DNV·GL

TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00001UN
Revision No:
1

This is to certify:

That the Contactor

with type designation(s)
DC operated AL contactors

Issued to
ABB France
CHASSIEU Cedex, France

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

For installations inside switchboards / enclosures onboard ships and offshore units

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

Rated voltage (V)	**690**
Rated current (A)	**22- 60 (AC 1/690V)**
Frequency (Hz)	**50 - 60**

Issued at **Høvik** on **2017-04-17**

This Certificate is valid until **2021-12-04**.
DNV GL local station: **Marseille**

Approval Engineer: **Nicolay Horn**

for **DNV GL**

Digitally Signed By: Andreas Kristoffersen
Location: DNV GL Høvik, Norway
Signing Date: 2017-06-23

Andreas Kristoffersen
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.

Job Id: **262.1-024554-2**
Certificate No: **TAE00001UN**
Revision No: **1**

Name and place of manufacturer

ABB France, Chassieu, France	ABB Bulgaria Branch Rakovski Plovdiv, Bulgaria

Product description

Low voltage DC contactors

Technical data:

Contactor type		AL9-30				AL12-30			
Number of poles		3				3			
Rated insulation voltage (U_i)	V	1000				1000			
Rated impulse withstand voltage	kV	8				8			
Rated Frequency	Hz	50/60				50/60			
Degree of protection	IP	20				20			
Rated thermal current (I_{th})	A	26				28			
Utilization category		AC3		AC1		AC3		AC1	
Ambient temperature	°C	55		40	55	55		40	55
Rated operational voltage (U_e)	U	400	690	690		400	690	690	
Rated operational current (I_e)	I	9	7	25	22	12	9	27	25
Rated power	kW	4	5.5	-	-	5.5	7.5	-	-

Contactor type		AL16-30				AL26-30			
Number of poles		3				3			
Rated insulation voltage (U_i)	V	1000				1000			
Rated impulse withstand voltage	kV	8				8			
Rated Frequency	Hz	50/60				50/60			
Degree of protection	IP	20				20			
Rated thermal current (I_{th})	A	30				45			
Utilization category		AC3		AC1		AC3		AC1	
Ambient temperature	°C	55		40	55	40		40	55
Rated operational voltage (U_e)	U	400	690	690		400	690	690	
Rated operational current (I_e)	I	17	10	30	27	26	13	45	40
Rated power	kW	7.5	9	-	-	11		-	-

Contactor type		AL26-40				AL30-30			
Number of poles		4				3			
Rated insulation voltage (U_i)	V	1000				1000			
Rated impulse withstand voltage	kV	8				8			
Rated Frequency	Hz	50/60				50/60			
Degree of protection	IP	20				20			
Rated thermal current (I_{th})	A	45				65			
Utilization category		AC3		AC1		AC3		AC1	
Ambient temperature	°C	55		40	55	55		40	55
Rated operational voltage (U_e)	U	400	690	690		400	690	690	
Rated operational current (I_e)	I	26	13	45	40	32	18	55	55
Rated power	kW	11		-	-	15		-	-

Contactor type		AL40-30			
Number of poles		3			
Rated insulation voltage (U_i)	V	1000			
Rated impulse withstand voltage	kV	8			
Rated Frequency	Hz	50/60			
Degree of protection	IP	20			
Rated thermal current (I_{th})	A	65			
Utilization category		AC3		AC1	
Ambient temperature	°C	55		40	55
Rated operational voltage (U_e)	U	400	690	690	
Rated operational current (I_e)	I	37	21	60	60
Rated power	kW	18.5		-	-

Technical data auxiliary contacts:

Add-on Auxiliary contacts w/ screw terminals	1-pole CA 5-xy, 4-pole CA
Rated control circuit voltage	690 V
Rated impulce withstand voltage Uimp	6 kV
Conventional thermal current Ith	16 A
Rated operational current (I_e) (AC-15 690 V)	2 A
Rated operational current (I_e) (DC-13 250 V)	0.3 A
Short circuit prorection (gG fuse)	10 A

x=N.O. contact y= N.C. contact

Application /limitation

No add-on auxiliary contacts on AL40-30 permitted.

Environmental classes:
Temperature: B, Humidity : B, Vibration : C.

Type Approval documentation

Technical info:
« 3 pole contactors, 4 pole contactors…», catalogue from ABB no. 1SBC100122C0202, undated

Test reports:
ABB Entrelec test reports nos. 2005391-A & 2005391-1-A dated 2005-05-17, 2005443-A dated 2005-03-05 &2005467-A-M dated 2005-06-15. LCIE test report nos. 108884-617239A dated 2011-09-29, 2003788-SMT/AP30 3192 & 3193 dated 2003-11-26. SEMKO Test Reports nos SE-30112 & SE-30113. Intertek test report no. 1610805STO-001 dated 2016-10-20 (CA-5) SE-62119A1.

Tests carried out

Guidelines for Performance of Type Approvals Part 2, Edition 2003.
Type tests according to IEC 60947-1 (2001-12), IEC 60947-4-1(2002-12) and IEC60947-5-1 (2003-11).

Marking of product

ABB – Type designation – Rated voltage – Breaking capacity.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval is 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 d Routines (RT) checked (if not available tests 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 asessment to be performed at 2 and 3.5 years and at renewal.

END OF CERTIFICATE