



Product Service

Attestation of Conformity

No. N8 13 01 83544 003

Holder of Certificate: **ReneSola Zhejiang Ltd.**
No. 98, Yiqun Road, Yaozhuang Industrial Park
314117 Jiashan County, Zhejiang Province
PEOPLE'S REPUBLIC OF CHINA

Product: **Converter**
(PV grid-interactive inverter)

Model(s): **Replus-250**

Parameters:
V_{max} PV (V): 60Vd.c.
I_{sc} PV (A): 14.0Ad.c.
PV input operating voltage range: 22-55Vd.c.
Maximum operating PV input current: 12.0 Ad.c.
Nominal a.c. output voltage: 230Va.c.
Nominal a.c. output frequency: 50Hz
Nominal active output power (P_n): 220W
Nominal a.c. output current: 1.0Aa.c.
Maximum continuous a.c. output current: 1.1Aa.c.
Maximum active power of the power generation unit (PE_{max}): 227W
Maximum apparent power of a power generation unit (SE_{max}): 228VA
Power factor (cos phi): Fixed, >0.99 (full load)
Protection class: I
IP code: IP66/IP67
Overvoltage category (OVC): II (PV), III (Grid)
Pollution degree: PD3 (External)
Remark: see page 2 for license condition

Tested according to: EN 62109-1:2010
EN 62109-2:2011

This Attestation of Conformity is issued on a voluntary basis according to the Low Voltage Directive 2006/95/EC relating to electrical equipment designed for use within certain voltage limits. It confirms that the listed equipment complies with the principal protection requirements of the directive. It refers only to the particular sample submitted for testing and certification. See also notes overleaf.

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Date, 2013-01-21

Frank Zhu
(Frank Zhu)



After preparation of the necessary technical documentation as well as the EC conformity declaration the required CE marking can be affixed on the product. Other relevant directives have to be observed.

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License condition:

1. The units are isolated type PV grid-connected inverters inverting the DC output of one PV module, and are intended to be connected in parallel to the public grid;
2. The assembly of the unit is secured by rivets and filled with potting inside, it is not designed for service with any maintenance of parts and components inside the enclosure;
3. The DC side is built with earth fault interrupter fuse on positive pole to interrupt the fault current under ground fault conditions on the array. As per IEC62109-2, grounded array topology is regard, in case of fault the units indicate fault and remain disconnection from grid;
4. The inverters are isolated type with high frequency transformer and the residual current is limited within 30mA. According to IEC 62109-2, RCD or RCM for residual current protection is not necessary and is not provided in the inverter. However, to protect against the earth fault in the external power line of a.c. output of the PV inverter, a RCD is required in the AC distribution board. And considering the DC component of injection power, the RCD is required as type B;
5. The grid connection protection system is evaluated according to VDE 0126-1-1/A1 and VDE-AR-N 4105. Some features required by VDE-AR-N 4105 are described as follows:
 - a) Multiple units are allowed to inter-connected to constitute a PV plant with limited capacity up to 3.68kVA. The unit provide fixed displacement factor larger than 0.95;
 - b) The inverter is capable to decrease the active power output when the grid frequency goes up between 50.2Hz and 51.5Hz. However, the remote active power control function is not provided in the unit;
 - c) The information of status and fault condition report is transmitted via PLC from the micro inverter to the gateway. The gateway identifies the micro inverter with IP address. The gateway is installed for each plant and considered as necessary unit of a PV plant.
 - d) For other countries, the local grid code shall be further considered and not evaluated in this report.
6. The AC wiring contains two connectors for each micro inverter. The male connector is oriented to the AC distribution board and female connector is oriented to next micro inverter's male connector. The AC wiring is terminated with first micro inverter male connector at AC distribution board and last micro inverter female connector with end cap. The AC connector contain three pins, two for L/N, and the third pin is not used and terminated void in the AC junction box;
7. The inverters are designed for indoor and outdoor use. It is fixed mounted on rack or other reliable fixing and the environmental parameter shall meet its rating as specification;
8. The PLC is not evaluated in term of subject standards.

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