



URS PRODUCTS AND TESTING PRIVATE LIMITED

A-29, Sector-5, Noida-201301
T +91 (120) 4516264-65 F +91 (120) 4750296
E info@urs-labs.com W www.urs-labs.com
CIN NO U21014UP1987PTC008956



SUMMARY OF TEST REPORT

TEST REPORT NO: SC24SPI01116_1

DATE: 16/09/2024

(Total Number of Pages in Test Report: 47)

TEST FORMAT AS PER IS/IEC 61730-1:2004 (First Edition) + A1:2017 + A2:2017

- 1. Name of the Manufacturer: Icon Solar En Power Technologies Private Limited.**
- 2. Product: Crystalline silicon terrestrial photovoltaic (PV) modules (Si wafer based).**
- 3. Model: ISEN600-Bi**
Series Model:
156 Half cut cell family with system voltage 1500V
ISEN595-Bi, ISEN590-Bi, ISEN585-Bi, ISEN580-Bi, ISEN575-Bi, ISEN570-Bi, ISEN565-Bi, ISEN560-Bi,
144 Half cut cell family with system voltage 1500V
ISEN555-Bi, ISEN550-Bi, ISEN545-Bi, ISEN540-Bi, ISEN535-Bi, ISEN530-Bi, ISEN525-Bi, ISEN520-Bi,
132 Half cut cell family with system voltage 1500V
ISEN505-Bi, ISEN500-Bi, ISEN495-Bi, ISEN490-Bi, ISEN485-Bi, ISEN480-Bi,
120 Half cut cell family with system voltage 1500V
ISEN460-Bi, ISEN455-Bi, ISEN450-Bi, ISEN445-Bi, ISEN440-Bi, ISEN435-Bi, ISEN430-Bi, ISEN425-Bi,
ISEN420-Bi,
108 Half cut cell family with system voltage 1500V
ISEN410-Bi, ISEN405-Bi, ISEN400-Bi, ISEN395-Bi, ISEN390-Bi, ISEN385-Bi, ISEN380-Bi
- 4. Model differences provided (if applicable): Yes**
- 5. Model differences verified as per MNRE Guidelines for series approval: Yes**



ULR-TC646824100007060F



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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 2 of 49

6. Test Results:

SL.	TEST REQUIREMENT	CLAUSE	VERDICT
1	Application Classes	3	P
2	Construction Requirements	4	P
3	Polymeric Materials	5	P
4	Internal Wiring And Current-Carrying Parts	6	P
5	Connections	7	P
6	Bonding And Grounding	8	P
7	Creepage and clearance distances	9	P
8	Field Wiring Compartments With Covers	10	P
9	Marking	11	P
10	Requirements for supplied documents	12	P

General Information:

The conformity certificates of components/parts wherever applicable are verified to ensure complete testing of products under test and details regarding harmonized IEC standards (where IEC standards are not available) are also provided in the list of components/parts (description of module construction) wherever applicable.

CONCLUSION:

1. Sample meets all relevant requirements of IS/IEC 61730-1:2004 (First Edition) + A1:2017 + A2:2017
2. Sample fails to meet the following test requirements.

I, hereby undertake that the verdict stated in the test reports for all the test matches with the test results. The sample meets/~~does not meets~~ all relevant requirements stated above of IS/IEC61730-1:2004 (First Edition) + A1:2017 + A2:2017.

Date: 16/09/2024



(Signature of Authorized person with Stamp)

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CIN NO U21014UP1987PTC008956



Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 3 of 49

TEST REPORT	
IS/IEC 61730-1:2004 +A1:2017+A2:2017	
PV Module Safety Qualification Part 1: Requirements for construction	
Report Reference No.	SC24SPI01116_1
Date of issue	16/09/2024
Total number of pages	47
Testing Laboratory	URS PRODUCTS AND TESTING PRIVATE LIMITED
Address	A-29, Sector 5, Noida-201301, India
Applicant's name	Icon Solar En Power Technologies Private Limited.
Address	PH. NO.09, GRAM DIGHARI MANDIR HASAUD, TEH ARANG CHHATTISGARH RAIPUR 492001, CHHATTISHGARH, 492001
Test specification:	
Standard	IS/IEC 61730-1:2004+A1:2017+A2:2017
Test procedure	Compliance Report
Non-standard test method.....	N/A
Test Report Form No.	IS/IEC61730-1_V1.0
Test Report Form(s) Originator.....	BIS
Master TRF	Dated 19.02.2018
Test item description	Crystalline Silicon Terrestrial Photovoltaic (PV) Modules (Si Wafer Based)
Trade Mark	
Manufacturer	Icon Solar En Power Technologies Private Limited.
Address	PH. NO.09, GRAM DIGHARI MANDIR HASAUD, TEH ARANG CHHATTISGARH RAIPUR 492001, CHHATTISHGARH, 492001
Model/Type reference	Model Tested: ISEN600-Bi Series Model: 156 Half cut cell family with system voltage 1500V ISEN595-Bi, ISEN590-Bi, ISEN585-Bi, ISEN580-Bi, ISEN575-Bi, ISEN570-Bi, ISEN565-Bi, ISEN560-Bi, 144 Half cut cell family with system voltage 1500V ISEN555-Bi, ISEN550-Bi, ISEN545-Bi, ISEN540-Bi, ISEN535-Bi, ISEN530-Bi, ISEN525-Bi, ISEN520-Bi, 132 Half cut cell family with system voltage 1500V ISEN505-Bi, ISEN500-Bi, ISEN495-Bi, ISEN490-Bi, ISEN485-Bi, ISEN480-Bi, 120 Half cut cell family with system voltage 1500V ISEN460-Bi, ISEN455-Bi, ISEN450-Bi, ISEN445-Bi, ISEN440-Bi, ISEN435-Bi, ISEN430-Bi, ISEN425-Bi, ISEN420-Bi, 108 Half cut cell family with system voltage 1500V ISEN410-Bi, ISEN405-Bi, ISEN400-Bi, ISEN395-Bi, ISEN390-Bi, ISEN385-Bi, ISEN380-Bi
Rating	See copy of Marking label and General product information.



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TRF No. IS/IEC61730-1_V1.0

Discipline-Electronics Testing

Group-Miscellaneous product



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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 4 of 49

Testing procedure and testing location:		
<input checked="" type="checkbox"/> Testing Laboratory:	URS PRODUCTS AND TESTING PRIVATE LIMITED	
Testing location/ address.....:	A-29, Sector 5, Noida-201301, India	
Tested by (name + signature)	PUJA KUMARI Asst.Manager	
Approved by (name + signature).: 	NILESH BALASAHEB ASWAR (Lab Manager)	
Issued by (name + signature)	Paras Singh (General Manager Technical)	



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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 5 of 49

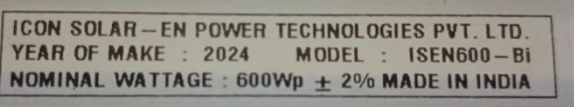
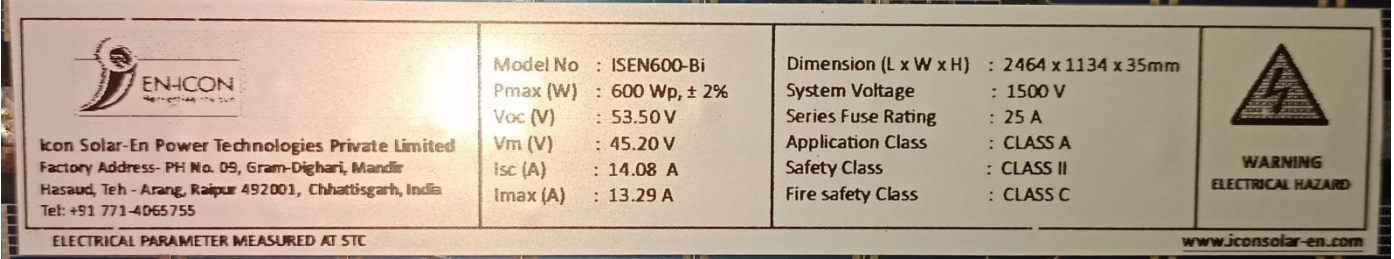
List of Attachments (including a total number of pages in each attachment)– Photographs and Specification of PV modules	
Summary of testing:	
Tests performed (name of test and test clause):	Testing location: URS PRODUCTS AND TESTING PRIVATE LIMITED A-29, Sector 5, Noida-201301, India
3 Application Classes	
4 Construction Requirements	
5 Polymeric Materials	
6 Internal Wiring and Current-Carrying Parts	
7 Connections	
8 Bonding and Grounding	
9 Creepage and Clearances Distances	
10 Field Wiring Compartments With Covers	
11 Marking	
12 Requirements For Supplied Documents	
The product fulfils the requirements of IS/IEC 61730-1:2004 +A1:2017+A2:2017	



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Copy of Marking Plate

(Model Tested: ISEN600-Bi)



Polarity marking on Junction Box



Polarity marking on Connectors



The marking plate above represents all models covered by this report. See "General product information" for electrical ratings for all models.



