Product Service

Technical Report No.: 64.290.21.30683.01A

Date: 2022-08-29

Client:	Name:	V-TAC EXPORTS LIMITED
	Address:	Room No.301, KAM ON Building 176A Queens Road, Central Hong Kong, HONG KONG
Factory:	Name:	Shenzhen Invt Electric Co., Ltd. (Baoan Factory)
	Address:	4th to 1st floors of Emerson Industral Park, No. 3, Fengtang Avenue, Tongwei Community, Fuhai Street, Baoan District, 518000 Shenzhen, PEOPLE'S REPUBLIC OF CHINA
Test object:	Product:	Hybrid Solar Inverter
	Model:	VT-6608303, VT-6615303
	Trademark (if any):	V-TAC®
Test specification:		EN 62109-1:2010, EN 62109-2:2011
Purpose of examination:		• Testing for compliance with specified requirements to assess conformity with the essential safety and health requirements of the following European Directives: LVD 2014/35/EU • Testing and evaluation according to the test specification
Test result:		The test results show that the presented product is in compliance with the above listed test specifications.

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question. It does not imply a general statement regarding the quality of products from regular production. For further details please see testing and certification regulation, chapter A-3.4.

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TÜV SÜD Certification and Testing (China) Co., Ltd.
Guangzhou Branch, TÜV SÜD Group

5F, Communication Building, 163 Pingyun Rd,
Huangpu Ave. West,Guangzhou, 510656,
P.R.China

1. Description of the test object

1.1. Picture(s)

Refer to Photo Documentation

1.2. Function

Manufacturer's specification for intended use:

(1) All the models are three phase non-isolated type multi-functions Hybrid Solar Inverter which will be installed and connected to the grid network or standalone after installation. It has four operating modes:
- PV to Grid mode
- PV to battery mode
- Grid to Battery charge mode
- Battery discharge to grid

(2) The inverter module shall be used at specified ambient conditions:
- Outdoor.
- Temperature range: -25 °C ~ +60 °C, auto-derating when ambient temperature is above 45 °C.
- Altitude: ≤2000m.
- Overvoltage category: III (Mains), II (Battery), II (PV)
- Relative humidity range: 0 ~ 95 % (Condensing).
- Can used in wet location.
- Environment pollution degree: less than or equal to 3.

(3) If certain functions are not permitted by local regulation, the function shall be disabled by hardware or software setting (if applicable) by the manufacturer before putting into the market. For example, it's not permissible to draw electricity from the grid and then feed it back in order to claim statutory reimbursement in some nations.

(4) Low voltage electrical installations shall comply with national and local regulation. Only qualified electricians are allowed to install and maintain the converter.

(5) In order to protect the inverter, user and installer, external DC and AC circuit breaker shall be equipped for all source port (battery, AC grid) at the end-use application.

(6) The internal insulation structure of the inverter is adopted BI+SI combination mode.

Model differences:

All models have same electrical schematic diagram and same software setting and control program except for different power output, The differences of VT-6608303, VT-6615303 as below table, for more detail, refer to photo document and CDF.

No.	Component	Usage amount	
		VT-6608303	VT-6615303
1	IGBT (ST#STGWA40H120DF)	Quantity 2 (IGBT2-IGBT3)	Quantity 4 (IGBT1-IGBT4)
2	IGBT (IKW40N120CS6)	Quantity 6 (IGBT10, IGBT13, IGBT14, IGBT16, IGBT19, IGBT20)	Quantity 12 (IGBT10-IGBT21)
3	Inductor	PV:1.2mH±10%@0A"0.7mH±10%@15A0.7mH±10%@15A" INV:1.5mH±10%@0A0.77mH±10%@20.4Apk BAT:0.44mH±10%@0A0.21mH±10%@50A*2PCS	PV:1.5mH±10%@0A0.6mH±10%@25A INV:1mH±10%@0A0.42mH±10%@30A BAT:0.44mH±10%@0A0.21mH±10%@50A

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1.3. Consideration of the foreseeable use

