


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.....				
	Glass-glass module			
	With ½ cut of 182 mono c-Si cell (156pcs):	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.	SYMN156TBDxxx xxx=power in Wp	SYMN144TBDxxx xxx=power in Wp	SYMN120TBDxxx xxx=power in Wp	SYMN108TBDxxx xxx=power in Wp
Maximum System Voltage [VDC]	1500	1500	1500	1500
Rated Maximum Power [W] ...	615, 620, 625, 630, 635	555, 560, 565, 570, 575, 580, 585	455, 460, 465, 470, 475, 480, 485	415, 420, 425, 430, 435, 440
Tolerance of Rating Pmax / Voc / Isc [%].....	±3 / ±3 / ±3	±3 / ±3 / ±3	±3 / ±3 / ±3	±3 / ±3 / ±3
Rated Open Circuit Voltage [V].....	55.53, 55.67, 55.81, 55.95, 56.09	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].....	13.72, 13.78, 13.84, 13.90, 13.96	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]:	30	30	30	30
Classification (IEC 61730)	Class II	Class II	Class II	Class II
Fire rating (According to UL 790)	Class A	Class A	Class A	Class A
Pollution degree	I	I	I	I
Dimensions (l x w x h) [mm]...	2465x1134x30	2278x1134x30	1903*1134*30	1722*1134*30
Module area [m²]	2.80	2.58	2.16	1.95
Min- creepage distance [mm]:	12.3±1	12.3±1	12.3±1	12.3±1
Number of solar cells	156	144	120	108

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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	-
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 (Pmax) 555W
Max. power tolerance $\pm 3\%$
Voltage at max. power (Vmpp) 41.84V
Current at max. power (Impp) 13.28A
Open-circuit voltage (Voc) 50.47V $\pm 3\%$
Short-circuit current (Isc) 14.07A $\pm 3\%$
Maximum system voltage 1500VDC

bifaciality 80 \pm 5%
Series Fuse Rating 30A
operating temperature range 40°C ~ +85°C
protect rage II
module wprotecteigh 32.0(kg)
module size 2278 \times 1134 \times 30(mm)
STC 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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Sany Silicon Energy (Zhuzhou) Co., LTD
Sany Energy Equipment Industrial Park,
No.320 Qingshui Road, Shifeng District,
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412005 China
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SYM156TBD635
Max. power (Pmax) 635W
Max. power tolerance $\pm 3\%$
Voltage at max. power (Vmpp) 47.47V
Current at max. power (Impp) 13.38A
Open-circuit voltage (Voc) 56.09V $\pm 3\%$
Short-circuit current (Isc) 13.96A $\pm 3\%$
Maximum system voltage 1500VDC

bifaciality 80 \pm 5%
Series Fuse Rating 30A
operating temperature range 40°C ~ +85°C
protect rage II
module wprotecteigh 34.3(kg)
module size 2465 \times 1134 \times 30(mm)
STC 1000W/m², AM1.5, 25°C



warning

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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 1	CSG HOLDING CO., LTD.	Semi-tempered AR coated glass	Thickness = 2.0mm±0.2mm	—	—
Front cover 2	Hunan Kibing Solar Technology Co., Ltd.	Semi-tempered AR coated glass	Thickness = 2.0mm±0.2mm	—	—
Rear cover 1	CSG HOLDING CO., LTD.	Semi-Tempered back glass	Thickness = 2.0mm±0.2mm	—	—
Rear cover 3	Hunan Kibing Solar Technology Co., Ltd.	Semi-Tempered back glass	Thickness = 2.0mm±0.2mm	—	—
Encapsulation material 1	HANGZHOU FIRST APPLIED MATERIAL CO., LTD	EP304 (near glass)	Thickness = 0.5mm±10% gram weight: 400g/m²±10%	—	—
		F406PS (near back glass)	Thickness = 0.5mm±10% gram weight: 400g/m²±10%		
Encapsulation material 2	CHANGZHOU BETTERIAL FILM TECHNOLOGIES CO., LTD	B602M (near glass)	Thickness = 0.5mm±10% gram weight: 400g/m²±10%	—	—
		B601HP (near back glass)	Thickness = 0.5mm±10% gram weight: 400g/m²±10%		
Solar cell 1	Sany Silicon Energy (Zhuzhou) Co., Ltd.	SYCN182T16 (combined with Encapsulation material 1, 2)	N type mono c-Si cell with 16 dotted busbars 182mm×91mm±0.25mm Thickness=130µm±15µm	—	—
Solar cell 2	Sany Silicon Energy (Zhuzhou) Co., Ltd.	SYCN18AT16 (combined with Encapsulation material 1, 2)	N type mono c-Si cell with 16 dotted busbars 182.2mm×95.8mm±0.25mm Thickness=130µm±15µm	—	—
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): 0.3±0.01mm x 6.0±0.05mm 0.3±0.01mm x 4.0±0.05mm	—	—