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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 7 of 49

(Series Model: ISEN595-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
Tel: +91 771-4065755

Model No : ISEN595-Bi
Pmax (W) : 595 Wp ±2%
Voc (V) : 53.40 V
Vm (V) : 45.00 V
Isc (A) : 14.01 A
Imax (A) : 13.23 A

Dimension (L x W x H) : 2464 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN595-Bi
NOMINAL WATTAGE: 595 Wp ± 2% MADE IN INDIA

ICON595B1006081001



(Series Model: ISEN590-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
Tel: +91 771-4065755

Model No : ISEN590-Bi
Pmax (W) : 590 Wp ±2%
Voc (V) : 53.30 V
Vm (V) : 44.80 V
Isc (A) : 13.94 A
Imax (A) : 13.18 A

Dimension (L x W x H) : 2464 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



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ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN590-Bi
NOMINAL WATTAGE: 590 Wp ± 2% MADE IN INDIA

ICON590B1006081001



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TC-6468


Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 8 of 49



(Series Model: ISEN585-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN585-Bi Pmax (W) : 585 Wp ±2% Voc (V) : 53.20 V Vm (V) : 44.60 V Isc (A) : 13.87 A Imax (A) : 13.12 A	Dimension (L x W x H) : 2464 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
	ELECTRICAL PARAMETER MEASURED AT STC		


ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN585-Bi
 NOMINAL WATTAGE: 585 Wp ± 2% MADE IN INDIA

 ICON585B1006081001


(Series Model: ISEN580-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN580-Bi Pmax (W) : 580 Wp ±2% Voc (V) : 53.10 V Vm (V) : 44.40 V Isc (A) : 13.79 A Imax (A) : 13.07 A	Dimension (L x W x H) : 2464 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
	ELECTRICAL PARAMETER MEASURED AT STC		

ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN580-Bi
 NOMINAL WATTAGE: 580 Wp ± 2% MADE IN INDIA

 ICON580B1006081001




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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 9 of 49

(Series Model: ISEN575-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN575-Bi Pmax (W) : 575 Wp ±2% Voc (V) : 53.00 V Vm (V) : 44.20 V Isc (A) : 13.69 A Imax (A) : 13.02 A	Dimension (L x W x H) : 2464 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC



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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN575-Bi
 NOMINAL WATTAGE: 575 Wp ± 2% MADE IN INDIA

ICON575B1006081001



(Series Model: ISEN570-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN570-Bi Pmax (W) : 570 Wp ±2% Voc (V) : 52.90 V Vm (V) : 44.00 V Isc (A) : 13.60 A Imax (A) : 12.96 A	Dimension (L x W x H) : 2464 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN570-Bi
 NOMINAL WATTAGE: 570 Wp ± 2% MADE IN INDIA

ICON570B1006081001




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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 10 of 49

(Series Model: ISEN565-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN565-Bi Pmax (W) : 565 Wp ±2% Voc (V) : 52.80 V Vm (V) : 43.80 V Isc (A) : 13.55 A Imax (A) : 12.91 A	Dimension (L x W x H) : 2464 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
	ELECTRICAL PARAMETER MEASURED AT STC		

ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN565-Bi
 NOMINAL WATTAGE: 565 Wp ± 2% MADE IN INDIA

 ICON565B1006081001

(Series Model: ISEN560-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN560-Bi Pmax (W) : 560 Wp ±2% Voc (V) : 52.70 V Vm (V) : 43.60 V Isc (A) : 13.49 A Imax (A) : 12.85 A	Dimension (L x W x H) : 2464 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
	ELECTRICAL PARAMETER MEASURED AT STC		

ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN560-Bi
 NOMINAL WATTAGE: 560 Wp ± 2% MADE IN INDIA

 ICON560B1006081001



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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 11 of 49

(Series Model: ISEN555-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN555-Bi Pmax (W) : 555 Wp ±2% Voc (V) : 49.75 V Vm (V) : 42.12 V Isc (A) : 14.02 A Imax (A) : 13.18 A	Dimension (L x W x H) : 2278 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC



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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN555-Bi
 NOMINAL WATTAGE: 555 Wp ± 2% MADE IN INDIA

ICON555B1006081001



(Series Model: ISEN550-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN550-Bi Pmax (W) : 550 Wp ±2% Voc (V) : 49.60 V Vm (V) : 41.97 V Isc (A) : 13.98 A Imax (A) : 13.11 A	Dimension (L x W x H) : 2278 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN550-Bi
 NOMINAL WATTAGE: 550 Wp ± 2% MADE IN INDIA

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CIN NO U21014UP1987PTC008956



Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 12 of 49

(Series Model: ISEN545-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
Tel: +91 771-4065755

Model No : ISEN545-Bi
Pmax (W) : 545 Wp ±2%
Voc (V) : 49.45 V
Vm (V) : 41.81 V
Isc (A) : 13.93 A
Imax (A) : 13.04 A

Dimension (L x W x H) : 2278 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



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ELECTRICAL HAZARD

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN545-Bi
NOMINAL WATTAGE: 545 Wp ± 2% MADE IN INDIA

ICON545B1006081001



(Series Model: ISEN540-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh India
Tel: +91 771-4065755

Model No : ISEN540-Bi
Pmax (W) : 540 Wp ±2%
Voc (V) : 49.30 V
Vm (V) : 41.65 V
Isc (A) : 13.86 A
Imax (A) : 12.97 A

Dimension (L x W x H) : 2278 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN540-Bi
NOMINAL WATTAGE: 540 Wp ± 2% MADE IN INDIA

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CIN NO U21014UP1987PTC008956



TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 13 of 49

(Series Model: ISEN535-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN535-Bi Pmax (W) : 535 Wp ±2% Voc (V) : 49.15 V Vm (V) : 41.47 V Isc (A) : 13.79 A Imax (A) : 12.91 A	Dimension (L x W x H) : 2278 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
	ELECTRICAL PARAMETER MEASURED AT STC		

ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN535-Bi
 NOMINAL WATTAGE: 535 Wp ± 2% MADE IN INDIA

ICON535B1006081001

(Series Model: ISEN530-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN530-Bi Pmax (W) : 530 Wp ±2% Voc (V) : 49.00 V Vm (V) : 41.32 V Isc (A) : 13.72 A Imax (A) : 12.83 A	Dimension (L x W x H) : 2278 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
	ELECTRICAL PARAMETER MEASURED AT STC		

ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN530-Bi
 NOMINAL WATTAGE: 530 Wp ± 2% MADE IN INDIA

ICON530B1006081001



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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 14 of 49

(Series Model: ISEN525-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN525-Bi Pmax (W) : 525 Wp ±2% Voc (V) : 48.85 V Vm (V) : 41.16 V Isc (A) : 13.65 A Imax (A) : 12.76 A	Dimension (L x W x H) : 2278 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC



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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN525-Bi
 NOMINAL WATTAGE: 525 Wp ± 2% MADE IN INDIA

ICON525B1006081001



(Series Model: ISEN520-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN520-Bi Pmax (W) : 520 Wp ±2% Voc (V) : 48.70 V Vm (V) : 41.00 V Isc (A) : 13.58 A Imax (A) : 12.69 A	Dimension (L x W x H) : 2278 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC

www.iconsolar-en.com

ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN520-Bi
 NOMINAL WATTAGE: 520 Wp ± 2% MADE IN INDIA

ICON520B1006081001




ULR-TC646824100007060F



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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 15 of 49

(Series Model: ISEN505-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
Tel: +91 771-4065755

Model No : ISEN505-Bi
Pmax (W) : 505 Wp ±2%
Voc (V) : 45.54 V
Vm (V) : 38.53 V
Isc (A) : 13.98 A
Imax (A) : 13.11 A

Dimension (L x W x H) : 2094 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN505-Bi
NOMINAL WATTAGE: 505 Wp ± 2% MADE IN INDIA

ICON505B1006081001



(Series Model: ISEN500-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
Tel: +91 771-4065755

Model No : ISEN500-Bi
Pmax (W) : 500 Wp ±2%
Voc (V) : 45.39 V
Vm (V) : 38.38 V
Isc (A) : 13.93 A
Imax (A) : 13.04 A

Dimension (L x W x H) : 2094 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN500-Bi
NOMINAL WATTAGE: 500 Wp ± 2% MADE IN INDIA

ICON500B1006081001



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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 16 of 49

(Series Model: ISEN495-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN495-Bi Pmax (W) : 495 Wp ±2% Voc (V) : 45.24 V Vm (V) : 38.22 V Isc (A) : 13.86 A Imax (A) : 12.97 A	Dimension (L x W x H) : 2094 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC



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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN495-Bi
NOMINAL WATTAGE: 495 Wp ± 2% MADE IN INDIA

ICON495B1006081001



(Series Model: ISEN490-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN490-Bi Pmax (W) : 490 Wp ±2% Voc (V) : 45.09 V Vm (V) : 38.02 V Isc (A) : 13.79 A Imax (A) : 12.91 A	Dimension (L x W x H) : 2094 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN490-Bi
NOMINAL WATTAGE: 490 Wp ± 2% MADE IN INDIA

ICON490B1006081001



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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 17 of 49

(Series Model: ISEN485-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN485-Bi Pmax (W) : 485 Wp ±2% Voc (V) : 44.94 V Vm (V) : 37.90 V Isc (A) : 13.72 A Imax (A) : 12.81 A	Dimension (L x W x H) : 2094 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
	ELECTRICAL PARAMETER MEASURED AT STC		

ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN485-Bi
 NOMINAL WATTAGE: 485 Wp ± 2% MADE IN INDIA

ICON485B1006081001

(Series Model: ISEN480-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN480-Bi Pmax (W) : 480 Wp ±2% Voc (V) : 44.75 V Vm (V) : 37.78 V Isc (A) : 13.65 A Imax (A) : 12.71 A	Dimension (L x W x H) : 2094 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
	ELECTRICAL PARAMETER MEASURED AT STC		

ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN480-Bi
 NOMINAL WATTAGE: 480 Wp ± 2% MADE IN INDIA

