

Prüfbericht-Nr.: <i>Test Report No.:</i>	19631642.001	Auftrags-Nr.: <i>Order No.:</i>	1803243438	Seite 1 von 9 Page 1 of 9
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	635873	Auftragsdatum: <i>Order date:</i>	19/07/2017	
Auftraggeber: <i>Client:</i>	PV Power Technologies Private Limited. 201, Anjani Complex, Opp. Western Express Highway Metro station, Andheri(E) – 400099, India			
Prüfgegenstand: <i>Test item:</i>	Photovoltaic (PV) modules			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	ECO315 (see complete list in the appendix of the report)			
Auftrags-Inhalt: <i>Order content:</i>	Salt mist corrosion testing of photovoltaic (PV) modules			
Prüfgrundlage: <i>Test specification:</i>	IEC 61701:2011, EN 61701:2012 severity 1 Salt mist corrosion testing of photovoltaic (PV) modules			
Wareneingangsdatum: <i>Date of receipt:</i>	11/08/2017	Detaillierte Fotodokumentation siehe Anlage zu diesem Bericht Detailed photo documentation see appendix to this report		
Prüfmuster-Nr.: <i>Test sample No.:</i>	Refer list of test samples			
Prüfzeitraum: <i>Testing period:</i>	05/10/2017 – 07-11-2017			
Ort der Prüfung: <i>Place of testing:</i>	Bangalore			
Prüflaboratorium: <i>Testing laboratory:</i>	TUV Rheinland(India) Pvt. Ltd., Bangalore, India			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
20-04-2018	K.Ganesh Kamath/Manager -PV Products	20-04-2018	Kamalaksha CS/AGM-PV Products	
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>
				Unterschrift <i>Signature</i>
Sonstiges / Other: None				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet				
Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

Prüfbericht-Nr.: 19631642.001
Test Report No.:

Seite 2 von 9
Page 2 of 9

Liste der verwendeten Prüfmittel
List of used test equipment

Prüfmittel <i>Test equipment</i>	Prüfmittel-Nr. / ID-Nr. <i>Equipment No. / ID-No.</i>	Nächste Kalibrierung <i>Next calibration</i>
Cyclic corrosion tester	40-2014-0323	01-11-2018
Insulation Resistance Tester	50-2010-0109	17-07-2018
Insulation Resistance Tester	50-2010-0110	17-07-2018
Digital Clamp meter	50-2010-0104	17-07-2018
Digital Multimeter	50-2010-0103	17-07-2018
Solar Simulator Pulsed	50-2010-0111	02-08-2018
Reference Modules	50-2010-0235	23-05-2018
Infrared sensor	50-2010-0111B	27-08-2018
Reference cell	50-2010-0111A	12-11-2018
Software	Version No.	--
SLAB industrial	V2.4.4	

Prüfbericht-Nr.: 19631642.001
Test Report No.:

Seite 3 von 9
Page 3 of 9

Produktbeschreibung
Product description

1 Produktdetails

Product details

with 6" poly cells:

ECO xxx (xxx = 300 - 325 in steps of 1, with 72 cells)

ECO xxx (xxx = 250 - 270 in steps of 1, with 60 cells)

ECO xxx (xxx = 225 - 240 in steps of 1, with 54 cells)

ECO xxx (xxx = 200 - 215 in steps of 1, with 48 cells)

ECO xxx (xxx = 150 - 160 in steps of 1, with 36 cells)

xxx represents output power in Wp

2 Verwendete Materialien

Used materials

see Constructional Data Form in additional documents of this report.

3 Adresse(n) der Fertigungsstätte(n)

Address(es) of the manufacturing site(s)

PV Power Technologies Pvt., Ltd, Plot No-60, Sai Baba Boulevard Township, Tarapur Textile Park Pvt., Ltd. Gundale Village, Post- Mahagaon, Boisar(East), Taluka-Palghar Maharashtra-401501, India

Inspection report no.: **19631593.001** (December 2017)

4 Zusammenfassung der Prüfergebnisse

Summary of test results

According to the inquiry, type approval certificate extension acc to resistance to salt mist of photovoltaic (PV) modules should be assessed in accordance with **IEC 61701:2011- Severity 1**, should be performed for a Crystalline photovoltaic module type family", For the qualification of the modules to this test, initial and final control measurements were performed before and after the salt mist corrosion testing. The measurements included relative power measurements, insulation testing and visual inspections. The maximum permissible power degradation of 5 % must not be exceeded. Furthermore the minimum requirements for the –Dielectric-insulation test and wet leakage test as defined in MST 16 of IEC 61730-2 and IEC 61215:2005-10.15 have to be met. No major visual defects as defined in IEC 61730-2 shall occur. **"The tests have been performed on the representative sample of the above said type and results were incorporated in this report: 19631642.001"**

The tests of the requirements of IEC 61701:2011- **Severity 1** were all fulfilled according to its regulations of the pass criteria. The above listed module types have passed all tests of the IEC 61215:2005 standard before salt mist resistance test was applied (see history of certification).

Test failures: ...None

This test report includes a **history of certification** in appendix "Zusatzdokumentation/Additional Documentation" and appendix "Foto-Dokumentation/Photo Documentation".

Prüfbericht-Nr.: 19631642.001 <i>Test Report No.:</i>			Seite 4 von 9 <i>Page 4 of 9</i>
Absatz	IEC 61701:2011, EN 61701:2012 severity 1	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / <i>Requirements - Tests</i>	<i>Measuring results - Remarks</i>	<i>Evaluation</i>

-	List of test samples		
Sample No.	Sample S/N	Type/Model (Representative samples)	Remarks/constructional characteristics (e.g. cell, back sheet, frame type)
1803243438-40	ECO 091701578	EC0 315	Back Sheet: Coveme - dyMat PYE-SPV Frame: Jiangsu Davin Solar Glass: Gujrat Borosil -3.2 mm AR-coated textured Tempered glass JB: Zhejiang Zhonghuan Sunter - PV-ZH011-3
1803243438-41	ECO 091701579	EC0 315	
1803243438-42	ECO 091701580	EC0 315	

Prüfbericht-Nr.: 19631642.001
Test Report No.:

Seite 5 von 9
Page 5 of 9

Absatz	IEC 61701:2011, EN 61701:2012 severity 1	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

6.2 c)	Visual inspection (Initial)		
Test date [DD/MM/YYYY]	Sample No.	Nature and position of initial findings	—
05/10/2017	1803243438-40	No Major visual defects found	P
05/10/2017	1803243438-41	No Major visual defects found	P
05/10/2017	1803243438-42	No Major visual defects found	P
Supplementary information: - None			

6.2 a)	Maximum power determination (Initial)							
Module temperature [°C]								—
Corrected to 25								
Irradiance [W/m²]								
1000								
Test date [DD/MM/YYYY]	Sample No.	P _{max} [W]	V _{mpp} [V]	I _{mpp} [A]	V _{oc} [V]	I _{sc} [A]	FF [%]	
05/10/2017	1803243438-40	18.22	2.23	8.16	3.24	8.94	62.74	P
05/10/2017	1803243438-41	18.08	2.20	8.20	3.24	8.95	62.33	P
05/10/2017	1803243438-42	18.17	2.20	8.22	3.25	8.95	62.36	P
Supplementary information: - None								

6.2 e)	Insulation test (Initial)						
Maximum system voltage [V _{DC}]			1000				—
High voltage applied [V _{DC}]			6000				
Insulation resistance measured at [V _{DC}]			1000				
Test date [DD/MM/YYYY]	Sample No.	Measured	Area	Result*	Dielectric breakdown		
		[GΩ]	[m²]	[GΩ × m²]	Yes (description)	No	
05/10/2017	1803243438-40	99.90	0.20	19.98	-	No	P
05/10/2017	1803243438-41	99.90	0.20	19.98	-	No	P
05/10/2017	1803243438-42	99.90	0.20	19.98	-	No	P
* Minimum requirement acc. to the standard is 0.04 GΩ × m²]							
Supplementary information: -None							

Prüfbericht-Nr.: 19631642.001
Test Report No.:

Seite 6 von 9
Page 6 of 9

Absatz	IEC 61701:2011, EN 61701:2012 severity 1	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

6.2 b)	Wet leakage current test (Initial)				
Insulation resistance measured at [V _{DC}]		1000			—
Solution resistivity [Ω cm]		< 3,500			P
Solution temperature [°C]		22 ± 3			P
Test date [DD/MM/YYYY]	Sample No.	Measured [MΩ]	Area [m²]	Result* [MΩ × m²]	—
05/10/2017	1803243438-40	12700.0	0.20	2540.0	P
05/10/2017	1803243438-41	12000.0	0.20	2400.0	P
05/10/2017	1803243438-42	12300.0	0.20	2460.0	P
* Minimum requirement acc. to the standard is 40 MΩ × m².					
Supplementary information: - None					

