



Marine & Offshore

Certificate number: 21542/C0 BV

File number: ACE 02/008/38

Product code: 2633H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

SCHNEIDER ELECTRIC INDUSTRIE SAS - ELECTROPOLE 38EQI
EYBENS - FRANCE

for the type of product

CIRCUIT BREAKERS (LOW VOLTAGE)
Compact NSX Moulded-case circuit breakers (AC and DC)
from 100 to 630A (Low voltage)

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
IEC 60947-2 (2016)

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 16 Jul 2024

For Bureau Veritas Marine & Offshore,

At BV LYON, on 16 Jul 2019,

Florian Aulen



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=oadgk4n09c>

BV Mod. Ad.E 530 June 2017

This certificate consists of 6 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

AC Circuit-breakers:

Moulded Case Circuit Breaker (MCCB) Specification/Type		NSX 100
Maximum rated current (A) at 40°C	In	100
Maximum Rated operational voltage (V)	Ue	690
Rated insulation voltage (V,ac)	Ui	800
Rated Operational Frequency (Hz)	/	50/60
No. of poles		2, 3 and 4
Rated ultimate Short Circuit breaking capacity (kA) 50/60 Hz, 240V 415V 440V 500V 525V 550V 690V	Icu/Ver.	40/B, 85/F, 90/N, 100/H, 120/S, 150/L, 200/R 25/B, 36/F, 50/N, 70/H, 100/S, 150/L, 200/R 20/B, 35/F, 50/N, 65/H, 90/S, 130/L, 200/R 15/B, 25/F, 36/N, 50/H, 65/S, 70/L, 80/R, 85/HB1, 100/HB2 22/F, 35/N/H, 40/S, 50/L, 65/R, 80/HB1, 100/HB2 10/F/N, 15/H, 20/S, 35/L, 8/F, 10/N/H, 15/S, 20/L, 45/R, 75/HB1, 100/HB2
Rated service Short Circuit breaking capacity (kA) 50/60 Hz	Ics	100% of Icu excepted NSX100, B version at 500V and F versions at 500, 525, 690V for which Ics=50% Icu
Rated Impulse Withstand voltage (kV)	Uimp	8
Utilization Category	/	A
Release type:	- Thermal- Magnetic - Magnetic - Electronic	TM16D to 100D (16 to 100A) TM16G to 63G MA 2.5 to 100 (2.5 to 100A) Micrologic 2.2 (40, 100A) Micrologic 5.2A, 5.2 E, 6.2A, 6.2E (40 to 100A)

Table 1 of 7

Moulded Case Circuit Breaker (MCCB) Specification/Type		NSX 160
Maximum rated current (A) at 40°C	In	160
Maximum Rated operational voltage (V)	Ue	690
Rated insulation voltage (V,ac)	Ui	800
Rated Operational Frequency (Hz)	/	50/60
No. of poles		2, 3 and 4
Rated ultimate Short Circuit breaking capacity (kA) 50/60 Hz, 240V 415V 440V 500V 525V 550V 690V	Icu/Version	40/B, 85/F, 90/N, 100/H, 120/S, 150/L, 200/R 25/B, 36/F, 50/N, 70/H, 100/S, 150/L, 200/R 20/B, 35/F, 50/N, 65/H, 90/S, 130/L, 200/R 15/B, 25/F, 36/N, 50/H, 65/S, 70/L, 80/R, 85/HB1, 100/HB2 22/F, 35/N/H, 40/S, 50/L, 65/R, 80/HB1, 100/HB2 10/F/N, 15/H, 20/S, 35/L, 8/F, 10/N/H, 15/S, 20/L, 45/R, 75/HB1, 100/HB2
Rated service Short Circuit breaking capacity (kA) 50/60 Hz	Ics	100% of Icu
Rated Impulse Withstand voltage (kV)	Uimp	8
Utilization Category	/	A
Release type:	- Thermal- Magnetic - Magnetic - Electronic	TM32D to 160D (32 to 160A) TM25G to 63G MA 25 to 150 (25 to 150A) Micrologic 2.2 (40 to 160A) Micrologic 5.2A, 5.2E, 6.2A, 6.2E (40 to 160A)