ICON480B1006081001



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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 18 of 49

(Series Model: ISEN460-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN460-Bi Pmax (W) : 460 Wp ±2% Voc (V) : 41.48 V Vm (V) : 34.18 V Isc (A) : 14.01 A Imax (A) : 13.47 A	Dimension (L x W x H) : 1908 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC



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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN460-Bi
 NOMINAL WATTAGE: 460 Wp ± 2% MADE IN INDIA

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(Series Model: ISEN455-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN455-Bi Pmax (W) : 455 Wp ±2% Voc (V) : 41.33 V Vm (V) : 34.06 V Isc (A) : 13.93 A Imax (A) : 13.36 A	Dimension (L x W x H) : 1908 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN455-Bi
 NOMINAL WATTAGE: 455 Wp ± 2% MADE IN INDIA

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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 19 of 49

(Series Model: ISEN450-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN450-Bi Pmax (W) : 450 Wp ±2% Voc (V) : 41.18 V Vm (V) : 33.95 V Isc (A) : 13.85 A Imax (A) : 13.26 A	Dimension (L x W x H) : 1908 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC



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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN450-Bi
 NOMINAL WATTAGE: 450 Wp ± 2% MADE IN INDIA

ICON450B1006081001



(Series Model: ISEN445-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN445-Bi Pmax (W) : 445 Wp ±2% Voc (V) : 41.10 V Vm (V) : 33.84 V Isc (A) : 13.79 A Imax (A) : 13.16 A	Dimension (L x W x H) : 1908 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN445-Bi
 NOMINAL WATTAGE: 445 Wp ± 2% MADE IN INDIA

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TC-6468


Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 20 of 49



(Series Model: ISEN440-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN440-Bi Pmax (W) : 440 Wp ±2% Voc (V) : 41.02 V Vm (V) : 33.72 V Isc (A) : 13.73 A Imax (A) : 13.05 A	Dimension (L x W x H) : 1908 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
	ELECTRICAL PARAMETER MEASURED AT STC		


ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN440-Bi
 NOMINAL WATTAGE: 440 Wp ± 2% MADE IN INDIA

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(Series Model: ISEN435-Bi)

 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN435-Bi Pmax (W) : 435 Wp ±2% Voc (V) : 40.91 V Vm (V) : 33.61 V Isc (A) : 13.62 A Imax (A) : 12.95 A	Dimension (L x W x H) : 1908 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
	ELECTRICAL PARAMETER MEASURED AT STC		

ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN435-Bi
 NOMINAL WATTAGE: 435 Wp ± 2% MADE IN INDIA

 ICON435B1006081001




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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 21 of 49

(Series Model: ISEN430-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN430-Bi Pmax (W) : 430 Wp ±2% Voc (V) : 40.79 V Vm (V) : 33.51 V Isc (A) : 13.51 A Imax (A) : 12.84 A	Dimension (L x W x H) : 1908 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC



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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN430-Bi
 NOMINAL WATTAGE: 430 Wp ± 2% MADE IN INDIA

ICON430B1006081001



(Series Model: ISEN425-Bi)


 Icon Solar-En Power Technologies Private Limited Factory Address- PH No. 09, Gram-Dighari, Mandir Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India Tel: +91 771-4065755	Model No : ISEN425-Bi Pmax (W) : 425 Wp ±2% Voc (V) : 40.75 V Vm (V) : 33.46 V Isc (A) : 13.46 A Imax (A) : 12.71 A	Dimension (L x W x H) : 1908 x 1134 x 35mm System Voltage : 1500 V Series Fuse Rating : 25 A Application Class : CLASS A Safety Class : CLASS II Fire safety Class : CLASS C	 WARNING ELECTRICAL HAZARD
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ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
 YEAR OF MAKE : 2024 MODEL : ISEN425-Bi
 NOMINAL WATTAGE: 425 Wp ± 2% MADE IN INDIA

ICON425B1006081001




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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 22 of 49

(Series Model: ISEN420-Bi)



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Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
Tel: +91 771-4065755

Model No : ISEN420-Bi
Pmax (W) : 420 Wp ±2%
Voc (V) : 40.71 V
Vm (V) : 33.42 V
Isc (A) : 13.42 A
Imax (A) : 12.57 A

Dimension (L x W x H) : 1908 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN420-Bi
NOMINAL WATTAGE: 420 Wp ± 2% MADE IN INDIA

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(Series Model: ISEN410-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
Tel: +91 771-4065755

Model No : ISEN410-Bi
Pmax (W) : 410 Wp ±2%
Voc (V) : 37.21 V
Vm (V) : 31.52 V
Isc (A) : 13.82 A
Imax (A) : 13.01 A

Dimension (L x W x H) : 1722 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN410-Bi
NOMINAL WATTAGE: 410 Wp ± 2% MADE IN INDIA

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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 23 of 49

(Series Model: ISEN405-Bi)



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Model No : ISEN405-Bi
Pmax (W) : 405 Wp ±2%
Voc (V) : 37.06 V
Vm (V) : 31.36 V
Isc (A) : 13.75 A
Imax (A) : 12.92 A

Dimension (L x W x H) : 1722 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN405-Bi
NOMINAL WATTAGE: 405 Wp ± 2% MADE IN INDIA

ICON405B1006081001



(Series Model: ISEN400-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
Tel: +91 771-4065755

Model No : ISEN400-Bi
Pmax (W) : 400 Wp ±2%
Voc (V) : 36.91 V
Vm (V) : 31.20 V
Isc (A) : 13.68 A
Imax (A) : 12.83 A

Dimension (L x W x H) : 1722 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN400-Bi
NOMINAL WATTAGE: 400 Wp ± 2% MADE IN INDIA

ICON400B1006081001



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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 24 of 49

(Series Model: ISEN395-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
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Model No : ISEN395-Bi
Pmax (W) : 395 Wp ±2%
Voc (V) : 36.76 V
Vm (V) : 31.04 V
Isc (A) : 13.61 A
Imax (A) : 12.73 A

Dimension (L x W x H) : 1722 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN395-Bi
NOMINAL WATTAGE: 395 Wp ± 2% MADE IN INDIA

ICON395B1006081001



(Series Model: ISEN390-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
Tel: +91 771-4065755

Model No : ISEN390-Bi
Pmax (W) : 390 Wp ±2%
Voc (V) : 36.61 V
Vm (V) : 30.88 V
Isc (A) : 13.54 A
Imax (A) : 12.63 A

Dimension (L x W x H) : 1722 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

ELECTRICAL PARAMETER MEASURED AT STC

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ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN390-Bi
NOMINAL WATTAGE: 390 Wp ± 2% MADE IN INDIA

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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 25 of 49

(Series Model: ISEN390-Bi)



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Model No : ISEN390-Bi
Pmax (W) : 390 Wp ±2%
Voc (V) : 36.61 V
Vm (V) : 30.88 V
Isc (A) : 13.54 A
Imax (A) : 12.63 A

Dimension (L x W x H) : 1722 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



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YEAR OF MAKE : 2024 MODEL : ISEN390-Bi
NOMINAL WATTAGE: 390 Wp ± 2% MADE IN INDIA

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(Series Model: ISEN385-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
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Model No : ISEN385-Bi
Pmax (W) : 385 Wp ±2%
Voc (V) : 36.46 V
Vm (V) : 30.72 V
Isc (A) : 13.47 A
Imax (A) : 12.54 A

Dimension (L x W x H) : 1722 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

ELECTRICAL PARAMETER MEASURED AT STC

www.iconsolar-en.com

ICON SOLAR-EN POWER TECHNOLOGIES PVT. LTD.
YEAR OF MAKE : 2024 MODEL : ISEN385-Bi
NOMINAL WATTAGE: 385 Wp ± 2% MADE IN INDIA

ICON385B1006081001



ULR-TC646824100007060F



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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 26 of 49

(Series Model: ISEN380-Bi)



Icon Solar-En Power Technologies Private Limited
Factory Address- PH No. 09, Gram-Dighari, Mandir
Hasaud, Teh - Arang, Raipur 492001, Chhattisgarh, India
Tel: +91 771-4065755

Model No : ISEN380-Bi
Pmax (W) : 380 Wp ±2%
Voc (V) : 36.31 V
Vm (V) : 30.56 V
Isc (A) : 13.40 A
Imax (A) : 12.44 A

Dimension (L x W x H) : 1722 x 1134 x 35mm
System Voltage : 1500 V
Series Fuse Rating : 25 A
Application Class : CLASS A
Safety Class : CLASS II
Fire safety Class : CLASS C



WARNING
ELECTRICAL HAZARD

ELECTRICAL PARAMETER MEASURED AT STC

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YEAR OF MAKE : 2024 MODEL : ISEN380-Bi
NOMINAL WATTAGE: 380 Wp ± 2% MADE IN INDIA

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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 27 of 49

Test item particulars.....:	Crystalline Silicon Terrestrial Photovoltaic (PV) Modules (Si Wafer Based)
Accessories and detachable parts included in the evaluation.....:	N/A
Mounting system used.....:	As per Installation Manual
Other options included.....:	N/A
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P(Pass)
- test object does not meet the requirement.....:	F(Fail)
Abbreviations used in the report:	
Pmax – Maximum power	PD – Partial Discharge
Vpm – Maximum power voltage	RTI/RTE – Relative Thermal Endurance Index
Ipm – Maximum power current	STC – Standard Test Conditions
Isc – Short circuit current	TC – Thermal Cycling
Voc – Open circuit voltage	CTI – Comparative Tracking Index
FF –Fill factor	MST – Module Safety Test
Testing.....:	
Date of receipt of test item.....:	26/06/2024
Date(s) of performance of tests.....:	28/06/2024 to 16/09/2024

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a [] comma/ [X] point is used as the decimal separator.

