



TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00001NV
Revision No:
1

This is to certify:

That the Circuit Breaker

with type designation(s)
NF 400 to NF 1250

Issued to

Mitsubishi Electric Corporation Fukuyama Works
Fukuyama City, HIROSHIMA, Japan

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

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

Rated voltage (V) 500/690
Rated current (A) 200 to 1250

Issued at **Høvik** on **2022-08-02**

for **DNV**

This Certificate is valid until **2027-01-22**.

DNV local station: **Kobe**

Approval Engineer: **Nicolay Horn**

Marta Alonso Pontes
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Circuit Breakers type NF with specification as follows:

Series	C Series		S Series		H Series
	NF400-CW	NF400-CEW	NF400-SW	NF400-SEW	NF400-HEW
Type					
No. of poles AC	2/3	3	2/3/4	3/4	3/4
Rated insulation voltage AC (V)**	690	690	690	690	690
Rated operational voltage AC(V) **	500	500	690	690	690
Rated Current (A)	250 - 400	200 - 400*	250 - 400	200 -400*	200 - 400*
Rated Frequency Hz	50 - 60	50 - 60	50 - 60	50 - 60	50 - 60
Rated SC. Capacity Icu/Ics at 690V (kA)	-	-	10/10	10/10	35/18
Rated SC. Capacity Icu/Ics at 500V (kA)	15/8	15/8	30/30	30/30	50/50
Rated SC. Capacity Icu/Ics at 440V (kA)	25/13	25/13	42/42	42/42	65/65
Rated SC. Capacity Icu/Ics at 400V (kA)	36/18	36/18	45/45	50/50	70/70
Rated SC. Capacity Icu/Ics at 380V (kA)	40/20	40/20	50/50	50/50	70/70
Rated SC. Capacity Icu/Ics at 230V(kA)	50/25	50/25	85/85	85/85	100/100
Rated SC. Capacity at 250 V DC (kA)	20/10	-	40/40	-	-
Rated Short time with-stand current Icw (kA)	-	5	-	5	5
Utilization category	A	B	A	B	B

Series	H Series	U Series	C Series		S Series
	NF400-REW	NF400-UEW	NF630-CW	NF630-CEW	NF630-SW
Type					
No. of poles AC	3	3/4	2/3	3	2/3/4
Rated insulation voltage AC (V)**	690	690	690	690	690
Rated operational voltage AC(V) **	500	500	500	500	690
Rated Current (A)	200 - 400*	200 - 400*	500 - 630	300 - 630*	500 - 630
Rated Frequency Hz	50 - 60	50 - 60	50 - 60	50 - 60	50 - 60
Rated SC. Capacity Icu/Ics at 690V (kA)	-	-	-	-	10/10
Rated SC. Capacity Icu/Ics at 500V (kA)	70/35	170/170	18/9	18/9	30/30
Rated SC. Capacity Icu/Ics at 440V (kA)	125/63	200/200	36/18	36/18	42/42
Rated SC. Capacity Icu/Ics at 400V (kA)	125/63	200/200	36/18	36/18	50/50
Rated SC. Capacity Icu/Ics at 380V (kA)	125/63	200/200	40/20	40/20	50/50
Rated SC. Capacity Icu/Ics at 230V(kA)	150/75	200/200	50/25	50/25	85/85
Rated SC. Capacity at 250 V DC (kA)	-	-	20/10	-	40/40
Rated Short time with-stand current Icw (kA)	5	5	-	7.6	-
Utilization category	B	B	A	B	A

