



Monocrystalline Silicon Solar PV Modules

XNxxxM-144H/HV(xxx=440W-460W)

Product Feature

High Conversion Efficiency

With advanced manufacturing processes, the efficiency of our modules has exceeded 21.2%

Positive Tolerance

+5W positive tolerance at peak power output, which ensures their reliability

High Wind And Snow Resistance

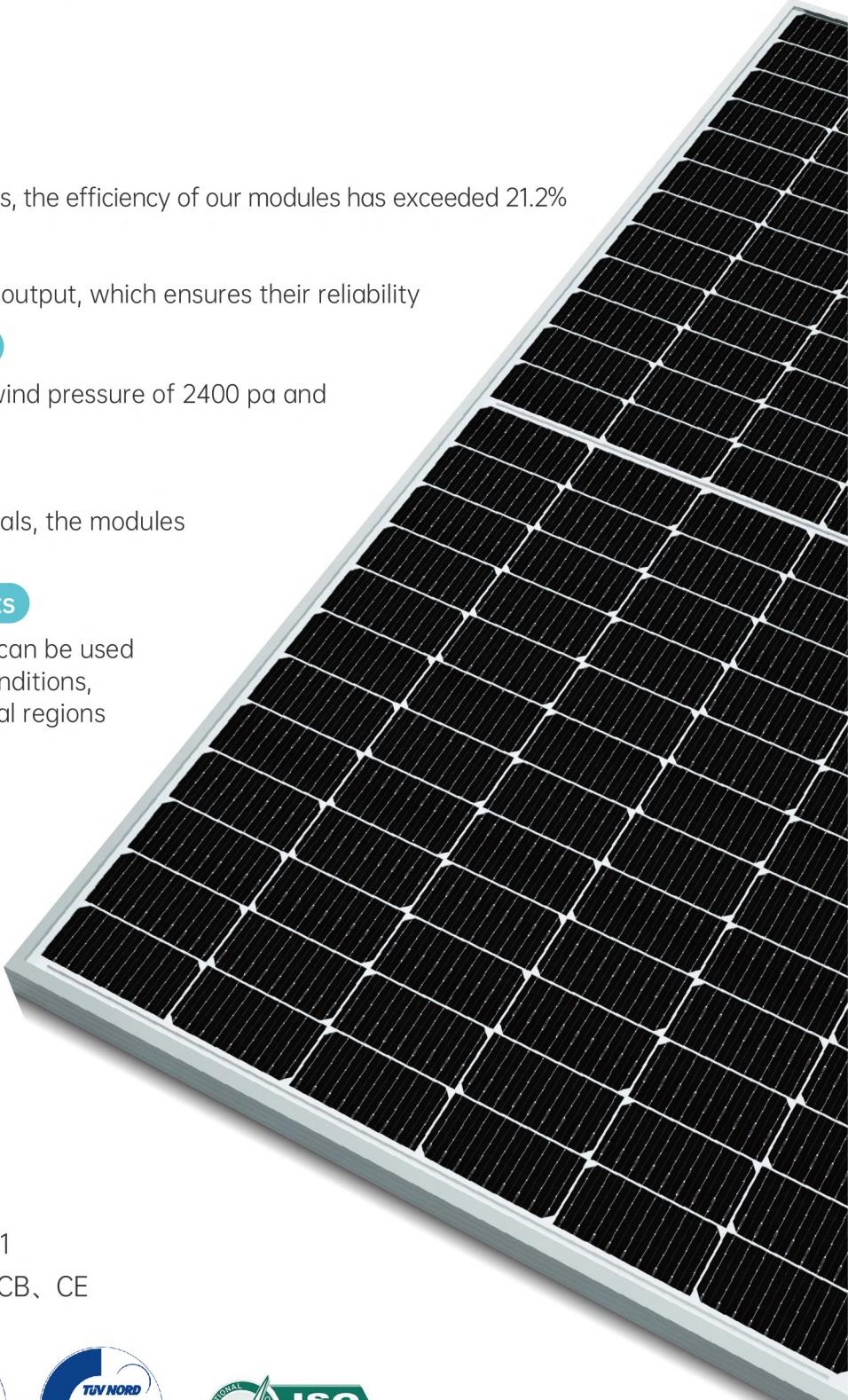
The modules are able to withstand a wind pressure of 2400 pa and snow pressure of 5400 pa

