12.72	12.60	15.83	12.77	12.71	15.90	12.82	12.78
Maximum Power Voltage -Vmp(V)	29.24	27.60	29.18	29.42	27.80	29.38	29.60	27.90	29.58	29.78	28.10	29.78
Maximum Power Current -Imp(A)	14.88	11.94	11.93	14.96	12.00	11.98	15.04	12.07	12.04	15.12	12.13	12.09
Module Efficiency(%)	21.77			22.02			22.27			22.52		
Power Tolerance(W)							(0, +4.99)					
Maximum System Voltage							1500V DC					
Maximum Series Fuse Rating							35 A					
Bifaciality							80±10%					

STC: Irradiance 1000 W/m² module temperature 25°C AM=1.5

NOCT: Irradiance 800W/m² ambient temperature 20°C module temperature 45°C wind speed: 1m/s

*Measuring tolerance: ±3%

Mechanical Specifications

External Dimension	1762 x 1134 x 30 mm
Weight	25.5 kg
Solar Cells	N-Type Mono 96 pcs(48 x 2)
Front Glass	2.0 mm AR coating semi-tempered glass
Back Glass	2.0 mm Semi-tempered glass
Frame	Black anodized aluminium alloy
Junction Box	IP68 / 3 diodes
Connector Type	MC4
Cable Type	12 AWG PV Wire(UL)
Cable Length	Portrait: 400 mm(+) / 200 mm(-) Landscape: 1200 mm(+) / 1200 mm(-) or customized length
Mechanical Load(Front)	5400 Pa / 113 psf*
Mechanical Load(Rear)	2400 Pa / 50 psf*

*Refer to SEG installation manual for details

Temperature Characteristics

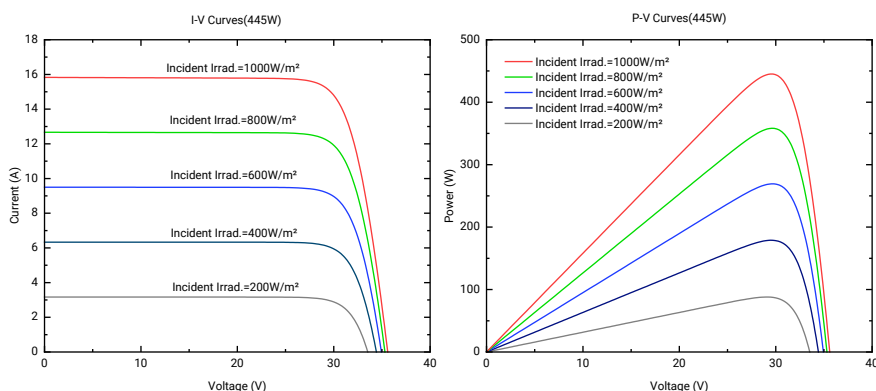
Pmax Temperature Coefficient	-0.30 %/°C
Voc Temperature Coefficient	-0.25 %/°C
Isc Temperature Coefficient	+0.046 %/°C
Operating Temperature	-40~+85 °C
Nominal Operating Cell Temperature (NOCT)	45±2 °C

Packing Configuration

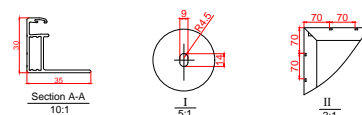
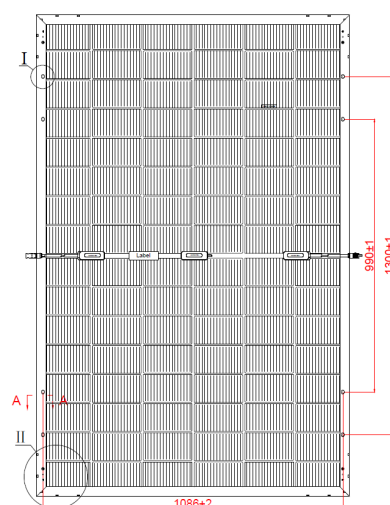
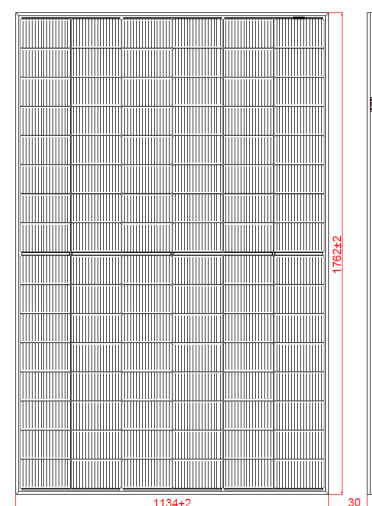
Container*	20'GP	40'HQ	40'HQ (For USA)
Pieces per Pallet	36	36	36
Pallets per Container	5	24	20
Pieces per Container	180	864	720

*Refer to the SEG container technical documentation for 53' box trailer or other trucks loading quantity

Curves of PV Module



Technical Drawing



*Refer to SEG installation manual for details