6.2 d)	Ground continuity test (Initial)				
Maximum over-current protection rating [A]		15			—
Current applied [A]		37.5			
Location of designated grounding point		Right side Longer frame			
Location of second contacting point		Opposite frame			
Test date [DD/MM/YYYY]	Sample No.	Position in test sequence	Voltage [mV]	Resistance [mΩ]	
05/10/2017	1803243438-40	Initial	146.7	3.91	P
05/10/2017	1803243438-41	Initial	149.8	3.99	P
05/10/2017	1803243438-42	Initial	148.7	3.96	P
Supplementary information: - None					

Prüfbericht-Nr.: 19631642.001

Seite 7 von 9

Test Report No.:

Page 7 of 9

Absatz	IEC 61701:2011, EN 61701:2012 severity 1	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

7	Salt mist corrosion test		
Sample No. 1	1803243438-41	—	
Sample No. 2	1803243438-42		
NaCl - concentration [%]	5		
Temperature [°C]	35		
Rel. humidity [%]	approx. 93		
Course of cycle (7 days)	Four spray periods, each of 2 h, with a humidity storage period of seven days after each.		
Duration	4 cycles = 28 days		
Supplementary information: - None			

6.2 c)	Visual inspection after salt mist corrosion test		
Test date [DD/MM/YYYY]	Sample No.	Nature and position of initial findings	—
07-11-2017	1803243438-41	No Major visual defects found	P
07-11-2017	1803243438-42	No Major visual defects found	P
Supplementary information: - None			

6.2 a)	Maximum power determination - after salt mist corrosion test							
Module temperature [°C]	Corrected to 25							
Irradiance [W/m²]	1000							
Test date [DD/MM/YYYY]	Sample No.	P _{max} [W]	V _{mpp} [V]	I _{mpp} [A]	V _{oc} [V]	I _{sc} [A]	FF [%]	Degradation [%]
07-11-2017	1803243438-41	17.95	2.22	8.10	3.25	9.02	61.22	-0.7
07-11-2017	1803243438-42	18.05	2.18	8.27	3.24	8.97	62.14	-0.4
Supplementary information: - None								

Prüfbericht-Nr.: 19631642.001
Test Report No.:

Seite 8 von 9
Page 8 of 9

Absatz	IEC 61701:2011, EN 61701:2012 severity 1	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

6.2 e)	Insulation test after salt mist corrosion test						
Maximum system voltage [V _{DC}]			1000				—
High voltage applied [V _{DC}]			6000				
Insulation resistance measured at [V _{DC}]			1000				
Test date [DD/MM/YYYY]	Sample No.	Measured	Area	Result*	Dielectric breakdown		
		[GΩ]	[m²]	[GΩ × m²]	Yes (description)	No	
07-11-2017	1803243438-41	58.80	0.20	11.76	-	No	P
07-11-2017	1803243438-42	58.20	0.20	11.64	-	No	P
* Minimum requirement acc. to the standard is 0.04 GΩ × m²]							
Supplementary information: -None							

6.2 b)	Wet leakage current test after salt mist corrosion test				
Insulation resistance measured at [V _{DC}]		1000			—
Solution resistivity [Ω cm]		< 3,500			P
Solution temperature [°C]		22 ± 3			P
Test date [DD/MM/YYYY]	Sample No.	Measured	Area	Result*	—
		[MΩ]	[m²]	[MΩ × m²]	
07-11-2017	1803243438-41	9850.0	0.20	1970.0	P
07-11-2017	1803243438-42	9600.0	0.20	1920.0	P
* Minimum requirement acc. to the standard is 40 MΩ × m ²² .					
Supplementary information: - None					

6.2 d)	Ground continuity test after salt mist corrosion test				
Maximum over-current protection rating [A]		15			—
Current applied [A]		37.5			
Location of designated grounding point		Right side Longer frame			
Location of second contacting point		Opposite frame			
Test date [DD/MM/YYYY]	Sample No.	Position in test sequence	Voltage [mV]	Resistance [mΩ]	
07-11-2017	1803243438-41	Initial	156.0	4.16	P
07-11-2017	1803243438-42	Initial	175.0	4.66	P
Supplementary information: - None					

Prüfbericht-Nr.: 19631642.001			Seite 9 von 9
<i>Test Report No.:</i>			<i>Page 9 of 9</i>
Absatz	IEC 61701:2011, EN 61701:2012 severity 1	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

9.2 f)	Bypass diode functional test after salt mist corrosion test				
Number of diodes in junction box			3		—
Diode manufacturer			Zhejiang Zhonghuan Sunter		
Diode type designation			20SQ045		
Max. permissible junction temperature T _{jmax} [°C] (according to diode datasheet)			200		
Test date [DD/MM/YYYY]	Sample No.	Diode 1	Diode 2	Diode 3	
07-11-2017	1803243438-41	Found OK	Found OK	Found OK	P
07-11-2017	1803243438-42	Found OK	Found OK	Found OK	P
Supplementary information: - None					

ANLAGE zum Prüfbericht-Nr.:
APPENDIX to Test Report No.: **19631642.001**

Seite 1 von 7
Page 1 of 7

ZUSATZ-DOKUMENTATION
ADDITIONAL DOCUMENTATION

Abbreviations used in the report

NOCT	Nominal Operating Cell Temperature
STC	Standard Test Conditions
P_{max}	Maximum power
I_{mp}	Maximum power point current
V_{mp}	Maximum power point voltage
I_{sc}	Short circuit current
V_{oc}	Open circuit voltage
FF	Fill factor
α	Current temperature coefficient
β	Voltage temperature coefficient
γ	Power temperature coefficient
S	Series connection
SP	Series-parallel connection
SPS	Series-parallel-series connection

ANLAGE zum Prüfbericht-Nr.:
APPENDIX to Test Report No.: **19631642.001**

Seite 2 von 7
Page 2 of 7

ZUSATZ-DOKUMENTATION
ADDITIONAL DOCUMENTATION

Statement of the estimated uncertainty of the test verdicts

- Electrical performance rating is outside the scope of IEC 61215:2005 qualification testing. The verdicts of performance rating are only related to the test samples that were subjected to the tests. They cannot be generalised to the modules from the series production.
- The calibration to STC was performed with a class AAA solar simulator. The extended measurement uncertainty is:
 - Pmax measurement: 2.12% with a coverage factor $k=2$
 - Current measurement: 1.76% with a coverage factor $k=2$
 - Voltage measurement: 1.57% with a coverage factor $k=2$
- Relative measurements were performed with a flash type solar simulator.
- The accuracy of measurement reproduction with the solar simulator is less than ± 1 %.
-

ANLAGE zum Prüfbericht-Nr.:
APPENDIX to Test Report No.: **19631642.001**

Seite 3 von 7
Page 3 of 7

ZUSATZ-DOKUMENTATION
ADDITIONAL DOCUMENTATION

History of certification

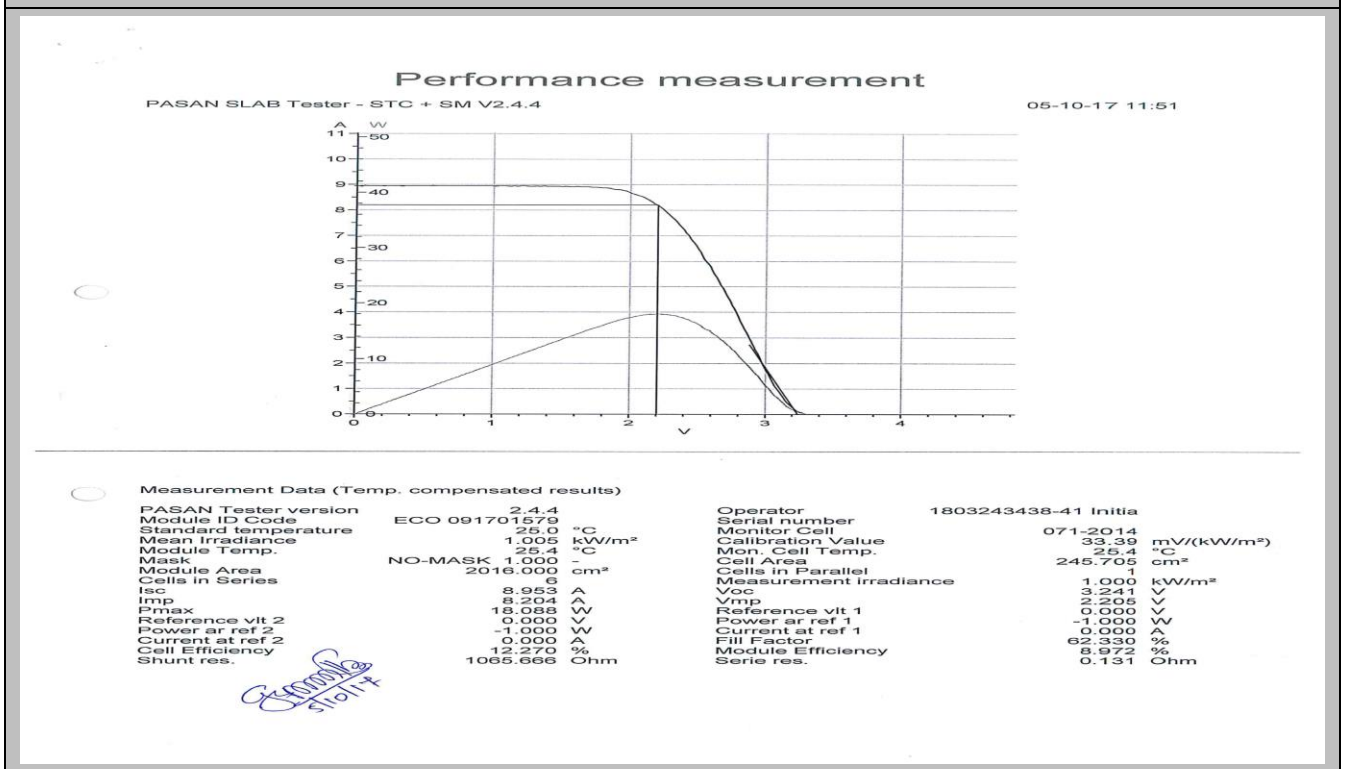
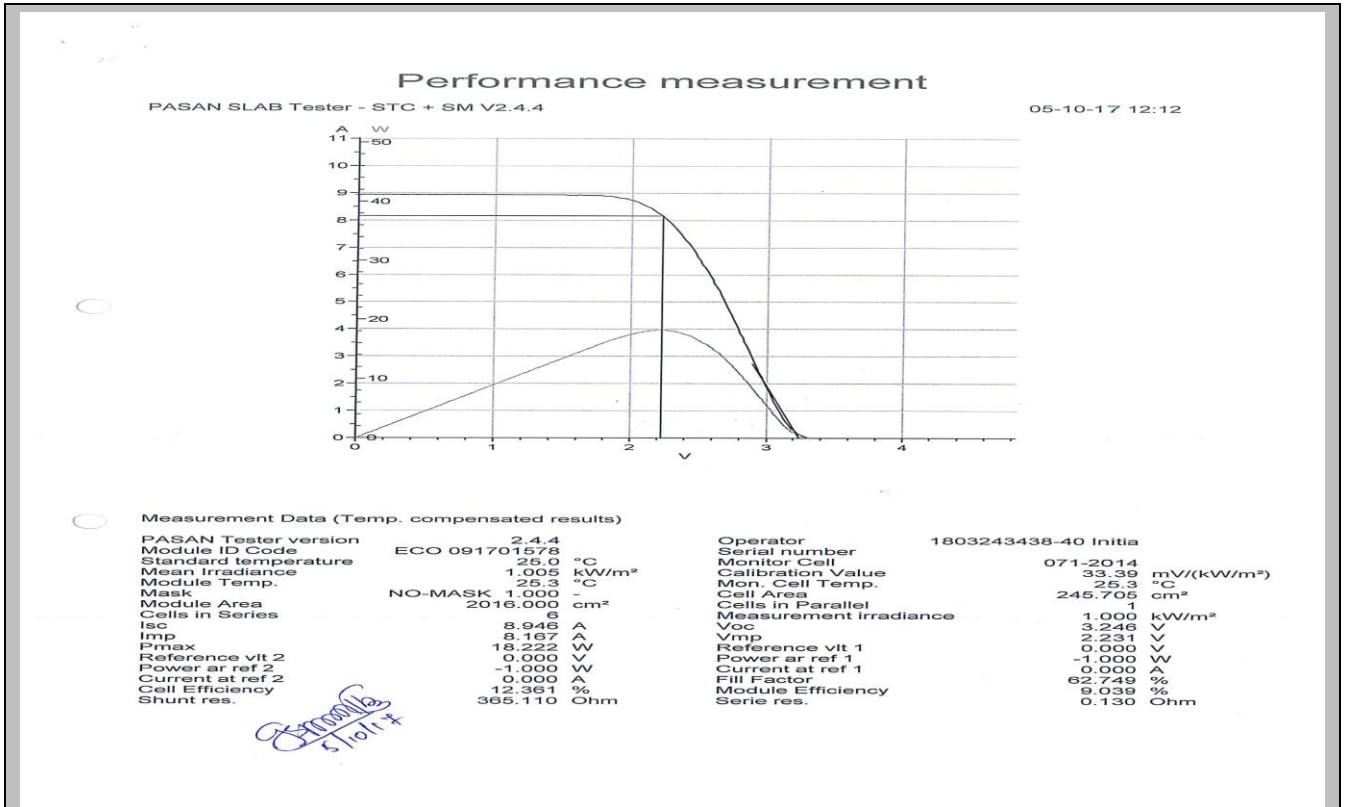
Subject	Module type	Project no/ Report no.	Certificate no./ Declaration on extension	Date of issue
Basic Qualification	ECO xxx with 72, 60, 54, 48 and 36 cells ECO xxx with 72 cut cells	21289416 001	PV 60127842	17/04/2018

