


Constructional Data Form for Photovoltaic Modules

Licence holder (full address)	Anhui Tianda New Energy Co., Ltd. No. 988, Qianqiu Road, Tianchang City, Chuzhou City, Anhui Province, 239300, P.R. China	
Production factory (full address)	Anhui Tianda New Energy Co., Ltd. No. 988, Qianqiu Road, Tianchang City, Chuzhou City, Anhui Province, 239300, P.R. China	
Type of product	Photovoltaic (PV) modules	
Trademark	 天大新能源 TIANDA SOLAR	
With 1/2 cut of mono c-Si cell with system voltage 1500V for cell size 210mmx105mm		
Type name or model no.	TDM-xxx-66SHP (xxx=640-670, in steps of 5, 132 cells)	TDM-xxx-60SHP (xxx=580-610, in steps of 5, 120 cells)
Nominal maximum STC power [W]	640/645/650/655/660/665/670	580/585/590/595/600/605/610
Tolerance of rating [%]	±3	±3
Nominal short-circuit current [A]	18.31/18.35/18.39/18.43/18.47/18.51/18.55	18.27/18.32/18.37/18.42/18.47/18.52/18.57
Tolerance of rating [%]	±4	±4
Nominal open-circuit voltage [V]	44.60/44.80/45.00/45.20/45.40/45.60/45.80	40.50/40.70/40.90/41.10/41.30/41.50/41.70
Tolerance of rating [%]	±4	±4
Dimensions (L x W x H) [mm]	2384x1303x35	2172x1303x35
Module area [m²]	3.11	2.83
Class (IEC 61730-1:2016)	Class II	Class II
Fire Class (IEC 61730-1:2016)	Class C	Class C
Maximum system voltage [V _{oc}]	1500	1500
Pollution degree	I	I
Qualified as cemented joint design	No	No
Over-current protection rating [A]	30	30
Min. creepage distance [mm]	11.0 (to busbar)	11.9 (to busbar)
Min. clearance distance [mm]	11.0	11.9
Max. operational altitude [masl]	2000	2000
Design load – downwards [Pa]	3600	3600
Design load – upwards [Pa]	1600	1600

Shanghai (Place) 15/08/2022 (date) (stamp and/or signature of TÜV Rheinland)	Chuzhou (Place) 15/08/2022 (date) (stamp and/or signature of applicant)
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Safety factor for mechanical load	1.5	1.5
Number of solar cells	132	120
Connection of cells (S,SP,PS)	SPS	SPS
Number of diodes	3	3
Cells per diode	44	40
Type name or model no.	TDM-xxx-55SHP (xxx=530-555, in steps of 5, 110 cells)	TDM-xxx-50SHP (xxx=485-505, in steps of 5, 100 cells)
Nominal maximum STC power [W]	530/535/540/545/550/555	485/490/495/500/505
Tolerance of rating [%]	±3	±3
Nominal short-circuit current [A]	18.31/18.36/18.41/18.47/18.52/18.56	18.31/18.39/18.47/18.55/18.63
Tolerance of rating [%]	±4	±4
Nominal open-circuit voltage [V]	37.10/37.30/37.50/37.70/37.90/38.10	33.90/34.10/34.30/34.50/34.70
Tolerance of rating [%]	±4	±4
Dimensions (L x W x H) [mm]	2384x1096x35	2185x1098x35
Module area [m²]	2.61	2.40
Class (IEC 61730-1:2016)	Class II	Class II
Fire Class (IEC 61730-1:2016)	Class C	Class C
Maximum system voltage [V _{oc}]	1500	1500
Pollution degree	I	I
Qualified as cemented joint design	No	No
Over-current protection rating [A]	30	30
Min. creepage distance [mm]	12.0 (to busbar)	13.0 (to busbar)
Min. clearance distance [mm]	12.0	13.0
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	110	100

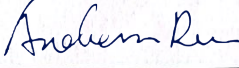

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Connection of cells (S,SP,PS)	SPS	SPS
Number of diodes	3	3
Cells per diode	44(S)x22(S)x44(S)	40(S)x20(S)x40(S)
With 1/2 cut of mono c-Si cell with system voltage 1500V for cell size 182mmx91mm		
Type name or model no.	TDM-xxx-72SHP (xxx=530-550, in steps of 5, 144 cells)	TDM-xxx-66SHP (xxx=485-505, in steps of 5, 132 cells)
Nominal maximum STC power [W]	530/535/540/545/550	485/490/495/500/505
Tolerance of rating [%]	±3	±3
Nominal short-circuit current [A]	13.80/13.85/13.90/13.95/14.00	13.72/13.79/13.86/13.93/14.00
Tolerance of rating [%]	±4	±4
Nominal open-circuit voltage [V]	48.80/49.00/49.20/49.40/49.60	45.20/45.33/45.46/45.59/45.72
Tolerance of rating [%]	±4	±4
Dimensions (L x W x H) [mm]	2279x1134x35 2261x1134x35	2094x1134x35
Module area [m²]	2.58	2.37
Class (IEC 61730-1:2016)	Class II	Class II
Fire Class (IEC 61730-1:2016)	Class C	Class C
Maximum system voltage [V _{DC}]	1500	1500
Pollution degree	I	I
Qualified as cemented joint design	No	No
Over-current protection rating [A]	25	25
Min. creepage distance [mm]	13.0 (to cell)	13.5 (to cell)
Min. clearance distance [mm]	13.0	13.5
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	144	132
Connection of cells (S,SP,PS)	SPS	SPS

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Number of diodes	3	3
Cells per diode	48	44
Type name or model no.	TDM-xxx-60SHP (xxx=440-460, in steps of 5, 120 cells)	TDM-xxx-54SHP (xxx=395-415, in steps of 5, 108 cells)
Nominal maximum STC power [W]	440/445/450/455/460	395/400/405/410/415
Tolerance of rating [%]	±3	±3
Nominal short-circuit current [A]	13.73/13.79/13.85/13.93/14.01	13.71/13.78/13.85/13.92/14.01
Tolerance of rating [%]	±4	±4
Nominal open-circuit voltage [V]	41.02/41.10/41.18/41.33/41.48	36.90/36.98/37.06/37.14/37.31
Tolerance of rating [%]	±4	±4
Dimensions (L x W x H) [mm]	1908x1134x35	1722x1134x35
Module area [m²]	2.16	1.96
Class (IEC 61730-1:2016)	Class II	Class II
Fire Class (IEC 61730-1:2016)	Class C	Class C
Maximum system voltage [V _{DC}]	1500	1500
Pollution degree	I	I
Qualified as cemented joint design	No	No
Over-current protection rating [A]	25	25
Min. creepage distance [mm]	13.5 (to cell)	13.5 (to cell)
Min. clearance distance [mm]	13.5	13.5
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	120	108
Connection of cells (S,SP,PS)	SPS	SPS
Number of diodes	3	3
Cells per diode	40	36

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Constructional Data Form for Photovoltaic Modules

Copy of marking plate

 **天大新能源**
TIANDA SOLAR

中国制造
Made in China

Module Type: TDM-670-66SHP
Maximum Power (P_{max}): 670W ±3%
Maximum Power Voltage (V_{mp}): 38.20V
Maximum Power Current (I_{mp}): 17.55A
Open Circuit Voltage (V_{oc}): 46.10V ±4%
Short Circuit Current (I_{sc}): 18.64A ±4%
Maximum System Voltage: DC1500V
Maximum Series Fuse Rating: 30A
Nominal Module Operating Temperature: 43±2°C
Mechanical Load Test: 5400Pa
Application Class: Class A
Safety Class: Class II
Weight: 33.6kg
Dimensions: 2384 × 1303 × 35mm

All technical standard test condition:
AM=1.5 E=1000W/m² TC=25°C



Solar modules generate electricity as soon as they are exposed to light. One module on its own below the safety extra low volt level, but multiple modules connected in series (summing the voltage) represent a danger.

WARNING

Anhui Tianda New Energy Co., Ltd.
Address: No. 988, Qianqiu Road, Tianchang City,
Chuzhou City, Anhui Province, P.R. China
Website: www.tiandasolar.com
E-mail: service@tiandasolar.com



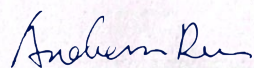
Marking plate is in compliance with IEC 61215-1:2016 and IEC 61730-1:2016.

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List of critical components (add lines for multiple material sources)

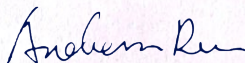
Object	Manufacturer	Type / model	Technical data / ratings	Standard (if applicable)	Certificates (if applicable)
Solar cell 1	Jiangsu Runergy New Energy Technology Co., Ltd	PM1212BF50B2	210mmx105mmx180±18µm Perc mono half-cut cell with 12 busbar	—	Tested in appliance
Solar cell 2	Jiangsu Runergy New Energy Technology Co., Ltd	PJ310BF47B2	182mmx91mmx175±17.5µm Perc mono half-cut cell with 10 busbar	—	Tested in appliance
Front cover	XINYI PV PRODUCTS (ANHUI) HOLDINGS LTD.	External AR coating tempered glass	Thickness=3.2mm	—	Tested in appliance
Rear cover	Jolywood (Suzhou) Sunwatt Co., Ltd.	FFC-JW3010(plus)	Thickness=310µm(-10µm~+15µm) Fluorine resin / PET/ Fluorine resin 13/285/12 TI mechanical and electrical @ 20,000h is 124°C System voltage=1500V	2 PFG 1793/11.2017	Tested in appliance Certificate no. Q 50492482
Cell connectors	Xi'an Telison New Materials Co., Ltd.	Coating: Sn60 / Pb40	Diameter 0.3mm	—	Tested in appliance
String connector	Xi'an Telison New Materials Co., Ltd.	Coating: Sn60 / Pb40	Dimensions [mm]: 0.35x7.0/4.0	—	Tested in appliance
Soldering material	—	—	—	—	—
Fluxing agent	Jiangsu Chengrui metal material CO., LTD.	CR-PV201	—	—	Tested in appliance
Cell fixing tape	3M China	UV-1	Thickness=0.06mm	—	Tested in appliance
Encapsulation material	HANGZHOU FIRST PV MATERIAL CO.,LTD	F406P (between glass and solar cell)	Thickness=0.5mm	—	Tested in appliance
		F806P (between solar cell and rear cover)	Thickness=0.5mm	—	Tested in appliance
Frame parts	Wuxi Haiyuan New Energy Material Technology Co. LTD	Aluminium 6063-T5	Thickness=35mm	—	Tested in appliance
Adhesive (frame)	Suzhou Tonsan Adhesive Co., Ltd.	1527	—	—	Tested in appliance
Mounting and attachment parts	N/A	N/A	N/A	—	—
Markings	N/A	N/A	N/A	—	—
Ink	N/A	N/A	N/A	—	—
Additional materials	N/A	N/A	N/A	—	—

