

Unit Certificate

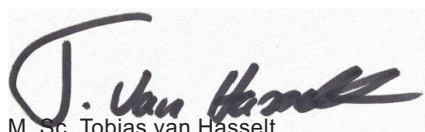
GoodWe Technologies Co., Ltd.
90 Zijin Road
New District
Suzhou 215011
China

Type of unit	Grid-Tied PV Inverter (Typ-2)	
Name of the Units	GW3000-DNS-30, GW3600-DNS-30, GW4200-DNS-30, GW5000-DNS-30, GW6000-DNS-30	
Technical data	Rated active power: P_{fE} = 3 - 6 kW Max. active power: $P_{E_{max}}$ = 3.3 - 6.6 kW Max. apparent power: $S_{E_{max}}$ = 3.342-6.638 kVA Rated voltage: U_r = 220 - 240 V Frequency: f_n = 50 Hz Rated current: I_r = 13.04 - 26.09 A Initial short-circuit alternating current I_k = 24.7 - 32.5 A	
Certification scheme	P30VA01 Rev. 08/10.22	TÜV NORD: Procedural instruction for grid connection certification
Standard	VDE-AR-N 4105: 2018-11	Generators connected to the low-voltage distribution network- Technical requirements for the connection to and parallel operation with low-voltage distribution networks
Additional standards	DIN VDE V 0124-100: 2020-06	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

The generating units complies with the requirements contained in the certification programs and standards and directives listed above.
 Further details and technical data can be found in the annex 1, consisting of 4 pages.

Registration no. 44 798 23053401
 Assessment report no. 3534 5217

Notes: TYPE 1a CERTIFICATE



M. Sc. Tobias van Hasselt
 Certification body
 at TÜV NORD CERT GmbH

Essen, 2023-07-11
 Rev. 1.0

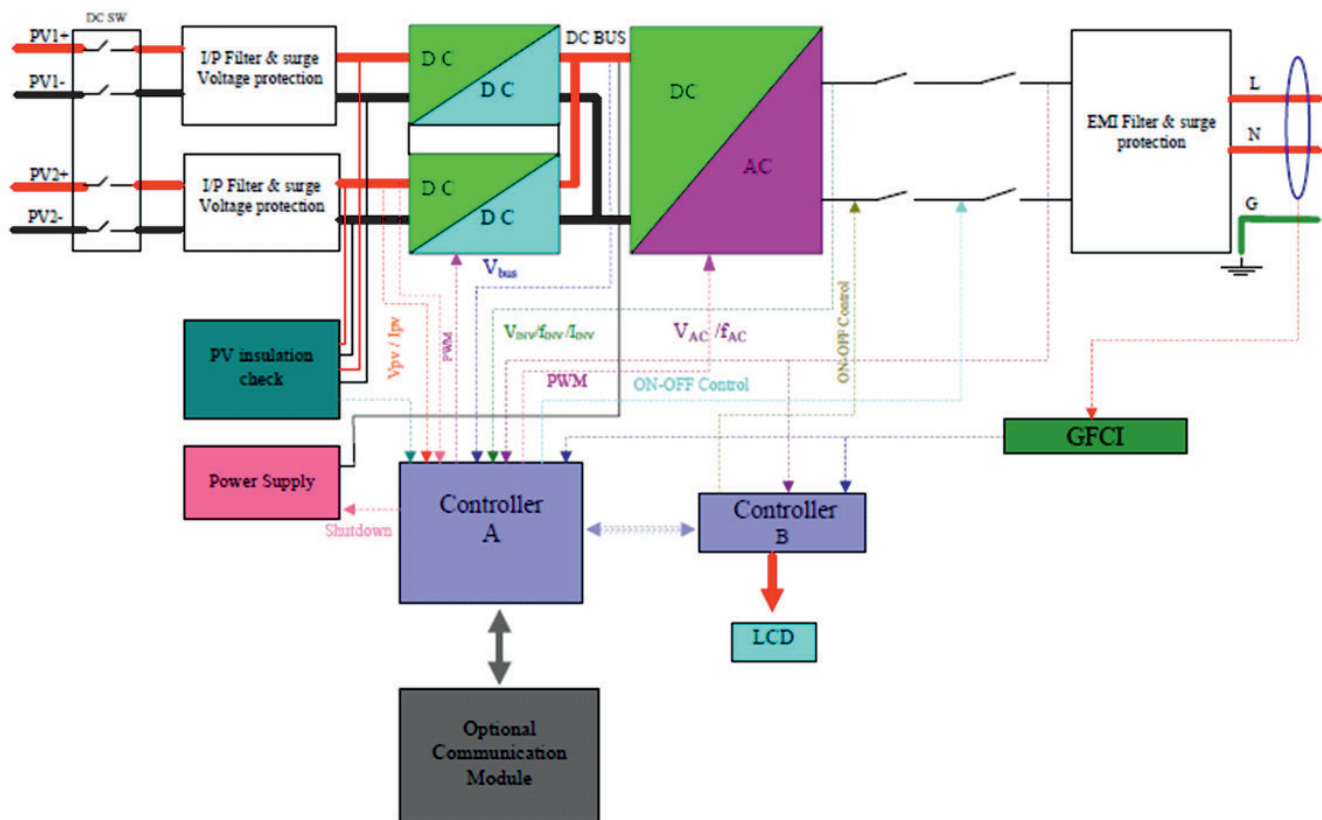
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ANNEX

