TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00001W1
Revision No:
1

This is to certify:

That the Contactor

with type designation(s)
AF400 to AF2850,

Issued to
ABB Electrification Sweden AB, Motor Starting & Safety
Västerås, **Sweden**

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

Application :

For installations inside switchboards / enclosures onboard ships and offshore units

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Type	Rated voltage (V)	Rated current (A)	Frequency (Hz)
AF400 to AF2850	220 - 1000	600 - 2850 (1000 V/ AC1)	50 / 60

Issued at **Høvik** on **2022-12-21**

This Certificate is valid until **2027-05-14**.
DNV local unit: **Sweden CMC**

Approval Engineer: **Nicolay Horn**

for **DNV**

Digitally Signed By: Elter, Frederik Tore
Location: DNV Høvik, Norway

Frederik Tore Elter
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.

Name and place of manufacturer

ABB AB, Electrification Sweden AB, Motor Starting & Safety VÄSTERÅS, Sweden	ABB Xinhui Low Voltage Switchgear Co, Ltd Xinhui, China
ABB India Limited, Bangalore Karnatake, India	

Product description

Contactor type		**AF400-30**			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	600			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	500	1000
Rated operational current (Ie)	A	155	350	400	600

Contactor type		**AF460-30**			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	700			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	500	1000
Rated operational current (Ie)	A	200	400	460	700

Contactor type		**AF580-30**			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	800			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	500	1000
Rated operational current (Ie)	A	250	500	580	800

Contactor type		**AF750-30**				
Rated insulation voltage (Ui)	V	1000				
Rated Frequency	Hz	50/60				
Rated thermal current (Ith)	A	1050				
Utilization category		AC-3			AC-1	
Ambient temperature	°C	55	55	55	40	-
Rated operational voltage (Ue)	V	1000	690	500	1000	-
Rated operational current (Ie)	A	300	650	750	1050	-

Contactor type		**AF1250-30**			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	1260			
Utilization category		AC-3			AC-1
Ambient temperature	°C	-	-	55	40
Rated operational voltage (Ue)	V	-	-	440	1000
Rated operational current (Ie)	A	-	-	800	1260

Contactor type		**AF1350-30**			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	1350			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	440	1000
Rated operational current (Ie)	A	375	800	860	1350

Contactor type		**AF1650-30**			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	1650			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	440	1000
Rated operational current (Ie)	A	400	970	1060	1650

Contactor type		**AF2050-30**			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	2050			
Utilization category		AC-3			AC-1
Ambient temperature	°C	55	55	55	40
Rated operational voltage (Ue)	V	1000	690	440	1000
Rated operational current (Ie)	A	425	350	800	2050

Contactor type		**AF2650-30**			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	2650			
Utilization category		AC-3			AC-1
Ambient temperature	°C	-	-	-	40
Rated operational voltage (Ue)	V	-	-	-	1000
Rated operational current (Ie)	A	-	-	-	2650

Contactor type		**AF2850-30**			
Rated insulation voltage (Ui)	V	1000			
Rated Frequency	Hz	50/60			
Rated thermal current (Ith)	A	2850			
Utilization category		AC-3			AC-1
Ambient temperature	°C	-	-	-	40
Rated operational voltage (Ue)	V	-	-	-	1000
Rated operational current (Ie)	A	-	-	-	2850

Technical data auxiliary contacts:

Auxiliary contacts CAL18-11	1 NO + 1 NC
Rated control circuit voltage	24 – 690 V AC
Rated impulse withstand voltage Uimp	6 kV
Conventional thermal current Ith	16 A

Application/Limitation

Environmental categories: Vibration A, Temperature D, Humidity B

Type Approval documentation

Technical info:
Catalogue 1SBC100214C0202 edition July 2020.

Test documentations:

Document name	Type	Date
1SBC100214C0202	Extract of Main Product Catalog 2020, rev C	2020-07
2CMT2021-006257	Technical data - AF-contactor rev -	2021-09-01
2CMT2020-006131	Technical documentation AF400-AF2850 (IACS E10 rev7), rev -	2020-10-14
SE007580-1	ISO9001-certificate ABB Sweden rev -	2021-04-01
288199-2019-AQ-RGC	ISO9001-certificate ABB Xinhui, rev A	2019-12-19
44100084221	ISO9001-certificate ABB India rev -	2020-11-25
1SFC380023-EN	Technical provision AF400-AF1250, rev Q	Apr 2021
1SFC101002M5501	Technical provision AF1350-AF2050, rev V	Oct 2020
1SFC101050M0201	Technical provision AF2650-AF2850, rev P	Feb 2020
1712331STO-001	Environmental test, AF400-AF2850	2017-09-29
1714760STO-001	CB test report for types AF400, AF460, rev -	2017-12-20
1714763STO-001	CB test report for types AF1350-AF2050 rev -	2017-12-20
1714761STO-001	CB test report for types AF580-AF1250, rev -	2017-12-20
1810655VAS-001	CB test report for types AF2650-AF2850 rev -	2018-06-05
SE-74013M2_CB	CB test certificate AF1350-AF2050 rev M2	2017-12-20
SE-82863M1	CB test certificate for types AF580-AF1250, rev M1	2017-12-20
SE-82865M1	CB test certificate AF1250 rev M1	2017-12-20
SE-82316M2	CB test certificate for types AF400, AF460, rev M2	2017-12-20
SE-90984	CB test certificate AF2650-AF2850 rev -	2018-06-05
REC-E702531_4	EMC-test report AF460-AF1250 rev -	2010-02-08
REC-E702531_5	EMC-test report AF460-AF1250 rev -	2010-02-08
REC-E704027	EMC-test report AF460-AF1250 rev -	2014-11-25
1013773	EMC-test report AF460-AF1250 rev -	2010-04-26
1120418-3	EMC-test report AF1350-AF2850 rev -	2011-10-31
REC-E702531_6	EMC-test report AF1350-AF2850 rev -	2010-02-08
620-20237-13-R0	EMC-test report AF1350-AF2850 rev -	2020-10-20
620-20237-10-R0	EMC-test report AF116-AF2850 (IACS E10 rev7) rev -	2020-10-20
53540940-C	Assembly drawing, AF400-AF460, rev A	2008-04-29
53540940_D	Assembly drawing, AF580-AF750, rev A	2010-07-01
1SFB535001D1010	Assembly drawing, AF1250, rev B	2017-10-23
53540930-7	Assembly drawing, AF1350-AF1650, rev C	2014-05-09
1SFB535001G1035	Assembly drawing, AF2050, rev B	2014-01-03
1SFB535001G1045	Assembly drawing, AF2650-AF2850, rev B	2014-06-18

Tests carried out

Type tests according to IEC 60947-4-1(2009 +A1 2012) Sequence I and II,
Environmental tests in accordance with “Regulation for the Performance of Type Test Edition 2012” / IEC 60947-4-1 Annex Q: Power supply variations, Inclination test, Vibration test, Shock test, Insulation resistance test, Damp heat test, Dry heat test, Low temperature test and high voltage test. EMC in accordance with IACS E10 rev. 7.

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 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 2 and 3,5 year and at renewal.

END OF CERTIFICATE