

# Spirit Series

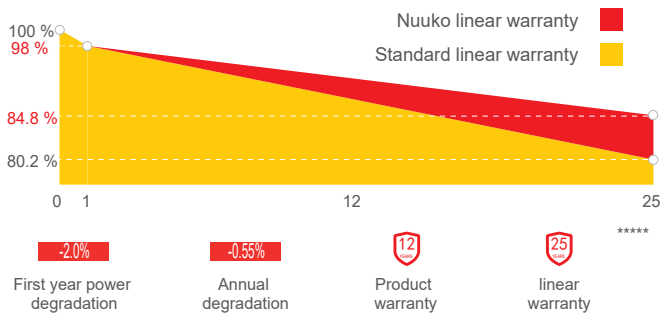
LIVE UP TO GOOD SUNSHINE

NKM-120 (182mm Cell)

## 440-460 Watt

MONOFACIAL MODULE

Industry-leading Warranty based on nominal power



## Features



### High module conversion efficiency

Module efficiency up to 21.3% achieved through advanced cell technology and manufacturing process



### Extended wind and snow load tests

Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal) \*



### Excellent weak light performance

More power output in weak light condition, such as cloudy, morning and sunset



### Lower operating temperature

Lower operating temperature and temperature coefficient increases the power output



### Nuuko current sorting process

Up to 2% power loss caused by current mismatch could be diminished by current sorting technique to maximize system power output

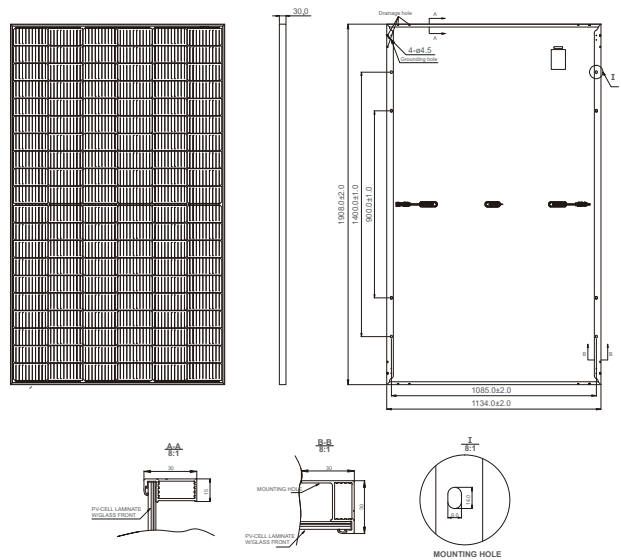


### Withstanding harsh environment

Reliable quality leads to a better sustainability even in harsh environment like desert, farm and coastline

## MECHANICAL SPECIFICATIONS

Cell Type	Monocrystalline
Cell Dimensions	182*182mm
Cell Arrangement	120 (6*20)
Weight	22.0kg
Module Dimensions	1908*1134*30mm
Cable Length	Portrait 300mm/Landscape 1200mm/Customized
Cable Cross Section Size	TUV: 4mm <sup>2</sup> /UL: 12AWG
Front Glass	3.2mm AR Coating Tempered Glass
No. of Bypass Diodes	3/6
Packing Configuration (1)	37pcs/Pallet, 888pcs/40HQ
Frame	Anodized Aluminium Alloy
Junction Box	IP68



## ELECTRICAL SPECIFICATIONS

Module Type	NKM440-120M10		NKM445-120M10		NKM450-120M10		NKM455-120M10		NKM460-120M10	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Testing Condition	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Rated output (Pmp/Wp)	440	328	445	332	450	336	455	339	460	343
Maximum Power Voltage(Vmpp/V)	34.4	32.1	34.5	32.2	34.7	32.4	34.9	32.6	35.0	32.7
Maximum Power Current(Imp/A)	12.80	10.23	12.90	10.30	12.97	10.36	13.04	10.42	13.15	10.49
Open Circuit Voltage(Voc/V)	41.0	38.6	41.2	38.7	41.3	38.9	41.5	39.1	41.7	39.2
Short Circuit Current(Isc/A)	13.69	11.04	13.78	11.11	13.86	11.17	13.94	11.24	14.02	11.30
Module efficiency(%)	20.3%		20.6%		20.8%		21.0%		21.3%	
Power Tolerance (W)	0~+5		0~+5		0~+5		0~+5		0~+5	

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

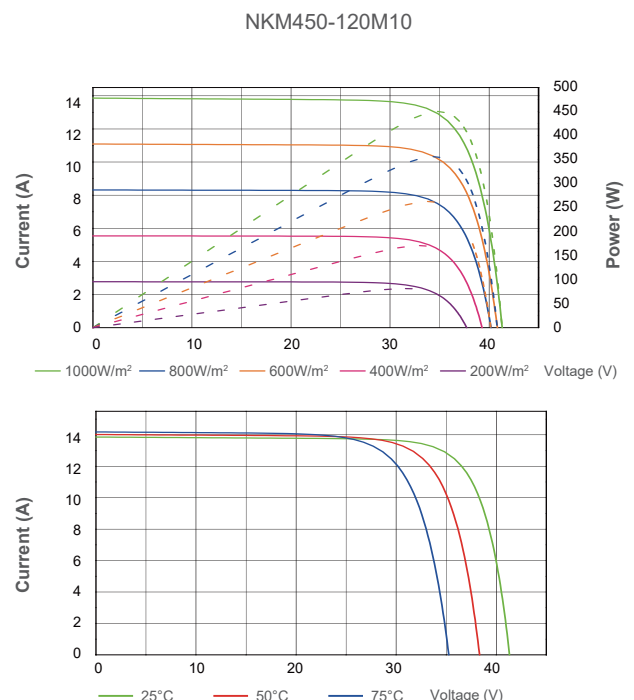
## MAXIMUM RATINGS

Maximum System Voltage	1000V/1500V DC (IEC)
Operating Temperature	-40°C ~ +85°C
Maximum Series Fuse	25A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ

## TEMPERATURE CHARACTERISTICS

NMOT Temperature	43°C±2°C
Temperature Coefficient (Pmax)	-0.35%/°C
Temperature Coefficient (Voc)	-0.26%/°C
Temperature Coefficient (Isc)	0.048%/°C

## CURVE & TEMPERATURE DEPENDENC



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