This Test Report Form is intended for the investigation of PV modules in accordance with IS/IEC 61730-1:2004 +A1:2017+A2:2017. It can only be used together with IS/IEC 61730-2:2004 +A1:2017 Test Report.

Name and address of factory (ies).....:	Icon Solar En Power Technologies Private Limited. PH. NO.09, GRAM DIGHARI MANDIR HASAUD, TEH ARANG CHHATTISGARH RAIPUR 492001, CHHATTISHGARH, 492001
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CIN NO U21014UP1987PTC008956



Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 28 of 49

General product information:	
PV module type reference.....:	ISEN600-Bi
Product Electrical Ratings at STC	
Nominal maximum power (Pmax).....:	600W
Nominal open circuit voltage at (Voc).....:	53.50V
Nominal short circuit current at (Isc).....:	14.08A
Nominal maximum power voltage (Vpm).....:	45.20V
Nominal maximum power current (Ipm).....:	13.29A
Product Safety Ratings	
Maximum systems operating voltage.....:	1500V
Maximum over-current protection rating.....:	25A
Safety Application class.....:	Class A
Safety class in accordance with IEC 61140.....:	Class II
Fire safety class.....:	Class C
Recommended maximum series/parallel module configurations.....:	Maximum number of 26 modules in series.
Scope of Module Safety Qualification Testing:	
<input checked="" type="checkbox"/> Initial module safety qualification	
<input checked="" type="checkbox"/> Extension of module safety qualification original test report ref. no.....:	
Model differences and modification:	
<input checked="" type="checkbox"/> Change in cell technology	<input type="checkbox"/> Change in cell interconnect materials/technique
<input type="checkbox"/> Modification to encapsulation system	<input type="checkbox"/> Modification to junction box/el. Termination
<input type="checkbox"/> Modification to superstrate	<input type="checkbox"/> Change in el. circuit of an identical package
<input type="checkbox"/> Modification to backsheet/substrate	<input type="checkbox"/> Higher or lower output by 10 %
<input type="checkbox"/> Modification to frame/mounting structure	<input type="checkbox"/> Increase in module size
<input type="checkbox"/> Removal of frame	

- Note (1)** Use the “General product information” field to give any information on model differences within a product type family covered by the test report.
- Note (2)** Use the “General product information” field to describe the range of electrical and safety ratings, if the TRF covers a type family of modules.
- Note (3)** Use Annex 1 to list the used materials and components of the module (manufacturer/supplier and type reference)



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TC-6468

Report No. : SC24SPI01116_1
 Date: 16/09/2024

Page 29 of 49

Similarities & difference between representative model and series/family models:									
Sr. No	Series/Family Models	Electrical Specifications						Model difference	Model similarities
		Maximum System Voltage, (Vdc)	Open Circuit Voltage @STC/Voc (Vdc)	Rated Voltage @ STC/ Vmp (V dc)	Short Circuit Current @ STC/Isc (A)	Rated Current @ STC/Imp (A)	Rated Maximum Power at STC, (Watts)		
1.	ISEN600-Bi (Representative Model)	1500	53.50	45.20	14.08	13.29	600	<ul style="list-style-type: none"> • Pmp • Voc • Isc • Vmp • Imp <ul style="list-style-type: none"> • Maximum System Voltage • Cell technology • Encapsulation • Superstrate • Module size • Backsheet/ substrate • Frame and/or mounting structure • Junction box/electrical termination • Cell interconnect materials or technique • Electrical circuit of an identical package • Power output (by 10%) in the identical package including size and using the identical cell process. • Bypass diode 	
Series Models:									
2.	ISEN595-Bi	1500	53.40	45.00	14.01	13.23	595		
3.	ISEN590-Bi	1500	53.30	44.80	13.94	13.18	590		
4.	ISEN585-Bi	1500	53.20	44.60	13.87	13.12	585		
5.	ISEN580-Bi	1500	53.10	44.40	13.79	13.07	580		
6.	ISEN575-Bi	1500	53.00	44.20	13.69	13.02	575		
7.	ISEN570-Bi	1500	52.90	44.00	13.60	12.96	570		
8.	ISEN565-Bi	1500	52.80	43.80	13.55	12.91	565		
9.	ISEN560-Bi	1500	52.70	43.60	13.49	12.85	560		
10.	ISEN555-Bi	1500	49.75	42.12	14.02	13.18	555		
11.	ISEN550-Bi	1500	49.60	41.97	13.98	13.11	550		
12.	ISEN545-Bi	1500	49.45	41.81	13.93	13.04	545		
13.	ISEN540-Bi	1500	49.30	41.65	13.86	12.97	540		
14.	ISEN535-Bi	1500	49.15	41.47	13.79	12.91	535		
15.	ISEN530-Bi	1500	49.00	41.32	13.72	12.83	530		
16.	ISEN525-Bi	1500	48.85	41.16	13.65	12.76	525		
17.	ISEN520-Bi	1500	48.70	41.00	13.58	12.69	520		
18.	ISEN505-Bi	1500	45.54	38.53	13.98	13.11	505		
19.	ISEN500-Bi	1500	45.39	38.38	13.93	13.04	500		
20.	ISEN495-Bi	1500	45.24	38.22	13.86	12.97	495		
21.	ISEN490-Bi	1500	45.09	38.02	13.79	12.91	490		
22.	ISEN485-Bi	1500	44.94	37.90	13.72	12.81	485		
23.	ISEN480-Bi	1500	44.75	37.78	13.65	12.71	480		
24.	ISEN460-Bi	1500	41.48	34.18	14.01	13.47	460		
25.	ISEN455-Bi	1500	41.33	34.06	13.93	13.36	455		
26.	ISEN450-Bi	1500	41.18	33.95	13.85	13.26	450		
27.	ISEN445-Bi	1500	41.10	33.84	13.79	13.16	445		
28.	ISEN440-Bi	1500	41.02	33.72	13.73	13.05	440		
29.	ISEN435-Bi	1500	40.91	33.61	13.62	12.95	435		
30.	ISEN430-Bi	1500	40.79	33.51	13.51	12.84	430		
31.	ISEN425-Bi	1500	40.75	33.46	13.46	12.71	425		
32.	ISEN420-Bi	1500	40.71	33.42	13.42	12.57	420		
33.	ISEN410-Bi	1500	37.21	31.52	13.82	13.01	410		
34.	ISEN405-Bi	1500	37.06	31.36	13.75	12.92	405		
35.	ISEN400-Bi	1500	36.91	31.20	13.68	12.83	400		



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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 30 of 49

36.	ISEN395-Bi	1500	36.76	31.04	13.61	12.73	395		
37.	ISEN390-Bi	1500	36.61	30.88	13.54	12.63	390		
38.	ISEN385-Bi	1500	36.46	30.72	13.47	12.54	385		
39.	ISEN380-Bi	1500	36.31	30.56	13.40	12.44	380		



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CIN NO U21014UP1987PTC008956



Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 31 of 49

Clause	Requirement + Test	Result - Remark	Verdict
3	Application Classes		P
	The module has been evaluated for the following Application Class (Class A, B, C).....:	Class A	P
4	Construction Requirements		P
4.1	General requirements		P
4.1.1	It is stated that the module is able to operate under environmental condition type AB8 according to IEC 60364-5-51.	Satisfactory	P
4.1.2	The module/s is/are completely assembled when shipped from the factory.		P
	The module is provided in subassemblies.	No subassemblies	N/A
4.1.3	Incorporation of a module into the final assembly does not require any alteration of the module from its originally evaluated form. If YES, specific details describing necessary modification(s) are provided in the installation instructions.	No such alteration required	P
4.1.4	If a module must bear a definite relationship to another module, it is constructed to permit incorporation into the final assembly without the need for alteration.	Satisfactory	P
4.1.5	The construction of the module is such that ground continuity is not interrupted by installation.	The grounding connection is a separate connection on the frame and is not interrupted by installation.	P
4.1.6	Parts of the module are prevented from loosening or turning, if such loosening or turning may result in a risk of fire, electric shock, or injury to persons.	Satisfactory	P
4.1.7	Friction between surfaces is not used as the sole means to inhibit the turning or loosening of a part.	No such part	N/A
4.1.8	Any adjustable or movable structural part is provided with a locking device to reduce the likelihood of unintentional movement.	No adjustable or movable parts used	N/A



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CIN NO U21014UP1987PTC008956



Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 32 of 49

Clause	Requirement + Test	Result - Remark	Verdict
4.2	Metal parts		P
4.2.1	Metals used in locations that are exposed to moisture shall not be employed alone or in combinations that could result in deterioration, such that the product would not comply with the requirements in this standard.	Only aluminum is used for frame	P
4.2.2	Iron or mild steel serving as a necessary part of the module but not exposed to the weather are plated, painted, or enamelled for protection against corrosion.		N/A
4.2.3	Simple sheared or cut edges and punched holes are not required to be additionally protected.	Punched holes on Aluminum frame	P
5	Polymeric Materials		P
5.1	General		P
	Polymeric materials serving as an enclosure for live metal parts	See Sub clause 5.2	—
	Polymeric materials serving as support for live metal parts	See Sub clause 5.3	—
	Polymeric materials serving as the outer surface for the module	See Sub clause 5.4	—
	Polymeric materials serving as superstrate or a substrate which provide rigid reinforcement or serve as the carrier for the active cells		—
	a) If the superstrate or substrate polymers are intended for contact with active cells	See Sub clause 5.3	—
	b) If the superstrate or substrate polymers are intended for use as an outer surface	See Sub clause 5.4	—
	c) If superstrate or substrate polymers are intended for both contact with active cells or other circuit elements and for use as the outer surface	See Sub clause 5.3 and 5.4	—
	Polymeric materials serving as barriers	See Sub clause 5.5	—
	All polymeric materials have a minimum relative thermal endurance index (electrical and mechanical, as defined by IEC 60216-5) of 20°C above the maximum measured operating temperature of said material in application, as measured during the Temperature Test MST 21 given in IS/IEC 61730-2.	Satisfactory	P



