



**IEC 60529:1989+A1:1999+A2:2013**  
**EN 60529:1991+A1:2000+A2:2013**

## Measurement and Test Report

For

### BEIJING EPSOLAR TECHNOLOGY CO., LTD.

NO.228, BLOCK A, 2ND FLOOR, BLDG 1, NO. 3 STREET, SHANGDI XINXI CHANYE JIDI,  
HAIDIAN DISTRICT, BEIJING, CHINA

**Tested Model:** Tracer5210LPLI

**Multiple Models:** Tracer1305LPLI, Tracer2606LPLI, Tracer3906LPLI,  
Tracer5206LPLI, Tracer2610LPLI, Tracer3910LPLI

**This Report Concerns:**

☒ Original Report

**Equipment Type:**

Solar Charge Controller

**Test Engineer:** Eric Ding

Eric Ding

**Test Date:** 2017-06-05 to 2017-06-08

**Reviewed By:** Robin He

Robin He

**Prepared By:** Bay Area Compliance Laboratories Corp. (Dongguan)

No.69, Pulongcun, Puxinhu Industry Area, Tangxia,  
Dongguan, Guangdong, China



Note: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the specific product described herein. It must not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).

## TABLE OF CONTENTS

1 - GENERAL INFORMATION.....	3
1.1 Product Description for Equipment under Test (EUT) .....	3
1.2 Objective .....	3
1.3 Related Submittal(s)/Grant(s) .....	3
1.4 Test Methodology.....	3
1.5 Test Equipment List .....	4
1.6 Equipment Under Test (EUT) .....	4
2- TEST FOR FIRST CHARACTERISTICS NUMERALS 6 (IP6X) (CLAUSE 12.2+12.3 AND CLAUSE 13.4+13.6) .....	5
2.1 Tests for protection against access to hazardous parts indicated by the first characteristic numeral (CLAUSE 12.2+12.3) .....	5
2.1.1 Method .....	5
2.1.2 Results .....	5
2.2 Tests for protection against solid foreign objects indicated by the first characteristic numeral (CLAUSE 13.4+13.6) .....	6
2.2.1 Method .....	6
2.2.2 Results .....	6
3- TEST FOR PROTECTION AGAINST WATER CHARACTERISTICS NUMERALS 8(IPX8) (CLAUSE 14.2.8) .....	7
3.1 Method .....	7
3.2 Results .....	7
4- EUT PHOTOGRAPHS.....	8
4.1 EUT- View of the unit proceed protection against access to hazardous parts test .....	8
4.2 EUT- Function of unit .....	8
5- DECLARATION OF SIMILARITY .....	9

## 1 - GENERAL INFORMATION

---

### 1.1 Product Description for Equipment under Test (EUT)

The BEIJING EPSOLAR TECHNOLOGY CO., LTD.'s product, "EUT" as referred to in this report is a Solar charge controller. The test model is Tracer5210LPLI, and the multiple models are Tracer1305LPLI, Tracer2606LPLI, Tracer3906LPLI, Tracer5206LPLI, Tracer2610LPLI, Tracer3910LPLI.

DECLARATION OF SIMILARITY see page 9-10.

### 1.2 Objective

The following Declaration of Conformity of a device is prepared on behalf of the BEIJING EPSOLAR TECHNOLOGY CO., LTD. in accordance with EN 60529:1991+A1:2000+A2:2013 and IEC 60529:1989+A1:1999+A2:2013, Degrees of protection provided by enclosures (IP code). The objective of the manufacturer is to demonstrate compliance with EN 60529:1991+A1:2000+A2:2013 and IEC 60529:1989+A1:1999+A2:2013. Currently, EN 60529:1991+A1:2000+A2:2013 and IEC 60529:1989+A1:1999+A2:2013 tests to be performed. They are as follows:

- Test for protection against object probe and for protection against solid foreign objects (IP6X) (CLAUSE 12.2+12.3 and CLAUSE 13.4+13.6);
- Test for secondary characteristic numeral 6, protection against continuous immersion subject to agreement (IPX8) (CLAUSE 14.2.8)

Data has been collected, reduced, and analyzed within this report in accordance with EN 60529:1991+A1:2000+A2:2013 and IEC 60529:1989+A1:1999+A2:2013. In order to demonstrate compliance, the manufacturer or a contracted laboratory makes measurements and takes the necessary steps to ensure that the equipment complies with the appropriate technical standards.

