



Product Service

# CERTIFICATE

No. Z2 16 04 70122 002

**Holder of Certificate: SMA Solar Technology AG**

Sonnenallee 1  
34266 Niestetal  
GERMANY



**Certification Mark:**



**Product:**

**Converter  
Solar Inverter**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

**Test report no.:** 704091504213-00

**Valid until:** 2021-04-18

**Date,** 2016-04-25

  
( Zhengdong Ma )



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**Model(s):** SB5.0-1AV-40, SB4.0-1AV-40, SB3.6-1AV-40, SB3.0-1AV-40

**Parameters:**

Max. input voltage:	600 V
MPP voltage range:	175 – 480 V(SB5.0-1AV-40) 140 – 480 V(SB4.0-1AV-40) 130 – 480 V(SB3.6-1AV-40) 110 – 480 V(SB3.0-1AV-40)
Max. input current:	2 x 15 A
Isc PV	
(absolute maximum):	2 x 20 A
Rated grid voltage:	230 V
Rated grid frequency:	50 Hz
Rated power:	5000 W(SB5.0-1AV-40) 4000 W(SB4.0-1AV-40) 3680 W(SB3.6-1AV-40) 3000 W(SB3.0-1AV-40)
Max. apparent power:	5000 VA(SB5.0-1AV-40) 4000 VA(SB4.0-1AV-40) 3680 VA(SB3.6-1AV-40) 3000 VA(SB3.0-1AV-40)
Max. continuous output current:	22 A(SB5.0-1AV-40, SB4.0-1AV-40) 16 A(SB3.6-1AV-40, SB3.0-1AV-40)
cos( $\emptyset$ ):	0,8(overexcited)...1...0,8 (underexcited)
Operating temperature range:	-25°C...+60°C
Protective class:	I
Ingress protection:	IP65
Overvoltage category:	II(PV), III(Mains)

**Tested according to:** IEC 62109-1(ed.1)  
EN 62109-1:2010  
IEC 62109-2(ed.1)  
EN 62109-2:2011

**Production Facility(ies):** 74045

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### License conditions:

1. When installing the equipment, all requirements of the mentioned standards must be fulfilled.
2. In order to protect the installation against electrical and fire hazard, all branch circuits in an installation, switchgear, cables etc., must be short-circuit and over-current protected according to the national/international regulations.
3. When install PV generation system, double/reinforced insulation cable required with mechanical protection. Recommended conductor cross-section area and installation method specified in user manual:  
PV input cables: Cu, PV+&PV-, 2,5 mm<sup>2</sup> - 6 mm<sup>2</sup>@max. 60°C ambient temperature and rated voltage @min. 1000VDC  
AC output cables: Cu, L/N+PE, 1,5 mm<sup>2</sup> - 4 mm<sup>2</sup>@max. 60°C ambient temperature and rated voltage @min. 300VAC  
All type of PV inverters should be used together with suitable circuit breaker @min. 300V and 25A, or equivalent gL/gG fuse, whose operating time is less than 5 seconds, and installation method according to B2 in IEC 60364-5-52(ed.3).  
Cable design taken into consideration of all factors influencing cable dimension are: nominal AC current, type of cable, routing method, cable bundling, ambient temperature and maximum desired line losses etc.
4. Maximum inverter backfeed current form grid to the array is 0A based on test/circuit topology analysis and manufacturer's declaration. And due to design, only two strings can be connected to each MPP tracker of inverter, so no excessive backfeed current can form other strings when short-circuit occurs, no PV fuse or block-diode need to be installed in end-system.
5. Communication interface ports with circuitry is intended for connection to a Network Environment 0 per manufacturer's instruction manual, according to IEC TR 62102(ed.2).  
This part of circuit is classed to be as SELV, Only PELV or SELV voltages should be connected to these terminals.
6. The inverter is intended to be used with appropriate PV-generator, switchgear, SPDs, combiner feeder box, distribution board, electrical protection components and other device to form complete end systems. Compliance with safety regulations depends upon installing and configuring inverter correctly, including using the specified emergency stop device adjacent to solar inverter. The unit must be installed only by professional assemblers who are familiar with requirements for safety and EMC. The assembler is responsible for ensuring that the end product or system complies with all the relevant laws in the country where it is to be used. Refer to instruction manual.
7. Additional equipment connected to the inverter must comply with the respective IEC, EN or ISO standards (e.g. IEC 60950 / EN 60950 series for data processing equipment, IEC 61439 / EN 61439 series for switchgear).
8. To allow maintenance of PV inverter, means of isolating the PV inverter from the DC side and the AC side shall be provided at the end-use application.
9. For safety reasons, install the emergency stop devices at station adjacent to solar inverter in the end-system. Pressing the stop function on the control panel of the inverter does generate an emergency stop and separate the inverter from dangerous potential.
10. An additional RCD, type B according to IEC/TR 60755(ed.2), which is located between the inverter and the mains, may be provided for fault protection by automatic disconnection of supply in the end-use application with the agreement of local network operator.
11. Not intended for use with connection to plug socket!