



Constructional Data Form for Photovoltaic Modules

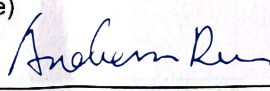

Licence holder (full address)	Anhui Tianda New Energy Co., Ltd. No. 988, Qianqiu Road, Tianchang City, Chuzhou City, Anhui Province, 239300, P.R. China	
Production factory (full address)	Anhui Tianda New Energy Co., Ltd. No. 988, Qianqiu Road, Tianchang City, Chuzhou City, Anhui Province, 239300, P.R. 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-66DHP (xxx=635-660, in steps of 5, 132 cells)	TDM-xxx-60DHP (xxx=580-600, in steps of 5, 120 cells)
Mono facial:		
Nominal maximum STC power [W]	635/640/645/650/655/660	580/585/590/595/600
Tolerance of rating [%]	±3	±3
Nominal short-circuit current [A]	18.27/18.31/18.35/18.39/18.43/18.47	18.06/18.11/18.16/18.21/18.26
Tolerance of rating [%]	±4	±4
Nominal open-circuit voltage [V]	44.40/44.60/44.80/45.00/45.20/45.40	40.90/41.10/41.30/41.50/41.70
Tolerance of rating [%]	±4	±4
Bi-facial:		
Nominal maximum STC power [W]	699/704/710/715/721/726	638/644/649/655/660
Tolerance of rating [%]	±3	±3
Nominal short-circuit current [A]	18.74/18.78/18.84/18.88/18.93/18.96	19.87/19.92/19.98/20.03/20.09
Tolerance of rating [%]	±4	±4
Nominal open-circuit voltage [V]	44.40/44.60/44.80/45.00/45.20/45.40	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 _{DC}]	1500	1500
Pollution degree	I	I

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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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
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-55DHP (xxx=535-550, in steps of 5, 110 cells)	TDM-xxx-50DHP (xxx=485-505, in steps of 5, 100 cells)
Mono facial:		
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]	18.02/18.07/18.13/18.18/18.23	18.31/18.39/18.47/18.55/18.63
Tolerance of rating [%]	±4	±4
Nominal open-circuit voltage [V]	37.44/37.66/37.88/38.10/38.32	33.90/34.10/34.30/34.50/34.70
Tolerance of rating [%]	±4	±4
Bi-facial:		
Nominal maximum STC power [W]	583/589/594/600/605	533/539/545/550/555
Tolerance of rating [%]	±3	±3
Nominal short-circuit current [A]	19.82/19.88/19.94/20.00/20.05	20.14/20.23/20.32/20.40/20.49
Tolerance of rating [%]	±4	±4
Nominal open-circuit voltage [V]	37.44/37.66/37.88/38.10/38.32	33.90/34.10/34.30/34.50/34.70
Tolerance of rating [%]	±4	±4

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Dimensions (L x W x H) [mm]	2384x1096x35	2174x1096x35
Module area [m²]	2.61	2.38
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]	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
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-72DHP (xxx=520-545, in steps of 5, 144 cells)	TDM-xxx-66DHP (xxx=480-505, in steps of 5, 132 cells)
Mono facial:		
Nominal maximum STC power [W]	520/525/530/535/540/545	480/485/490/495/500/505
Tolerance of rating [%]	±3	±3
Nominal short-circuit current [A]	13.70/13.75/13.80/13.85/13.90/13.95	13.65/13.72/13.79/13.86/13.93/14.00
Tolerance of rating [%]	±4	±4
Nominal open-circuit voltage [V]	48.40/48.60/48.80/49.00/49.20/49.40	45.07/45.20/45.33/45.46/45.59/45.72
Tolerance of rating [%]	±4	±4

