DNV·GL

Certificate No:
TAA00000XZ

TYPE APPROVAL CERTIFICATE

This is to certify:

That the insulation monitoring relays for IT AC-, DC and AC/DC Systems

with type designation(s)
3UG4582-1AW30, 3UG4581-1AW30, 3UG4583-1CW30, 3UG4983-1A

Issued to
Siemens AG GWA
Amberg, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**B**
EMC	**A**
Enclosure	**A (Terminals) / B (Unit)**

This Certificate is valid until **2021-12-06**.

Issued at **Hamburg** on **2016-12-13**

for **DNV GL**

DNV GL local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

Duy Nam Le
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

3UG4582-1AW30, 3UG4583-1CW30:	AC, DC and AC/DC systems - insulation monitoring relay
3UG4581-1AW30:	AC systems - insulation monitoring relay
3UG4983-1A:	Voltage expansion module for use with 3UG4583-1CW30
Supply Voltage:	24..240V AC/DC (15…400Hz)

Mains system voltage:

3UG4582-1AW30 :	0...250V AC (15…400Hz)
	24...300V DC Rectified AC-Voltage
	0...240V DC Battery continuous charged
	0...270V DC Battery
3UG4581-1AW30 :	0...400V AC (50/60Hz)
3UG4583-1CW30:	0...400V AC, 0..690V AC with 3UG4983-1A (15…400Hz)
	24...600V DC, 24..1000V DC with 3UG4983-1A Rectified AC-Voltage
	0…480V DC, 0.. 800V DC with 3UG4983-1A Battery continuous charged
	0…550V DC, 0.. 920 VDC with 3UG4983-1A Battery

Insulation resistance response range 1..100 kOhm , 2..200 kOhm
Width 22,5 and 45 mm;

Degree of Protection:	IP 20 (Terminals)
	IP 50 (Unit)

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

Documents ver. 24.11.2011 'GL-Project File 11-113865'
Test Reports; Data Sheets; Circuit Diagrams; Part Lists
Software Development Documentation

Tests carried out

Applicable tests according to Class Guidance DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:
- model name
- manufacturer name
- serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:
- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

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Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE