Certificate of compliance

Applicant:	**Renac Power Technology Co., Ltd.** Block C-12, No. 20 Datong Road, Comprehensive Bonded Zone, Suzhou Hi-Tech District, Suzhou, **China**
Product:	**Photovoltaic (PV) inverter**
Model:	**N1-HV-3.0** **N1-HV-3.68** **N1-HV-5.0** **N1-HV-6.0**

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 50549-1:2019-02, NBN EN 50549-1:2019-02
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
4.13 Requirements regarding single fault tolerance of interface protection system and interface switch

C10/11:2021-03
Specific technical prescription regarding power-generating plant operating in parallel to the distribution network

DIN VDE V 0124-100:2020 (5.5.2.1 Functional safety of network and system protection)
Grid integration of generator plants - Low-voltage - Test requirements for generator units to be connected to and operated in parallel with low-voltage distribution networks

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

At the time of issue of this certificate, the representative product listed above corresponds to the stated rules and standards.

Report number:	**ABRE-ESH-P22100192**	**Certification program:**	**NSOP-0032-DEU-ZE-V01**
Certificate number:	**U22-0716**	**Date of issue:**	**2022-11-23**

Certification body

Alf Assenkamp

DAkkS Deutsche Akkreditierungsstelle D-ZE-12024-01-00

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

Testing laboratory accredited according to DIN EN ISO/IEC 17025

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

Annex to the EN 50549-1 / C10/11 certificate of compliance No. U22-0716

Appendix

Extract from test report according to EN 50549-1 / C10/11 **Nr. ABRE-ESH-P22100192**

Type Approval and declaration of compliance with the requirements of EN 50549-1, Commission Regulation (EU) 2016/631 of 14 April 2016 and C10/11 for Belgium				
Manufacturer / applicant	Renac Power Technology Co., Ltd. Block C-12, No. 20 Datong Road, Comprehensive Bonded Zone, Suzhou Hi-Tech District, Suzhou, China			
Micro-generator Type	Photovoltaic inverter			
	N1-HV-3.0	**N1-HV-3.68**	**N1-HV-5.0**	**N1-HV-6.0**
Battery voltage range	80-450 Vdc			
Max.Charge/Discharge current	25 Ad.c.			
Max.DC voltage	600 Vd.c.			
MPPT voltage range	120-550 Vd.c.			
Max. PV current	13,5/13,5 Ad.c.			
Rated grid voltage	230 Va.c., 50/60 Hz			
Max. AC Output current	13 Aa.c.	16 Aa.c.	21,7 Aa.c.	26,1 Aa.c.
Rated AC Output active Power	3000 W	4000 W	5000 W	6000 W
Max. AC apparent Power	3000 VA	4000 VA	5000 VA	6000 VA
Firmware version	V1.04			
Description of the structure of the power generation unit: The power generation unit is equipped with a PV and line-side EMC filter. The power generation unit has no galvanic isolation between DC input and AC output. Output switch-off is performed with single-fault tolerance based on the inverter bridge and two series-connected 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 and C10/11 for Belgium. 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.				