

# TYPE APPROVAL CERTIFICATE

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**This is to certify:**

**That the Contactor Relay**

with type designation(s)  
**NF and CAL4, CAT4 & CA4**

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 :**

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

This Certificate is valid until **2021-06-30**.

Issued at **Høvik** on **2017-03-21**

DNV GL local station: **Marseille**

Approval Engineer: **Nicolay Horn**

for **DNV GL**

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**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: **262.1-010482-7**  
Certificate No: **TAE00001BV**  
Revision No: **1**

## Product description

Contactor relay NF & auxiliary contact CAL4, CAT4 & CA4 with the following data (with screw or spring Terminals):

Free air continuous current  $I_{th}$  ambient temperature  $< 40\text{ }^{\circ}\text{C}$ : 16 A  
Rated operation voltage  $U_e = 690\text{ V}$   
Rated insulation voltage  $U_i = 690\text{ V}$   
 $U_{imp} = 6\text{ kV} / 10.7\text{ kV}$   
Making capacity AC-15:  $10 \times I_e$  AC-15  
Breaking capacity AC-15:  $10 \times I_e$  AC-15  
Short circuit protection gG type fuse: 10 A  
Rated short circuit protection current  $I_{cw}$ : 100 A / 1.0 s 140 A / 0.1 s

Contact Utilization Characteristics according to IEC: Type contactor relay

Type contactor relay			NF22E	NF31E	NF40E	NF44E	NF53E	NF62E	NF71E	NF80E
			2NO+2NC	3NO+1NC	4NO	4NO+4NC	5NO+3NC	6NO+2NC	7NO+1NC	8NO
AC-15	Rated Operated current (A)	240 V	4 A							
		400 V	3 A							
		600 V	2 A							
DC-13		24 V	6 A / 144 W							
		48 V	2.8 A / 134 W							
		110 V	0.55 A / 60 W							
		220 V	0.27 A / 68 W							
		400 V	0.15 A / 60 W							

Auxiliary contact: as listed in the catalogue

## Application/Limitation

For installation inside switchboards/enclosures onboard ships and mobile offshore unit.

Data in the tables above is for an ambient temperature of  $40\text{ }^{\circ}\text{C}$ . For  $45\text{ }^{\circ}\text{C}$  ambient temperature the data must be derated with 5 %.

## Type Approval documentation

### Technical info :

"Motor protection and control. Manual motor starters, contactors and overload relays", Main catalogue July 2016 (applicable parts). "Contactor Relays", Part of catalogue, pages 3 – 9. Part of CD "AA France Approval DNV Range AF, dated 2011-11-10.

### Test reports:

Intertek test reports nos. 1213960-2 issued 2012-11-08, 1301906-1 issued 2013-04-17, 1408146STO-001 & 1408146STO-002 issued 2014-06-30. Parts of of CD "AA France Approval DNV Range AF, dated 2011-11-10.

## Tests carried out

Type tests in accordance with IEC 60947-5-1. Environmental tests in accordance with DNV Standard for Certification No. 2.4 (Vibration, Dry heat, damp heat and cold)

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## Marking of product

ABB France – Type designation – Ratings

## 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.

Assessment to be performed at least 2 and 3,5 year and at renewal.

END OF CERTIFICATE