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TC-6468

Report No. : SC24SPI01116_1
 Date: 16/09/2024

Page 33 of 49

Clause	Requirement + Test	Result - Remark	Verdict
5.2	Polymers serving as an enclosure for live parts		P
	Information is provided that polymers serving as an enclosure for live parts comply with:		—
	a) 5-V flammability rating (IEC 60695-11-20)	Satisfactory. Certified component used, see Annex 1.	P
	b) 5-V flammability rating, after water immersion and exposure of the end-product (IEC 60695-11-20)		P
	c) Ultraviolet radiation resistance (ANSI/UL 746C or ISO 4892-2)		P
	d) Minimum hot wire ignition rating of 30 (IEC 60695-2-20)		P
5.3	Polymers serving to support live parts		P
	Information is provided that polymers serving to support live parts comply with:		—
	a) Flammability classification and high-current arc ignition rating (IEC 60695-11-10) as given in Table 1 of IS/IEC 61730-1	Satisfactory. Certified component used, See Annex 1.	P
	b) Comparative Tracking Index (CTI) ≥ 250		N/A
	Comparative Tracking Index (IEC 60112).....:		—
	c) Inclined plane tracking rating of 1 h, using the time to track method at 2.5 kV (IEC 60587), if the maximum system operating voltage rating is in the range 600 V – 1500V.		N/A
	Maximum system operating voltage rating (V):		—
	d) Ultraviolet radiation resistance (ANSI/UL 746C or ISO 4892-2 or ISO 4892-3)	Satisfactory. Certified component used, see Annex 1.	P
5.4	Polymers serving as an outer surface		N/A
	Information is provided that polymeric substrates or superstrates used in the module have:		—
5.4.1	A relative thermal endurance index, both electrical and mechanical, as determined in accordance with IEC 60216 of at least 90°C.....:		N/A
	A relative thermal endurance index of at least 20 °C above the maximum measured operating temperature of the material as measured during the Temperature Test MST21 of IS/IEC 61730-2.		N/A
5.4.2	Polymeric materials that serve as the outer enclosure for a module that (1) is intended to be installed in a multi-module or -panel system or (2) have an exposed surface area greater than 1 m ² or a single dimension larger than 2 m, has a maximum flame spread index of 100 as determined under ASTM E 162-1990.....:		N/A
5.4.3	If exposed to direct sunlight in the application, the polymeric material has been evaluated for ultraviolet (UV) radiation resistance as determined in accordance with ANSI/UL 746C or ISO 4892-2.		N/A
5.4.4	Polymeric materials intended for use as a superstrate or substrate, without appropriate IEC insulation pre-qualification, comply with the requirements of the Partial Discharge Test MST 15 of IS/IEC 61730-2.		N/A
5.5	Polymers serving as barriers		P
	Insulation barriers are of adequate thickness and of a material appropriate for the application, as defined by IEC 61140	Satisfactory, See Annex 1	P
	Barriers or liners are held in place and are not adversely affected	Satisfactory	P



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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 34 of 49

5.6	Polymers serving as structural glazing materials		P
	Polymers serving as structural glazing materials comply with the requirements for safety glazing by material certification (ANSI Z97.1-93) or by testing in accordance with Module Breakage Test MST 32 of IS/IEC 61730-2.	See test result of MST 32 of IS/IEC 61730-2	P
Supplementary information: Nil			

6	Internal Wiring And Current-Carrying Parts		P
	A current-carrying part and wiring has the mechanical strength and current-carrying capacity necessary for its application.	Certified component used	P
6.1	Internal wiring		P
6.1.1	Wiring used within a module has an insulation rating for a minimum of 90 °C, with a gauge and voltage rating acceptable for the application as defined by the requirements of IEC 60189-2.	90°C, See Annex 1	P
6.1.2	The wiring of a module is located so that after installation of the module in the intended manner the insulation is not exposed to degrading effects of direct sunlight.	Satisfactory	P
6.2	Splices		N/A
	Splices are insulated equivalent to that required for the wiring involved.	No such construction	N/A
6.3	Mechanical securement		P
6.3.1	Joints or connections are mechanically secure and provide electrical contact without strain on connections and terminals.	All connections are mechanically secured	P
6.3.2	Uninsulated live parts are secured to its supporting surface so that they are prevented from turning or shifting in position.	No such construction	N/A
Supplementary information: Nil			



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Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 35 of 49

Clause	Requirement + Test	Result - Remark	Verdict
7	Connections		P
7.1	Field connections - general requirements		P
7.1.1	The module shall be provided with wiring terminals, connectors, or leads to accommodate current- carrying conductors of the load circuit.	Provided.	P
7.1.2	Field connections are rated for exposure to direct sunlight as defined in Clause 5 of IS/IEC 61730-1.	Satisfactory. Certified component used. See Annex 1	P
	Field connections are not exposed to the degrading effects of direct sunlight.	Satisfactory. Certified component used. See Annex 1	P
7.2	Field wiring terminals		N/A
7.2.1	Field wiring terminal blocks are rated for the appropriate voltage and current for the application and constructed in compliance with IEC 60947-1.	No such terminals	N/A
7.2.2	Wiring terminals integral to the construction of the terminal enclosure comply with the following requirements:		N/A
7.2.2.1	Screws and nuts which clamp external conductors have a thread conforming with ISO261 or ISO262 (or comparable standards)		N/A
	The screws and nuts used for field wiring do not serve to fix any other component.		N/A
7.2.2.2	Terminal screws have a minimum nominal thread diameter as shown in Table 2 of IS/IEC 61730-1.		N/A
	Stud terminals are provided with nuts and washers.		N/A
7.2.2.3	Terminals are designed that they clamp the conductor between metal surfaces with sufficient contact pressure and without damage to the conductor.		N/A
	Terminals are designed or located that the conductor cannot slip out when the clamping screws or nuts are tightened.		N/A
	Terminals are fixed suitably when the means of clamping the conductor is tightened or loosened:		N/A
	a) the terminal itself does not work loose,		N/A
	b) internal wiring is not subjected to stress,		N/A
	c) creepage distances and clearances are not reduced below the values specified in clause 9 of IS/IEC 61730-1.		N/A
7.3	Connectors		P
7.3.1	The connector intended for use in the output circuit of the module is rated for the appropriate voltage and current, as per the requirements of the IEC 61984 series.	1500V, 40A, See Annex 1	P
	Connectors comply with the requirements of Clause 5 of IS/IEC 61730-1, with respect to flammability, comparative tracking index and relative thermal endurance index for the support of live parts.	Certified connector used	P
7.3.2	The connector has been appropriately evaluated for disconnect overload performance.	Marked as "Do not disconnect under load"	P



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TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 36 of 49

7.3.3	Connectors intended for exposure to the outdoor environment are enclosed by material which complies with the following:		P
	a) UV resistance in accordance with the requirements of Clause 5.	Certified connector used	P
	b) Resistance to inclusion of water acc. to IEC 60529 (equivalent to IP55)	IP 68	P
	c) Steel ball impact test acc. to IEC 60065, sub clause 12.1.3 and Figure 8 with a vertical drop distance of 1 m.	Satisfactory	P
	d) Accessibility Test MST 11 of IS/IEC 61730-2	Certified connector used, See Annex 1. Also, see test result of IS/IEC 61730-2 MST 11.	P
7.3.4	Separable multi-pole connectors are polarised.		N/A
	If two or more separable connectors are provided, they are configured or arranged so that the other will not accept the mating connector for one.		N/A
7.3.5	For a connector incorporating a grounding member, the grounding member is the first to make and the last to break contact with the mating connector.	No grounding member in the connector	N/A
7.3.6	Connectors that can be separated without the use of a tool do not have accessible conductive parts, as determined under the Accessibility Test MST 11 of IS/IEC 61730-2.	Refer IS/IEC 61730-2 MST 11	P
7.4	Output lead or cables		P
	Leads extending from the module are rated for the appropriate system voltage, ampacity, wet locations, temperature and sunlight resistance.	1500V, Certified component used	P
Supplementary information: Nil			



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CIN NO U21014UP1987PTC008956



Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 37 of 49

Clause	Requirement + Test	Result - Remark	Verdict
8	Bonding And Grounding		P
8.1	If accessible conductive parts of the module form a perimeter framing or mounting system, or if the module has a conductive surface area of greater than 10 cm ² accessible after installation, then the module has provisions for grounding.	Grounding provision provided on the module frame. Grounding position and the way to grounding are stated in the installation manual.	P
8.2	If the module is rated as safety class II and provided with provisions for functional grounding, the functional grounding is isolated from live parts by reinforced insulation (Sub clause 7.3.2.2 of IEC 61140).	Application Class A, Provides safety class II acc. to sec. 3.2	P
8.3	Each exposed conductive part of the module, that is assessable during normal operation, is bonded together, as verified by Ground Continuity Test MST 13 of IS/IEC 61730-2. Note: If conductive materials are used only as fasteners for installation and separated from the conductive components of the module by both appropriate insulation and spacings, they are not required to be bonded.	See test result of MST11 of IS/IEC 61730-2	P
8.4	Routine maintenance of the module does not involve breaking or disturbing the bonding path.	Bonding path is not disturbed by routine maintenance	P
	A bolt, screw, or other part used for bonding purposes is not intended for securing the complete device.	No such parts	N/A
8.5	Bonding is by a positive means, such as clamping, riveting, bolted or screwed connections, or welding, soldering or brazing.	Hole provided on the frame for bolt.	P
	The bonding connection penetrates all nonconductive coatings, such as paint, anodised coatings or vitreous enamel.		P
8.6	All joints in the bonding path are mechanically secure.	Bonding path is mechanically secured	P
8.7	If the bonding connection depends upon screw threads, two or more screws or two full threads of a single screw engage the metal.	No such construction	N/A
8.8	The diameter of the grounding screw or bolt is sized appropriately to the gauge of the bonding conductor, as per Table 2 of IS/IEC 61730-1.	Satisfactory (Diameter (Grounding hole): 4.20)	P
8.9	Ferrous metal parts in the grounding path are protected against corrosion by metallic or non-metallic coatings.	No such part.	N/A
8.10	The module has metal-to-metal multiple-bearing pin-type hinges. These are considered to be an acceptable means for bonding.	No hinges used	N/A



ULR-TC646824100007060F



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Report No. : SC24SPI01116_1
 Date: 16/09/2024

Page 38 of 49

Clause	Requirement + Test	Result - Remark	Verdict
8.11	A wiring terminal or bonding location is identified with the appropriate symbol (IEC 60417-5019) or has a green-coloured part.	Grounding symbol is marked near the location.	P
	No other terminal or location is identified in this manner.	Complied	P
8.12	If a marking is used to identify an equipment grounding terminal, it is located on or adjacent to the terminal, or on a wiring diagram affixed to the module or panel near the terminal.	Grounding symbol is marked near the location.	P
Supplementary information: Nil			

9	Creepage and clearance distances		P
9.1	Creepage and clearance distances between uninsulated live parts not of the same potential and between a live part and an accessible metal part, are not less than the values specified in Tables 3 and 4 of IS/IEC 61730-1.	Satisfactory (see below)	P
	Minimum measured creepage and clearance distances between field wiring terminals (mm).....:	N/A	—
	Minimum measured clearance distances between internal current carrying parts and accessible points (mm).....:	13.7mm	—
9.2	Creepage and clearance distances at field wiring terminals have been judged on module open-circuit voltage (Voc).....:		N/A
	If additional unmarked terminals exist in the terminal block, or if wiring terminals are marked specifically for grounding, the creepage and clearance distances have been judged on the basis of the maximum system operating voltage.		N/A
9.3	The spacings at a field-wiring terminal have been measured with and without wire connected to the terminal.		N/A
	If the terminal will properly accommodate it, and if the product was not marked to restrict its use, the wire is one size larger than that required, otherwise, the wire is of the required size.		N/A
9.4	Surfaces separated by a gap of 0.4 mm or less have been considered to be in contact with each other.		N/A
Supplementary information: Nil			



ULR-TC646824100007060F



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CIN NO U21014UP1987PTC008956



Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 39 of 49

Clause	Requirement + Test	Result - Remark	Verdict
10	Field Wiring Compartments With Covers		P
10.1	General		P
	If the module is designed for the application of a permanently attached wiring system by an installer in the field, it is to be provided with an enclosed wiring compartment.	Certified junction box used	P
10.2	Wall thickness		P
	If the wiring compartment is intended for the attachment of a field-applied permanent wiring system, the minimum wall thickness for the material complies with Table 5 of IS/IEC 61730-1.	Potted certified junction box used	P
10.3	Internal volume		P
	The internal volume for each intended conductor complies with the requirements of Table 6 of IS/IEC 61730-1.	Potted certified junction box used	P
	In the space comprising the minimum required volume, no enclosure dimension is less than 20 mm.	Potted certified junction box used	P
10.4	Openings		P
	All openings are provided with appropriate coverings, whose functions comply with the requirements of: Sub clause 5.2.1 of IS/IEC 61730-1		—
	Wet leakage Current test of Sub clause 10.20 of IS 16077:2013/IEC 61646:2008 or 10.17 of IS 14286 (2010).	Refer Cl. No.: 10.17, IS/IEC 14286	P
	Accessibility test MST 11 of IS/IEC 61730-2	Refer MST 11, IS/IEC 61730-2	P
	Coverings can only be removed by the use of a tool		P
10.5	Gaskets and seals		N/A
	Gaskets and seals do not deteriorate beyond limits during accelerated ageing, and are not used where they may be subject to flexing during normal operation.		N/A
10.6	Strain relief		P
	Any strain relief is provided so that stress on a lead intended for field connection, or otherwise likely to be handled in the field, including a flexible cord, is not transmitted to the electrical connection inside the module. Note: Mechanical securement means which comply with Sub clause 10.14 (Robustness of Terminations Test) of IS 14286 (2010) meet this requirement.	Refer MST 42, IS/IEC 61730-2	P



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CIN NO U21014UP1987PTC008956



TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 40 of 49

Clause	Requirement + Test	Result - Remark	Verdict
10.7	Sharp edges		P
10.7.1	The enclosure is smooth and free from sharp edges, burrs, or the like that may damage insulation or conductors.	No sharp edges or burrs	P
10.7.2	The inner edges of conduit openings and knockouts are smooth and free from sharp edges, burrs, or the like that may damage insulation or conductors.	No conduit and Knockout	N/A
10.8	Conduit applications – Metallic		N/A
10.8.1	Any threaded hole in a metal wiring compartment intended for the connection of rigid metal conduit is reinforced to provide metal not less than 6.4 mm thick.		N/A
	Any threaded hole is tapered unless a conduit end stop is provided.		N/A
10.8.2	If threads for the connection of conduit are tapped all the way through a hole in a compartment wall, there are not less than 3.5 nor more than 5 threads in the metal and the construction was such that a conduit bushing can be attached as intended.		N/A
	The construction is such that a conduit bushing can be attached as intended.		N/A
10.8.3	If threads for the connection of conduit are not tapped all the way through a hole in a compartment wall, there are not less than 5 full threads in the metal and there was a smooth, rounded inlet hole for the conductors.		N/A
	There are smooth, rounded inlet holes for the conductors.		N/A
10.8.4	For a non-threaded opening in a metal wiring compartment intended to accommodate rigid metallic conduit, a flat surface of sufficient area is provided around the opening to accept the bearing surfaces of the bushing and lock washer.		N/A
10.8.5	Conduit complies with the Conduit bending test MST 33 of IS/IEC 61730-2.		N/A



ULR-TC646824100007060F

TRF No. IS/IEC61730-1_V1.0

Discipline-Electronics Testing

Group-Miscellaneous product



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CIN NO U21014UP1987PTC008956



TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 41 of 49

Clause	Requirement + Test	Result - Remark	Verdict
10.9	Conduit applications - Non-metallic		N/A
10.9.1	The thickness of sides, end walls, and bottom of a non-metallic wiring enclosure specified for conduit applications is not less than the values specified in Table 7 of IS/IEC61730-1.		N/A
10.9.2	A non-metallic wiring compartment intended to accommodate non-metallic conduit fulfils the following requirements:		—
	a) It has one or more unthreaded conduit- connection sockets;		N/A
	b) It has one or more threaded or unthreaded openings for a conduit-connection socket, or one or more knockouts that comply with the requirements of Knockout Test MST 44 of IS/IEC 61730-2;		N/A
	c) It complies with the Conduit Bending Test MST 33 of IS/IEC 61730-2, if intended for rigid non- metallic conduit.		N/A
10.9.3	Sockets for the connection of non-metallic conduit provide a positive end stop for the conduit.		N/A
	The socket diameters, the throat diameter at the entrance to the box, the socket depths, and the wall thickness of the socket are within the limits specified in the applicable conduit system.		N/A
10.9.4	A knockout or opening in a non-metallic wiring compartment intended to accommodate rigid non- metallic conduit complies with the dimensional requirements of the applicable conduit system.		N/A
Supplementary information: Nil			



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 CIN NO U21014UP1987PTC008956



Report No. : SC24SPI01116_1
 Date: 16/09/2024

Page 42 of 49

Clause	Requirement + Test	Result – Remark	Verdict
11	Marking		P
11.1	The module includes the following clear and indelible markings:		—
	Name, monogram or symbol of manufacturer	Icon Solar En Power Technologies Private Limited. 	P
	Type or model number	ISEN600-Bi	P
	Serial number	Marked	P
	Polarity of terminals or leads	Marked	P
	Maximum system voltage	1500Vdc	P
	Safety class (IEC 61140)	Class II symbol marked	P
	The date and place of manufacture are marked on the module or are traceable from the serial number.	Satisfactory. See Marking label	P
11.2	The following additional markings are applied to either the module or placed into the instruction and installation data (required documents).		-
	Voltage at open-circuit	Provided	P
	Current at short-circuit	Provided	P
	Maximum over-current protection rating, as verified by the Reverse Current Overload Test MST 26 of IS/IEC 61730-2	Provided	P
	Recommended maximum series/parallel module configurations	See installation manual	P
	Application class	Class A	P
	All electrical data are given relative to Standard Test Conditions (1000 W/m ² @ 25 °C)	Provided	P
11.3	Connectors suitable only for field assembly of modules are marked “Do not disconnect under load”.	Provided	P
11.4	For modules with open-circuit voltage in excess of 50 V, and/or modules rated for maximum system voltage in excess of 50 V, a highly visible warning label regarding the shock hazard is applied near the means of connection to the module.	Warning provided on the label	P
Supplementary information: Nil			



