




Constructional Data Form for Photovoltaic Modules

Licence 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					
Type name or model no.	SYMN156TBDOxxx xxx = 615-645 in steps of 5	SYMN156TBDLxxx xxx = 615-645 in steps of 5	/	/	/
Nominal maximum output power at STC [W]	615, 620, 625, 630, 635, 640, 645	615, 620, 625, 630, 635, 640, 645	/	/	/
Nominal short-circuit current at STC [A]	13.57, 13.63, 13.69, 13.75, 13.81, 13.87, 13.93	13.57, 13.63, 13.69, 13.75, 13.81, 13.87, 13.93	/	/	/
Nominal open-circuit voltage at STC [V]	56.31, 56.53, 56.75, 56.97, 57.14, 57.32, 57.51	56.31, 56.53, 56.75, 56.97, 57.14, 57.32, 57.51	/	/	/
Tolerance of rating at STC (Pmpp / Isc / Voc) [%]	± 3/ ± 3/ ± 3	± 3/ ± 3/ ± 3	/	/	/
Nominal maximum output power at BNPI [W]	677, 682, 688, 693, 699, 704, 710	677, 682, 688, 693, 699, 704, 710	/	/	/
Nominal short-circuit current at BNPI [A]	14.93, 14.99, 15.06, 15.13, 15.19, 15.26, 15.32	14.93, 14.99, 15.06, 15.13, 15.19, 15.26, 15.32	/	/	/
Nominal open-circuit voltage at BNPI [V]	56.31, 56.53, 56.75, 56.97, 57.14, 57.32, 57.51	56.31, 56.53, 56.75, 56.97, 57.14, 57.32, 57.51	/	/	/
Tolerance of rating at BNPI (Pmpp / Isc / Voc) [%]	± 3/ ± 3/ ± 3	± 3/ ± 3/ ± 3	/	/	/
Bifaciality coefficient	80%±5%	80%±5%	/	/	/
Dimensions (L x W x H) [mm]	2465x1134x30	2465x1134x30	/	/	/
Module area [m²]	2.80	2.80	/	/	/
Class (IEC 61730-1:2016)	II	II	/	/	/
Maximum system voltage [V_{DC}]	1500	1500	/	/	/
Pollution degree	I	I	/	/	/
Qualified as cemented joint design	No	No	/	/	/
Over-current protection rating [A]	30	30	/	/	/

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Defined min. creepage distance [mm]	12.3±1	12.3±1	/	/	/
Defined min. clearance distance [mm]	12.3±1	12.3±1	/	/	/
Max. operational altitude [masl]	2000	2000	/	/	/
Design load – downwards [Pa]	3600	3600	/	/	/
Design load – upwards [Pa]	1600	1600	/	/	/
Safety factor for mechanical load	1.5	1.5	/	/	/
Number of solar cells	156	156	/	/	/
Connection of cells (S, SP, PS)	SPS	SPS	/	/	/
Number of diodes	3	3	/	/	/
Cells per diode	52	52	/	/	/

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
<https://www.sanyglobal.com/product/>

SYM156TBD 615
Test conditions
Max. power (Pmax) 615W
Max. power tolerance +3%
Voltage at max. power (Vmpp) 46.80V
Current at max. power (Impp) 13.14A
Open-circuit voltage (Voc) 55.53V±3% 55.53V±3%
Short-circuit current (Isc) 13.72A±3% 15.09±3% 16.46±3%
The following coefficients measured at STC according to IEC TS 60004-1-2: Bifaciality:
qPmax80%±5%, qLsc80%±5%, qVoc90%±1%

Module (T85) max (°C)
Design Load (Pa)
Series Fuse Rating
Maximum system voltage
operating temperature range
protect rage
module weight
module size
STC
BNPI
Connector
70
+3000/1800
30A
1500VDC
40°C ~ +85°C
II
34.3(kg)
2465 × 1134 × 30(mm)
1000W/m², AM1.5, 25°C
front 1000W/m², rear 135W/m²
Refer to manual

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.
Certified in accordance with IEC 61215:2021 and IEC 61730:2016
MADE IN CHINA

Marking plate is in compliance with IEC 61215:2021 and IEC 61730:2023.

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List of critical components (add lines for multiple material sources)					
Object	Manufacturer	Type / model	Technical data / ratings	Standard (if applicable)	Certificates (if applicable)
Solar cell	Sany Silicon Energy (Zhuzhou) Co., Ltd.	SYCN182T1634	L x W x T [mm]: 182.2 x 91 (±0.25) x 0.13 (±0.015) 182.2 x 91.875 (±0.25) x 0.13 (±0.015) Topcon Mono-Si, 16BB	—	—
Front cover	Hunan KibingSolar Technology Co., Ltd.	Semi-tempered AR coated glass	Thickness [mm]: =2.0±0.2mm	—	—
Backside cover	Hunan KibingSolar Technology Co., Ltd.	Semi-Tempered back glass	Thickness [mm]: =2.0±0.2mm Color: white glaze or transparent	—	—
Cell connectors	Suzhou YourBest new-type materials Co., Ltd	Sn60Pb40	Dimensions [mm]: Ø= 0.26±0.026mm	—	—
String connectors	Suzhou YourBest new-type materials Co., Ltd	Sn60Pb40	Dimensions [mm]: 0.3±0.03mm x 6.0±0.6mm 0.3±0.03mm x 4.0±0.4mm	—	—
Soldering material	—	—	—	—	—
Fluxing agent	Shenzhen Tongfang Electronic New-Material CO., LTD	AATF9800-MBB	—	—	—
Cell fixing tape	SuZhou Rongzhi Electronic Technology Co., Ltd	D60F6-2	Thickness =100±40um	—	—
Encapsulation material	HANGZHOU FIRST APPLIED MATERIAL CO., LTD	EP304 (near front glass)	Thickness = 0.5mm±10% gram weight: 380g/m ² ±10%;	—	—
		EP304 (near back glass)	Thickness = 0.5mm±10% gram weight: 400g/m ² ±10%;	—	—
Frame parts	Zhejiang DeYiLong Technology Co., Ltd.	GRPU BK30	H(mm) x W(mm): 30x19.95mm (long frame) 30x19.95mm (short frame) Color: Black	—	—
Adhesive (frame)	H.B.Fuller (Suzhou) Advanced Material Co., Ltd.	1527	Color: White or black	—	—

Shanghai 21/07/2024
(Place) (date)

Andreas R.

(stamp and/or signature of TÜV Rheinland)

Zhuzhou 21/07/2024
(Place) (date)

施科良



(stamp and/or signature of applicant)

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Junction box set					
Junction box	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 1	H.B.Fuller (Suzhou) Advanced Material Co., Ltd.	HelioSeal PVS 101	L x W [mm]: 15*15 Color: black	—	—
Adhesive 2	Cybird Technologies Inc.	SW-4G	Color: black	—	—
Adhesive 3	H.B.Fuller (Suzhou) Advanced Material Co., Ltd.	1527	Color: White or black	—	—
Potting (junction box)	H.B.Fuller (Suzhou) Advanced Material Co., Ltd.	1533	Color: White or black	—	—

Mounting and attachment parts	—	—	—	—	—
Additional materials	—	—	—	—	—
(Optional) Accessories	—	—	—	—	—
Remarks	For construction, framed or frameless, with Junction box, cable and connector. For extension qualifications, new materials introduced shall be highlighted in bold. Substituted materials shall still be listed.				

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