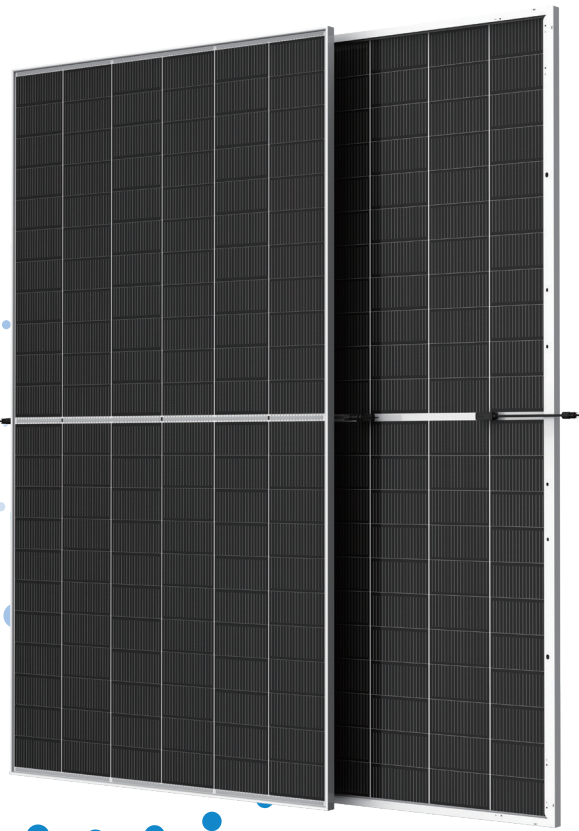
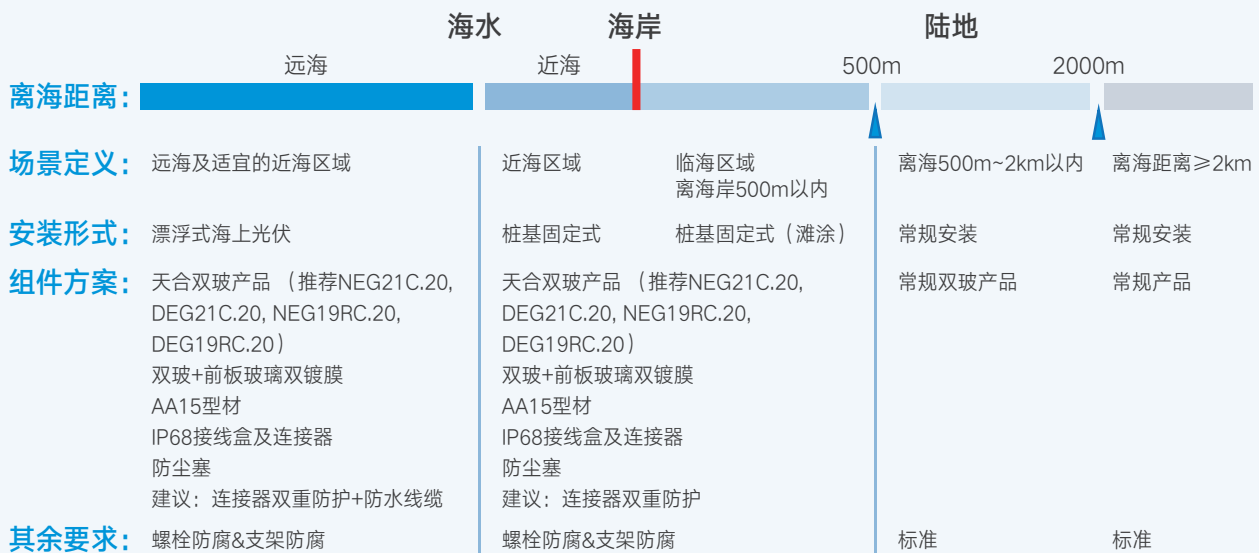


天合光能海上光伏组件解决方案



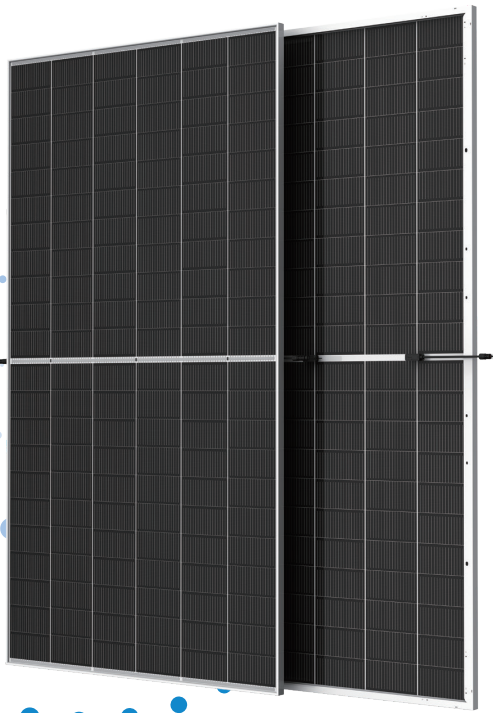
产品	天合N型组件	N型对比组件A	N型对比组件B
尺寸 (mm)	2384*1303	2465*1134	2465*1134
功率 (W)	680	610	610
开路电压 (V)	47.4	51.47	55.25
短路电流	18.18	15.01	14.11
单组串组件块数	29	26	24
低压电气成本 (¥/W)			
逆变器	0.0241	0.0242	0.0242
汇流箱 (含施工)	0.0013	0.0017	0.0018
连接器 (含施工)	0.0015	0.0019	0.0020
光伏线缆 (含施工)	0.0247	0.0258	0.0264
低压直流线缆 (含施工)	0.0687	0.1020	0.1162
接地线 (含施工)	0.0026	0.0029	0.0029
桥架 (含施工)	0.0062	0.0078	0.0085
电缆沟 (含施工)	0.0096	0.0094	0.0120
逆变器安装	0.0005	0.0005	0.0005
合计	0.1391	0.1761	0.1945
差值	BL	0.0370	0.0554
结构成本 (桩露出5.5m) (¥/W)			
光伏支架 (含施工)	0.2605	0.2648	0.2541
桩基础 (含施工)	0.2793	0.2701	0.2926
合计	0.5398	0.5350	0.5468
差值	BL	-0.0048	0.0070
土地租金 (¥/W)			
合计	0.1375	0.1385	0.1382
差值	BL	0.0010	0.0007
BOS成本 (¥/W)			
总计	0.8164	0.8495	0.8795
BOS成本差值 (¥/W)			
总计	BL	0.0331	0.0631

