



CERTIFICATE NUMBER
15-GE1349500-PDA

DATE
01 Sep 2015

ABS TECHNICAL OFFICE
Genoa Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of
ABB FRANCE

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Contactor, Electrical**

Model: **AF09 to AF96 and CA4, CC4, CAL4, CAT4 auxiliary contactors**

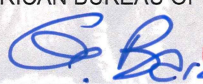
This Product Design Assessment (PDA) Certificate 15-GE1349500-PDA, dated 01/Sep/2015 remains valid until 31/Aug/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

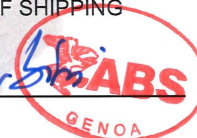
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Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING


Giorgio Barbini
Engineer



NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

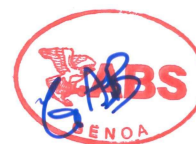


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Tier: 2 - PDA Issued

Product: Contactor, Electrical

Model: AF09 to AF96 and CA4, CC4, CAL4, CAT4 auxiliary contactors

Intended Service:

Marine Shipboard and Offshore application

Description:

AF09 to AF96 3 poles contactors
AF09 to AF80 4 poles contactors
CA4, CC4, CAL4, CAT4 range auxiliary contactors with 1 and 2 stacks
Accessories (auxiliary contact, mechanical and electrical interlock, connecting kit...)

Rating:

Rated Voltages: 600 / 690 V
Rated Frequency: 50 / 60 Hz
Rated Currents for AF09 to AF96 3 poles contactors: up to 130A
Rated Currents for AF09 to AF80 4 poles contactors: up to 125A
See attachment for details

Service Restriction:

Unit Certification is not required for this product.
If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

Drawing No. 20080832-1 TR CB NF, Intertek ETL SEMKO Test Report Reference No.814267-2 dated 08 April 2009 for CB NFS spring
Drawing No. 20110046-1 TR CB CA4-4pS CAT4S, Intertek SEMKO Test Report Reference No.1116459-2 dated 10 June 2011 for CB CA 4 pole spring
Drawing No. 20110046-3 TR CB CA4-1pS, Intertek SEMKO Test Report Reference No.1116460-2 dated 10 June 2011 for CB CA 1 pole spring
Drawing No. 20110191 TR CB AF26-30S, Intertek Test Report Reference No.1113932-1 dated 22 June 2011 for CB AF26S 3 poles
Drawing No. 20110192 TR CB AF09-30S, Intertek Test Report Reference No.1113927-1 dated 22 June 2011 for CB AF09S to AF16S 3 poles
Drawing No. 20110276-A Vibrations test AF09, ABB Test Report No.20110276-A dated 20 June 2011 for Vibrations for AF09 to AF38
Drawing No. 20110568-2 TR CB CEM AF40-11, Intertek EMC Test Report No.1210366-1 Ed.3 dated 31 January 2013 for CB for AF40 to AF96 coil R11
Drawing No. 20110568-3 TR CB CEM AF40-13, Intertek EMC Test Report No.1210366-2 Ed.2 dated 30 January 2013 for CB for AF40 to AF96 coil R13
Drawing No. 20110568-4 TR CB CEM AF40-12, Intertek EMC Test Report No.1210366-3 Ed.3 dated 29 January 2013 for CB for AF40 to AF96 coil R12
Drawing No. 20110568-5 TR CB CEM AF40-14, Intertek EMC Test Report No.1210366-5 Ed.1 dated 13 February 2013 for CB for AF40 to AF96 coil R14
Drawing No. 20120293-A Climatic test AF09, ABB Test Report No.20120293-A dated 26 July 2012 for climatic tests for AF09 to AF38

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Drawing No. 20120546-A Climatic test AF40, ABB Test Report No.20120546-A dated 03 December 2012 for climatic tests for AF40 to AF80

Drawing No. 20120547-A Vibrations test AF40, ABB Test Report No.20120547-A dated 16 January 2013 for vibrations for AF40 to AF80

Drawing No. 20120580 TR CB TEF4, GQI Test Report No.GQI-POW-2012002 dated 31 July 2012 for CB TEF4 Timer

Drawing No. 20120581-5 TR CB CA4-1p, Intertek Test Report No.1213960-2 dated 08 November 2012 for CB CA 1 pole

Drawing No. 20120581-7 TR CB CC4, Intertek Test Report No.1213960-4 dated 08 November 2012 for CB CC4

Drawing No. 20120582-1 TR CB CEM AF09Z 23, Intertek EMC Test Report No.1223813-1 Ed.1 dated 07 February 2013 for CB for AF09 to AF38 coil R23

Drawing No. 20120582-2 TR CB CEM AF09Z 22, Intertek EMC Test Report No.1223813-2 Ed.1 dated 11 February 2013 for CB for AF09 to AF38 coil R22

Drawing No. 20120582-3 TR CB CEM AF09Z 21, Intertek EMC Test Report No.1223813-3 Ed.1 dated 11 February 2013 for CB for AF09 to AF38 coil R21

Drawing No. 20120582-4 TR CB CEM AF09Z 20, Intertek EMC Test Report No.1223813-4 Ed.1 dated 11 February 2013 for CB for AF09 to AF38 coil R20

Drawing No. 20120582-5 TR CB CEM AF09 14, Intertek EMC Test Report No.1223813-5 Ed.1 dated 12 February 2013 for CB for AF09 to AF38 coil R14

Drawing No. 20120582-6 TR CB CEM AF09 13, Intertek EMC Test Report No.1223813-6 Ed.1 dated 12 February 2013 for CB for AF09 to AF38 coil R13

Drawing No. 20120582-7 TR CB CEM AF09 12, Intertek EMC Test Report No.1223813-7 Ed.1 dated 12 February 2013 for CB for AF09 to AF38 coil R12

Drawing No. 20120582-8 TR CB CEM AF09 11, Intertek EMC Test Report No.1223813-8 Ed.1 dated 12 February 2013 for CB for AF09 to AF38 coil R11

Drawing No. 20120668 TR CB NF, Intertek Test Report No.1301906-1 dated 17 April 2013 for CB NF

Drawing No. 20130170 TR CB AF09-30, Intertek Test Report No.1301676-1 dated 13 February 2013 for CB AF09 to AF16 3 poles

Drawing No. 20130170-1 TR CB AF26-30, Intertek Test Report No.1301676-2 dated 13 February 2013 for CB AF26 to AF38 3 poles

Drawing No. 20130170-2 TR CB AF09-4p, Intertek Test Report No.1301676-3 dated 13 February 2013 for CB AF09 to AF16 4 poles

Drawing No. 20130170-3 TR CB AF26-4p, Intertek Test Report No.1301676-4 dated 13 February 2013 for CB AF26 to AF38 4 poles

Drawing No. 20130251A-1 EMC test, ABB Test Report No.20130251A-1 dated 13 June 2013 for EMC emission test

Drawing No. 20140012-1 TR CB AF40-4p, Intertek Test Report No.1404056STO-001 dated 24 October 2014 for CB AF40 to AF65 4 poles

Drawing No. 20140012-2 TR CB AF80-4p, Intertek Test Report No.1404056STO-002 dated 24 October 2014 for CB AF80 to AF96 4 poles

Drawing No. 20140012-3 TR CB AF40-30, Intertek Test Report No.1404056STO-003 dated 24 October 2014 for CB AF40 to AF65 3 poles

Drawing No. 20140012-4 TR CB AF80-30, Intertek Test Report No.1404056STO-004 dated 24 October 2014 for CB AF80 to AF96 3 poles

Drawing No. 20140294 TR CB CA4-4p CAT4, Intertek Test Report No.1408146STO-001 dated 30 June 2014 for CB CA4-4p CAT4 4 pole

Drawing No. 20140575-A Vibrations test TEF4, ABB Test Report No.20140575-A dated 17 December 2014 for vibrations for TEF4

Drawing No. CB_CN_24746, CQC CB Test Certificate No.CN24746 dated 12 October 2012 for Accessory TEF4

Drawing No. CB_SE-70921, Intertek CB Test Certificate No.SE-70921 dated 09 November 2012 for Auxiliary contacts CA4 1 pole, CAL4 2 poles

Drawing No. CB_SE-70923, Intertek CB Test Certificate No.SE-70923 dated 09 November 2012 for Auxiliary

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contact CC4

Drawing No. CB_SE-76635, Intertek CB Test Certificate No.SE-76635 dated 12 September 2014 for Auxiliary contacts CA4 4 poles, CAT4 2 poles

Drawing No. CB_SE-77417, Intertek CB Test Certificate No.SE-77417 dated 24 October 2014 for contactor AF80 to AF96

Drawing No. CB_SE-77418, Intertek CB Test Certificate No.SE-77418 dated 24 October 2014 for contactor AF40 to AF65

Drawing No. CB_SE_70855M1, Intertek CB Test Certificate No.SE-70855M1 dated 13 February 2013 for contactor AF09 to AF16 3 poles

Drawing No. CB_SE_70856M1, Intertek CB Test Certificate No.SE-70856M1 dated 13 February 2013 for contactor AF26 to AF38 3 poles

Drawing No. CB_SE_70857M1, Intertek CB Test Certificate No.SE-70857M1 dated 13 February 2013 for contactor AF09 to AF16 4 poles

Drawing No. CB_SE_70858M1, Intertek CB Test Certificate No.SE-70858M1 dated 13 February 2013 for contactor AF26 to AF38 4 poles

Drawing No. CB_SE_70920A1M2, Intertek CB Test Certificate No.SE-70920A1/M2 dated 18 April 2013 for Auxiliary contactor NF

Drawing No. Catalogue 1SBC100173C0201 AF09 to AF96 2014-10-24

Drawing No. Certificate of Accreditation for Laboratories ISO17025 No.1-0054 Rev.00 dated November 2012

Drawing No. Declaration Asbestos Free

Drawing No. Summary CB certificate 2014-12-22, Summary of CB certificates and test reports

Drawing No. Table rating AF for certificate

Drawing No. TypeApprovalForm updated 2015-01-13

Terms of Validity:

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STANDARDS

ABS Rules:

2015 Steel Vessel Rules 1-1-4/7.7, 1-1 Appendix 3 and 4, 4-1-1/Table 3

2015 Rules for Conditions of Classification, Part 1 – Offshore Units and Structures 1-1-4/9.7, 1-1 Appendix 2 and 3

2015 MODU Rules 1-1-4/9.7, 1-1 Appendix 2 and 3

2015 Steel Vessels Under 90 Meters (295 Feet) in Length 1-1-4/7.7, 1-1-Appendix 3 and 4

2015 Facilities on Offshore Installations 1-1-4/9.7, 1-1-Appendix 2 and 3

2015 Offshore Support Vessels 1-1-4/7.7, 1-1-Appendix 3 and 4

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Tier: 2 - PDA Issued

National:

NA

International:

IEC 60947-4-1 Ed.3.0 (2009)

IEC 60947-5-1 Ed.3.0 (2009)

Government:

NA

EUMED:

NA

OTHERS:

NA

ABS Certification for AF Range / Rating to declare (Summary)

AF09 to AF96 3 poles

Product : Contactor, Electrical

Model : AF09-30; AF12-30; AF16-30; AF26-30; AF30-30; AF38-30; AF40-30; AF52-30; AF65-30; AF80-30; AF96-30

Description : 3 pole contactors with AC/DC control supply (3 NO contactors)



Rated operational current

	AF09	AF12	AF16	AF26	AF30	AF38	AF40	AF52	AF65	AF80	AF96
ltth 40°C	35	35	35	50	50	50	105	105	105	130	130
AC-1 690V	25	28	30	45	50	50	70	100	105	125	130
AC-3 240V	9	12	18	26	33	40	40	53	65	80	96
AC-3 400V	9	12	18	26	32	38	40	53	65	80	96
AC-3 440V	9	12	18	26	32	38	40	53	65	80	96
AC-3 500V	9,5	12,5	15	23	28	33	35	45	55	65	80
AC-3 690V	7	9	10,5	17	21	24	25	35	39	49	57
AC-3 1000V										25	30

AF09 to AF80 4 poles

Product : Contactor, Electrical

Model : AF09-40; AF09-22; AF16-40; AF16-22; AF26-40; AF26-22; AF38-40; AF38-22; AF40-40; AF40-22; AF52-40; AF80-40; AF80-22

Description : 4 pole contactors with AC/DC control supply (4 NO contactors or 2 NO + 2 NC contactor)

Rated operational current

	AF09	AF16	AF26	AF38	AF40	AF52	AF80
ltth 40°C	35	35	55	55	105	105	125
AC-1 690V	25	30	45	50	70	100	125
AC-3 240V	9	18	23,2	23,2	40	53	80
AC-3 400V	9	18	22	22	40	53	80
AC-3 440V	9	18	20	20	40	53	80
AC-3 500V	9,5	15	17,6	17,6	35	45	65
AC-3 690V	7	10,5	10,5	10,5	25	35	49



CA4

Product : Auxiliary contactor, Electrical
Model : CA4-1 pole; CA4-4 pole; CC4-1 pole; CAT4; CAL4
Description : CA4, CC4, CAT4 : front mounted auxiliary; CAL4 side mounted auxiliary

CA4, CC4, CAT4, CAL4	
lth 40°C	16
AC-15 127V	6
AC-15 240V	4
AC-15 440V	3
AC-15 500V	2
AC-15 690V	2
DC-13 24V	6
DC-13 48V	2,8
DC-13 72V	1
DC-13 110-120V	0,55
DC-13 220-250V	0,27
DC-13 400V	0,15
DC-13 500V	0,13
DC-13 600V	0,1

TEF4

Product : Timer for contactor, Electrical
Model : TEF4-ON; TEF4-OFF
Description : TEF4 : front mounted timer

TEF4	
lth 40°C	16
AC-15 127V	6
AC-15 240V	1,5
DC-13 24V	1