



**BUREAU
VERITAS**

Certificate of compliance

Applicant: **ALTENERGY POWER SYSTEM INC.**
No.1 Yatai Road,
Jiaxing 314050 Zhejiang Province,
P.R. China

Product: **Grid-tied Microinverter**

Model: **DS3**
DS3-H
DS3-L
DS3-L-SPE

Inverter for single-phase parallel connection to the public grid. The network monitoring and disconnection device is an integral part of the above-mentioned model.

Applied rules and standards:

EN 50549-1:2019

Requirements for parallel connection of installations with distribution networks - Part 1: Connection to an LV distribution network - Production of installations up to and including Type B

- 4.4 Normal operating range
- 4.5 Immunity to disturbances
- 4.6 Active response to frequency deviation
- 4.7 Power response to voltage variations and voltage changes
- 4.8 EMC and power quality
- 4.9 Interface protection
- 4.10 Connection and starting to generate electrical power
- 4.11 Ceasing and reduction of active power on set point
- 4.12 Remote information exchange
- 4.13 Requirements regarding single fault tolerance of interface protection system and interface switch

EN 50438:2013

Requirements for micro-generating plants to be connected in parallel with public low-voltage distribution networks

DIN V VDE V 0126-1-1:2006 (4.1 Functional safety)

Automatic disconnection device between a generator and the public low-voltage grid

Commission Regulation (EU) 2016/631 of 14 April 2016

Establishing a network code on requirements for grid connection of generators (NC RFG).

Type approval for generation units to use in Type A and Type B plants.

At the time of issue of this certificate, the safety concept of an aforementioned representative product corresponds to the valid safety specifications for the specified use in accordance with regulations.

Report number: **ZEK-ESH-P21011146**

Certification Program: **NSOP-0032-DEU-ZE-V01**

Certificate number: **U20-0717**

Date of issue: **2021-08-19**

Certification body



Thomas Lammel



Certification body Bureau Veritas Consumer Products Services Germany GmbH accreditation to DIN EN ISO/IEC 17065

A partial representation of the certificate requires the written approval of Bureau Veritas Consumer Products Services Germany GmbH



BUREAU VERITAS

Annex to the EN 50549-1 certificate of compliance No. U20-0717

Appendix

Extract from test report according to EN 50549-1 No. ZEK-ESH-P21011146

Type Approval and declaration of compliance with the requirements of EN 50549-1 and Commission Regulation (EU) 2016/631 of 14 April 2016

Manufacturer / applicant	ALTENERGY POWER SYSTEM INC. No.1 Yatai Road, Jiaxing 314050 Zhejiang Province, P.R. China
---------------------------------	--

Micro-generator Type	Grid-tied Microinverter			
	DS3	DS3-H	DS3-L	DS3-L-SPE
MPP DC voltage range [V]	22-55			
Input DC voltage range [V]	16-60			
Input DC current [A]	20*2		18*2	18
Output AC voltage [V]	230V, 50Hz			
Output AC current [A]	3,80	4,20	3,20	2,20
Output power [VA]	880	960	730	500

Firmware version	2021-01-11 – 2021-07-06
-------------------------	-------------------------

Description of the structure of the power generation unit:
 The power generation unit is equipped with a line-side EMC filter. The power generation unit has galvanic isolation between DC input and AC output (HF-transformer). Output switch-off is performed with single-fault tolerance based on the inverter bridge and relays in each line and neutral. This enables a safe disconnection of the power generation unit from the network in case of error.

Note:
 The settings of the interface protection are password protected adjustable.
 In case the above stated generators are used with an external protection device, the protection settings of the inverters are to be adjusted according to the manufacturer's declaration.
 The above stated generators are tested according to the requirements in the EN 50549-1:2019 Commission Regulation (EU) 2016/631 of 14 April 2016. Any modification that affects the stated tests must be named by the manufacturer/supplier of the product to ensure that the product meets all requirements.