天合光能针对近海渔光互补项目进行了组件BOS价值测算，结果显示210-66版型N型组件相比参考组件BOS成本可节约3~6分/W以上，而海上桩基固定式和漂浮式光伏电站的210组件和182组件BOS成本优势更大。



定义	离岸距离	组件方案	螺栓要求	支架要求
漂浮式海上光伏	远海及适宜的近海区域	双玻+前板玻璃双镀膜+ AA15型材+IP68接线盒及连接器+防尘塞 建议: 连接器双重防护+防水线缆	防腐	防腐
桩基固定式海上光伏	近海区域及离海岸500m以内	双玻+前板玻璃双镀膜+ AA15型材+IP68接线盒及连接器+防尘塞 建议: 连接器双重防护	防腐	防腐
其他位置	离海500m~2km以内	常规双玻产品	标准	标准
	离海距离≥2km	常规单玻/双玻产品	标准	标准

Trina Solar Offshore PV Module Solutions



Products	Trina's N type	Reference N type A	Reference N type B
Size (mm)	2384*1303	2465*1134	2465*1134
Power (W)	680	610	610
Voc (V)	47.4	51.47	55.25
Isc (A)	18.18	15.01	14.11
Number of blocks of a single string component	29	26	24
Low-voltage electrical costs (¥/W)			
Inverter	0,0241	0,0242	0,0242
Convergence box (including construction)	0,0013	0,0017	0,0018
MC4 connector (including construction)	0,0015	0,0019	0,0020
Cables (including construction)	0,0247	0,0258	0,0264
Low Voltage DC Cable (including construction)	0,0687	0,1020	0,1162
Grounding wire (including construction)	0,0026	0,0029	0,0029
Bridge (including construction)	0,0062	0,0078	0,0085
Cable gutter (including construction)	0,0096	0,0094	0,0120
Inverter Installation	0,0005	0,0005	0,0005
Consider	0,1391	0,1761	0,1945
Difference	BL	0,0370	0,0554
Structural costs (Pile exposed 5.5m) (¥/W)			
Racking (including construction)	0,2605	0,2648	0,2541
Pile foundation (including construction)	0,2793	0,2701	0,2926
Consider	0,5398	0,5350	0,5468
Difference	BL	-0,0048	0,0070
land rent (¥/W)			
Consider	0,1375	0,1385	0,1382
Difference	BL	0,0010	0,0007
Cost of BOS (¥/W)			
Consider	0,8164	0,8495	0,8795
Cost differential of BOS (¥/W)			
Consider	BL	0,0331	0,0631

Trina Solar has calculated the BOS value of the module for offshore projects. Compared with the reference modules, the price shows that the BOS cost of the N-type module of the 210-66 version can be saved by more than ¥0.03-0.06/W.



Ocean

Coast

Land

	Ocean area	Offshore area	500m	2000m
Distance:				
Area:	Ocean areas and some offshore areas	Offshore area	Within 500m from the coast	Onshore within 500m to 2km from the coast
Installation:	Floating PV	Pile-based fixed	Pile-based fixed	Conventional
Module:	Trina's dual glass products (recommend NEG21C.20, DEG21C.20, NEG19RC.20, DEG19RC.20) Dual glass + Dual Coated Front Panel Glass Frame AA15 IP68 Junction box and connectors + Dust Plugs	Trina's dual glass products (recommend NEG21C.20, DEG21C.20, NEG19RC.20, DEG19RC.20) Dual glass + Dual Coated Front Panel Glass Frame AA15 IP68 Junction box and connectors + Dust Plugs	Conventional Dual Glass Products	Conventional Products
Other requirements:	Antiseptic Bolt & Tracker	Antiseptic Bolt & Tracker	Standardized	Standardized

Definition	Offshore Distance	Module Solution	Bolt Requirements	Tracker Requirements
Floating photovoltaic power plant (FPV)	Ocean areas and some offshore areas	Dual Glass + Dual Coated Front Panel Glass + AA15 Frame + IP68 Junction Box & Connectors + Dust Plugs Recommended: double protection for connectors + waterproof cables	Antiseptic	Antiseptic
Pile-based fixed photovoltaic power station	Offshore areas and within 500m from the coast	Dual Glass + Dual Coated Front Panel Glass + AA15 Frame + IP68 Junction Box & Connector + Dust Plugs Recommended: double protection for connectors	Antiseptic	Antiseptic
Other locations	Onshore within 500m to 2km from the coast	Conventional Dual Glass Products	Standardized	Standardized
	≥ 2km from the coast	Conventional Single/Dual Glass Products	Standardized	Standardized