Excellent PID Resistance

With special cell and packaging materials, the modules have excellent anti-pid performance

Resistance To Harsh Environments

With excellent resilience, the modules can be used under high altitude and severe cold conditions, as well as in deserts, farms, and coastal regions



Systems & Product Certifications

ISO9001:2015 / GB/T19001-2016

ISO14001:2015 / GB/T24001-2016

OHSAS18001:2007 / GB/T28001-2011

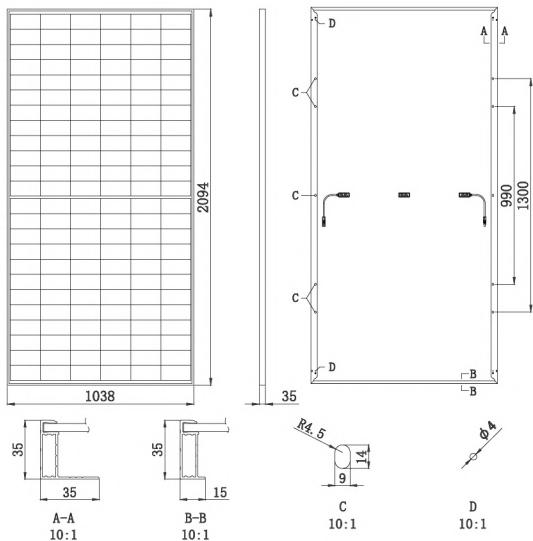
IEC61215、IEC61730、TUV、CQC、CB、CE



SUNOREN SUNOREN SOLAR TECHNOLOGY

Focusing On Development Of Clean Solar Power, Kindling The Fire Of Hope Via Energy

Component Size



Mechanical Parameters

Component Size	2094*1038*35mm
Cell Type	Monocrystalline silicon 166mm
Number Of Cells	144H(12×12)PCS
Component Weight	24kg
Glass	3.2mm High transmittance anti-reflection coated tempered glass
Package	High transparency EVA
Backplane	White fluorine backsheet
Aluminum Frame	Anodized aluminum alloy frame
Junction Box	Protection class IP68
Cable	4.0mm ² ,300mm Photovoltaic special cable
Connector	MC4 Compatible

Packaging Information

Standard Packaging	30 PCS
Quantity of components per container (40ft container)	660 PCS

Working Parameters

Insulation Withstand Voltage	4000VDC(Max)
Operating Temperature	-40°C to +85°C
Maximum Static Load, Frontal (Eg Snow, Wind)	5400Pa
Hail Impact	25mm at 23m/s

Electrical Performance Parameters (Standard Test Conditions)

Component Model	XNxxxM-144H/HV				
Max Power-pmax(W)	440	445	450	455	460
Power Tolerance	0 ~ +5W				
Operating Voltage At The Max Power Point - Vmp(V)	40.85	41.09	41.32	41.55	41.78
Operating Current At The Max Power Point - Imp(A)	10.77	10.83	10.89	10.95	11.01
Open Circuit Voltage-voc(V)	48.41	48.65	48.89	49.13	49.37
Short Circuit Current-isc(A)	11.34	11.41	11.48	11.55	11.62
Max System Voltage	1000VDC/1500VDC (IEC)				
Component Efficiency (%)	20.2%	20.5%	20.7%	20.9%	21.2%
Max Fuse Rated Current	20A				
Max Power (Pmax) Temp. Coefficient	-0.3474%/°C				
Open Circuit Voltage (Voc) Temp. Coefficient	-0.2653%/°C				
Short-circuit Current (Isc) Temp. Coefficient	0.0425%/°C				
Rated Battery Operating Temp. (Noct)	41.5±2°C				
Stc	Radioactivity 1000w/m ² , Battery Temp. 25°C, Air Quality Am1.5				

