



**BUREAU
VERITAS**

Certificate of compliance

Applicant: **INVT Solar Technology (Shenzhen) Co., Ltd.**
6th Floor, Block A, INVT Guangming Technology Building, Kejie Fourth Road, Shutianpu
Community, Matian, Guangming District, 518000 Shenzhen
PEOPLE'S REPUBLIC OF CHINA

Product: **Photovoltaic (PV) inverter**

Model: **iMars XG100KTR**
iMars XG100KTR-F
iMars XG110KTR
iMars XG110KTR-F
iMars XG136KTR-L
iMars XG136KTR-LF
iMars XG136KTR-X
iMars XG136KTR-XF

Inverter for three-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

C10/11:2019-09

Specific technical requirements for generator in parallel operation with the distribution network

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 representative product listed above corresponds to the stated rules and standards.

Report number: ZEM-ESH-P22010419 **Certification program:** NSOP-0032-DEU-ZE-V01
Certificate number: U22-0328 **Date of issue:** 2022-06-03

Certification body



*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



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Annex to the EN 50549-1 / C10/11 certificate of compliance No. U22-0328

Appendix
Extract from test report according to EN 50549-1 / C10/11 Nr. ZEM-ESH-P22010419

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 | INVT Solar Technology (Shenzhen) Co., Ltd. 6th Floor, Block A, INVT Guangming Technology Building, Kejie Fourth Road, Shutianpu Community, Matian, Guangming District, 518000 Shenzhen PEOPLE'S REPUBLIC OF CHINA |
|---------------------------------|---|

| | | | | |
|----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Micro-generator Type | Photovoltaic inverter | | | |
| | iMars XG100KTR | iMars XG100KTR-F | iMars XG110KTR | iMars XG110KTR-F |
| MPP DC voltage range [V] | 180-1000 | 180-1000 | 180-1000 | 180-1000 |
| Max. Input DC voltage [V] | 1100 | 1100 | 1100 | 1100 |
| Input DC current [A] | 26*9 | 30*9 | 26*10 | 30*10 |
| Output AC voltage [V] | 3/N/PE 230/400, 50Hz/60Hz | 3/N/PE 230/400, 50Hz/60Hz | 3/N/PE 230/400, 50Hz/60Hz | 3/N/PE 230/400, 50Hz/60Hz |
| Output AC current [A] | 158,8 | 158,8 | 174,6 | 174,6 |
| Output power [kW] | 100 | 100 | 110 | 110 |

| | | | | |
|----------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| | iMars XG136KTR-L | iMars XG136KTR-LF | iMars XG136KTR-X | iMars XG136KTR-XF |
| MPP DC voltage range [V] | 180-1000 | 180-1000 | 180-1000 | 180-1000 |
| Max. Input DC voltage [V] | 1100 | 1100 | 1100 | 1100 |
| Input DC current [A] | 26*12 | 30*12 | 26*12 | 30*12 |
| Output AC voltage [V] | 3/N/PE 277/480V, 50Hz/60Hz | 3/N/PE 277/480V, 50Hz/60Hz | 3/N/PE 311/540V, 50Hz/60Hz | 3/N/PE 311/540V, 50Hz/60Hz |
| Output AC current [A] | 174,6 | 174,6 | 160,4 | 160,4 |
| Output power [kW] | 136 | 136 | 136 | 136 |

| | |
|-------------------------|---------------------|
| Firmware version | beginning with V1.1 |
|-------------------------|---------------------|

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.