



TEST REPORT

Applicant : Guangzhou Felicity Solar Technology Co., Ltd.
Address : (Airport Baiyun) No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road, Renhe Town, Baiyun District, Guangzhou, Guangdong, P. R. China
Manufacturer : Guangzhou Felicity Solar Technology Co., Ltd.
Address : (Airport Baiyun) No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road, Renhe Town, Baiyun District, Guangzhou, Guangdong, P. R. China
Product Name : Hybrid Inverter
Trade Mark :



Make life full of hope

Model No. : IVGM12KLP3G2, IVGM10KLP3G2, IVGM8KLP3G2, IVGM6KLP3G2, IVGM5KLP3G2, IVGM4KLP3G2, IVGM3KLP3G2
Ratings : Refer to the marking plate
Standard : Safety of power converter for use in photovoltaic power systems
Part 1: General requirements
IEC 62109-1:2010, EN 62109-1:2010
Safety of power converter for use in photovoltaic power systems
Part 2: Particular requirements for inverters
IEC 62109-2:2011, EN 62109-2:2011
Date of Receiver : January 13, 2026
Date of Test : January 13, 2026 to January 28, 2026
Date of Issue : March 19, 2026
Test Report Form No. : NTCS-IEC 62109-1-E
Test Result : Pass*

This Test Report is Issued Under the Authority of :

Compiled by



Cathy Zhang / Engineer

Approved by



Han Song / Manager

***Remarks:**

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of Shenzhen Nore Testing Center Co., Ltd. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Summary of testing:

The product has been tested according to standard listed below:

- IEC 62109-1:2010
- EN 62109-1:2010
- IEC 62109-2:2011
- EN 62109-2:2011
- Others

General remarks:

"(see Attachment #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

The tests results presented in this report relate only to the object tested.

This report shall not be reproduced except in full without the written approval of the testing laboratory.

List of test equipment must be kept on file and available for review.

Additional test data and/or information provided in the attachments to this report.

Throughout this report a comma / point is used as the decimal separator.

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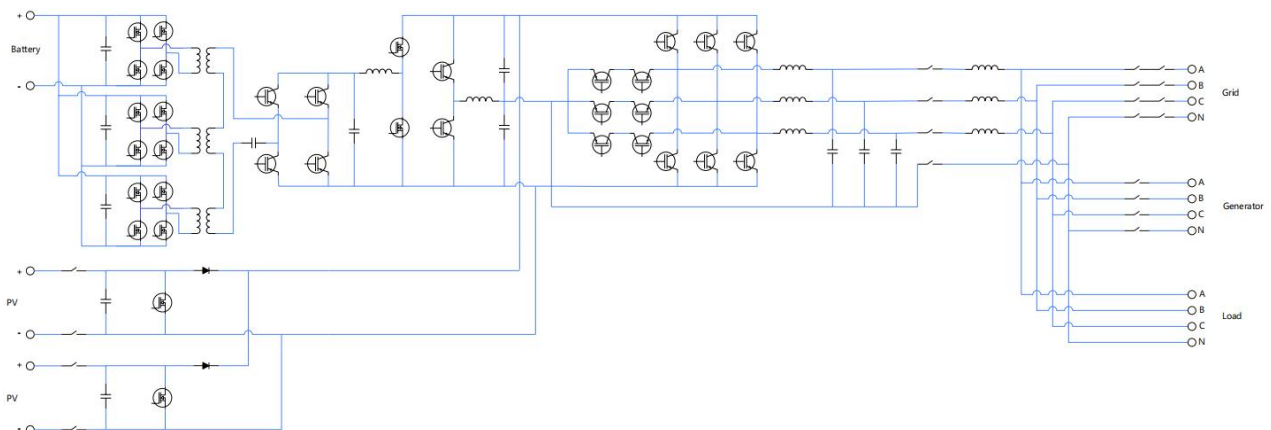
Remark:

Test item particulars :	
Equipment mobility..... :	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> stationary <input checked="" type="checkbox"/> fixed <input type="checkbox"/> transportable <input type="checkbox"/> for building-in
Connection to the mains..... :	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> direct plug-in <input checked="" type="checkbox"/> permanent connection <input type="checkbox"/> for building-in
Environmental category..... :	<input checked="" type="checkbox"/> outdoor <input type="checkbox"/> indoor unconditional <input type="checkbox"/> indoor conditional
Over voltage category Mains..... :	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input checked="" type="checkbox"/> OVC III <input type="checkbox"/> OVC IV
Over voltage category PV..... :	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV
Mains supply tolerance (%)..... :	±10%
Tested for power systems..... :	TN system
IT testing, phase-phase voltage (V)..... :	N/A
Class of equipment..... :	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Mass of equipment (kg)..... :	Approx. 37.43kg(for all models)
Pollution degree..... :	PD3 for outer of unit, PD2 for inter of unit
Operation ambient temperature..... :	-40°C~+60°C
IP protection class..... :	IP65
Possible test case verdicts:	
- test case does not apply to the test object..... :	N/A (Not Applicable)
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement..... :	F (Fail)



General product information:

1. The product is a Hybrid Inverter, which works with battery to store energy or convert PV/battery energy to the AC load or convert PV/battery energy to the grid.
2. The product shall be used at specified ambient conditions:
 - IP protection class: IP65(test report No.: NTC2601392SV00 issued by Dongguan Nore Testing Center Co., Ltd.)
 - Temperature and humidity: -40°C~+60°C, 0-100%RH, Condensing.
 - Environment pollution degree: PD3 for outer of unit, PD2 for inter of unit.
 - Altitude: up to 2000m.
3. Double/reinforced insulation provided between primary circuits or hazardous voltage to secondary circuits and DVC A circuits by application of safety isolation transformers, optocoupler and sufficient clearances and creepage distances within the unit.
4. Software version: 100; Hardware version: 100.
5. All models are the same except for different model number, serial number and ratings. Based on the differences, all tests were conducted on model IVGM12KLP3G2 for full tests.
6. In order to protect the inverter, user and installer, external circuit breaker shall be equipped for all source ports at the end-use application.
7. When connected to the grid, an isolation transformer must be installed in serial to the AC input.










For topological graph details, see the below figure:



Copy of marking plate:

IVGM12KLP3G2	
Product Type	Hybrid Inverter
Overvoltage-category	DC ; AC
Ambient Temperature	-40°C~60°C, >45°C Derating
Battery	
Battery Voltage Range	40Vd.c.~60Vd.c.
Max. Charging and Discharging Current	240Ad.c./240Ad.c.
PV	
PV Input Voltage	550Vd.c.(160Vd.c.~800Vd.c.)
MPPT Input Range	200Vd.c.~650Vd.c.
Max.Input Current	26Ad.c./26Ad.c.
Max.Shorted Current	39Ad.c./39Ad.c.
Max.PV Input Power	18000W
On-Grid Mode	
AC Input/Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Input/Output Frequency	50/60Hz
AC Input/Output Rated Current	18.3/17.4Aa.c.
Max. AC Input/Output Current	20/19.1Aa.c.
Max. Continuous AC Passthrough	45Aa.c.
AC Input/Output Rated Active Power	12000W
AC Input/Output Apparent Power	13200VA
AC Input/Output Power Factor	0.8 Leading To 0.8 Lagging
Off-Grid Mode	
AC Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Output Frequency	50/60Hz
Max. AC Output Current	20/19.1Aa.c.
Max. AC Output Apparent Power	13200VA
Non-isolated topology, IP65, Class I protective class	













CAUTION:










- High Voltage, warning electric shock
- Keep the equipment well ventilated
- The capacitors store hazardous energy. Do not touch while working!

