



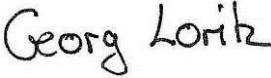

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VERITAS**

TEST REPORT SUMMARY

Nota de interpretación técnica de la equivalencia de la separación galvanica de la conexión de instalaciones Generadoras en baja tension

Sobre conexión de instalaciones fotovoltaicas a la red de baja tensión

Report reference number: 10TH0349-DC-Injection_SUM_0			
Date of issue: 2012-12-18			
Total number of pages: 6			
Testing laboratory name: Bureau Veritas Consumer Products Services Germany GmbH		 DAkkS Deutsche Akkreditierungsstelle D-PL-12024-03-01	
Address: Businesspark A96 86842 Türkheim Germany			
Applicant's name: SMA Solar Technology AG			
Address: Sonnenallee 1, 34266 Niestetal			
Test specification			
Standard.....: Nota de interpretación técnica de la equivalencia de la separación galvanica de la conexión de instalaciones Generadoras en baja tension			
Certificate: Certificate of compliance			
Test report form number.: DC-Injection			
Master TRF: Bureau Veritas Consumer Products Services Germany GmbH			
Test item description: Grid-tied photovoltaic inverter			
Trademark.....: 			
Model / Type: SB 2000HF-30, SB 2500HF-30, SB 3000HF-30			
Ratings	SB 2000HF-30	SB 2500HF-30	SB 3000HF-30
MPP DC voltage range [V].....:	175 – 560V	175 – 560V	210 – 560V
Input DC voltage range [V].....:	max. 700V	max. 700V	max. 700V
Input DC current [A]	max. 12,0A	max. 15,0A	max. 15,0A
Output AC voltage [V]	230Vac phase to neutral, 50Hz		
Output AC current [A].....:	nom. 8,7A max. 11,4A	nom. 10,9A max. 14,2A	nom. 13,0A max. 15,0A
Output power [VA].....:	nom. 2000W max. 2000VA	nom. 2500W max. 2500VA	nom. 3000W max. 3000VA

Testing Location	Bureau Veritas Consumer Products Services Germany GmbH		
Address	Businesspark A96, 86842 Türkheim, Germany		
Tested by (name and signature)	Georg Loritz		
Approved by (name and signature)	Ingo Röhr		
Manufacturer's name	SMA Solar Technology AG		
Factory address	Sonnenallee 1, 34266 Niestetal		

Document History			
Date	Internal reference	Modification / Change / Status	Revision
2012-12-18	Georg Loritz	Initial report was written	0
Supplementary information:			

Test items particulars

Equipment mobility.....: Permanent connection
 Operating condition.....: Continuous
 Class of equipment: Class I
 Protection against ingress of water...: IP65 according to EN 60529
 Mass of equipment [kg].....: SB 2000HF-30 17kg
 SB 2500HF-30 17kg
 SB 3000HF-30 17kg

Test case verdicts

Test case does not apply
 to the test object.....: N/A
 Test item does meet
 the requirement.....: P(ass)
 Test item does not meet
 the requirement.....: F(ail)

Testing

Date of receipt of test item.....: 2012-12-7
 Date(s) of performance of test.....: 2012-12-13

General remarks:

The test result presented in this report relate only to the object(s) tested.
 The report shall state compliance of the tested objects with the requirements of NOTA DE INTERPRETACIÓN TECNICA DE LA EQUIVALENCIA DE LA SEPARACIÓN GALVÁNICA DE LA CONEXIÓN DE INSTALACIONES GENERADORAS EN BAJA TENSIÓN.
 This report must not be reproduced in part or in full without the written approval of the issuing testing laboratory.
 "(see Annex #)" refers to additional information appended to the report.
 "(see appended table)" refers to a table appended to the report.
 Throughout this report a comma is used as the decimal separator.

