



Choose certainty.
Add value.

Technical Report No. 68.260.9.012.04A

Rev. 00

Dated 2013-01-15

Client: Name: Everexceed Industrial Company Limited
Address: Unit E, 3/F, Good Harvest Centre, 33 On Chuen Street, Fanling,
N.T., Hong Kong
contact person: Leo Wang

Manufacturing place: Manufacturer's name: Everexceed Industrial Company Limited
Address: Unit E, 3/F, Good Harvest Centre, 33 On Chuen Street, Fanling,
N.T., Hong Kong

Test subject: Product: Mono-crystalline Silicon Photovoltaic (PV) Module(s)
Type:
a) 96 cells module:
ESM220S-125, ESM225S-125, ESM230S-125, ESM235S-125,
ESM240S-125, ESM245S-125, ESM250S-125, ESM255S-125,
ESM260S-125, ESM265S-125, ESM270S-125
b) 72 cells module:
ESM155S-125, ESM160S-125, ESM165S-125, ESM170S-125,
ESM175S-125, ESM180S-125, ESM185S-125, ESM190S-125,
ESM195S-125, ESM200S-125
c) 36 cells module:
ESM80S-125, ESM85S-125, ESM90S-125, ESM95S-125, ESM100S-125

Test specification: IEC 61215:2005-04, Second Edition; EN 61215:2005
IEC 61730-1:2004-10, First Edition; EN 61730-1:2007
IEC 61730-2:2004-10, First Edition; EN 61730-2:2007

Purpose of examination: Test according to the test specification

Test result: The test results show that the presented product is in compliance with the specified requirements.

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.

Jiangsu TÜV Product Service Ltd.
Shenzhen Branch
TÜV SÜD Group



1 Description of the test subject

1.1 Function

Manufacture's specification for intended use:

The PV modules for electricity generation systems with max. voltage of 1000 V d.c.

Series fuse rating is 15 A.

1.2 Consideration of the foreseeable misuse

- Not applicable
- Covered through the applied standard
- Covered by the following comment
- Covered by attached risk analysis

1.3 Technical Data

Product Electrical Ratings at STC:						
Module	ESM220S-125	ESM225S-125	ESM230S-125	ESM235S-125	ESM240S-125	ESM245S-125
open-circuit voltage [V]:	58.56	58.56	59.52	59.52	59.52	59.52
short-circuit current [A]:	4.95	5.06	5.20	5.29	5.40	5.51
voltage at max. power [V]:	48.00	48.00	48.00	48.00	48.00	48.00
current at max. power [A]:	4.59	4.69	4.80	4.90	5.00	5.11
max. power (with tolerance) [W]:	220±5%	225±5%	230±5%	235±5%	240±5%	245±5%
Module	ESM250S-125	ESM255S-125	ESM260S-125	ESM265S-125	ESM270S-125	-
open-circuit voltage [V]:	60.10	60.10	60.10	60.20	60.20	-
short-circuit current [A]:	5.63	5.70	5.80	5.90	6.00	-
voltage at max. power [V]:	48.00	48.50	48.80	48.90	49.00	-
current at max. power [A]:	5.21	5.26	5.33	5.42	5.51	-
max. power (with tolerance) [W]:	250±5%	255±5%	260±5%	265±5%	270±5%	-

TPS_GCN_F_09.20E - Rev. 1 2012-10-29



Product Electrical Ratings at STC:						
Module	ESM155S-125	ESM160S-125	ESM165S-125	ESM170S-125	ESM175S-125	ESM180S-125
open-circuit voltage [V]:	43.34	43.92	43.92	43.92	43.92	44.64
short-circuit current [A]:	4.68	4.80	4.95	5.10	5.25	5.40
voltage at max. power [V]:	36.00	36.00	36.00	36.00	36.00	36.00
current at max. power [A]:	4.31	4.45	4.59	4.73	4.87	5.00
max. power (with tolerance) [W]:	155±5%	160±5%	165±5%	170±5%	175±5%	180±5%
Module	ESM185S-125	ESM190S-125	ESM195S-125	ESM200S-125	-	-
open-circuit voltage [V]:	44.88	45.00	46.00	46.20	-	-
short-circuit current [A]:	5.40	5.50	5.60	5.64	-	-
voltage at max. power [V]:	36.00	36.00	36.52	37.20	-	-
current at max. power [A]:	5.14	5.28	5.34	5.38	-	-
max. power (with tolerance) [W]:	185±5%	190±5%	195±5%	200±5%	-	-
Module	ESM80S-125	ESM85S-125	ESM90S-125	ESM95S-125	ESM100S-125	-
open-circuit voltage [V]:	21.96	21.96	22.32	22.35	22.40	-
short-circuit current [A]:	4.80	5.10	5.40	5.70	5.90	-
voltage at max. power [V]:	18.00	18.00	18.00	18.20	18.50	-
current at max. power [A]:	4.45	4.73	5.00	5.22	5.41	-
max. power (with tolerance) [W]:	80±5%	85±5%	90±5%	95±5%	100±5%	-

2 Order

2.1 Date of Purchase Order, Customer's Reference

2012-09-29

2.2 Receipt of Test Sample, Location

1 sample received in Yangzhou.



2.3 Date of Testing

2013-01-11

2.4 Location of Testing

Yangzhou Opto-electrical Product Testing Institute
No. 10 West Kaifa Road, Yangzhou, 225009 Jiangsu, P. R. China

2.5 Points of Non-compliance or Exceptions of the Test Procedure

N/A

3 Test Results

3.1 Positive Test Results

The following test specifications are met:

- Design qualification and type approval
- PV module safety qualification

4 Remark

This project is based on the report 68.260.9.012.04 .

4.1 Remarks to Factory

The assembly of the product has to comply with the documentation (CDF). Before the implementation of safety relevant modifications to the product into the ongoing production the product must be retested for assessment. The results must be implemented to the documentation and if necessary the certificate must be updated.

The certification according IEC 61215, IEC 61730-1, -2 determines the usable material for the production. Modules, that are based on the same materials, component and processing that only differ in size and electrical output power, form a so-called product family or type family.

The larger the diversity of products from a manufacturer, the more materials and material combinations must be tested/certified. All changes in the module design and used materials must be declared to TÜV SÜD.



- 4.2 The user manual has been examined according to the minimum requirements described in the product standard. The manufacturer is responsible for the accuracy of further particulars as well as of the composition and layout.
- 4.3 When the product is placed on the market, it must be accompanied with safety Instructions written in official language of the country. The instructions shall give information regarding safe operation, installation and maintenance.
- 4.4 Certificate no.: Z2 12 11 74315 011, N8 12 11 74315 012
Report no.: 68.260.9.012.04

5 Documentation

- CDF
- User manual

6 Summary

The test specifications are met.

Jiangsu TÜV Product Service Ltd. Shenzhen Branch
TÜV SÜD Group

Engineer:

Symbol Zhao
Project Handler

Technical Report checked:

Laura Wang
Designated Reviewer