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单晶硅太阳能光伏组件

XNxxxM-144H/HV(xxx=440W-460W)

产品特性

高转换效率

采用先进的制造工艺，组件效率最高达 21.2%；

正公差

5W 的正公差峰值功率输出，确保组件的可靠性；

风、雪压承受能力

组件抗压能力强，能承受 2400 帕的风压和 5400 帕的雪压；

良好的PID抗性

采用精选电池片和封装材料，组件抗 PID 性能优良；

可承受更严酷的环境

耐候性能优良，组件适用于高海拔、极寒、沙漠、农场、海岸等环境。



体系及产品认证

ISO9001:2015 / GB/T19001-2016

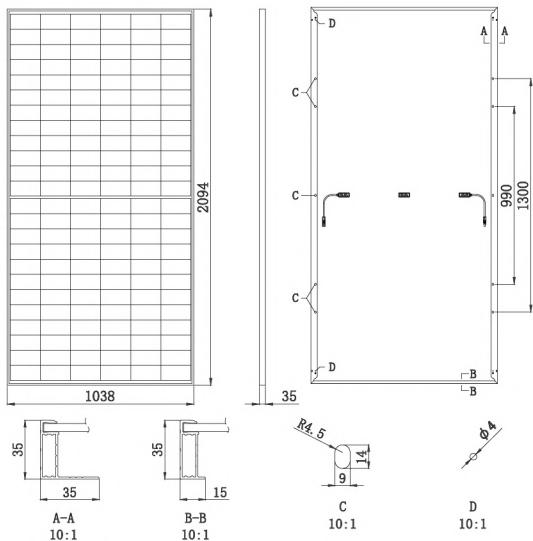
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IEC61215、IEC61730、TUV、CQC、CB、CE



组件尺寸



机械参数

组件尺寸	2094*1038*35mm
电池片类型	单晶硅 166mm
电池片数量	144H(12×12)pcs
组件重量	24kg
玻璃	3.2mm 高透 减反射镀膜钢化玻璃
封装	高透 EVA
背板	白色含氟背板
铝边框	阳极氧化铝合金边框
接线盒	防护等级 IP68
线缆	4.0mm ² , 350mm 光伏专用缆线
连接器	MC4 兼容

包装信息

标准包装	30 件
每个集装箱组件数量 (40 尺柜)	660 件

工作参数

绝缘耐压	4000VDC(最大)
工作温度	-40°C 至 +85°C
最大静态负载, 正面 (如雪、风)	5400Pa
冰雹冲击	25mm at 23m/s

电性能参数(标准测试条件)

组件型号	XNxxxM-144H/HV				
最大功率 -Pmax(W)	440	445	450	455	460
功率公差		0 ~ +5W			
最大功率点的工作电压-Vmp(V)	40.85	41.09	41.32	41.55	41.78
最大功率点的工作电流-Imp(A)	10.77	10.83	10.89	10.95	11.01
开路电压-Voc(V)	48.41	48.65	48.89	49.13	49.37
短路电流-Isc(A)	11.34	11.41	11.48	11.55	11.62
最大系统电压	1000VDC/1500VDC (IEC)				
组件效率 (%)	20.2%	20.5%	20.7%	20.9%	21.2%
最大保险丝额定电流	20A				
最大功率 (Pmax) 温度系数	-0.3474%/°C				
开路电压 (Voc) 温度系数	-0.2653%/°C				
短路电流 (Isc) 温度系数	0.0425%/°C				
额定电池工作温度 (NOCT)	41.5±2°C				
STC	辐照度 1000W/m ² , 电池温度 25°C, 大气质量 AM1.5				