


## Constructional Data Form for Photovoltaic Modules

License Holder.....: (full address)	Sany Silicon Energy (Zhuzhou) Co., Ltd. Room 518-50, Building 1, Longxin International, No.255, Tongxia Road, Tongtangwan Street, Shifeng District, Zhuzhou City, Hunan Province, P.R. China			
Production Factory .....: (full address)	Sany Silicon Energy (Zhuzhou) Co., Ltd. Sany Energy Equipment Industrial Park, No.320 Qingshui Road, Shifeng District, Zhuzhou City, Hunan Province 412005 P.R. China			
Type of Product.....:	Photovoltaic (PV) Modules			
Trademark.....:				
	<b>Glass-glass module</b>			
	<b>With ½ cut of 182 mono c-Si cell (156pcs):</b>	With ½ cut of 182 mono c- Si cell (144pcs):	With ½ cut of 182 mono c- Si cell (120pcs):	With ½ cut of 182 mono c-Si cell (108pcs):
Type Name or Model No.....:	<b>SYM156TBDxxx xxx=power in Wp</b>	SYM144TBDxxx xxx=power in Wp	SYM120TBDxxx xxx=power in Wp	SYM108TBDxxx xxx=power in Wp
Maximum System Voltage [VDC]	<b>1500</b>	1500	1500	1500
Rated Maximum Power [W].....:	<b>615, 620, 625, 630, 635</b>	555, 560, 565, 570, 575, 580, <b>585</b>	455, 460, 465, 470, 475, <b>480, 485</b>	415, 420, 425, 430, 435, <b>440</b>
Tolerance of Rating Pmax / Voc / Isc [%].....:	<b>±3 / ±3 / ±3</b>	±3 / ±3 / ±3	±3 / ±3 / ±3	±3 / ±3 / ±3
Rated Open Circuit Voltage [V].....:	<b>55.53, 55.67, 55.81, 55.95, 56.09</b>	50.98, 51.12, 51.26, 51.40, 51.54, 51.68, 51.82	42.27, 42.41, 42.55, 42.69, 42.83, 42.97, 43.11	37.94, 38.14, 38.34, 38.54, 38.74, 38.94
Rated Short Circuit Current [A].....:	<b>13.72, 13.78, 13.84, 13.90, 13.96</b>	13.60, 13.66, 13.72, 13.78, 13.84, 13.90, 13.96	13.54, 13.60, 13.66, 13.72, 13.78, 13.84, 13.90	13.60, 13.66, 13.72, 13.78, 13.84, 13.90
Over-current protection rating[A]:	<b>30</b>	30	30	30
Classification (IEC 61730).....:	<b>Class II</b>	Class II	Class II	Class II
Fire rating (According to UL 790).....:	<b>Class A</b>	Class A	Class A	Class A
Pollution degree.....:	<b>I</b>	I	I	I
Dimensions (l x w x h) [mm].....:	<b>2465x1134x30</b>	2278x1134x30	1903*1134*30	1722*1134*30
Module area [m²].....:	<b>2.80</b>	2.58	2.16	1.95