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IVGM10KLP3G2	
Product Type	Hybrid Inverter
Overvoltage-category	DC ; AC
Ambient Temperature	-40°C~60°C,>45°C Derating
Battery	
Battery Voltage Range	40Vd.c.~60Vd.c.
Max. Charging and Discharging Current	210Ad.c./210Ad.c.
PV	
PV Input Voltage	550Vd.c.(160Vd.c.~800Vd.c.)
MPPT Input Range	200Vd.c.~650Vd.c.
Max.Input Current	26Ad.c./26Ad.c.
Max.Shorted Current	39Ad.c./39Ad.c.
Max.PV Input Power	15000W
On-Grid Mode	
AC Input/Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Input/Output Frequency	50/60Hz
AC Input/Output Rated Current	15.1/14.5Aa.c.
Max. AC Input/Output Current	16.7/15.9Aa.c.
Max. Continuous AC Passthrough	45Aa.c.
AC Input/Output Rated Active Power	10000W
AC Input/Output Apparent Power	11000VA
AC Input/Output Power Factor	0.8 Leading To 0.8 Lagging
Off-Grid Mode	
AC Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Output Frequency	50/60Hz
Max. AC Output Current	16.7/15.9Aa.c.
Max. AC Output Apparent Power	11000VA
Non-isolated topology, IP65, Class I protective class	













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IVGM8KLP3G2	
Product Type	Hybrid Inverter
Overvoltage-category	DC ; AC
Ambient Temperature	-40°C~60°C,>45°C Derating
Battery	
Battery Voltage Range	40Vd.c.~60Vd.c.
Max. Charging and Discharging Current	190Ad.c./190Ad.c.
PV	
PV Input Voltage	550Vd.c.(160Vd.c.~800Vd.c.)
MPPT Input Range	200Vd.c.~650Vd.c.
Max.Input Current	20Ad.c./20Ad.c.
Max.Shorted Current	30Ad.c./30Ad.c.
Max.PV Input Power	12000W
On-Grid Mode	
AC Input/Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Input/Output Frequency	50/60Hz
AC Input/Output Rated Current	12.1/11.6Aa.c.
Max. AC Input/Output Current	13.3/12.8Aa.c.
Max. Continuous AC Passthrough	45Aa.c.
AC Input/Output Rated Active Power	8000W
AC Input/Output Apparent Power	8800VA
AC Input/Output Power Factor	0.8 Leading To 0.8 Lagging
Off-Grid Mode	
AC Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Output Frequency	50/60Hz
Max. AC Output Current	13.3/12.8Aa.c.
Max. AC Output Apparent Power	8800VA
Non-isolated topology, IP65, Class I protective class	













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IVGM6KLP3G2	
Product Type	Hybrid Inverter
Overvoltage-category	DC ; AC
Ambient Temperature	-40°C~60°C,>45°C Derating
Battery	
Battery Voltage Range	40Vd.c.~60Vd.c.
Max. Charging and Discharging Current	135Ad.c./135Ad.c.
PV	
PV Input Voltage	550Vd.c.(160Vd.c.~800Vd.c.)
MPPT Input Range	200Vd.c.~650Vd.c.
Max.Input Current	20Ad.c./20Ad.c.
Max.Shorted Current	30Ad.c./30Ad.c.
Max.PV Input Power	9000W
On-Grid Mode	
AC Input/Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Input/Output Frequency	50/60Hz
AC Input/Output Rated Current	9.1/8.7Aa.c.
Max. AC Input/Output Current	10/9.6Aa.c.
Max. Continuous AC Passthrough	45Aa.c.
AC Input/Output Rated Active Power	6000W
AC Input/Output Apparent Power	6600VA
AC Input/Output Power Factor	0.8 Leading To 0.8 Lagging
Off-Grid Mode	
AC Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Output Frequency	50/60Hz
Max. AC Output Current	10/9.6Aa.c.
Max. AC Output Apparent Power	6600VA
Non-isolated topology, IP65, Class I protective class	





