

Zertifikat

Certificate



Zertifikat Nr. *Certificate No.*
PV 60124361

Blatt *Page*
0001

Ihr Zeichen *Client Reference*

Unser Zeichen *Our Reference*
0001--21281393 001

Ausstellungsdatum
10.11.2017

Date of Issue
(day/mo/yr)

Genehmigungsinhaber *License Holder*

ORB Energy Private Limited
No. 95 Digital Park Road, 2nd Stage
Yeshawanthapura
Bengaluru 560022
India

Fertigungsstätte *Manufacturing Plant*

ORB Energy Private Limited
No. 95 Digital Park Road, 2nd Stage
Yeshawanthapura
Bengaluru 560022
India

Prüfzeichen *Test Mark*



Geprüft nach *Tested acc. to*

IEC 61215:2005
EN 61215:2005
IEC 61730-1:2004+A1+A2
IEC 61730-2:2004+A1
EN 61730-1:2007+A1+A2+A11
EN 61730-2:2007+A1

Zertifiziertes Produkt (Geräteidentifikation)

Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

PV-Module

Type:

with 6" poly cells:

OrbxxxP72 (xxx = 290 - 355 in steps of 1 with 72 cells)
OrbxxxP60 (xxx = 240 - 295 in steps of 1 with 60 cells)
OrbxxxP54 (xxx = 215 - 265 in steps of 1 with 54 cells)
OrbxxxP48 (xxx = 190 - 235 in steps of 1 with 48 cells)
OrbxxxP36 (xxx = 145 - 175 in steps of 1 with 36 cells)

with 6" poly cut cells:

OrbxxxP72 (xxx = 184 - 250 in steps of 1 with 72 cells)
OrbxxxP36 (xxx = 145 - 175 in steps of 1 with 36 cells)

with 6" poly cut cells:

OrbxxxP72 (xxx = 184 - 250 in steps of 1 with 72 cells)
OrbxxxP36 (xxx = 007 - 137 in steps of 1 with 36 cells)
OrbxxxP18 (xxx = 003 - 005 in steps of 1 with 18 cells)
xxx represent output power in Wp

Remarks:

The above listed PV modules fulfil the requirements of Application Class A (Class II acc. to IEC 61140). They may be used in PV plants at a maximum system voltage (Voc at STC) of up to 1000 VDC.

The above listed PV modules fulfil the requirements of fire rating class C.

continued on page 2

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



Zertifikat

Certificate



Zertifikat Nr. *Certificate No.*
PV 60124361

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0002

Ihr Zeichen *Client Reference*

Unser Zeichen *Our Reference*

Ausstellungsdatum

Date of Issue

0001--21281393 001

10.11.2017

(day/month/year)

Genehmigungsinhaber *License Holder*

ORB Energy Private Limited
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Yeshawanthapura
Bengaluru 560022
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EN 61730-2:2007+A1

Zertifiziertes Produkt (Geräteidentifikation)

Certified Product (Product Identification)

Lizenzentgelte - Einheit

License Fee - Unit

PV-Module

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. The certificate has a validity of 5 years counting from date 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.

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Fax: +49 221 806-3935 http://www.tuv.com/safety

Zertifizierungsstelle



Dipl.-Ing. M. Adrian

Prüfbericht-Nr.: <i>Test Report No.:</i>	19631569.001	Auftrags-Nr.: <i>Order No.:</i>	1803236242	Seite 1 von 11 <i>Page 1 of 11</i>	
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	625362	Auftragsdatum: <i>Order date:</i>	19-06-2017		
Auftraggeber: <i>Client:</i>	ORB Energy Private Limited,95, Digital Park Road, 2nd Stage, Yeshawanthapura, Bengaluru 560022, India				
Prüfgegenstand: <i>Test item:</i>	Photovoltaic (PV) modules				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	Orb325P72				
Auftrags-Inhalt: <i>Order content:</i>	Testing against PID resistivity				
Prüfgrundlage: <i>Test specification:</i>	Solar Photovoltaic Modules IEC TS 62804 – 1 : Test methods for the detection of potential-induced degradation – Part 1: Crystalline silicon with following severities - Climatic conditions: 85°C and 85% RH - Duration: 288 hours- 3 cycles of 96 hours each				
Wareneingangsdatum: <i>Date of receipt:</i>	10-09-2017	<p style="text-align: center;">Detaillierte Fotodokumentation siehe Anlage zu diesem Bericht</p> <p style="text-align: center;"><i>Detailed photo documentation see appendix to this report</i></p>			
Prüfmuster-Nr.: <i>Test sample No.:</i>	Refer list of test samples				
Prüfzeitraum: <i>Testing period:</i>	12-09-2017 – 09-10-2017				
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:		
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>
15-11-2017	K.Ganesh Kamath/Manager- PV Products		15-11-2017	Kamalaksha CS/AGM-PV Products	
Sonstiges / Other: N/A					
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					
<p style="text-align: center;">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></p>					

TUV Rheinland (India) Pvt. Ltd.
Product Safety & Quality

Test Report

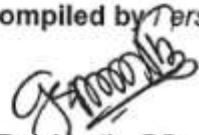
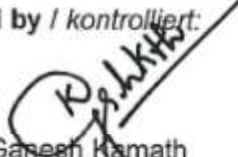
**Salt Mist corrosion Testing of
Photovoltaic modules acc IEC 61701-2011**

TÜV Report No: 19631572.001

Bangalore NOVEMBER 2017



Certificate No. TC - 5688

Test report no.: <i>Prüfbericht - Nr.:</i>	19631572.001		
Client (Customer no. and address): <i>Auftraggeber</i> <i>(Kunden-Nr. u. Adresse):</i>	625362 ORB ENERGY PRIVATE LIMITED, 95, Digital Park Road, 2nd tage, Yeshawanthapura, Bengaluru 560022, India		
Test item: <i>Gegenstand der Prüfung:</i>	Photovoltaic (PV) Module(s)	Date of receipt: <i>Eingangsdatum:</i>	04-07-2017
Module type designation: <i>Modultypen-Bezeichnung:</i>	Refer Page.no 3 (only valid for the material combination as listed in the constructional data form in the annex of this test report)		
Order no.: <i>Auftragsnummer:</i>	1803236242	Quotation no.: <i>Angebotsnummer:</i>	402039936 dtd 07-06-2017
Testing location: <i>Prüfart:</i>	TUV Rheinland(India) Pvt.Ltd Plot No.17B,Electronic city, Phase II, Industrial Area,Begur Hobli, Bangalore(south)-560 100,India Tel: +91 80 3923 4301		
Test specification: <i>Prüfgrundlage:</i>	IEC 61701:2011, EN 61701:2012 severity 1, (Salt mist corrosion testing of photovoltaic (PV) modules)		
Test result: <i>Prüfergebnis:</i>	All of the required tests were passed according to the pass criteria outlined in test specification noted above.		
compiled by / erstellt:		reviewed by / kontrolliert:	
 30-11-2017 Prashanth. GS		 30-11-2017 K. Ganesh Kamath	
Date <i>Datum</i>	Title/Name <i>Titel/Name</i>	Date <i>Datum</i>	Title/Name <i>Titel/Name</i>
<p>This test report relates to the listed test samples. Without permission of the test centre this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</p> <p>Dieser Prüfbericht bezieht sich nur auf die gelisteten Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</p>			