### 1.3 Related Submittal(s)/Grant(s)

No Related Submittals

### 1.4 Test Methodology

All measurements contained in this report were conducted with EN 60529:1991+A1:2000+A2:2013 and IEC 60529:1989+A1:1999+A2:2013, Degrees of protection provided by enclosures (IP code).

All measurement was performed at Bay Area Compliance Laboratories Corp. (Dongguan).

**1.5 Test Equipment List**

S/N	Manufacturer and Model	Instrument Type	Instrument I.D	Cal. Last Date	Cal. Due Date
1	FTR-3301B	Dust proof test chamber	201008	2016-03-04	2019-03-04
2	IPX8	Water tight caisson	201003	2015-03-26	2018-03-25
3	1500mm	Ruler	2010009	2015-01-27	2018-01-26
4	BND-D	IP6X Test Probe	BN20140425-02	2017-03-04	2018-03-04
5	PWS280	Hygrothermograph	1#	2017-03-20	2018-03-20

**1.6 Equipment Under Test (EUT)**

Manufacturer	Description	Model	Brand Name	Cert.
BEIJING EPSOLAR TECHNOLOGY CO., LTD	Solar Charge Controller	<b>Tested Model:</b> Tracer5210LPLI <b>Multiple Model:</b> Tracer1305LPLI、 Tracer2606LPLI、 Tracer3906LPLI、 Tracer5206LPLI、 Tracer2610LPLI、 Tracer3910LPLI	EPEVER	---
<b>Manufacturer address</b>	NO.228, BLOCK A, 2ND FLOOR, BLDG 1, NO. 3 STREET, SHANGDI XINXI CHANYE JIDI,HAIDIAN DISTRICT, BEIJING,CHINA			

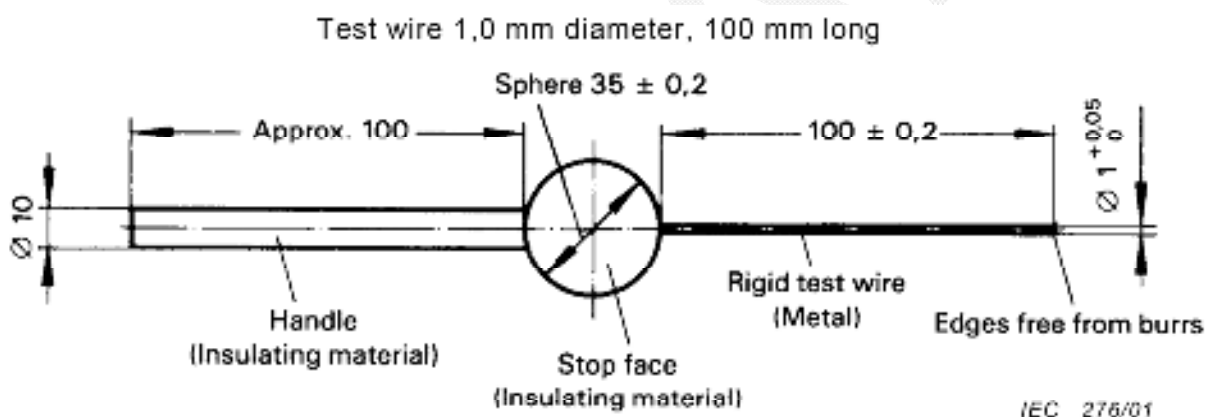
## 2- Test for first characteristics numerals 6 (IP6X) (CLAUSE 12.2+12.3 and CLAUSE 13.4+13.6)

### 2.1 Tests for protection against access to hazardous parts indicated by the first characteristic numeral (CLAUSE 12.2+12.3)

#### 2.1.1 Method

Access probes to test the protection of persons against access to hazardous parts are given in follow figure.

- 1) The test is made using a test wire of 1,0 mm inserted through any openings of the enclosure;
- 2) The test with the force  $1 \pm 0.1\text{N}$ ;
- 3) For tests on low-voltage equipment, a low-voltage supply (of not less than 40 V and not more than 50 V) in series with a suitable lamp should be connected between the probe and the hazardous parts inside the enclosure. Hazardous live parts covered only with varnish or paint, or protected by oxidation or by a similar process, are covered by a metal foil electrically connected to those parts which are normally live in operation. The signal-circuit method should also be applied to the hazardous moving parts of high-voltage equipment;
- 4) Internal moving parts may be operated slowly, where this is possible.