This Test Report consists of the following documents:

1. Test Results
2. Annex No. 1 – Pictures of the unit
3. Annex No. 2 – Test equipment list

Copy of marking plates:

SMA Solar Technology AG
Sonnentallee 1
34266 Niestetal
Germany
www.SMA.de

SUNNY BOY
Solar inverter * made in Germany
by SMA Solar Technology AG
Model
SB 2000HF-30
Serial No.
0011223344
Date of
manufacture
2012-11-23

DC	V _{DC max}	700 V
	V _{DC MPP}	175 - 560 V
	I _{DC max}	12 A
AC	V _{AC,r}	220/230/240 V
	P _{AC,r}	2000 W
	S _{max}	2000 VA
	f _{AC,r}	50/60 Hz
	I _{AC max}	11.4 A
cos(φ)		1

IP54 max. 17 kg
Protective class I Overvoltage category III

CE

RAL GZ N23114






Sunnydots.com Sunnydots.com

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* 0 0 1 1 2 2 3 3 4 4 *

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* 0 0 1 1 2 2 3 3 4 4 *

SB 2000HF-30 SBF95SRRE1/2012
0011223344

SMA Solar Technology AG
Sonnentallee 1
34266 Niestetal
Germany
www.SMA.de

SUNNY BOY
Solar inverter * made in Germany
by SMA Solar Technology AG
Model
SB 3000HF-30
Serial No.
0011223344
Date of
manufacture
2012-11-23

DC	V _{DC max}	700 V
	V _{DC MPP}	210 - 560 V
	I _{DC max}	15 A
AC	V _{AC,r}	220/230/240 V
	P _{AC,r}	3000 W
	S _{max}	3000 VA
	f _{AC,r}	50/60 Hz
	I _{AC max}	15 A
cos(φ)		1

IP54 max. 17 kg
Protective class I Overvoltage category III

CE

RAL GZ N23114






Sunnydots.com Sunnydots.com

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* 0 0 1 1 2 2 3 3 4 4 *

* 0 0 1 1 2 2 3 3 4 4 *

* 0 0 1 1 2 2 3 3 4 4 *

SB 3000HF-30 SBF95SRRE1/2012
0011223344

SMA Solar Technology AG
Sonnentallee 1
34266 Niestetal
Germany
www.SMA.de


SUNNY BOY
Solar inverter * made in Germany
by SMA Solar Technology AG
Model
SB 2500HF-30
Serial No.
0011223344
Date of
manufacture
2012-11-23



DC	V _{DC max}	700 V
	V _{DC MPP}	175 - 560 V
	I _{DC max}	15 A
AC	V _{AC,r}	220/230/240 V
	P _{AC,r}	2500 W
	S _{max}	2500 VA
	f _{AC,r}	50/60 Hz
	I _{AC max}	14.2 A
cos(φ)		1

IP54 max. 17 kg
Protective class I Overvoltage category III

CE

RAL GZ N23114



Sunnydots.com Sunnydots.com

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* 0 0 1 1 2 2 3 3 4 4 *

* 0 0 1 1 2 2 3 3 4 4 *

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SB 2500HF-30 SBF95SRRE1/2012
0011223344

General product information:

The converter converts DC voltage into AC voltage.

The unit is providing EMC filtering at the output towards mains. The unit does provide galvanic separation from input to output. The output is switched off redundant by the high power switching bridge and one relays in line and neutral. This assures that the opening of the output circuit will also operate in case of one error.

The input of the inverter is EMC filtered and then passes a boost converter stage. The resulting higher dc voltage (V2) is modulated by a HF bridge and is insulated by an HF transformer towards the dc link (V4) on the mains side. This dc voltage is PWM modulated by the inverter bridge. This PWM blocks are filtered by the following inductors and capacitors and finally result in the 50Hz sine wave.

The automatic disconnection facility is integral part of the inverter, permanently monitoring the grid frequency and voltage. In Addition the unit provides active anti islanding detection via impedance measurement.

The inverter models SB 2000HF-30 and SB 2500HF-30 are software derated versions of the SB 3000HF-30. Their hardware is identical.

The tests had been performed on model with s/n 2120207660
Firmware version 2.17

Test report

NOTA DE INTERPRETACIÓN TECNICA DE LA EQUIVALENCIA DE LA SEPARACIÓN GALVÁNICA DE LA CONEXIÓN DE INSTALACIONES GENERADORAS EN BAJA TENSIÓN		
Article	Test	Result
14	Type test:	
14	Monitoring of DC-Injection	P