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Schematic structure



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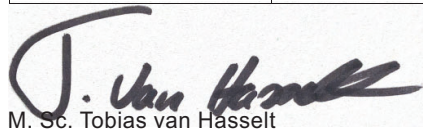
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Technical Data

General					
Type of generation unit	Typ 2 / Grid-Tied PV Inverter				
Designation	GW3000-DNS-30	GW3600-DNS-30	GW4200-DNS-30	GW5000-DNS-30	GW6000-DNS-30
Output variables					
Rated apparent power S_{rE}	3.0kVA	3.6kVA	4.2kVA	5.0kVA	6.0kVA
Rated effective power P_{rE}	3.0kW	3.6kW	4.2kW	5.0kW	6.0kW
Max. effective power P_{Emax}	3.020 kW (1.007 P_{rE})	3.630 kW (1.008 P_{rE})	4.226 kW (1.006 P_{rE})	5.022 kW (1.004 P_{rE})	6.111 kW (1.019 P_{rE})
Max. apparent power S_{Emax}	3.342 kVA (1.013 S_{rE})	4.001 kVA (1.010 S_{rE})	4.652 kVA (1.011 S_{rE})	5.524 kVA (1.004 S_{rE})	6.638 kVA (1.006 S_{rE})
Rated voltage U_r	220/230/240 V				
Rated current I_r	13.04 A	15.65 A	18.26 A	21.74 A	26.09 A
Initial short-circuit alternating current I_k	24.7 A	24.7 A	27.3 A	27.3 A	32.5 A
Reactive power setting range $\cos \varphi$	-0.8 to 0.8				
Nominal frequency	50 Hz				
Inverter power section					
Min. MPP voltage	40 V				
Max. MPP voltage	560 V				
Max. DC input voltage	600 V				
Number of MPPT	2				
DC - Input variables					
Type / IGBT module	FAIRCHILD/FGA60N65SMD TRinno/TGAN60N65F2DS				
Quantity DC Link Capacitor	4	4	5	5	6



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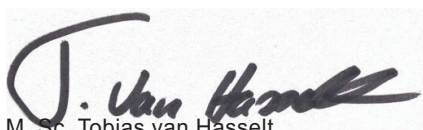
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Clock frequency	16kHz				
Type of power control	PMW Inverter				
Max. Output current (only for IGBT)	60 A				
Software versions	V1.00.00				
Generation unit Control					
Manufacturer	GoodWe Technologies Co., Ltd.				
Software versions	V1.00.00				
Hardware version	290-10379	290-10379	290-10353	290-10353	290-10328
Protection device					
Manufacturer	GoodWe Technologies Co., Ltd.				
Type	Integrated protection device				
Switch-off unit (AC)	HF161F-W/12-HT(477)				
Software versions	V1.00.00				

The NA protection of the generation unit is an integrated NA protection. Central NA protection to be implemented at the level of the generating plant.



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Notes

The manufacturer has proven for the manufacturing facility of the Unit a certification of its quality management system according to ISO 9001. The manufacturer confirmed in a manufacturer declaration that the certification of the management system will be valid parallel to the period of this unit certification.

Additional technical data, according to VDE-ARN 4105, are given in the assessment report (appendix A1).

The use of other firmware and software version numbers is allowed if the differences are proved and confirmed by TÜV NORD CERT GmbH beforehand. Validity of a new software version is attested by written confirmation and becomes part of the certificate.

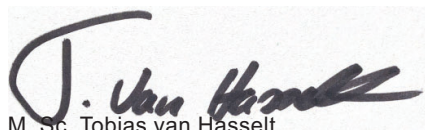
The inverter have an integrated tie breaker and no central tie breaker. The specifications of VDE-AR-N 4105 for central NA protection in combinations with central or integrated tie switches must be observed and implemented at the level of the generating plant.

Restrictions

None

Appendix to the certificate

- A1 Assessment report no. 35345217 version 1.0
- A2 Extract from the test report(according to VDE AR-N 4105 annex E.5) Dongguan BALUN Testing Technology Co., Ltd., extract No. BL-DG2220331-B01 A1 from 04.04.2023
- A3 Extract from the test report(according to VDE AR-N 4105 annex E.7) Dongguan BALUN Testing Technology Co., Ltd., extract No. BL-DG2220331-B01 A2 from 07.04.2023
- A4 Manufacturer declaration for GW6000-DNS-30 series from 10.07.2023



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