DNV·GL

Certificate No:
TAE00001TM

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Power Switch Board with Bus Bar

with type designation(s)
NXAIR

Issued to
Siemens AG
Erlangen Bayern, Germany

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

Application :

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

Rated voltage (V)	**7.2, 12, 17.5 kV & 24 kV**
Rated current (A)	**up to 4000**
Rated freq. (Hz)	**50 / 60**

Issued at **Hamburg** on **2017-04-12**
This Certificate is valid until **2021-12-31**.
DNV GL local station: **Augsburg**

Approval Engineer: **Harald Amberger**

for **DNV GL**

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.

© DNV GL 2014. DNV GL and the Horizon Graphic are trademarks of DNV GL AS.

Job Id: **262.1-013023-2**
Certificate No: **TAE00001TM**

Product description

Air insulated medium voltage switchboard of partitioned type with 3 separate compartments for high voltage (busbar, switching compartment & outgoing circuit) and 1 separate compartment for control/ auxiliary devices. Equipped with pressure relief duct or absorbers.

Ratings:					
Rated voltage U_r	kV	7,2	12	17,5	24
Rated frequency f_r	Hz	50/60			
Rated lightning impulse withstands voltage U_p	kV	60	75	95	125
Rated power frequency withstands voltage U_d	kV	20 / 32[1]	28 / 42[1]	38	50 / 65[1]
Rated max. nominal current I_r	A	4000			2500
Rated max. short-time withstand current I_k	kA	40			25
Rated duration of short circuit t_k	s	3			
Rated peak withstand current I_p	kA	100/104[2]			63/65[2]
Arc fault current I_A	kA	40			25
Arc fault duration t_A	s	1			
Loss of service continuity category		LSC 2B			
Partition class		PM			
Internal arc qualification		IAC A FLR 40kA 1s			25kA 1s
Verification of the protection in standard design		IP3XD, IP4X			
Verification of the protection (special design for maritime use)		IP32, IP42			

[1]32 kV, 42 kV or 65 kV optional for GOST standard
[2]100/63 kA for 50 Hz, 104/65 kA for 60 Hz

Further ratings and dimensions acc. manufacturer documentation

Application/Limitation

Minimum celing height for short-circuit current

Type of pressure relief	Rated voltage	25kA	31,5kA	40kA
Through absorbers into the switchgear room	12kV	≥2800mm	≥3000mm	≥3500mm
	17,5kV	≥3500mm	≥3500mm	≥3500mm
	24kV	≥3300mm	NA	NA
Through a gas exhausting duct out of the switchgear room	≤17,5kV	≥2500mm	≥2500mm	≥2500mm
	24kV	≥3000mm	NA	NA

Further details acc. manufacturer documentation.

Tests carried out

Type Testing according to IEC 62271-200: Temperature rise test, internal arc test, dielectric test, short time withstand test, short circuit test, mechanical operation test, and IP testing. Vibration test and earth quake test.

Type Approval documentation

Marking of product

Nameplate acc. IEC 62271-200 subclause 5.10

Name and place of manufacturers

SIEMENS Ltda.
Energy Management Division
Medium Voltage & Systems
AV Dois 281
13213-00 Jundiaí–SP
Brazil

PT Siemens Indonesia
Energy Management Division
Medium Voltage & Systems
Switchboards Jakarta
Jl. Jendral Ahmad Yani
Kav. B 67-68, Pulo Mas
Jakarta 13210
Indonesia

SIEMENS Sanayi ve Ticaret A. Ş
Gebze Organize Sanayi Böldesi
1000. Cadde, 13. Sokak, No: 1004
41480 Gebze / Kocaelic
TURKEY

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE