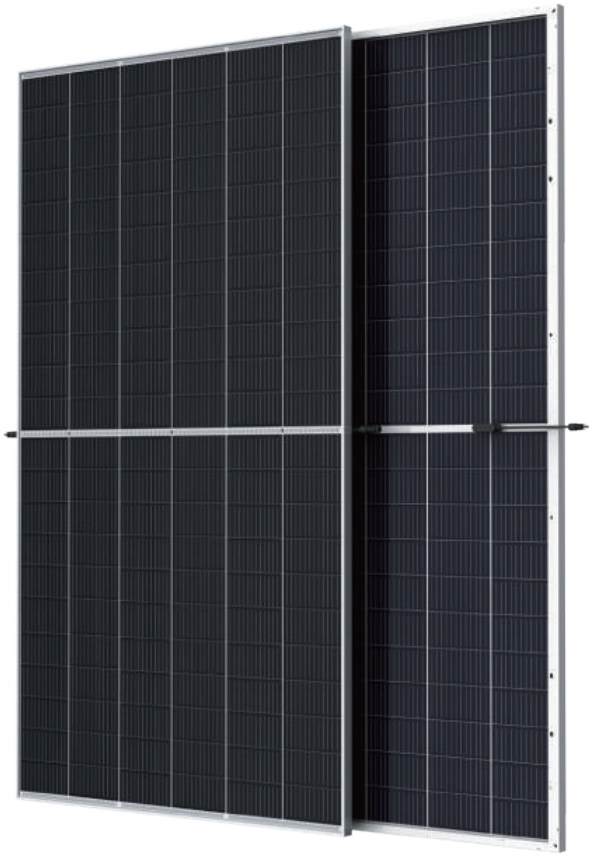
Spiration Series

LIVE UP TO GOOD SUNSHINE

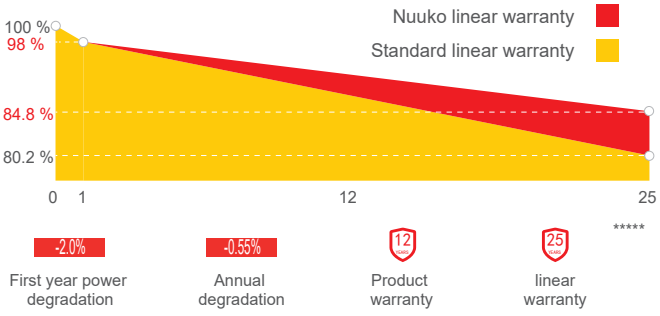
NKM-132（210mm Cell）

645-665 Watt

BIFACIAL MODULE



Industry-leading Warranty based on nominal power



Features

High module conversion efficiency

Module efficiency up to 21.4% achieved through advanced cell technology and manufacturing process

Extended wind and snow load tests

Module certified to withstand extreme wind (3800 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

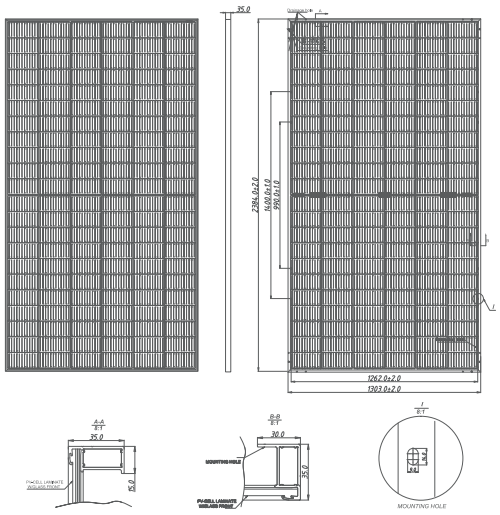
Withstanding harsh environment

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

Spiration Series NKM-132

MECHANICAL SPECIFICATIONS

Cell Type	Monocrystalline
Cell Dimensions	210*210mm
Cell Arrangement	132 (6*22)
Weight	38.5kg (84.88lbs.)
Module Dimensions	2384*1303*35mm (93.86*51.30*1.38inches)
Cable Length	Portrait 300mm/Landscape 1200mm/Customized
Cable Cross Section Size	TUV: 4mm² (0.006inches²)/UL: 12AWG
Front Glass	2.0mm (0.08 inches) AR Coating Semi-tempered Glass
Back Glass	2.0mm (0.08 inches) Glazed Semi-tempered Glass
No. of Bypass Diodes	3/6
Packing Configuration (1)	31pcs/carton, 558pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68