☐ Not applicable
☒ Covered through the applied standard
☐ Covered by the following comment*
☐ Covered by attached risk analysis

1.4. Technical Data

Model	VT-6608303	VT-6615303
Battery terminal parameters		
Rated battery DC voltage	250 Vd.c.	400 Vd.c.
Battery DC voltage range	125-600 Vd.c.	125-600 Vd.c.
Max charging / discharging current	50 Ad.c.	50 Ad.c.
Battery type	Lithium-ion	Lithium-ion
Maximum charge/discharge power	15000 W	15000 W
PV terminal parameters		
Max. Input Power	12000 W	22500 W
Maximum DC input voltage	1000 Vd.c.	1000 Vd.c.
MPPT Range	180~850 Vd.c.	180~850 Vd.c.
MPPT Range (full load)	330~850Vd.c.	620~850Vd.c.
Max. Input Current	2*13 Ad.c.	2*13 Ad.c.
Isc PV	2*16 Ad.c.	2*25 Ad.c.
Grid terminal parameters		
Rated output Power	8000 W	15000 W
Maximum continuous output apparent power	8800 VA	16500 VA
Max. AC output current	12.7 Aa.c.	23.8 Aa.c.
Maximum continuous input apparent power	17600 VA	33000 VA
Max. AC input current	25.5 Aa.c.	47.6 Aa.c.
Rated AC voltage	230/400 Va.c., 3W+N+PE	
Rated AC frequency	50/60 Hz	
Power factor	0.9 lagging to 0.9 leading	
Backup terminal parameters		
Rated apparent power	8000 VA	15000 VA
Maximum continuous output apparent power	8800 VA	16500 VA
Max. AC current	12.7 Aa.c.	23.8 Aa.c.
Rated AC voltage	230/400 Va.c., 3W+N+PE	
Rated AC frequency	50/60 Hz	
General		
Protection class	I	
Ingress protection	IP 65	
Overvoltage Category	II(PV/Battery), III(Mains)	
Temperature	-25 °C ~ +60 °C, derating above 45 °C	
Altitude	≤2000	

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1.5. Rating Label

V-TAC® VT-6608303		
HYBRID SOLAR INVERTER		SKU:11375
PV input port	Max. PV input power	12kW
	Max. PV input voltage	d,c.1000V
	MPPT voltage range	d,c.180-850V
	Full Power MPPT voltage range	d,c.330-850V
	Max. PV input current	d,c.2*13A
	Isc PV(adsolute maximum)	d,c.2*16A
Battery input port	Rated battery voltage	250V
	Battery voltage range	125V-600V
	Rated.battery charge /discharge current	d,c.40/40A
	Battery type	Lithium-ion
Grid output/input port	Rated grid voltage	3W+N+PE,230/400V
	Rated grid frequency	50Hz/60Hz
	Rated output power	8000W
	Max. grid output apparent power	8800VA
	Max. grid Output current	ac,12.7A
	Max. grid input apparent power	17600VA
	Max. grid input current	ac,25.5A
Eps output port	Rated EPS voltage	3W+N+PE,230/400V
	Rated EPS frequency	50Hz/60Hz
	Max. EPS output apparent power	8800VA
	Max. EPS output current	a.c.12.7A
General information	Adjustable cos (φ)	0.8ind...0.8cap
	Operating temperature range	-25.....+60℃
	Inverter topology	Non-Isolated
	Ingress protection	IP65
	protective class	I
	Overvoltage category	II(PV),III(MAINS)

WARNING:

ONLY qualified personnel should Install or perform maintenance work on these modules.
D O NOT damage or scratch the rear surface of the modules..
BE AWARE of dangerous high DC voltage when connection modules.