ANLAGE zum Prüfbericht-Nr.:
APPENDIX to Test Report No.: 19631642.001

Seite 4 von 7
Page 4 of 7

ZUSATZ-DOKUMENTATION ADDITIONAL DOCUMENTATION

Measurement reports:



ANLAGE zum Prüfbericht-Nr.:
APPENDIX to Test Report No.: 19631642.001

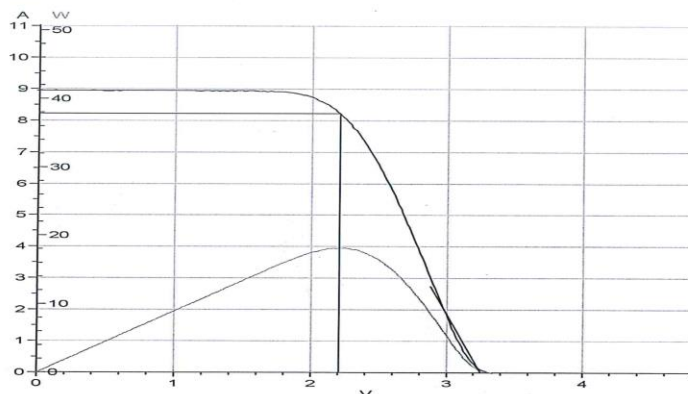
Seite 5 von 7
Page 5 of 7

ZUSATZ-DOKUMENTATION
ADDITIONAL DOCUMENTATION

Performance measurement

PASAN SLAB Tester - STC + SM V2.4.4

05-10-17 12:10



Measurement Data (Temp. compensated results)

PASAN Tester version	2.4.4	Operator	1803243438-42 Initia
Module ID Code	ECO 091701580	Serial number	
Standard temperature	25.0 °C	Monitor Cell	071-2014
Mean Irradiance	1.005 kW/m²	Calibration Value	33.39 mV/(kW/m²)
Module Temp.	25.3 °C	Mon. Cell Temp.	25.3 °C
Mask	NO-MASK 1.000 -	Cell Area	245.705 cm²
Module Area	2016.000 cm²	Cells in Parallel	1
Cells in Series	6	Measurement irradiance	1.000 kW/m²
Isc	8.955 A	Voc	3.254 V
Imp	8.229 A	Vmp	2.209 V
Pmax	18.173 W	Reference vlt 1	0.000 V
Reference vlt 2	0.000 V	Power ar ref 1	-1.000 W
Power ar ref 2	-1.000 W	Current at ref 1	0.000 A
Current at ref 2	0.000 A	Fill Factor	62.366 %
Cell Efficiency	12.327 %	Module Efficiency	9.014 %
Shunt res.	316.500 Ohm	Series res.	0.137 Ohm

