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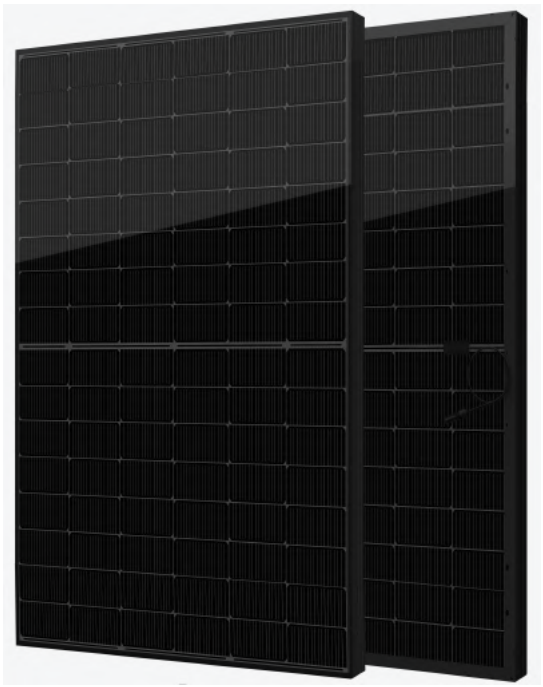
ALPINE N Series

Half-Cell N-Type Bifacial Module

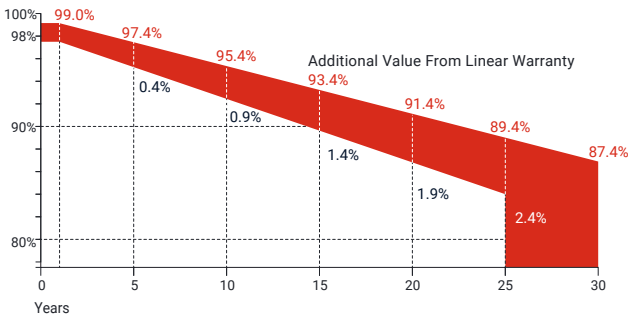
440-460Wp Module Power Output | **23.02%** Max Efficiency



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	

Intertek · PV CYCLE · CE · TÜV SÜD · DEKRA · CALIFORNIA ENERGY COMMISSION · FSEC

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

ALPINE N Series SEG-XXX-BTE-BG 96Cells

Electrical Characteristics

Module Type	SEG-440-BTE-BG			SEG-445-BTE-BG			SEG-450-BTE-BG			SEG-455-BTE-BG			SEG-460-BTE-BG		
	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI
Maximum Power -Pmp(Wp)*	440	333	488	445	337	493	450	341	499	455	345	504	460	349	510
Open Circuit Voltage -Voc(V)	35.47	33.60	35.47	35.64	33.70	35.64	35.82	33.90	35.82	36.00	34.16	36.00	36.20	34.29	36.20
Short Circuit Current -Isc(A)	15.77	12.72	17.46	15.83	12.77	17.53	15.90	12.82	17.61	15.96	12.87	17.68	16.03	12.97	17.76
Maximum Power Voltage -Vmp(V)	29.42	27.80	29.42	29.60	27.90	29.60	29.78	28.10	29.78	29.96	28.30	29.96	30.14	28.49	30.14
Maximum Power Current -Imp(A)	14.96	12.00	16.57	15.04	12.07	16.66	15.12	12.13	16.74	15.19	12.19	16.83	15.26	12.25	16.91
Module Efficiency(%)		22.02			22.27			22.52			22.77			23.02	
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
*Measuring tolerance: ±3%

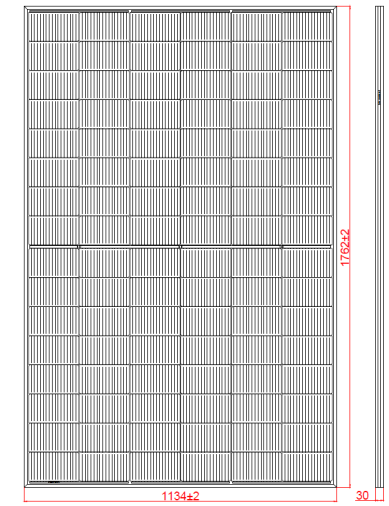
NOCT: Irradiance 800W/m² ambient temperature 20°C module temperature 45°C wind speed: 1m/s
BNPI: Front irradiance 1000W/m², Rear irradiance 135W/m²

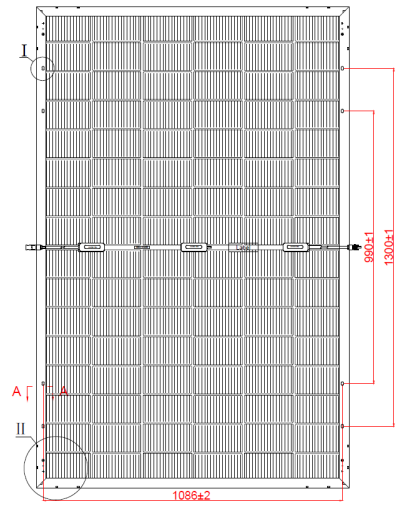
Mechanical Specifications

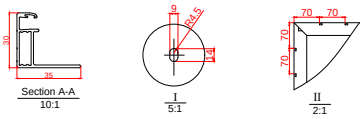
External Dimension	1762 x 1134 x 30 mm
Weight	24.0 kg
Solar Cells	N-Type Mono-crystalline 96 pcs(48 x 2)
Front Glass	2.0 mm AR coating heat strengthened glass
Back Glass	2.0 mm heat strengthened glass
Frame	Black anodized aluminium alloy
Junction Box	IP68 / 3 diodes
Connector Type	MC4
Cable Type Cable Length	12 AWG PV Wire(UL) 400 mm(+), 200 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

Technical Drawing







*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
Pieces per Pallet	36	36
Pallets per Container	5	26
Pieces per Container	180	936

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

Curves of PV Module