#### 2.1.2 Results

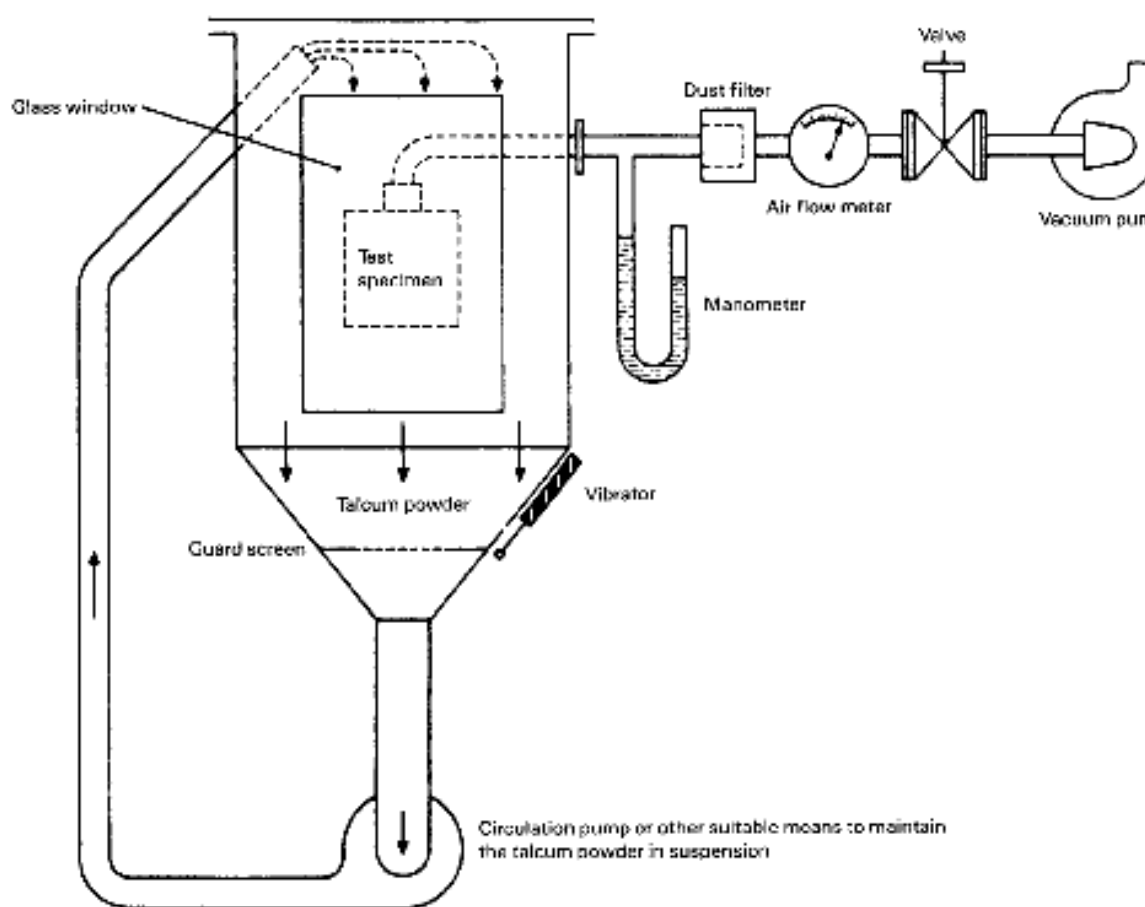
- (x) The access probe not touch hazardous live parts. (IP6X) (CLAUSE 12.2+12.3).  
Pass

## 2.2 Tests for protection against solid foreign objects indicated by the first characteristic numeral (CLAUSE 13.4+13.6)

### 2.2.1 Method

Test device to verify protection against solid foreign objects like the follow figure.

- 1) The test is made using a dust chamber incorporating the basic principle shown in the following figure;
- 2) The enclosure under test is supported inside the test chamber and the pressure inside the enclosure is maintained below the surrounding atmospheric pressure by a vacuum pump. The suction connection shall be made to a hole specially provided for this test. See the EUT photograph 4.3;
- 3) The extraction rate is about 40 times volumes of the sample enclosure and the depression of the manometer is less than 2kPa;
- 4) The test duration is 2 hours.



IEC 20061

### 2.2.2 Results

- (x) No deposit of dust was observable inside the enclosure at the end of the test. (IP6X) (CLAUSE 13.4+13.6).  
Pass

### **3-Test for protection against water characteristics numerals 8(IPX8) (CLAUSE 14.2.8)**

---

#### **3.1 Method**

Unless there is a relevant product standard, the test conditions are subject to agreement between manufacturer and user, but they shall be more severe than those prescribed in 14.2.7 and they shall take account of the condition that the enclosure will be continuously immersed in actual use.

According to customer requirements, the test methods are as follows:

- 1) The lowest point of enclosures with a height less than 850mm is located **1500mm** below the surface of the water;
- 2) The highest point of enclosures with a height equal to or greater than 850mm is located 650mm below the surface of the water; (N/A)
- 3) The duration of the test is 72 hours;
- 4) The water temperature does not differ from that of the equipment by more than 5K. However, a modified requirement may be specified in the relevant product standard if the tests are to be made when the equipment is energized and/or its parts in motion.

#### **3.2 Results**

- (1) There is no water accumulated inside the enclosure.
- (2) The EUT complies with the requirement for protection against water characteristics numerals 8 (IPX8) (CLAUSE14.2.8)  
Pass.

## 4- EUT PHOTOGRAPHS

### 4.1 EUT- View of the unit proceed protection against access to hazardous parts test



### 4.2 EUT- Function of unit





**5- DECLARATION OF SIMILARITY****DECLARATION OF SIMILARITY**

Date: 2017-05-26

Dear Sir or Madam:

We, BEIJING EPSOLAR TECHNOLOGY CO.,LTD. hereby declare that our product solar charge controller, Model Number: Tracer5210LPLI, Tracer1305 LPLI, Tracer2606 LPLI, Tracer3906 LPLI, Tracer5206 LPLI, Tracer2610 LPLI, Tracer3910 LPLI .are the same construction, electrical parameters, schematics and PCB layout, material and tooling technologies. are identical with the same circuit principle. are electrically identical with the same electromagnetic emissions and electromagnetic compatibility characteristics.

Their differences are as following:

Model	Battery			PV		
	Voltage	Max.charge current	Battery input voltage range	Rated charge power	Max. PV open circuit voltage	MPP voltage range
Tracer5210LPLI	12/24V	20A	8.5~32VDC	260W/12V; 520W/24V	95V	{ Max. battery voltage+2V}~72V
Tracer1305LPLI	12V	10A	8.5~16VDC	130W/12V	48V	{ Max. battery voltage+2V}~36V
Tracer2606LPLI	12/24V	10A	8.5~32VDC	130W/12V; 260W/24V	58V	{ Max. battery voltage+2V}~36V
Tracer3906LPLI	12/24V	15A	8.5~32VDC	195W/12V; 390W/24V	58V	{ Max. battery voltage+2V}~36V
Tracer5206LPLI	12/24V	20A	8.5~32VDC	260W/12V; 520W/24V	58V	{ Max. battery voltage+2V}~36V
Tracer2610LPLI	12/24V	10A	8.5~32VDC	130W/12V; 260W/24V	95V	{ Max. battery voltage+2V}~72V
Tracer3910LPLI	12/24V	15A	8.5~32VDC	195W/12V; 390W/24V	95V	{ Max. battery voltage+2V}~72V
Model	Output Load					
	Max. output current		Max. output power	Output voltage range		
Tracer5210LPLI	6.6A		200W	{ Max. battery voltage+2V}~80V		

Tracer1305LPLI	3.3A	100W	( Max. battery voltage+2V)~4.6V
Tracer2605LPLI	3.3A	100W	( Max. battery voltage+2V)~5.8V
Tracer3905LPLI	4.5A	130W	( Max. battery voltage+2V)~5.8V
Tracer5205LPLI	6.6A	200W	( Max. battery voltage+2V)~5.8V
Tracer2610LPLI	3.3A	100W	( Max. battery voltage+2V)~8.0V
Tracer3910LPLI	4.5A	130W	( Max. battery voltage+2V)~8.0V

Please contact me if you have any question.

Signature: *Xu Zhong wang*

Print Name: Xu zhong wang

Title: Manager

\*\*\*End of report \*\*\*