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CIN NO U21014UP1987PTC008956



Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 43 of 49

Clause	Requirement + Test	Result – Remark	Verdict
12	Requirements for supplied documents		P
12.1	The module or panel is supplied with installation instructions describing the methods of electrical and mechanical installation and the electrical ratings of the module.	Provided	P
	The instructions state the application class under which the module was qualified and any specific limitations required for that application class.	Provided	P
12.2	When the fire rating is dependent on a specific mounting structure, specific spacing, or specific means of attachment to the roof or structure, details of the specific parameter or parameters are included in the instructions.	Provided	P
12.3	The electrical installation instructions include a detailed description of the wiring method.	Provided	P
	The description of the wiring method includes the following information:		—
	Grounding method	Provided	P
	Size, type, and temperature rating of the conductors	Provided	P
	Recommended maximum series/parallel module configurations	Provided	P
	Type of over-current protection and diode bypassing to be used	Fuse rating 25A provided, Diode provided with the module	P
	Minimum cable diameters when the wiring method is cable	Provided in installation manual	P
	Any limitations on wiring methods that apply to the wiring compartment or box	Cables are not interchangeable	P
12.4	The mechanical installation instructions for roof mounting include:		—
	A statement indicating the minimum mechanical means for securing the module or panel to the roof	Provided	P
	A statement that the assembly is to be mounted over a fire resistant roof covering rated for the application (only for non-integral modules or panels)	Provided	P
	Indication of any slope required for maintaining a fire class rating		N/A
12.5	The installation instructions include a statement advising that artificially concentrated sunlight shall not be directed on the module or panel.	Provided	P
12.6	Assembly instructions are provided with a product shipped in subassemblies, and are detailed and adequate to the degree required to facilitate total assembly of the product.	No subassemblies	N/A
12.7	The installation instructions include the proposed statement given in this Sub clause (or equivalent) to allow for increased output of the module resulting from certain conditions of use.	Provided	P
Supplementary information: Nil			



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CIN NO U21014UP1987PTC008956



Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 44 of 49

ANNEX 1: CONSTRUCTIONAL DETAILS

A1.1	MODULE TYPE/S
	Model Tested: ISEN600-Bi

A1.2	MODULE DESIGN –DIMENSIONS
	Module dimensions (L x W x H) [mm].....: 2464*1134*35 for 156 half cut cell family 2278*1134*35 for 144 half cut cell family 2094*1134*35 for 132 half cut cell family 1908*1134*35 for 120 half cut cell family 1722*1134*35 for 108 half cut cell family

A1.3	SOLAR CELL
	Cell type reference.....: Main: 182.2 MONO PERC SOLAR CELL PIRANHA P-TYPE BI-FACIAL, Manufactured by: Premier Energies Alternate: WS182MP10, Manufactured by: Websol Energy System Limited
	Cell dimensions L x W x T (± %) [mm].....: Main: 91.1mm *182.2mm (±0.25 mm) Alternate: 91.1mm *182.2mm (±0.5 mm)
	Cell thickness [µm].....: Main: 145 ± 25 µm Alternate: 150 ± 15 µm
	Cell area [cm²].....: Main: 165.984 Alternate: 165.984

A1.4	IDENTIFICATION OF MATERIALS
	Front cover.....: Solar Glass Tempered AR Coated; THICKNESS: 3.2mm ± 0.2mm; Manufactured by: BOROSIL RENEWABLES LTD.
	Rear cover.....: PRESERV 1- 300 TF; THICKNESS: 360 µm, Rated voltage: 1500V, FSI :29.5, RTI 140°C and 150°C Manufactured by: Renewsys India Private LTD. Partial discharge reference project no. 4789424469 tested by UL India Pvt Ltd
	Encapsulation material.....: T601FC/ B601FC, Thickness: 0.60mm; Manufactured by: Sunlink Photovoltaic Pvt. Ltd.
	Frame parts.....: Material/Coating: Alloy 6063, T6, Thickness: 35mm; Manufactured by Sudarshan Alluminium India Limited
	Mounting parts.....: As per installation manual
	Adhesive for frame.....: Fasto SM30, White colour; Manufactured by FASTO ADVANCE MATERIALS INDIA PVT. LTD.
	Cell connector.....: Solder tin plated copper ribbons, Sn60%/Pb40% Dimensions [mm]: 0.32 mm; Manufactured by: GEBA CABLES & WIRES INDIA PRIVATE LIMITED
	String connector.....: Busbar, Sn60%/Pb40%, Dimensions [mm]: 4x 0.40mm & 6x 0.40mm, Manufactured by: GEBA CABLES & WIRES INDIA PRIVATE LIMITED
	Fluxing agent.....: 952-S, Low-Solids, No-Clean Liquid Flux, Manufactured by Kester



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TC-6468

Report No. : SC24SPI01116_1
 Date: 16/09/2024

Page 45 of 49

Junction box.....:	GXSB-01, Rated voltage: 1.5KVDC, Rated Current: 25A, IP68, Ambient Temperature: -40°C to +85°C, Manufactured by GENX PV INDIA PRIVATE LIMITED. Certified by TUV SUD; certificate no.: B1157770002
Cable	BIRLA UNISTAR solar cable 1CX4.0mm2, Rated voltage: 1.8 kV DC (Max.), Temperature: - 40°C to +90°C, Max. temperature at conductor:120°C, Manufactured by VINDHYA TELELINKS LIMITED Certificate no.: R 60148057, Tested by TUV Rheinland.
Connector.....:	GXC-01, Rated voltage: 1500VDC, Rated current: 40A, IP68, Ambient Temperature: -40°C to 85°C, Manufactured by GENX PV INDIA PRIVATE LIMITED. Certificate no.: B 115777 0001 Rev. 00, Tested by TUV SUD.
Bypass diode.....:	MK5045, Tj [°C]: -55 to +200°C, V _{RMS} : 31.5V; I _{FSM} : 400A; RθJC: 2°C/W, Manufactured by GENX PV INDIA PRIVATE LIMITED.
Potting material.....:	Fasto SP70, White colour; Manufactured by FASTO ADVANCE MATERIALS INDIA PVT. LTD.
Adhesive for junction box.....:	Fasto SM30, White colour; Manufactured by FASTO ADVANCE MATERIALS INDIA PVT. LTD.
Soldering Material.....:	N/A
Additional material (e. g. insulation tape)....:	N/A

A1.5 MODULE DESIGN - MINIMUM DISTANCES	
Between cells.....:	Top to bottom: 1.4mm Along the side: 1.8mm
Between cell and edge of laminate.....:	13.5mm
Between any current carrying part and edge of laminate....:	14mm

A1.6 MODULE DESIGN - ELECTRICAL CONFIGURATION	
Total number of cells.....:	156; 144; 132; 120; 108
Serial-parallel connection of cells.....:	Series parallel
Cells per bypass diode.....:	52 for 156 half cut cell family 48 for 144 half cut cell family 44 for 132 half cut cell family 40 for 120 half cut cell family 36 for 108 half cut cell family
No. of bypass diodes.....:	3

Note: Bill of material are same for all series family models.



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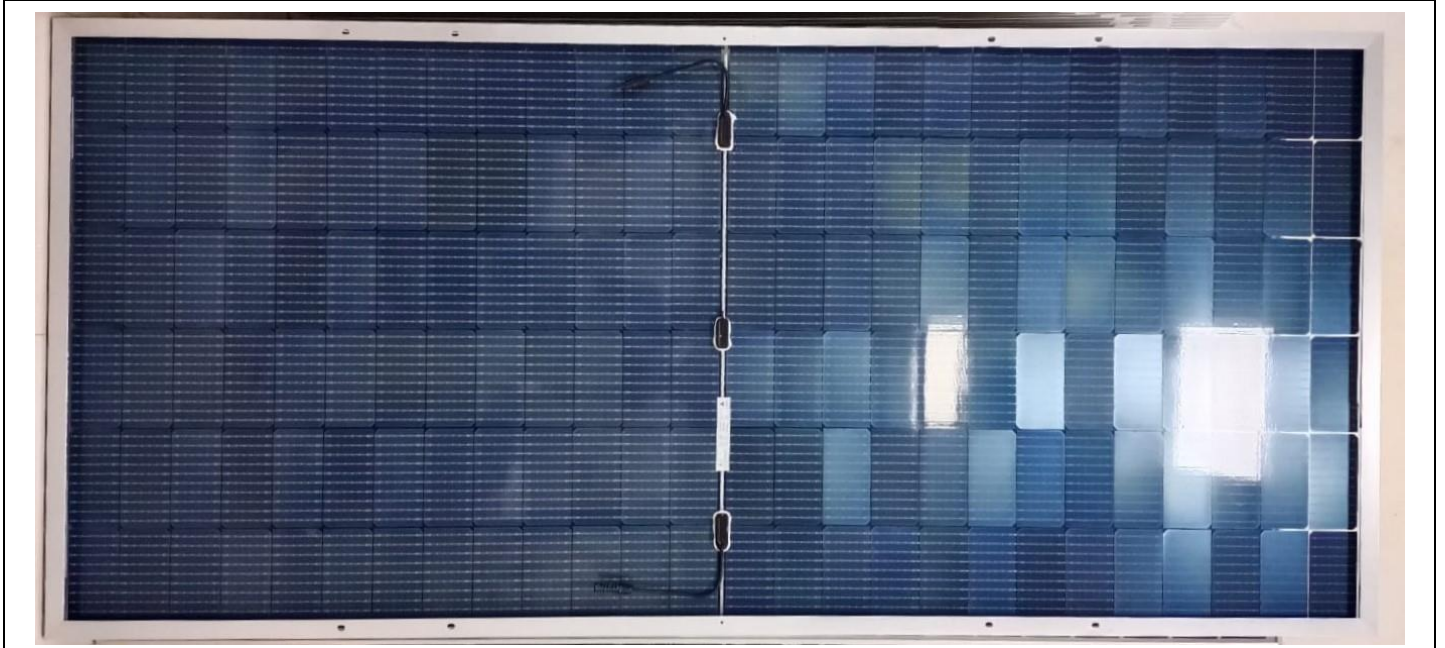