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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)
String connectors 2	Suzhou YourBest New- type Materials Co., Ltd.	Sn60Pb40	T(mm) x L(mm): 0.3±0.01mm x 6.0±0.05mm 0.3±0.01mm x 4.0±0.05mm	—	—
Frame parts 2	Jiangsu Jiachen Aluminium Technology Co., Ltd	Anodized Aluminium Alloy 6005-T6 (Silver)	H(mm) x W(mm): 1. 30x33mm (long frame) 30x18mm (short frame) 2. 30x30mm (long frame) 30x15mm (short frame)	—	—
Frame parts 3	CHANGSHU DONGNENG SOLAR TECHNOLOGY CO., LTD	Anodized Aluminium Alloy 6005-T6 (Silver)	H(mm) x W(mm): 1. 30x33mm (long frame) 30x18mm (short frame) 2. 30x30mm (long frame) 30x15mm (short frame)	—	—
Adhesive (frame) 1	H.B.Fuller (Suzhou) Advanced Material Co., Ltd.	1527	Color: White	—	—
Adhesive (frame) 2	Shanghai Huitian New Material Co., Ltd.	HT906Z	Color: White	—	—
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	—	—	—	—	—

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Junction box set 1					
Junction box 1	Suzhou Xtong Photovoltaic Technologies Co., Ltd.	PV-XT1609Nxyz (x=4; y=3; z=1 or 2)	Rated. Voltage = 1500V Rated. Current = 25A Reverse current: 40A IP68	IEC 62790: 2020 EN IEC 62790: 2020	R 50524457
Cable	Suzhou Xtong Photovoltaic Technologies Co., Ltd.	62930 IEC 131 1 x 2,5mm ² / 1 x 4,0mm ² / 1 x 6,0mm ² HALOGEN FREE LOW SMOKE	Max. Voltage = 1500VDC	IEC 62930	R 50453577
Connector	Suzhou Xtong Photovoltaic Technologies Co., Ltd.	PV-XT101.2	Rated. Voltage = 1500V Rated. Current = 41A	IEC 62852:2014	R 50568733
Bypass diode	Suzhou Xtong Photovoltaic Technologies Co., Ltd.	XT4050M-B	Tj max =200°C	—	—
Adhesive	H.B.Fuller (Suzhou) Advanced Material Co., Ltd.	1527	Color: White	—	—
Potting (junction box)	H.B.Fuller (Suzhou) Advanced Material Co., Ltd.	1533	Color: White	—	—
Junction box set 2					
Junction box 2	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 ² / 1 x 4,0mm ² / 1 x 6,0mm ² / 1 x 10,0mm ² HALOGEN FREE LOW SMOKE	Max. Voltage = 1500VDC	IEC 62930	R 50447239

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Connector	QC Solar (Suzhou) Corporation	QC4.10-cds	Max. Voltage = 1500VDC Max. Current = 41A	IEC 62852: 2014	R 50505605
Bypass diode	QC Solar (Suzhou) Corporation	QCM4045	Tj max =200 °C;	—	—
Adhesive	Shanghai Huitian New Material Co., Ltd.	HT906Z	Color: White	—	—
Potting (junction box)	Shanghai Huitian New Material Co., Ltd.	5299W-S	Color: White	—	—

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