Handwritten signature and date: 05/10/17

ANLAGE zum Prüfbericht-Nr.:
APPENDIX to Test Report No.: **19631642.001**

Seite 6 von 7
Page 6 of 7

ZUSATZ-DOKUMENTATION
ADDITIONAL DOCUMENTATION

Constructional Data Form for Photovoltaic Modules:

Module type: ECO315			
Object	Manufacturer /trademark	Type / model	Technical data / ratings
Front cover	Gujrat Borosil	Anti-reflective Coated textured Tempered solar Glass	3.2mm
Rear cover	Coveme	DyMat PYE SPV	Total thickness=295µm
Frame	Jiangsu Davin Solar	6063- T5/T6	Silver
Adhesive for frame	Bejing Tonson	BT-1527	-
Adhesive for junction box	Bejing Tonson	BT-1527	-
Junction box	Zhejiang Zhonghuan Sunter	PV-ZH011-3	Max. Voltage = 1000V Max. Current = 15A Max. Diode Current = 20A
Bypass diode	Zhejiang Zhonguan Sunter PV	20SQ045	Tj max = 200
Cable	Zhejiang Zhonguan Sunter PV	H1Z2Z2-K	Max. Voltage = 1000V
Connector	Zhejiang Zhonguan Sunter PV	PV-ZH202	Max. Voltage = 1000V Mac. Current = 30A

ANLAGE zum Prüfbericht-Nr.:
APPENDIX to Test Report No.: 19631642.001

Seite 7 von 7
Page 7 of 7

ZUSATZ-DOKUMENTATION
ADDITIONAL DOCUMENTATION

Copy of Certificate:

Zertifikat

Certificate



Zertifikat Nr. Certificate No.
PV 60127842

Blatt Blatt
0001

Ihr Zeichen Client Reference	Unser Zeichen Our Reference	Ausstellungsdatum Date of Issue
	0001--21289416 001	17.04.2018 (day/mo/yr)

Genehmigungsinhaber License Holder

PV Power Technologies Private Ltd.
201, Anjani Complex, Opp. Western
Express Highway Metro station
Andheri (E)
Mumbai 400099
India

Fertigungsstätte Manufacturing Plant

PV Power Technologies Pvt. Ltd.
Plot No-60, Sai Baba Boulevard Township
Tarapur Textile Park Pvt. Ltd.
Gundale Village, Post-Mahagoan
Boisar (East), Taluka-Palghar
Maharashtra 401501
India

Prüfzeichen Test Mark



IEC 61215
IEC 61730
Regular Production
Surveillance
www.tuv.com
ID 1111215256

Geprüft nach Tested acc. to

IEC 61215-1:2016
IEC 61215-1-1:2016
IEC 61215-2:2016
IEC 61730-1:2016
IEC 61730-2:2016

Zertifiziertes Produkt (Geräteidentifikation)
Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

PV Module

Type:
with 6" poly cells:
ECO xxx (xxx = 300 - 325 in steps of 1, with 72 cells)
ECO xxx (xxx = 250 - 270 in steps of 1, with 60 cells)
ECO xxx (xxx = 225 - 240 in steps of 1, with 54 cells)
ECO xxx (xxx = 200 - 215 in steps of 1, with 48 cells)
ECO xxx (xxx = 150 - 160 in steps of 1, with 36 cells)
with 6" poly cut cells:
ECO xxx (xxx = 155 - 290 in steps of 1, with 72 cells)
ECO xxx (xxx = 10 - 145 in steps of 1, with 36 cells)
xxx represents output power in Wp

Remarks:

Class II acc. to IEC 61140
Max. System Voltage: 1000 VDC (Voc at STC)
Max. positiv Design Load (downward): 3600 Pa (only 72 cells)
Max. positiv Design Load (downward): 1600 Pa
Max. negativ Design Load (upward): 1600 Pa
with safety factor 1,5
Conditions: The product test is voluntarily according to
technical regulations. Any change of the design, materials,
components or processing may require the repetition of some
of the qualification tests in order to retain type approval.
Validity: 5 years counting from date of issue.

*Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product
fulfills above mentioned requirements, the production is subject to surveillance.*

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg
Tel.: +49 221 806-1371 e-mail: cert-validity@de.tuv.com
Fax: +49 221 806-3935 <http://www.tuv.com/safety>

Zertifizierungsstelle



Dipl.-Ing. M. Adrian

ANLAGE zum Prüfbericht-Nr.:
APPENDIX to Test Report No.: 19631642.001

Seite 1 von 3
Page 1 of 3

FOTO-DOKUMENTATION
PHOTO-DOCUMENTATION

Pictures of Modules - Before Salt mist corrosion test



Fig.1: Front view of the module



Fig.2: Rear view of the module

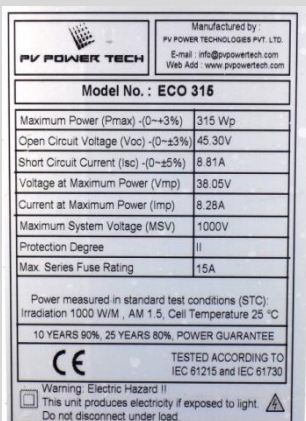


Fig.3: Detail view of the Type label



Fig.4: Detail view of the closed junction Box



Fig.5: Detail view of the Connectors



Fig.6: Detail view of Cable

ANLAGE zum Prüfbericht-Nr.:
APPENDIX to Test Report No.: 19631642.001

Seite 2 von 3
Page 2 of 3

FOTO-DOKUMENTATION
PHOTO-DOCUMENTATION

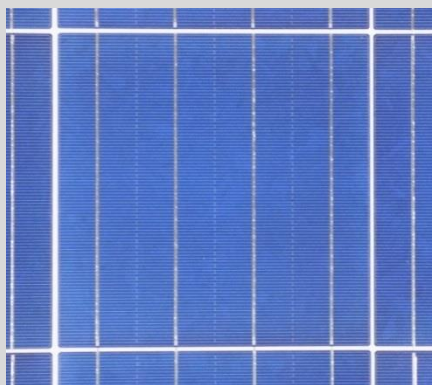


Fig.7: Detail view of Solar Cell



Fig.8: Detail view of Frame corner

Pictures of Modules - After Salt mist corrosion test

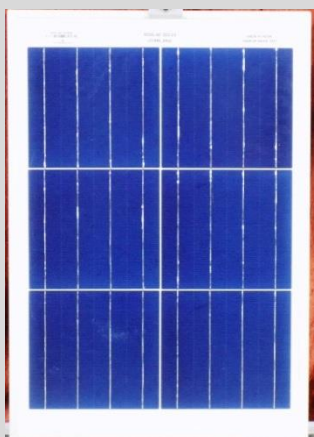


Fig.09:Front view of the module



Fig.10: Rear view of the module

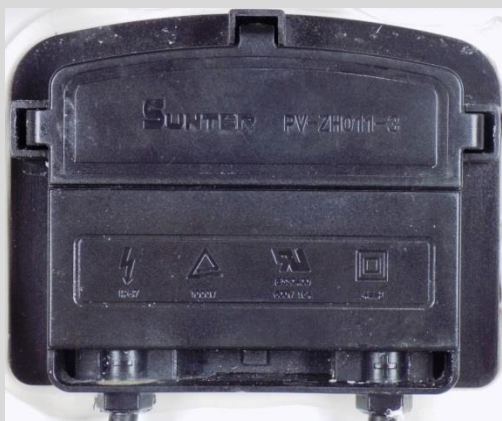


Fig.11: Detail view of the Junction Box

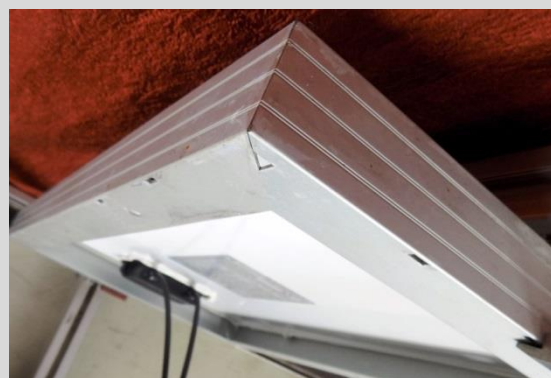


Fig. 12: Detail view of Corner frame

ANLAGE zum Prüfbericht-Nr.:
APPENDIX to Test Report No.: 19631642.001

Seite 3 von 3
Page 3 of 3

FOTO-DOKUMENTATION
PHOTO-DOCUMENTATION



Fig. 13: Detail view of Frame corners



Fig. 14: Detail view of Connector