Table 2 of 7

Moulded Case Circuit Breaker (MCCB) Specification/Type		NSX 250
Maximum rated current (A) at 40°C	In	250
Maximum Rated operational voltage (V)	Ue	690
Rated insulation voltage (V,ac)	Ui	800
Rated Operational Frequency (Hz)	/	50/60
No. of poles		2, 3 and 4
Rated ultimate Short Circuit breaking capacity (kA) 50/60 Hz, 240V 415V 440V 500V 525V 550V 690V	Icu/Version	40/B, 85/F, 90/N, 100/H, 120/S, 150/L, 200/R 25/B, 36/F, 50/N, 70/H, 100/S, 150/L, 200/R 20/B, 35/F, 50/N, 65/H, 90/S, 130/L, 200/R 15/B, 25/F, 36/N, 50/H, 65/S, 70/L, 80/R, 85/HB1, 100/HB2 22/F, 35/N/H, 40/S, 50/L, 65/R, 80/HB1, 100/HB2 10/F/N, 15/H, 20/S, 35/L, 8/F, 10/N/H, 15/S, 20/L, 45/R, 75/HB1, 100/HB2
Rated service Short Circuit breaking capacity (kA) 50/60 Hz	Ics	100% of Icu
Rated Impulse Withstand voltage (kV)	Uimp	8
Utilization Category	/	A
Release type:	- Thermal-Magnetic - Magnetic - Electronic	TM63D to 250D (63 to 250A) TM 40G to 63G MA 100 to 220 (100 to 220A) Micrologic 2.2 (40, 250A) Micrologic 5.2A, 5.2E, 6.2A, 6.2 E (40 to 250A)

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Moulded Case Circuit Breaker (MCCB) Specification/Type		NSX 400
Maximum rated current (A) at 40°C	In	400
Maximum Rated operational voltage (V)	Ue	690
Rated insulation voltage (V,ac)	Ui	800
Rated Operational Frequency (Hz)	/	50/60
No. of poles		3 and 4
Rated ultimate Short Circuit breaking capacity (kA) 50/60 Hz, 240V 415V 440V 500V 525V 550V 690V	Icu/Version	40/F, 85/N, 100/H, 120/S, 150/L, 200/R 36/F, 50/N, 70/H, 100/S, 150/L, 200/R 30/F, 42/N, 65/H, 90/S, 130/L, 200/R 25/F, 30/N, 50/H, 65/S, 70/L, 80/R, 85/HB1, 100/HB2 20/F, 22/N, 35/H, 40/S, 50/L, 65/R, 80/R, 100/HB2 20/F/N, 22/H, 35/S, 40/L 10/F, 10/N, 20/H, 25/S, 35/L, 45/R, 75/HB1, 100/HB2
Rated service Short Circuit breaking capacity (kA) 50/60 Hz, 525V 550V 690V	Ics	100% of Icu excepted NSX400, F/N/H/S/L versions at 525, 550, 690V for which Ics= 10/F, 11/N/H, 12/S/L 10/F/N/L, 11/H, 9/S, 10/F/N/H, 12/S/L
Rated Impulse Withstand voltage (kV)	Uimp	8
Utilization Category	/	A
Release type:	-Electronic	Micrologic 2.3 (250, 400A) Micrologic 1.3-M (320A) Micrologic 5.3A, 5.3E, 6.3A, 6.3E (400A)

