# CERTIFICATION OF CONFORMITY

**Manufacturer:** **Ningbo Ginlong Technologies Co., Ltd.**

**Address:** No.57 jintong Road,Seafront(Binhai)Industrial park,Xiangshan Demonstration Industrial Estate,Xiangshan,Ningbo,Zhejinag,315712,P.R.China

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

**Model:** RAI-3K-48ES

**Use in accordance with regulations:**
Technical Guidance for Customer Export Limiting Schemes G100 for photovoltaic systems with a single-phase parallel coupling via an inverter in the public mains supply.

**Applied rules and standards :**
The result according to G100 engineering recommendation.
The safety concept of an aforementioned representative product complies at the time of issue of this certificate of valid safety specifications for the specified use in accordance with G100 recommendations.Compliant with BSEN 61000-3-2

**Certificate Number:** **GLDQ191003**

**Date:** **2019-10-13**

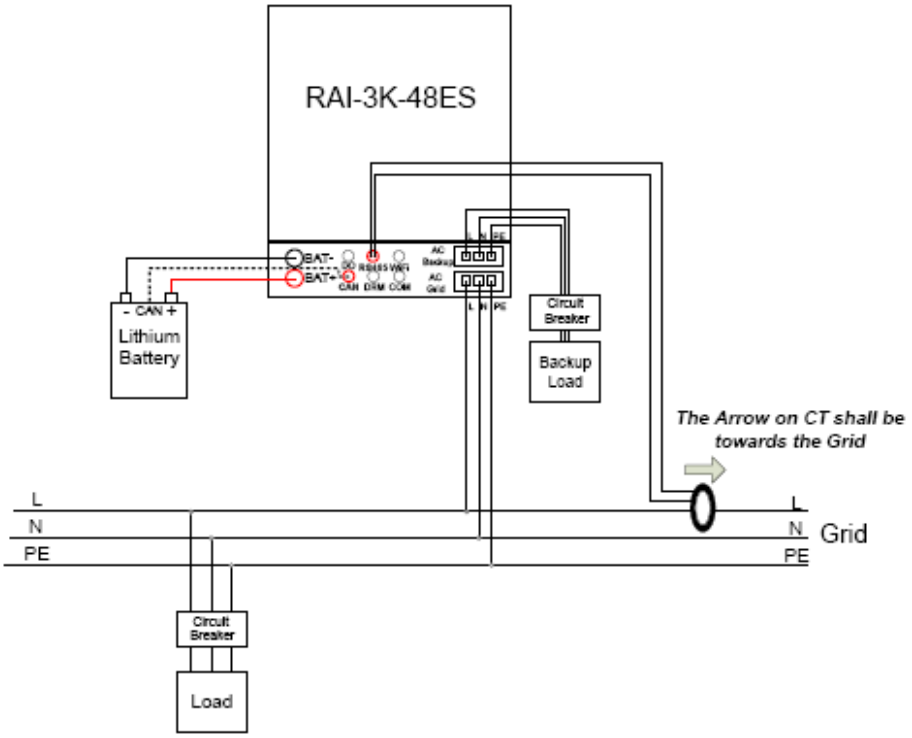
**Manufacture Stamp**

宁波锦浪新能源科技有限公司
NINGBO GINLONG TECHNOLOGIES CO., LTD.

**Date and place**
Ningbo
2019-10-13

Zhang Kun

## System Connecton Diagram




## Setting Protection Test

| Requirement | Result | Note |
|---|---|---|
| The settings is password protected, and cannot be changed by anyone other than got written agreement of the DNO; | Pass | |

## Fail Safe Test

Method: Set 0% export limit, implement the test before start or in running

Criteria: Fall time is less than 5s, the inverter's output active power is less than set limit.After fail safe test , disconnect AC, the reconnect time delay is fault reconnect time.

| No. | Component | Test | Active Power | Response Time | Fall Time | Reconnect time | Pass /Fail | Comments |
|---|---|---|---|---|---|---|---|---|
| 1 | Remove CT | Remove CT | 0kW | 1.17S | 1.0S | 2.5S | pass | Fail safe control function integrated inside EPM. |
| | | Disconnect CT Cable | 0 kW | 1.12S | 1.1S | 2.7S | pass | Fail safe control function integrated inside EPM. |
| 2 | Power | Remove | NA | NA | NA | NA | NA | NA |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Monitoring Unit(PMU ) | Power supply to PMU | | | | | | |
| 3 | Control Unit(CU) | Remove Power supply to any CU | NA | NA | NA | NA | NA | NA. |
| 4 | Generator Interface units(GIU) | Remove Power supply to all GIUs | NA | NA | NA | NA | NA | NA |
| 5 | Demand control unit(DCU) | Remove Power supply to all DCU | NA | NA | NA | NA | NA | NA |
| 6 | Network hub/switch es | Remove Power supply | NA | NA | NA | NA | NA | NA |
| 7 | PMU →CU communic ation cable | Unplug cable | NA | NA | NA | NA | NA | Same control unit of the EPM |
| 8 | CU →GIU communic ation cable | Unplug cable(repeat where additional GIU units) | NA | NA | NA | NA | NA | Fail safe control function integrated inside EPM. |
| 9 | GIU→ communic ation cable | Unplug cable(repeat where additional GIU units) | NA | NA | NA | NA | NA | Fail safe control function integrated inside inverter. |
| 10 | CU →DCU communic ation cable | Unplug cable(repeat where additional DCU units) | NA | NA | NA | NA | NA | NA |
| 11 | DCU→ Load communic ation cable | Unplug cable(repeat where additional DCU units) | NA | NA | NA | NA | NA | NA |
| 12 | Controlled | Turn off | NA | NA | NA | NA | NA | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Load(s) | load (e.g. active thermostat) | | | | | | NA |

## Power Limit Test

Method: Set export limit, implement the test before start, then start the inverter.

Criteria: fall time is less than 5s, the inverter's export active power is less than limit power.

| **0%export limit** [% Inverter Rating] | | | | | |
|---|---|---|---|---|---|
| Input / Load / Expot/Time | | Input supply [% Inverter Rating] | | | |
| | | 25% | 50% | 75% | 100% |
| Load [% Inverter Rating] | 0% | 770W/3.1S | 1520W/2.9S | 2260W/2.6S | 3040W/2.0S |
| | 25% | NA | 1530W/2.7S | 2240W/2.3S | 3070W/1.7S |
| | 50% | NA | NA | 2270W/2.5S | 3080W/1.8S |
| | 75% | NA | NA | NA | 3090W/1.8S |

## Comments

| |
|---|
| The test result is based on RAI-3K-48ES. |

Note: normally, this inverter does not actively output power to the distribution network.