

# TEST REPORT

**Applicant** : **Shenzhen Growatt New Energy Technology Co.,Ltd**  
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**Report No** : 181016133GZU-004 **Issue Date** : 04 Dec 2018

## Sample Description

*Name of Sample* : PV Grid inverter  
*Model Number* : MIN 2500TL-X, MIN 3000TL-X, MIN 3600TL-X, MIN 4200TL-X, MIN  
4600TL-X, MIN 5000TL-X, MIN 6000TL-X  
*Quantity of Sample(s)* : 1  
*Date of Receiving* : 30 Nov., 2018  
*Date of test Conducted* : 30 Nov., 2018

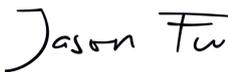
## Test

*Test Requested* : IP65  
*Test Method* : Refer to IEC/EN 62109-1:2010 clause 6.3  
*Test Observation:* : See appendix test condition for details  
*Test Conclusion:* : **Pass**  
*Other information* : --  
*Remark* :

- This test report is only for evaluation of the specified standard clauses listed in Test Requested.
- When determine the test result, measurement uncertainty has been considered.

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Tested by:



Jason Fu  
Senior Project Engineer

Approved by:



Tommy Zhong  
Assistant Technical Manager

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Rating:

Model	MIN 2500TL-X	MIN 3000TL-X	MIN 3600TL-X	MIN 4200TL-X
Max.PV voltage	500 d.c.V		550 d.c.V	
PV voltage range	80-500 d.c.V		80-550 d.c.V	
PV Isc	16 d.c.A*2			
Max.input current	12.5 d.c.A*2			
Max.output power	2500W	3000W	3600W	4200W
Max.apparent power	2500VA	3000VA	3600VA	4200VA
Nominal output voltage	230 a.c.V			
Max.output current	11.3 a.c.A	13.6 a.c.A	16 a.c.A	19 a.c.A
Nominal output Frequency	50Hz			
Power factor range	0.8Leading – 0.8 lagging			
Safety level	Class I			
Ingress Protection	IP 65			
Operation Ambient Temperature	-25°C - +60°C			
Model	MIN 4600TL-X	MIN 5000TL-X	MIN 6000TL-X	
Max.PV voltage	550 d.c.V			
PV voltage range	80-550 d.c.V			
PV Isc	16 d.c.A*2			
Max.input current	12.5 d.c.A*2			
Max.output power	4600W	5000W	6000W	
Max.apparent power	4600VA	5000VA	6000VA	
Nominal output voltage	230 a.c.V			
Max.output current	20.9 a.c.A	22.7 a.c.A	27.2 a.c.A	

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Nominal output Frequency	50Hz
Power factor range	0.8Leading – 0.8 lagging
Safety level	Class I
Ingress Protection	IP 65
Operation Ambient Temperature	-25°C - +60°C

**Model differences:**

The models MIN 2500TL-X, MIN 3000TL-X, MIN 3600TL-X, MIN 4200TL-X, MIN 4600TL-X, MIN 5000TL-X and MIN 6000TL-X are completely identical , except the bus capacity voltage from 500V(MIN 2500TL-X / MIN 3000TL-X) to 550V(MIN 3600TL-X / MIN 4200TL-X / MIN 4600TL-X /MIN 5000TL-X/ MIN 6000TL-X) and output power derating in software.

Appendix test condition :

Number	Test items	Test condition	Test result
<u>1</u>	IP6X	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 the test.	No deposit of dust is observable inside the enclosure.
<u>2</u>	IPX5	Internal diameter of the nozzle: 6.3 mm Delivery rate: 12.5 L/min Core of the substantial stream: circle of approximately 40 mm diameter at 2.5 m distance from nozzle Test duration: 3 min Distance from nozzle to enclosure surface: between 2.5 m and 3 m.	No water inside the enclosure

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**Appendix Photos:**

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Overview



Bottom view

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**Appendix Photos:**

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Test setup of IP6X



Test setup of IPX5

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File No.: General-ACCE-001, date: May 2016

Appendix Photos:

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Checked after test finish

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