Table 4 of 7

Moulded Case Circuit Breaker (MCCB) Specification/Type		NSX 630
Maximum rated current (A) at 40°C	In	630
Maximum Rated operational voltage (V)	Ue	690
Rated insulation voltage (V,ac)	Ui	800
Rated Operational Frequency (Hz)	/	50/60
No. of poles		3 and 4
Rated ultimate Short Circuit breaking capacity (kA) 50/60 Hz, 240V 415V 440V 500V 525V 550V 690V	Icu/Version	40/F, 85/N, 100/H, 120/S, 150/L, 200/R 36/F, 50/N, 70/H, 100/S, 150/L, 200/R 30/F, 42/N, 65/H, 90/S, 130/L, 200/R 25/F, 30/N, 50/H, 65/S, 70/L, 80/R, 85/HB1, 100/HB2 20/F, 22/N, 35/H, 40/S, 50/L, 65/R, 80/R, 100/HB2 20/F/N, 22/H, 35/S, 40/L 10/F, 10/N, 20/H, 25/S, 35/L, 45/R, 75/HB1, 100/HB2
Rated service Short Circuit breaking capacity (kA) 50/60 Hz, 525V 550V 690V	Ics	100% of Icu excepted NSX630, F/N/H/S/L versions at 525, 550, 690V for which Ics= 10/F, 11/N/H, 12/S/L 10/F/N/L, 11/H, 9/S, 10/F/N/H, 12/S/L
Rated Impulse Withstand voltage (kV)	Uimp	8
Utilization Category	/	A
Release type:	- Electronic	Micrologic 2.3 (250 to 630A) Micrologic 1.3- M (320, 500A) Micrologic 5.3A, 5.3E, 6.3A, 6.3E (400, 630A)

Table 5 of 7

DC Circuit-breakers:

Moulded Case Circuit Breaker (MCCB) Specification/Type		NSX 100 DC NSX 160 DC NSX 250 DC
Maximum rated current (A) at 40°C	In	100, 160, 250
Maximum Rated operational voltage (V)	Ue	750
Rated insulation voltage (V,ac)	Ui	750
Rated Impulse Withstand voltage (kV)	Uimp	8
No. of poles		3, 4
Rated ultimate Short Circuit breaking capacity (kA),	Icu/Ver.	100/S
Rated service Short Circuit breaking capacity (kA),	Ics	100% of Icu
Utilization Category	/	A
Release type:	- Thermal- Magnetic	TM-D (16 to 63A) TM-DC (80 to 250A) TM-G (16 to 250A)

Table 6 of 7

Moulded Case Circuit Breaker (MCCB) Specification/Type		NSX 400 DC NSX630 DC
Maximum rated current (A) at 40°C	In	400, 630
Maximum Rated operational voltage (V)	Ue	750
Rated insulation voltage (V,ac)	Ui	750
Rated Impulse Withstand voltage (kV)	Uimp	8
No. of poles		3, 4
Rated ultimate Short Circuit breaking capacity (kA),	Icu/Ver.	36/F 100/S
Rated service Short Circuit breaking capacity (kA),	Ics	100% of Icu
Utilization Category	/	A

Release type:	- Thermal-Magnetic	TM-DC (250 to 600A)
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2. DOCUMENTS AND DRAWINGS:

Manufacturer's catalogue 2015 - Compact NSX N°SE8748 JAN 2015.
 Manufacturer's catalogue N°LVPED208006FR-WEB1 cat 2017.
 User manual "Compact NSX Micrologic 5/6" dated 06/2008

3. TEST REPORTS:**3.1 - LCIE:**

CB Scheme N°FR_705949 dated 18/06/2019 and test report N°1811990037 dated 26/05/2019
 CB Scheme N°FR_704836 dated 29/01/2019 and test report N°1811990036 dated 11/01/2019
 CB Scheme N°FR_705103 dated 11/03/2019 and test report N°1811990035 dated 31/01/2019
 CB Scheme N°FR_705104 dated 11/03/2019 and test report N°1811990034 dated 31/01/2019

3.2 - China Quality Certification Centre:

CB Scheme N°CN47010 dated 12/06/2019 and test report N°00901-CB2018CQC-083913 dated 20/05/2019
 CB Scheme N°CN46800 dated 21/05/2019 and test report N°00901-CB2018CQC-083914 dated 16/04/2019
 CB Scheme N°CN47078 dated 18/06/2019 and test report N°00901-CB2018CQC-083912 dated 23/05/2019
 CB Scheme N°CN46799 dated 21/05/2019 and test report N°00901-CB2018CQC-083911 dated 08/05/2019

3.3 - L2E/Schneider test reports N°s:

F01-2007-0796-00(2008-04-29), F03-2007-0982-01(2008-04-29), F03-2007-0983-01(2008-04-29),
 F03-2007-0984-01(2008-04-29), 2007-0796-01A(2008-02-29), 2007-0796-02A(2008-02-29),
 F01-2007-0428-00(2008-04-03), 2007-0796-03(2008-02-29), 2007-0796-04(2008-02-29),
 F03-2007-0759-02(2008-04-30), F03-2007-0759-03(2008-04-30), F03-2007-0759-04(2008-06-18),
 F03-2007-0759-05(2008-04-30), F03-2007-0856-02(2008-04-29), F03-2007-0856-03(2008-04-30),
 2007-0796-03A(2008-02-29), 2007-0796-04A(2008-02-29), F01-2007-0425-00(2008-04-24),
 F01-2007-0427-00(2008-04-07), F01-2007-0427-01(2008-02-26), F01-2007-0427-02(2008-04-24),
 F03-200700075_V1_004(2008-04-22), F03-200700075_V1_005(2008-04-22),
 F03-200700075_V1_018(2008-06-05), F03-200700075_V1_019v1(2008-10-08),
 F03-200700075_V1_020v1(2008-06-09), 2007-00075-0014(2008-06-13), 2007-00075-0015(2008-06-13),
 F03-200700075_V1_021v1(2008-10-08), F03-200700075_V1_022v1(2008-10-08),
 F01-200700075_V1_023v1(2008-08-18), 2007-00075-006(2008-06-13), 2007-00075-007(2008-04-21),
 F01-200700075_003(2008-08-04), F01-200700075_001(2008-08-21), F01-2007-00075_002(2008-06-13),
 F03-200800129_V2/-003(2009-02-09), /-005(2009-01-12), /-006(2009-01-05), /-010 and /-004 (2009-02-09),
 F01-200800129_V2/-015(2009-02-26), /-007(2008-11-18), /-009(2008-10-28), /-011, /-012 and /-013(2009-02-09),
 F01-200800129_V2-002(2008-12-19),
 F03-200800354_003(2009-02-09), F03-200800354_005/_006(2009-01-05), F03-200800354_010(2009-01-25),
 F01-200800354_015(2009-02-26), F03-200800354_007(2008-11-18), /_009(2008-10-28), /_011/_012/013(2009-02-09),
 F01-200800354_02(2009-02-16), /_014(2008-12-08), /_001(2009-02-24),
 F01-200800129_V2-014(2008-12-05), F01-200800129_V2-001(2008-10-20).

4. APPLICATION / LIMITATION:

4.1 - According to BV Rules for the Classification of Steel Ships.

4.2 - Approval also valid for ships to be granted with the notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - The manufacturer should be consulted if a circuit-breaker is to be located where the ambient air temperature may fall below -25 °C for an indoor circuit-breaker, and below -40 °C for an outdoor circuit-breaker, or where the temperature may exceed 40 °C (or if the 24 h average value exceeds 35 °C).

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The circuit-breakers are to be supplied by **Schneider Electric Industries SAS** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **Schneider Electric Industries SAS** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **Schneider Electric Industries SAS** has declared to Bureau Veritas the following production site(s):

**SCHNEIDER ELECTRIC INDUSTRIES POLSKA Sp z o.o. ul.
 Mostowa 17 32-332
 Bukowno, POLAND**

(For NSX 100-250A)

SCHNEIDER ELECTRIC INDUSTRIE Italia S.P.A.
Corso Italia 113
I-80020 CASAVATORE (Napoli) - ITALY
(For NSX 400-630A)

SCHNEIDER (BEIJING) MEDIUM & LOW VOLTAGE CO. LTD
N°.2 Liang Shui He 2nd Street,
Beijing Economic Technological Development Area,
BEIJING 100176
P.R. CHINA
(For NSX 100-630A)

6. MARKING OF PRODUCT:

According to IEC60947 specifications.

7. OTHERS:

7.1 - It is **Schneider Electric Industries SAS**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 21542/B0 BV issued on 20/08/2013 by the Society.

***** END OF CERTIFICATE *****