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Certificate of compliance

Applicant: Zhejiang Chisage New Energy Technology Co., Ltd.
No. 1828, Fuqing South Road, Panhuo Street, Yinzhou District, Ningbo City, Zhejiang Province
China 315000

Product: Hybrid inverter

Model: Mars-5G2-LE
Mars-6G2-LE
Mars-8G2-LE
Mars-10G2-LE
Mars-12G2-LE
Mars-14G2-LE

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

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

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 and B

At the time of issue of this certificate, the safety concept of an aforementioned representative product corresponds to the valid safety specifications for the specified use in accordance with regulations.

Report number: CMCC-ESH-P23110471 **Certification Program:** NSOP-0032-DEU-ZE-V01
Certificate number: U23-0007 **Date of issue:** 2024-01-12

Certification body

Domenik Koll
Head of Energy Systems



Certification body Bureau Veritas Consumer Products Services Germany GmbH accreditation 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 approval of Bureau Veritas Consumer Products Services Germany GmbH



Annex to the EN 50549-1 certificate of compliance No. U24-0007

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Appendix				
Extract from test report according to EN 50549-1			No.CMCC-ESH-P23110471	
Type Approval and declaration of compliance with the requirements of EN 50549-1 and Commission Regulation (EU) 2016/631 of 14 April 2016				
Manufacturer / applicant	Zhejiang Chisage New Energy Technology Co., Ltd. No. 1828,Fuqing South Road,Panhua Street,Yinzhou District, Ningbo City, Zhejiang Province China 315000			
Micro-generator Type				
	Hybrid inverter			
	Mars-5G2-LE	Mars-6G2-LE	Mars-8G2-LE	Mars-10G2-LE
Photovoltaic (DC)				
MPP DC voltage range [V]	200-700			
Max DC voltage [V]	800			
Max. input DC current [A]	17+17	17+17	17+17	26+17
Battery (DC)				
Battery DC voltage range [V]	40-60			
Battery charge current [A]	120	130	200	220
Battery discharge current [A]	120	130	200	220
Connection (AC)				
Output AC voltage [V]	230, 50/60Hz			
Rated AC current [A]	7,3	8,7	11,6	14,5
Max AC current [A]	10,9	13,0	17,4	26,4
Active Power [W]	5000	6000	8000	10000
Max. apparent power [VA]	5500	6600	8800	11000
Micro-generator Type				
	Mars-12G2-LE	Mars-14G2-LE	--	--
Photovoltaic (DC)				
MPP DC voltage range [V]	200-700		--	--
Max DC voltage [V]	800		--	--
Max. input DC current [A]	26+17	26+17	--	--
Battery (DC)				
Battery DC voltage range [V]	40-60		--	--
Battery charge current [A]	250	280	--	--
Battery discharge current [A]	250	280	--	--
Connection (AC)				
Output AC voltage [V]	230, 50/60Hz		--	--
Rated AC current [A]	17,4	20,3	--	--
Max AC current [A]	26,1	21,7	--	--
Active Power [W]	12000	14000	--	--
Max. apparent power [VA]	13200	15400	--	--
Firmware version				
	V1007			



Annex to the EN 50549-1 certificate of compliance No. U24-0007

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Appendix

Extract from test report according to EN 50549-1

No.CMCC-ESH-P23110471

Description of the structure of the power generation unit:

The power generation unit is equipped with a PV/DC 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.