ELECTRICAL SPECIFICATIONS

Module Type	NKM645M-132		NKM650M-132		NKM655M-132		NKM660M-132		NKM665M-132	
Testing Condition	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Rated output (Pmp/Wp)	645	479	650	483	655	486	660	490	665	494
Maximum Power Voltage(Vmpp/V)	37.6	35.1	37.8	35.3	38.0	35.5	38.2	35.7	38.4	35.9
Maximum Power Current(Impp/A)	17.16	13.63	17.20	13.67	17.24	13.70	17.28	13.74	17.32	13.77
Open Circuit Voltage(Voc/V)	45.0	42.4	45.2	42.6	45.4	42.8	45.6	43.0	45.8	43.2
Short Circuit Current(Isc/A)	18.22	14.65	18.26	14.68	18.30	14.71	18.34	14.74	18.38	14.78
Module efficiency(%)	20.8%		20.9%		21.1%		21.3%		21.4%	
Power Tolerance (W)	0~+5		0~+5		0~+5		0~+5		0~+5	

STC: Irradiance 1000W/m2, Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m2, Ambient Temperatue 20°C, Air Mass AM1.5, Wind Speed 1m/s

Electrical characteristics with different rear side power gain (refer to 655W front)

Pmax/W	688	721	753	786	819
Vmpp/V	38.0	38.0	38.0	38.0	38.0
Impp/A	18.10	18.96	19.83	20.69	21.55
Voc/V	45.4	45.4	45.4	45.4	45.4
Isc/A	19.22	20.13	21.05	21.96	22.88
Pmax gain	5%	10%	15%	20%	25%

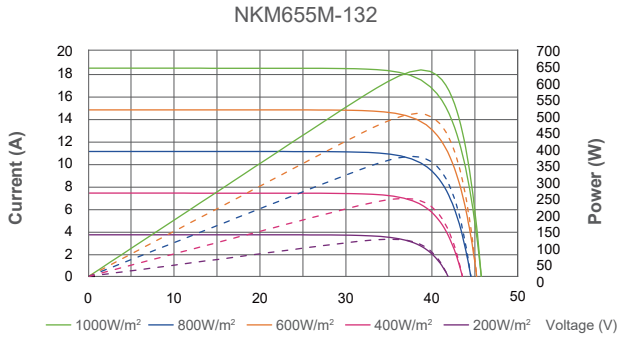
MAXIMUM RATINGS

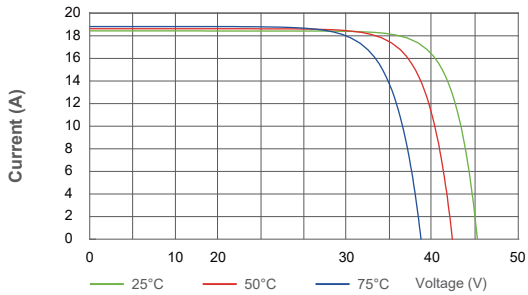
Maximum System Voltage	1500V DC（IEC）
Operating Temperature	-40°C ~ +85°C
Maximun Series Fuse	35A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2
Backside Output Ratio* *Under STC: Backside Output Ratio = Pmax(rear)/Pmax(front)	70% ± 5%

TEMPERATURE CHARACTERISTICS

NMOT Temperature	43℃±2℃
Temprature Coefficient (Pmax)	-0.36%/℃
Temprature Coefficient (Voc)	-0.26%/℃
Temprature Coefficient (Isc)	0.043%/℃

CURVE & TEMPERATURE DEPENDENC





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