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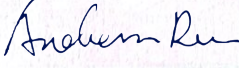

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(Optional) Accessories	N/A	N/A	N/A	—	—
Junction box 1	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	FT50xy	Rated Voltage = 1500VDC Rated Current = 30A Reverse Current = 48A RTI = 105°C	IEC 62790: 2020 EN 62790: 2020	R 50415465
Bypass diode	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	MK5045	T _J max=200°C	—	—
Cable	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	62930 IEC131 1x4.0mm ²	Rated Voltage = 1500VDC	IEC 62930:2017	R 50539925
Connector	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	05-6	Rated Voltage = 1500VDC Rated Current = 30A	IEC 62852:2014+A1	R 50539409
Adhesive (junction box)	Beijing Tonsan New Materials and Technology Co., Ltd.	TS 1527	—	—	—
Potting material (junction box)	Beijing Tonsan New Materials and Technology Co., Ltd.	TS 1521	—	—	—
Junction box 2	Taizhou Chuangda Electronic Co., Ltd	OSTA-03	Rated Voltage = 1500VDC Rated Current = 25A Reverse Current = 43A	IEC 62790: 2020 EN 62790: 2020	R 50509165
Bypass diode	Taizhou Chuangda Electronic Co., Ltd	MK5045	T _J max=200°C	—	—
Cable	Taizhou Chuangda Electronic Co., Ltd	62930 IEC131 1x4.0mm ²	Rated Voltage = 1500VDC	IEC 62930:2017	R 50500297
Connector	Taizhou Chuangda Electronic Co., Ltd	TT02	Rated Voltage=1500VDC Rated Current=30A	IEC 62852:2014	R 50365329
Adhesive (junction box)	Beijing Tonsan New Materials and Technology Co., Ltd.	TS 1527	—	—	—
Potting material (junction box)	Beijing Tonsan New Materials and Technology Co., Ltd.	TS 1521	—	—	—
Junction box 3	ZHEJIANG FORSOL ENERGY CO., LTD	F303x	Rated Voltage = 1500VDC Rated Current = 25A Reverse Current = 30A	IEC 62790: 2020 EN 62790: 2020	R 50488820
Bypass diode	ZHEJIANG FORSOL ENERGY CO., LTD	GF5545	T _J max=200°C	—	—
Cable	ZHEJIANG FORSOL ENERGY CO., LTD	62930 IEC131 1x4.0mm ²	Rated Voltage = 1500VDC	IEC 62930:2017	R 50515986
Connector	ZHEJIANG FORSOL ENERGY CO., LTD	SIKE6	Rated Voltage=1500VDC Rated Current=30A	IEC 62852:2014	R 50340749
Adhesive (junction box)	Beijing Tonsan New Materials and Technology Co., Ltd.	TS 1527	—	—	—

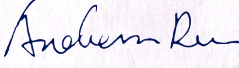

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Potting material (junction box)	Beijing Tonsan New Materials and Technology Co., Ltd.	TS 1521	—	—	—
Junction box 4	Zerun Co., Ltd.	Z8-abcd (a=C, b=B or D, c=W, P or N, d=K or O)	Rated Voltage = 1500VDC Rated Current = 30A Reverse Current = 47.5A	IEC 62790: 2020 EN 62790: 2020	R 50537484
Bypass diode	Zerun Co., Ltd.	40SQ045	T _J max=200°C	—	—
Cable	Zerun Co., Ltd.	62930 IEC131 1x4.0mm ²	Rated Voltage = 1500VDC	IEC 62930:2017	R 50354353
Connector	Zerun Co., Ltd.	Z4S-abcd	Rated Voltage=1500VDC Rated Current=40A	IEC 62852:2014	R 50495771
Adhesive (junction box)	Beijing Tonsan New Materials and Technology Co., Ltd.	TS 1527	—	—	—
Potting material (junction box)	Beijing Tonsan New Materials and Technology Co., Ltd.	TS 1521	—	—	—
Remarks	For extension qualifications, new materials introduced shall be highlighted in bold . Substituted materials shall how ever still be listed.				

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