Series	S Series	H Series		C Series	S Series
	NF630-SEW	NF630-HEW	NF630-REW	NF800-CEW	NF800-SEW
Type					
No. of poles AC	3/4	3/4	3	3	3/4
Rated insulation voltage AC (V)**	690	690	690	690	690
Rated operational voltage AC(V) **	500	690	500	500	690
Rated Current (A)	300 - 630*	300 - 630*	300 - 630*	400 - 800*	400 - 800*
Rated Frequency Hz	50 - 60	50 - 60	50 - 60	50 - 60	50 - 60
Rated SC. Capacity Icu/Ics at 690V (kA)	10/10	35/18	-	-	10/10
Rated SC. Capacity Icu/Ics at 500V (kA)	30/30	50/50	70/35	18/9	30/30
Rated SC. Capacity Icu/Ics at 440V (kA)	42/42	65/65	125/63	36/18	50/42
Rated SC. Capacity Icu/Ics at 400V (kA)	50/50	70/70	125/63	36/18	50/50
Rated SC. Capacity Icu/Ics at 380V (kA)	50/50	70/70	125/63	36/18	50/50
Rated SC. Capacity Icu/Ics at 230V(kA)	85/85	100/100	150/75	50/25	85/85
Rated SC. Capacity at 250 V DC (kA)	-	-	-	-	-
Rated Short time with-stand current Icw (kA)	7,6	7,6	7,6	9,6	9,6
Utilization category	B	B	B	B	B

Series	H Series		S Series	
	NF800-HEW	NF800-REW	NF1000-SEW	NF1250-SEW
Type				
No. of poles AC	3/4	3	3/4	3/4
Rated insulation voltage AC (V)**	690	690	690	690
Rated operational voltage AC(V) **	690	690	500	690
Rated Current (A)	400 - 800*	400 - 800*	500 - 1000*	600 - 1250*
Rated Frequency Hz	50 - 60	50 - 60	50 - 60	50 - 60
Rated SC. Capacity Icu/Ics at 690V (kA)	15/15	-	25/13	25/13
Rated SC. Capacity Icu/Ics at 500V (kA)	50/50	70/35	65/33	65/33
Rated SC. Capacity Icu/Ics at 440V (kA)	65/65	125/63	85/43	85/43
Rated SC. Capacity Icu/Ics at 400V (kA)	70/70	125/63	85/43	85/43
Rated SC. Capacity Icu/Ics at 380V (kA)	70/70	125/63	85/43	85/43
Rated SC. Capacity Icu/Ics at 230V(kA)	100/100	150/75	125/63	125/63
Rated SC. Capacity at 250 V DC (kA)	-	-	-	-
Rated Short time with-stand current Icw (kA)	9,6	9,6	20	20
Utilization category	B	B	B	B

* Adjustable

** Limitation wrt. voltage for use in an IT-net. See under "Application /limitation".

Test results are given according to IEC 60947-1/2

Application/Limitation

Suitable for use in an IT system with a capacity of 1.2 times the maximum trip current at 500 V AC for NF400-CEW/SEW & NF630-CEW/SEW. Up to 450 V for NF800-CEW/SEW.

Location Classes:

Temperature: B (A for NF1000 & 1250), Humidity: B, Vibration: A.

Type Approval documentation

Technical Info:

Mitsubishi Electric Molded -Case Circuit Breaker, Earth-Leakage Circuit breakers, 09A, Catalogue from Mitsubishi.

"Information for application – Subject: Molded Case Circuit breakers", Mitsubishi Electric Corporation, dated 2006-08-04.

Test reports:

Mitsubishi Electric Corporation "Type Test Data- Critical DC load current", doc. No. LEN220115 dated 2022-06-30

Mitsubishi Electric Engineering CO Ltd. EMC test report no. ETR-21-171-01 dated 2021-03-25

Mitsubishi Electric Corporation dated 2001-01-2003. KGA120006 dated 2012.01-20

Mitsubishi Electric Corporation test report "Information for Application – Subject: Type Test Data", dated 2006-08-03.

Mitsubishi Electric Corporation test report "Information for Application – Annex H" dated 2006-11-21.

PSB report 772-9766 dated 98-03-19 for NF630 SEP, PSB report 772-9766 dated 98-03-19 for NF800 SEP, Mitsubishi

report dated 98-03-03 for NF400-CP and NF400-CP, Mitsubishi report dated 98-03-13 for NF400-CEP, NF400-SEP,

NF630-CEP, NF630-SEP, NF800-CEP, NF800-SEP, Mitsubishi information on application dated 99-03-13,

Constructional drawings.

Tests carried out

Electrical tests according to IEC 60947-1 & IEC 60947-2. Test sequence I, II & IV.

Dry heat test, Vibration test & Damp heat test.

Marking of product

Label on product with technical data according to IEC 60947-2.



Job Id: **262.1-024648-2**
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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