

Technical Report No.: 66.290.22.30696.01

Date: 2022-09-22

Client: YUHUAN SUNPRO POWER CO.,LTD
Qinggang Technological Ind. Zone, 317606 Yuhuan, Zhejiang
Province PEOPLE'S REPUBLIC OF CHINA

Factory: Shenzhen INVT Electric Co., Ltd. Bao'an Branch Factory
F1-F4, No.3 Building, Emerson Industrial Park, Fengtang Road,
Tangwei Community, Fuhai, Bao'an District, Shenzhen City,
Guangdong Province, 518103, P.R. China

Test object: Product: Hybrid Solar Inverter
Model: SP6KH3, SP8KH3, SP10KH3, SP12KH3, SP15KH3

Test specification: VDE-AR-N 4105:2018 and DIN VDE V 0124-100:2020

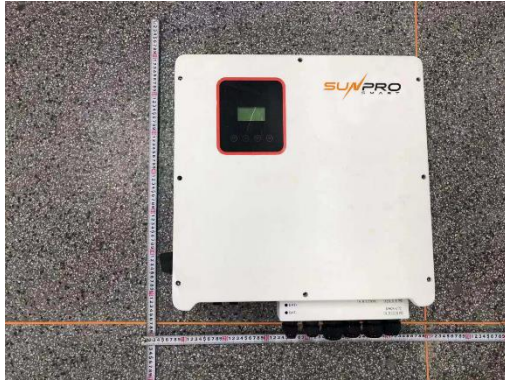
Purpose of examination: • Testing and evaluation according to the test specification

Test result: The test results show that the presented product is in compliance
with the above listed test specifications.

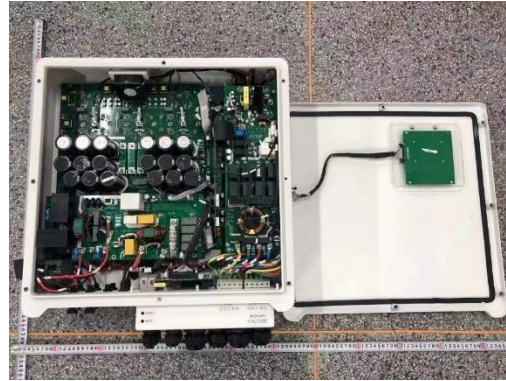
Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question. It does not imply a general statement regarding the quality of products from regular production. For further details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

1. Description of the test object

1.1 Picture(s)



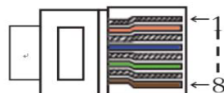
Front view



internal view

1.2 Function

- (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 after installation, for indoor and outdoor use.
- (2) 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.
- (3) Low voltage electrical installations shall comply with national and local regulation. Only qualified electricians are allowed to install and maintain the converter.
- (4) 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
- (5) Software version: ARM: V1.03.08, DSP: V1.02.11
- (6) The PCE uses the DRM port for remote logic control, after receiving the signal, the inverter will decrease output active power to zero in 5 seconds. The DRM port is connected to pin 5 and pin 7 or 8 of the terminal



1	2	3	4	5	6	7	8
DRM1/5	DRM2/6	DRM3/7	DRM4/8	+5V	DRM0	GND	GND

1.3 Consideration of the foreseeable use

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

Doc No.: ITC-TTW0902.02E - Rev. 11

1.4 Technical Data

Model	SP6KH3	SP8KH3	SP10KH3	SP12KH3	SP15KH3
Battery terminal parameters					
Rated battery DC voltage	200Vd.c.	250Vd.c.	300Vd.c.	350Vd.c.	400Vd.c.
Battery DC voltage range	125-600Vd.c.				
Max charging / discharging current	50 Ad.c.				
Maximum charge/discharge power	15000 W				
Battery type	Lithium-ion				
PV terminal parameters					
Max. Input Power	9000W	12000W	15000W	18000W	22500W
Maximum DC input voltage	1000Vd.c.				
MPPT Range	180~850Vd.c.				
MPPT Range (full load)	250~850 Vd.c.	330~850 Vd.c.	430~850 Vd.c.	510~850 Vd.c.	620~850 Vd.c.
Max. Input Current	2*13Ad.c.				
Isc PV	2*16 Ad.c.				2*25Ad.c.
Grid terminal parameters					
Rated output Power	6000W	8000W	10000W	12000W	15000W
Maximum continuous output apparent power	6600VA	8800VA	11000VA	13200VA	16500VA
Max. AC output current	9.5Aa.c.	12.7Aa.c.	15.9Aa.c.	19.1Aa.c.	23.8Aa.c.
Max. active power PEmax	5999.1W	7980.2W	9987.6W	11992.4W	15004.9W
Max. apparent power SEmax	6614.0VA	8837.8VA	11003.5V A	13192.0V A	16540.9V A
Maximum continuous input apparent power	13200VA	17600VA	22000VA	26400VA	30000VA
Max. AC input current	19Aa.c.	25.5Aa.c.	31.9Aa.c.	38.2Aa.c.	43.5Aa.c.
Rated AC voltage	230/400Va.c., 3W+N+PE				
Rated AC frequency	50Hz				
Power factor	0.9 lagging to 0.9 leading				
Backup terminal parameters					
Rated apparent power	6000VA	8000VA	10000VA	12000VA	15000VA
Maximum continuous output apparent power	6600VA	8800VA	11000VA	13200VA	16500VA
Max. AC current	9.5Aa.c.	12.7Aa.c.	15.9Aa.c.	19.1Aa.c.	23.8Aa.c.
Rated AC voltage	230/400Va.c., 3W+N+PE				
Rated AC frequency	50Hz				

2. Order

2.1 Date of Purchase Order, Customer's Reference

2021-08-02; 2022-06-02

2.2 Test Sample(s)

- Reception date(s): 2022-02-09; 2022-08-08
- 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; 2022-08-08 to 2022-09-22

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
Grid code safety:	64.290.22.30696.01	2022-09-22	

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

Certificate No.: ESY 115385 0013 Rev.00
Report No.: 64.290.21.30685.01
License holder: Shenzhen Megarevo Technology Co., Ltd.
Model No.: R6KH3, R8KH3, R10KH3, R12KH3, R15KH3
(for model SP6KH3, SP8KH3, SP10KH3, SP12KH3, SP15KH3 in co-license)

5. Documentation

- None


6. Summary

The test specifications are met.

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

Tested by: Wendy Zhao, Jenn Huang
Wendy Zhao *Jenn Huang*
printed name, function & signature

Approved by: Iris Zheng
Iris Zheng
printed name, function & signature



--- End of Report ---