<p>Shanghai 15/08/2022</p> <p>(Place) (date)</p> <p><i>Andreas R...</i></p> <p>(stamp and/or signature of TÜV Rheinland)</p>	<p>Chuzhou 15/08/2022</p> <p>(Place) (date)</p> <p><i>许健</i></p> <p>(stamp and/or signature of applicant)</p>
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Bi-facial:		
Nominal maximum STC power [W]	572/578/583/589/594/600	514/519/524/530/535/540
Tolerance of rating [%]	±3	±3
Nominal short-circuit current [A]	15.07/15.13/15.18/15.24/15.29/15.35	14.53/14.62/14.69/14.78/14.86/14.95
Tolerance of rating [%]	±4	±4
Nominal open-circuit voltage [V]	48.40/48.60/48.80/49.00/49.20/49.40	45.07/45.20/45.33/45.46/45.59/45.72
Tolerance of rating [%]	±4	±4
Dimensions (L x W x H) [mm]	2279x1134x35	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
Number of diodes	3	3
Cells per diode	48	44
Type name or model no.	TDM-xxx-60DHP (xxx=440-460, in steps of 5, 120 cells)	TDM-xxx-54DHP (xxx=395-415, in steps of 5, 108 cells)
Mono facial:		

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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
Bi-facial:		
Nominal maximum STC power [W]	484/490/495/500/506	435/440/445/450/456
Tolerance of rating [%]	±3	±3
Nominal short-circuit current [A]	15.10/15.17/15.24/15.32/15.41	15.08/15.16/15.23/15.31/15.41
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 _{oc}]	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

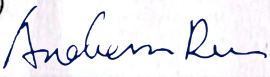

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Number of solar cells	120	108
Connection of cells (S,SP,PS)	SPS	SPS
Number of diodes	3	3
Cells per diode	40	36

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Copy of marking plate



Module Type: TDM-660-66DHP

	STC	BNPI	Maximum Series Fuse Rating
Rated Maximum Power(P _m)	660W±3%	726W±3%	Maximum System Voltage 1500V
Maximum Power Voltage(V _{mp})	38.30V	38.30V	Mechanical Load Test 5400Pa
Maximum Power Current(I _{mp})	17.24A	18.96A	Application Class Class A
Open-Circuit Voltage(V _{oc})	45.40V±4%	45.40V±4%	Safety Class Class II
Short-Circuit Current(I _{sc})	18.47A±4%	20.32A±4%	Weight 37.9kg
Nominal Module Operating Temperature	41±3°C	Dimensions	2384×1303×35mm



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.

Anhui Tianda New Energy Co., Ltd.

Address: No. 998, 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.

Shanghai

(Place)

15/08/2022

(date)

(stamp and/or signature of TÜV Rheinland)

Chuzhou

(Place)

15/08/2022

(date)

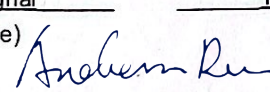

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List of critical components (add lines for multiple material sources)					
Object	Manufacturer	Type / model	Technical data / ratings	Standard (if applicable)	Certificates (if applicable)
Solar cell 1	Jiangsu Runergy New Energy Technology Co., Ltd	PM1212BF50B2	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	Changzhou Almaden Co., Ltd.	Semi tempered AR coated glass	Thickness=2.0mm	—	Tested in appliance
Rear cover	Changzhou Almaden Co., Ltd.	semi tempered grid glass/semi tempered glass	Thickness=2.0mm	—	Tested in appliance
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	—	—	Tested in appliance
Encapsulation material	Changzhou Sveck PV New Material Co., Ltd.	SV-15296P (between glass and solar cell)	Thickness=0.5mm	—	Tested in appliance
		SV-15297P (between solar cell and rear cover)	Thickness=0.5mm	—	Tested in appliance
Frame parts	An hui Xinbo 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	—	—
(Optional) Accessories	N/A	N/A	N/A	—	—
Junction box 1	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	FT50xy	Rated Voltage = 1500VDC Rated Current = 30A	IEC 62790: 2020 EN 62790: 2020	R 50415465

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			Reverse Current = 48A RTI = 105°C		
Bypass diode	Zhejiang Renhe Photovoltaic Technology Co., Ltd.	MK5045	Tj 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	Tj 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	Tj 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	—	—	—
Potting material (junction box)	Beijing Tonsan New Materials and Technology Co., Ltd.	TS 1521	—	—	—

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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	Tj max=200℃	—	—
Cable	Zerun Co., Ltd.	62930 IEC131 1x4.0mm ²	Rated Voltage = 1500VDC	IEC 62930:2017	R 50354353
Connector	Zerun Co., Ltd.	Z4S-abcde	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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