TC-6468

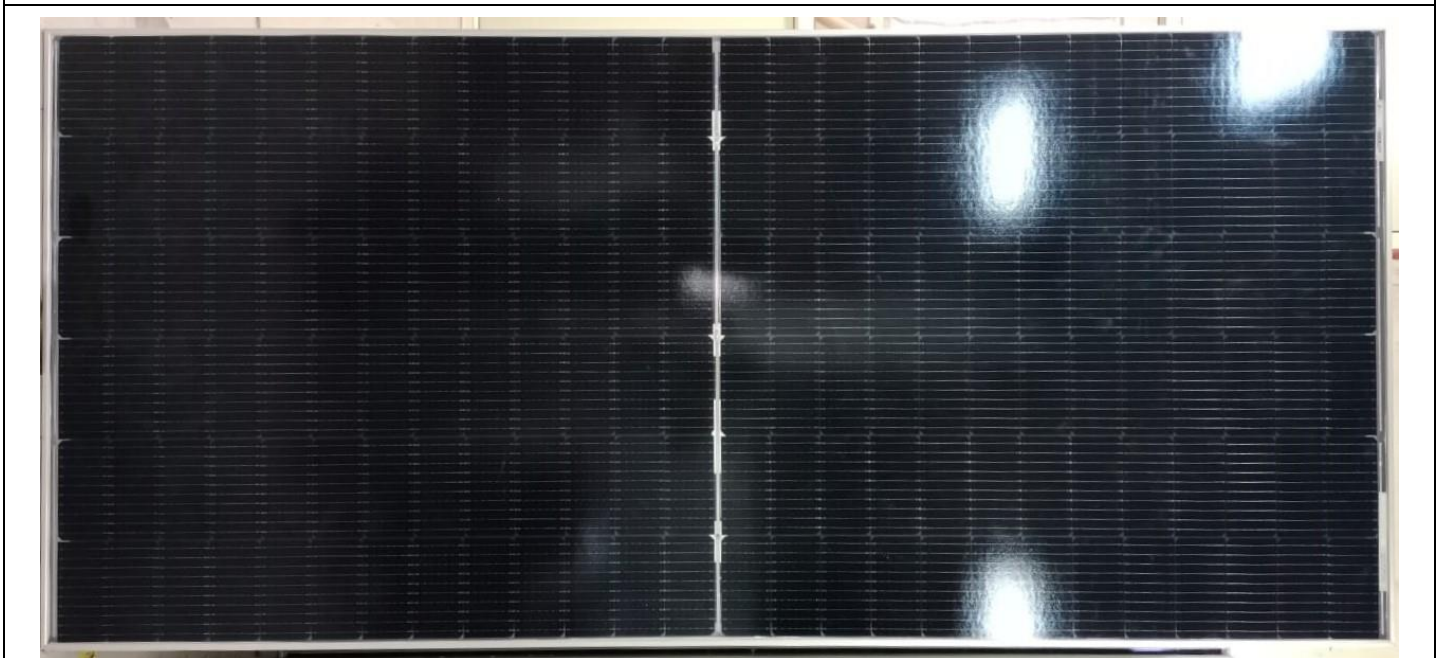
Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 46 of 49

ANNEX 2: PHOTOGRAPHS OF EUT



Rear view



Front view



ULR-TC646824100007060F

TRF No. IS/IEC61730-1_V1.0

Discipline-Electronics Testing

Group-Miscellaneous product



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CIN NO U21014UP1987PTC008956



TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 47 of 49



Junction Box closed view



Junction Box opened view



Negative Connector



Positive Connector



ULR-TC646824100007060F



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CIN NO U21014UP1987PTC008956



TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 48 of 49

Annex 3: Electrical rating of series models

Model	System Voltage (V)	Electrical Rating					Fuse Rating (A)	Dimension			Total no. of cells (Half cut cells) (no.)	No of cells per by bypass diode (no.)
		Voc (V)	Vm (V)	Isc (A)	Im (A)	Pm (W)		L (mm)	W (mm)	H (mm)		
ISEN600-Bi (Representative Model)	1500	53.50	45.20	14.08	13.29	600	25	2464	1134	35	156	52
ISEN595-Bi	1500	53.40	45.00	14.01	13.23	595	25	2464	1134	35	156	52
ISEN590-Bi	1500	53.30	44.80	13.94	13.18	590	25	2464	1134	35	156	52
ISEN585-Bi	1500	53.20	44.60	13.87	13.12	585	25	2464	1134	35	156	52
ISEN580-Bi	1500	53.10	44.40	13.79	13.07	580	25	2464	1134	35	156	52
ISEN575-Bi	1500	53.00	44.20	13.69	13.02	575	25	2464	1134	35	156	52
ISEN570-Bi	1500	52.90	44.00	13.60	12.96	570	25	2464	1134	35	156	52
ISEN565-Bi	1500	52.80	43.80	13.55	12.91	565	25	2464	1134	35	156	52
ISEN560-Bi	1500	52.70	43.60	13.49	12.85	560	25	2464	1134	35	156	52
ISEN555-Bi	1500	49.75	42.12	14.02	13.18	555	25	2278	1134	35	144	48
ISEN550-Bi	1500	49.60	41.97	13.98	13.11	550	25	2278	1134	35	144	48
ISEN545-Bi	1500	49.45	41.81	13.93	13.04	545	25	2278	1134	35	144	48
ISEN540-Bi	1500	49.30	41.65	13.86	12.97	540	25	2278	1134	35	144	48
ISEN535-Bi	1500	49.15	41.47	13.79	12.91	535	25	2278	1134	35	144	48
ISEN530-Bi	1500	49.00	41.32	13.72	12.83	530	25	2278	1134	35	144	48
ISEN525-Bi	1500	48.85	41.16	13.65	12.76	525	25	2278	1134	35	144	48
ISEN520-Bi	1500	48.70	41.00	13.58	12.69	520	25	2278	1134	35	144	48
ISEN505-Bi	1500	45.54	38.53	13.98	13.11	505	25	2094	1134	35	132	44
ISEN500-Bi	1500	45.39	38.38	13.93	13.04	500	25	2094	1134	35	132	44
ISEN495-Bi	1500	45.24	38.22	13.86	12.97	495	25	2094	1134	35	132	44
ISEN490-Bi	1500	45.09	38.02	13.79	12.91	490	25	2094	1134	35	132	44
ISEN485-Bi	1500	44.94	37.90	13.72	12.81	485	25	2094	1134	35	132	44
ISEN480-Bi	1500	44.75	37.78	13.65	12.71	480	25	2094	1134	35	132	44
ISEN460-Bi	1500	41.48	34.18	14.01	13.47	460	25	1908	1134	35	120	40
ISEN455-Bi	1500	41.33	34.06	13.93	13.36	455	25	1908	1134	35	120	40
ISEN450-Bi	1500	41.18	33.95	13.85	13.26	450	25	1908	1134	35	120	40
ISEN445-Bi	1500	41.10	33.84	13.79	13.16	445	25	1908	1134	35	120	40
ISEN440-Bi	1500	41.02	33.72	13.73	13.05	440	25	1908	1134	35	120	40
ISEN435-Bi	1500	40.91	33.61	13.62	12.95	435	25	1908	1134	35	120	40
ISEN430-Bi	1500	40.79	33.51	13.51	12.84	430	25	1908	1134	35	120	40
ISEN425-Bi	1500	40.75	33.46	13.46	12.71	425	25	1908	1134	35	120	40
ISEN420-Bi	1500	40.71	33.42	13.42	12.57	420	25	1908	1134	35	120	40
ISEN410-Bi	1500	37.21	31.52	13.82	13.01	410	25	1722	1134	35	108	36
ISEN405-Bi	1500	37.06	31.36	13.75	12.92	405	25	1722	1134	35	108	36



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CIN NO U21014UP1987PTC008956



TC-6468

Report No. : SC24SPI01116_1
Date: 16/09/2024

Page 49 of 49

ISEN400-Bi	1500	36.91	31.20	13.68	12.83	400	25	1722	1134	35	108	36
ISEN395-Bi	1500	36.76	31.04	13.61	12.73	395	25	1722	1134	35	108	36
ISEN390-Bi	1500	36.61	30.88	13.54	12.63	390	25	1722	1134	35	108	36
ISEN385-Bi	1500	36.46	30.72	13.47	12.54	385	25	1722	1134	35	108	36
ISEN380-Bi	1500	36.31	30.56	13.40	12.44	380	25	1722	1134	35	108	36

.....End of report.....



ULR-TC646824100007060F