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V-TAC® VT-6615303		
HYBRID SOLAR INVERTER		
PV input port	Max. PV input power	22.5kW
	Max. PV input voltage	d,c.1000V
	MPPT voltage range	d,c.180-850V
	Full Power MPPT voltage range	d,c.620-850V
	Max. PV input current	d,c.2*13A
	Isc PV(adsolute maximum)	d,c.2*25A
Battery input port	Rated battery voltage	250V
	Battery voltage range	125V-600V
	Rated.battery charge /discharge current	d,c.40/40A
	Battery type	Lithium-ion
Grid output/input port	Rated grid voltage	3W+N+PE,230/400V
	Rated grid frequency	50Hz/60Hz
	Rated output power	15000W
	Max. grid output apparent power	16500VA
	Max. grid Output current	ac, 23.8A
	Max. grid input apparent power	33000VA
	Max. grid input current	ac,47.6A
Eps output port	Rated EPS voltage	3W+N+PE,230/400V
	Rated EPS frequency	50Hz/60Hz
	Max. EPS output apparent power	15000VA
	Max. EPS output current	a.c. 23.8A
General information	Adjustable cos (φ)	0.8ind...0.8cap
	Operating temperature range	-25.....+60℃
	Inverter topology	Non-Isolated
	Ingress protection	IP65
	protective class	I
	Overvoltage category	II(PV),III(MAINS)

WARNING:

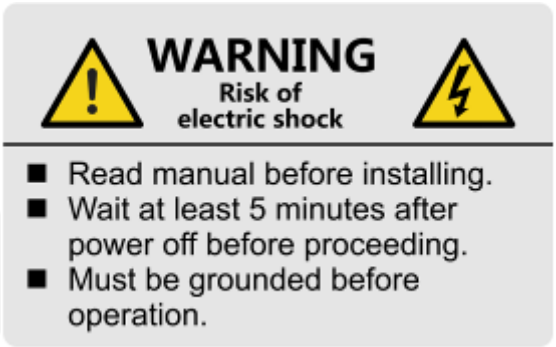
ONLY qualified personnel should Install or perform maintenance work on these modules.
D O NOT damage or scratch the rear surface of the modules..
BE AWARE of dangerous high DC voltage when connection modules.

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Below warnings and symbols are silk-screen on label and affixed side of enclosure.



Dimension(Approx.): 40x10mm



Dimension(Approx.): 40x25 mm

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2. Order

2.1. Date of Purchase Order, Customer's Reference

2021-08-02, 2022-07-27

2.2. Test Sample(s)

- Reception date(s): 2022-02-09, 2022-08-09
- Location(s) of reception: TÜV SÜD Testing Center, D1 building, No. 63 Chuangqi Road, Shilou Town, Panyu District, Guangzhou 511447, P.R. China
- Condition of test sample(s): Intact

2.3. Date(s) of Testing

2022-02-09 to 2022-06-10, 2022-08-10 to 2022-08-29

2.4. Location(s) of Testing

TÜV SÜD Testing Center, D1 building, No. 63 Chuangqi Road, Shilou Town, Panyu District, Guangzhou 511447, P.R. China

2.5. Points of Non-Compliance or Exceptions of the Test Procedure

- None

3. Test Results

- "Decision rule according to IEC Guide 115:2021, clause 4.4.3, 4.5.1 was applied."

3.1. Positive Test Results

Test specification(s)	Report no. / Rev. No.	Date	Remark
Electrical safety:	64.290.21.30683.01A	2022-08-29	-

4. Remarks

4.1. General

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.

4.2. Additional information for routine tests to be performed by the factory(ies)

Refer to CDF

4.3. The co-license certificate application is based on the following main license certificate:

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Certificate No.:	N8A 115385 0008 Rev. 00
Report No.:	64.290.21.30683.01
License holder:	Shenzhen Megarevo Technology Co., Ltd.
Model No.:	R8KH3, R15KH3 (for model VT-6608303, VT-6615303 in co-license)

5. Documentation

- CDF
- Photo documentation

6. Summary

The test specifications are met.

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch
TÜV SÜD Group

Tested by: Vincent Liang Vincent Liang

printed name, function & signature

Approved by: Kennen Wang Kennen Wang

printed name, function & signature

--- End of Report ---

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