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Min- creepage distance [mm].....:	12.3±1	12.3±1	12.3±1	12.3±1
Number of solar cells	156	144	120	108
Cells per bypass diode	52	48	40	36
Serial/parallel connection of cells	SPS	SPS	SPS	SPS
	With ½ cut of 182 mono c-Si cell (144pcs):	With ½ cut of 182 mono c-Si cell (120pcs):	With ½ cut of 182 mono c-Si cell (108pcs):	-
Type Name or Model No.....:	SYMNI44R01TBDxxx xxx=power in Wp	SYMNI20R01TBDxxx xxx=power in Wp	SYMNI08R01TBDxxx xxx=power in Wp	-
Maximum System Voltage [VDC]	1500	1500	1500	-
Rated Maximum Power [W].....:	590, 595, 600, 605, 610, 615, 620	490, 495, 500, 505, 510, 515, 520	440, 445, 450, 455, 460, 465, 470	-
Tolerance of Rating Pmax / Voc / Isc [%].....:	±3 / ±3 / ±3	±3 / ±3 / ±3	±3 / ±3 / ±3	-
Rated Open Circuit Voltage [V].....:	51.20, 51.34, 51.48, 51.62, 51.76, 51.90, 52.04	42.62, 42.76, 42.90, 43.04, 43.18, 43.32, 43.46	38.33, 38.47, 38.61, 38.75, 38.89, 39.03, 39.17	-
Rated Short Circuit Current [A].....:	14.44, 14.50, 14.56, 14.62, 14.68, 14.74, 14.80	14.44, 14.50, 14.56, 14.62, 14.68, 14.74, 14.80	14.44, 14.50, 14.56, 14.62, 14.68, 14.74, 14.80	-
Over-current protection rating[A]:	30	30	30	-
Classification (IEC 61730).....:	Class II	Class II	Class II	-
Fire rating (According to UL 790).....:	Class A	Class A	Class A	-
Pollution degree.....:	I	I	I	-
Dimensions (l x w x h) [mm].....:	2382x1134x30	1994x1134x30	1800x1134x30	-
Module area [m²].....:	2.70	2.20	2.04	-
Min- creepage distance [mm].....:	12.3±1	12.3±1	12.3±1	-
Number of solar cells	144	120	108	-
Cells per bypass diode	48	40	36	-

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Serial/parallel connection of cells	SPS	SPS	SPS	-
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Copy of marking plate:



**PV MODULE**  
Sany Silicon Energy (Zhuzhou) Co., LTD  
Sany Energy Equipment Industrial Park  
No.320 Qingshui Road, Shifeng District,  
Zhuzhou City, Hunan Province  
412005 China  
www.sanygroup.com/

**SYM144TBD555**

Max. power (P<sub>max</sub>)  
Max. power tolerance  
Voltage at max. power (V<sub>mpp</sub>)  
Current at max. power (I<sub>mpp</sub>)  
Open-circuit voltage (V<sub>oc</sub>)  
Short-circuit current (I<sub>sc</sub>)  
Maximum system voltage

555W  
±3%  
41.84V  
13.28A  
60.47V±3%  
14.07A±3%  
1500VDC

bifaciality  
Series Fuse Rating  
operating temperature range  
protect rage  
module wprotecteigh  
module size  
STC

80±5%  
30A  
40°C ~ +85°C  
II  
32.0(kg)  
2278×1134×30(mm)  
1000W/m², AM1.5, 25°C



warning

Only the professionals can install and  
maintain the components Be careful of the  
dangerous high DC voltage when connecting  
the components Never damage or scratch the  
back of the assembly



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**SYM156TBD635**

Max. power (P<sub>max</sub>)  
Max. power tolerance  
Voltage at max. power (V<sub>mpp</sub>)  
Current at max. power (I<sub>mpp</sub>)  
Open-circuit voltage (V<sub>oc</sub>)  
Short-circuit current (I<sub>sc</sub>)  
Maximum system voltage

635W  
±3%  
47.47V  
13.38A  
56.09V±3%  
13.96A±3%  
1500VDC

bifaciality  
Series Fuse Rating  
operating temperature range  
protect rage  
module wprotecteigh  
module size  
STC

80±5%  
30A  
40°C ~ +85°C  
II  
34.3(kg)  
2465×1134×30(mm)  
1000W/m², AM1.5, 25°C



warning

Only the professionals can install and  
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List of Critical Components (add lines for multiple material sources)					
Object	Manufacturer / trademark	Type / model	Technical data / ratings	Standard (if applicable)	Certificates (if applicable)
Front cover	Hunan Kibing Solar Technology Co., Ltd.	Semi-tempered AR coated glass	Thickness =2.0mm	—	—
Rear cover	Hunan Kibing Solar Technology Co., Ltd.	Semi-Tempered back glass	Thickness =2.0mm	—	—
Encapsulation material	HANGZHOU FIRST APPLIED MATERIAL CO., LTD	EP304 (near glass)	Thickness = 0.5mm gram weight: 400 g/m <sup>2</sup>	—	—
		F406PS (near back glass)	Thickness = 0.5mm gram weight:400 g/m <sup>2</sup>		
Solar cell 1	Sany Silicon Energy (Zhuzhou) Co., Ltd.	SYCN182T16	N type mono c-Si cell with 16 dotted busbars 182mm×91mm, Thickness=155µm±20µm	—	—
Solar cell 2	Sany Silicon Energy (Zhuzhou) Co., Ltd.	SYCN18AT16	<b>N type mono c-Si cell with 16 dotted busbars 182.2mm×95.8mm±0.25mm Thickness=130µm±15µm</b>	—	—
Cell connectors 1	Changzhou Sheng Yue metal new material Co., Ltd.	Sn60Pb40	Ø= 0.26±0.01mm	—	—
Cell connectors 2	Suzhou YourBest New-type Materials Co., Ltd.	Sn60Pb40	Ø= 0.26±0.01mm	—	—
String connectors 1	Changzhou Sheng Yue metal new material Co., Ltd.	Sn60Pb40	T(mm) x L(mm): 0.3mm x 6.0mm 0.3mm x 4.0mm	—	—
String connectors 2	Suzhou YourBest New-type Materials Co., Ltd.	Sn60Pb40	T(mm) x L(mm): 0.3mm x 6.0mm 0.3mm x 4.0mm	—	—
Frame parts	CHANGSHU DONGNENG SOLAR TECHNOLOGY CO., LTD	Anodized Aluminium Alloy 6005-T6 (Silver)	H(mm) x W(mm): 30x33mm (long frame) 30x18mm (short frame)	—	—
Adhesive (frame)	Shanghai Huitian New Material Co., Ltd.	HT906Z	Color: White	—	—

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Object	Manufacturer / trademark	Type / model	Technical data / ratings	Standard (if applicable)	Certificates (if applicable)
Fluxing agent 1	Zhuhai Changxian New Materials Technology Co., Ltd	CX700	—	—	—
Fluxing agent 2	ASAHI SOLDER TECHNOLOGY(WUXI) CO., LTD	SF180	—	—	—
Fixing tape 1	SuZhou Rongzhi Electronic Technology Co., Ltd	D60F6-2	Thickness= 100µm±40µm	—	—
Fixing tape 2	Guangdong Sunrui New Material Co., Ltd.	HZ UV-100	Thickness= 100µm±40µm	—	—
Insulation tape	—	—	—	—	—
(Optional) Accessories	—	—	—	—	—
Junction box	QC Solar (Suzhou) Corporation	3Qxy (x=1 or 2 or 3 or 4; y=1 or 2 or 3 or 4)	Rated voltage =1500VDC Rated current =20A (x=1; y=1 or 2 or 3 or 4) Rated current =22A (x=2; y=1 or 2 or 3) Rated current =25A (x=3; y=1 or 2 or 3 or 4) Rated current =30A (x=4; y=1 or 2 or 3 or 4) Reverse current=40A IP68	IEC 62790: 2020 EN IEC 62790: 2020	R 50510013
Cable	QC Solar (Suzhou) Corporation	62930 IEC 131 1 x 2,5mm <sup>2</sup> / 1 x 4,0mm <sup>2</sup> / 1 x 6,0mm <sup>2</sup> / 1 x 10,0mm <sup>2</sup> HALOGEN FREE LOW SMOKE	Max. Voltage = 1500VDC	IEC 62930	R 50447239
Connector	QC Solar (Suzhou) Corporation	QC4.10-cds	Max. Voltage = 1500VDC Max. Current = 41A	IEC 62852	R 50505605
Bypass diode	QC Solar (Suzhou) Corporation	QCM4045	T <sub>j</sub> max =200 °C;	—	—
Adhesive	Shanghai Huitian New Material Co., Ltd.	HT906Z	Color: White	—	—

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List of Critical Components (add lines for multiple material sources)					
Object	Manufacturer / trademark	Type / model	Technical data / ratings	Standard (if applicable)	Certificates (if applicable)
Potting (junction box)	Shanghai Huitian New Material Co., Ltd.	5299W-S	Color: White	—	—

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