

# Component Certificate

**DEIF A/S**  
**Frisenborgvej 33**  
**7800 Skive**  
**Denmark**

<b>Type of unit</b> Scope of assessment	<b>Genset-Controller incl. protection functions</b> Protection function for power generating units	
<b>Description of unit</b>	<b>AGC-4 DG</b>	
Technical data	Measuring voltage	$U_{AC} = 100 - 690 \text{ V}$
	Measuring current	$I_{AC} = 1 \text{ A or } 5 \text{ A}$
	Measuring frequency	$f = 50 \text{ Hz or } 60 \text{ Hz}$
	Aux. supply	$U_{DC} = 8 - 36 \text{ V}$
Certification scheme	FGW TG 8 (Rev. 9)	Certification of the Electrical Characteristics of Power Generating Units, Systems and Storage Systems as well as for their Components on the Grid
	P30VA01 Rev 04/07.19	Methode instruction for network connection certification
Standards	VDE-AR-N 4110 :2018-11	Technical requirements for the connection and operation of customer installations to the medium voltage network (TAR medium voltage)
Additional standards	FGW TG 3 (Rev. 25)	Determination of Electrical Characteristics of Power Generating Units and Systems, Storage Systems as well as for their Components in Medium-, High- and Extra-high Voltage Grids

The conformity assessment was performed according to the P30VA01 (Rev. 04/07.19). The assessed component complies with the requirements of the above listed standards. With the requirements of VDE-AR-N 4110, there are few minor deviation of the device. Further technical data are placed in annex 1 (4 Pages).

Registration no. 44 797 13167405  
 Assessment report no. 3524 0307

Valid  
 from 2019-09-18  
 to 2024-09-17



Dr.-Ing. Ralf Kotte  
 Certification body of  
 TÜV NORD CERT GmbH

Essen, 2019-09-18  
 Rev. 1.0

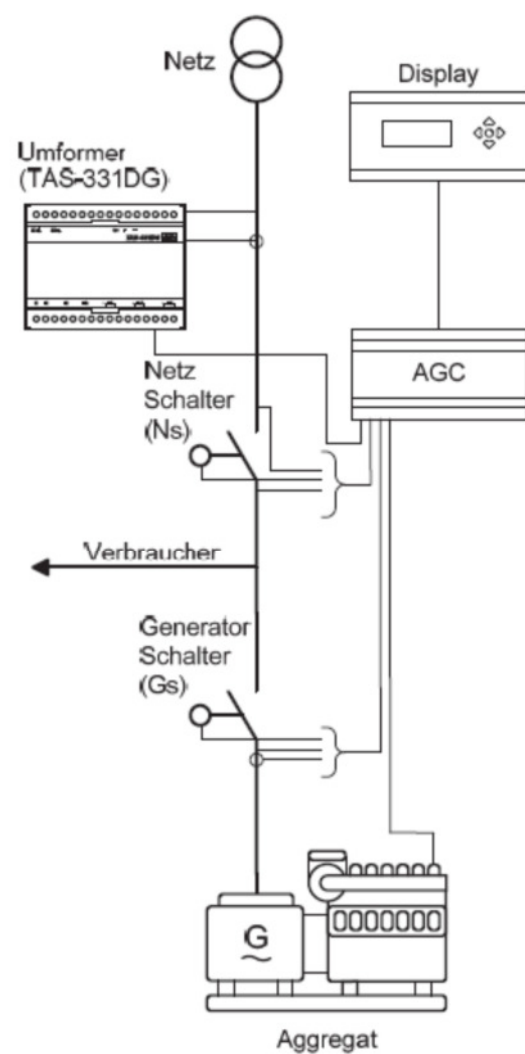
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# ANNEX

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Schematic structure




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## Technical data

General		
Type	AGC-4 DG	
Hardware revision of the used measurement card:		
Voltage measurement & Mainboard	Rev. G	
Current measurement	Rev. A	
Software version	4.74.2	
Aux. supply	8 - 36 V <sub>DC</sub>	
Measuring channels		
Measuring voltage	100 - 690 V <sub>AC</sub>	
Measuring current	1 A or 5 A	
Measuring frequency	50 or 60 Hz	
Adjustment range of protection parameters		
Under voltage	Value	40,0 % to 100,0 % from $U_N$
	Time	0,00 s to 99,99 s or 2000,00 s
Over voltage	Value	100,0 % to 130,0 % from $U_N$
	Time	0,00 s to 99,99 s or 2000,00 s
Under frequency	Value	80,0 % to 100,0 % from $f_N$
	Time	0,0 s to 99,99 s
Over frequency	Value	100,0 % to 120,0 % from $f_N$
	Time	0,0 s to 99,99 s



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## Notes

The manufacturer has proven 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 component certification.

Additional technical data, according to FGW TG 8 in annex A1, are given in the test 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 firmware and software version is attested by written confirmation and becomes part of the certificate.

The following protection functions were a part of the conformity assessment:

- Over and under voltage
- Over and under frequency
- *Q-U*-Protection (only angle criterion)
- Connection conditions

## Restriction

The component can only be used for power generation units.

## Deviation / Circulation

The minimum setting value for the undervoltage protection is 40.0 % of  $U_N$ . According to VDE-AR-N 4110, the minimum setting range for undervoltage protection must be 10.0 % of  $U_N$ . As a result, the requirement cannot be complied by the AGC-4 DG components.

It is to consider that the component AGC-4 DG does not have its own display. As a result, the protection settings of the decoupling protection and the connection conditions cannot be read or set via a display of the components. The manufacturer recommends the use of the external display type TDU107 or DU-2 from Deif.

The *Q-U* protection can only be implemented using the angle criterion method.



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With the following additional components, parts of the extended requirements according to VDE-AR-N 4110 can be fulfilled:

- An external auxiliary power supply must be used.
- A UPS is required for the auxiliary power supply.
- A test terminal strip must be provided on the PGU.

### Appendix to the certificate

**A1** Test report Nr. 3524 0307 Version 1.0

**A2** Abstract of the measurement report no. Nr. 3524 0307 -001 (07.09.2019)



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