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IVGM5KLP3G2	
Product Type	Hybrid Inverter
Overvoltage-category	DC ; AC
Ambient Temperature	-40°C~60°C,>45°C Derating
Battery	
Battery Voltage Range	40Vd.c.~60Vd.c.
Max. Charging and Discharging Current	120Ad.c./120Ad.c.
PV	
PV Input Voltage	550Vd.c.(160Vd.c.~800Vd.c.)
MPPT Input Range	200Vd.c.~650Vd.c.
Max.Input Current	20Ad.c./20Ad.c.
Max.Shorted Current	30Ad.c./30Ad.c..
Max.PV Input Power	7500W
On-Grid Mode	
AC Input/Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Input/Output Frequency	50/60Hz
AC Input/Output Rated Current	7.6/7.2Aa.c.
Max. AC Input/Output Current	8.3/7.9Aa.c.
Max. Continuous AC Passthrough	45Aa.c.
AC Input/Output Rated Active Power	5000W
AC Input/Output Apparent Power	5500VA
AC Input/Output Power Factor	0.8 Leading To 0.8 Lagging
Off-Grid Mode	
AC Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Output Frequency	50/60Hz
Max. AC Output Current	8.3/7.9Aa.c.
Max. AC Output Apparent Power	5500VA
Non-isolated topology, IP65, Class I protective class	












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IVGM4KLP3G2	
Product Type	Hybrid Inverter
Overvoltage-category	DC ; AC
Ambient Temperature	-40°C~60°C,>45°C Derating
Battery	
Battery Voltage Range	40Vd.c.~60Vd.c.
Max. Charging and Discharging Current	95Ad.c./95Ad.c.
PV	
PV Input Voltage	550Vd.c.(160Vd.c.~800Vd.c.)
MPPT Input Range	200Vd.c.~650Vd.c.
Max.Input Current	20Ad.c./20Ad.c.
Max.Shorted Current	30Ad.c./30Ad.c.
Max.PV Input Power	6000W
On-Grid Mode	
AC Input/Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Input/Output Frequency	50/60Hz
AC Input/Output Rated Current	6.1/5.8Aa.c.
Max. AC Input/Output Current	6.7/6.4Aa.c.
Max. Continuous AC Passthrough	45Aa.c.
AC Input/Output Rated Active Power	4000W
AC Input/Output Apparent Power	4400VA
AC Input/Output Power Factor	0.8 Leading To 0.8 Lagging
Off-Grid Mode	
AC Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Output Frequency	50/60Hz
Max. AC Output Current	6.7/6.4Aa.c.
Max. AC Output Apparent Power	4400VA
Non-isolated topology, IP65, Class I protective class	













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IVGM3KLP3G2	
Product Type	Hybrid Inverter
Overvoltage-category	DC ; AC
Ambient Temperature	-40°C~60°C,>45°C Derating
Battery	
Battery Voltage Range	40Vd.c.~60Vd.c.
Max. Charging and Discharging Current	70Ad.c./70Ad.c.
PV	
PV Input Voltage	550Vd.c.(160Vd.c.~800Vd.c.)
MPPT Input Range	200Vd.c.~650Vd.c.
Max.Input Current	20Ad.c./20Ad.c.
Max.Shorted Current	30Ad.c./30Ad.c.
Max.PV Input Power	4500W
On-Grid Mode	
AC Input/Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Input/Output Frequency	50/60Hz
AC Input/Output Rated Current	4,5/4,3Aa.c.
Max. AC Input/Output Current	5/4.8Aa.c.
Max. Continuous AC Passthrough	45Aa.c.
AC Input/Output Rated Active Power	3000W
AC Input/Output Apparent Power	3300VA
AC Input/Output Power Factor	0.8 Leading To 0.8 Lagging
Off-Grid Mode	
AC Output Voltage	3L/N/PE 220/380Va.c.,230/400Va.c.
AC Output Frequency	50/60Hz
Max. AC Output Current	5/4.8Aa.c.
Max. AC Output Apparent Power	3300VA
Non-isolated topology, IP65, Class I protective class	

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Note:

- The CE marking and WEEE symbol shall be marked on other outer surface of the enclosure and should be at least 5.0mm and 7.0mm respectively in height.
- The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
- Marking plates of all models are the same except for different model number, serial number and ratings.
- The manufacturer and importer information should be marked in product when this product import to European Marketing.