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VERITAS**

Certificate of compliance

Applicant: Zucchetti Centro Sistemi SpA
Via Lungarno 305/A
52028 Terranuova Bracciolini (AR)
Italy

Product: Photovoltaic (PV) inverter

Model: AZZURRO 3PH 15000TL-V3
AZZURRO 3PH 17000TL-V3
AZZURRO 3PH 20000TL-V3
AZZURRO 3PH 22000TL-V3
AZZURRO 3PH 24000TL-V3

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

C10/11:2021-03

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: 21TH0192-EN50549-1_C10-11_ZCS_0 **Certification program:** NSOP-0032-DEU-ZE-V01

Certificate number: U22-0153 **Date of issue:** 2022-03-09

Certification body



Thomas Lammel



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. U22-0153

Appendix

Extract from test report according to EN 50549-1 / C10/11

No. 21TH0192-EN50549-1_C10-11_ZCS_0

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 | Zucchetti Centro Sistemi SpA Via Lungarno 305/A 52028 Terranuova Bracciolini (AR) Italy | | | |
| Micro-generator Type | Photovoltaic inverter | | | |
| | AZZURRO 3PH 15000TL-V3 | AZZURRO 3PH 17000TL-V3 | AZZURRO 3PH 20000TL-V3 | AZZURRO 3PH 22000TL-V3 |
| MPP DC voltage range [V] | 140-1000 | | | |
| Input DC voltage range [V] | Max. 1100 | | | |
| Input DC current [A] | 26,0 / 26,0 | | | |
| Output AC voltage [V] | 380-400V 50/60Hz | | | |
| Output AC current [A] | 23,9 | 27,1 | 31,9 | 35,1 |
| Output power [kVA] | 16,5 | 18,7 | 22,0 | 24,2 |
| | AZZURRO 3PH 24000TL-V3 | -- | -- | -- |
| MPP DC voltage range [V] | 140-1000 | -- | -- | -- |
| Input DC voltage range [V] | Max. 1100 | -- | -- | -- |
| Input DC current [A] | 26,0 / 26,0 | -- | -- | -- |
| Output AC voltage [V] | 380-400V 50/60Hz | -- | -- | -- |
| Output AC current [A] | 38,3 | -- | -- | -- |
| Output power [kVA] | 26,4 | -- | -- | -- |
| Firmware version | V010000 | | | |
| Description of the structure of the power generation unit: | | | | |
| <p>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.</p> | | | | |
| Note: | | | | |
| <p>The settings of the interface protection are password protected adjustable.</p> <p>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.</p> <p>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. 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.</p> | | | | |