



CERTIFICATE NUMBER 21-2111800 -PDA
EFFECTIVE DATE 12-April-2021
EXPIRATION DATE 11-April-2026
ABS TECHNICAL OFFICE Yokohama Engineering Services

CERTIFICATE OF Product Design Assessment

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

MITSUBISHI ELECTRIC CORPORATION FUKUYAMA WORKS

located at
FUKUYAMA CITY, JAPAN

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 Molded Case Circuit Breaker

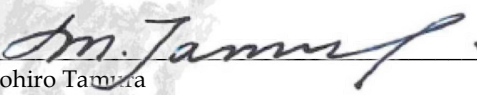
Model WS-V Series (NF63-CV, NF125-CVF, NF125-CV, NF250-CV, NF32-SV, NF63-SV, NF125-SV, NF250-SV, NF63-HRV, NF63-HV, NF125-HV, NF250-HV, NF125-RV, NF250-RV, NF125-UV, NF250-UV)

This Product Design Assessment (PDA) Certificate remains valid until 11-April-2026 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau of Shipping


Motohiro Tamura
Engineer/Consultant

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 ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

MITSUBISHI ELECTRIC CORP.

FUKUYAMA WORKS, 1-8 MIDORI-MACHI

FUKUYAMA CITY HIROSHIMA PREF.

Japan 720-8647

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Email: Okagawa.Shinichi@aj.MitsubishiElectric.co.jp

Web: www.mitsubishielectric.co.jp

Tier: 2 - PDA Issued

Product: Molded Case Circuit Breaker

Model: WS-V Series (NF63-CV, NF125-CVF, NF125-CV, NF250-CV, NF32-SV, NF63-SV, NF125-SV, NF250-SV, NF63-HRV, NF63-HV, NF125-HV, NF250-HV, NF125-RV, NF250-RV, NF125-UV, NF250-UV)

Endorsements:

Intended Service:

Protection and switching of distribution circuits for Marine use.

Description:

Low Voltage Circuit Breakers

Rating:

Rated Voltage: Max. 690V, 50/60Hz. More Detail, refer to attached list

Service Restriction:

- (a) The Product Unit Certification is not required.
- (b) If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
- (c) Details of each particular application including wiring diagram, location/installation of sensors are to be specifically approved by ABS

Comments:

- (a) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- (b) Unless specially directed by Administration, this approval is not to be construed as a substitute for flag Administration's approval

Notes/Drawing/Documentation:

- (a) Drawing No. LEN100373, TYPE TEST REPORT(NF32-SV,NF63-CV) dated 25 November 2010, Rev: A, Pages 56, issued by Mitsubishi Electric Corporation,
- (b) Drawing No. LEN100374, TYPE TEST REPORT(NF63-HRV) dated 25 November 2010, Rev: A, Pages 69, issued by Mitsubishi Electric Corporation,
- (c) Drawing No. LEN100375, TYPE TEST REPORT(NF63-HV) dated 25 November 2010, Rev: A, Pages 61, issued by Mitsubishi Electric Corporation,
- (d) Drawing No. LEN100376, TYPE TEST REPORT(NF63-SV) dated 25 November 2010, Rev: A, Pages 50, issued by Mitsubishi Electric Corporation,
- (f) Drawing No. LEN100377, TYPE TEST REPORT(NF125-CV) dated 25 November 2010, Rev: A, Pages 67, issued by Mitsubishi Electric Corporation,
- (g) Drawing No. LEN100378, TYPE TEST REPORT(NF125-CVF) dated 25 November 2010, Rev: A, Pages 62, issued by Mitsubishi Electric Corporation,
- (h) Drawing No. LEN100379, TYPE TEST REPORT(NF125-HV) dated 25 November 2010, Rev: A, Pages 57, issued by Mitsubishi Electric Corporation,
- (i) Drawing No. LEN100380, TYPE TEST REPORT(NF125-RV) dated 25 November 2010, Rev: A, Pages 37, issued by Mitsubishi Electric Corporation,
- (j) Drawing No. LEN100381, TYPE TEST REPORT(NF125-SV) dated 25 November 2010, Rev: A, Pages 51, issued by Mitsubishi Electric Corporation,
- (k) Drawing No. LEN100382, TYPE TEST REPORT(NF125-UV) dated 25 November 2010, Rev: A, Pages 41, issued by Mitsubishi Electric Corporation,
- (l) Drawing No. LEN100383, TYPE TEST REPORT(NF250-CV) dated 25 November 2010, Rev: A, Pages 59, issued by Mitsubishi Electric Corporation,
- (m) Drawing No. LEN100384, TYPE TEST REPORT(NF250-HV) dated 25 November 2010, Rev: A, Pages 58, issued by Mitsubishi Electric Corporation,

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(n) Drawing No. LEN100385, TYPE TEST REPORT(NF250-RV) dated 25 November 2010, Rev: A, Pages 37, issued by Mitsubishi Electric Corporation,

(o) Drawing No. LEN100386, TYPE TEST REPORT(NF250-SV) dated 25 November 2010, Rev: A, Pages 54, issued by Mitsubishi Electric Corporation,

(p) Drawing No. LEN100387, TYPE TEST REPORT(NF250-UV) dated 25 November 2010, Rev: A, Pages 34, issued by Mitsubishi Electric Corporation,

Terms of Validity:

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STANDARDS

ABS Rules:

2021 Marine Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-2/9.3.7 and 4-8-3/5.3.3(a)

2021 High Speed Craft Rules 1-1-4/11.9, 1-1-A2, 1-1-A3, 4-6-2/9.1.4(b) and 4-6-4/11.1.1

2021 Mobile Offshore Units Rules 1-1-4/9.7, 1-1-A2, 1-1-A3 and 4-3-2/9.1.4(b)

National:

NA

International:

IEC 60947-2 Ed. 5.1 b:2019

Government:

NA

EUMED:

NA

OTHERS:

NA

Design Assessment (DA) Certificate Attachment for Component Details

DA Certificate No: 21-2111800-PDA
Entry Date: 12 April 2021
Expire Date: 11 April 2026
Company: Mitsubishi Electric Corporation
Factory or Works: Fukuyama Works
Product/Equipment: Molded Case Circuit Breaker
Model: WS-V Series
Types: NF63-CV, NF125-CVF, NF125-CV, NF250-CV, NF32-SV, NF63-SV, NF125-SV, NF250-SV, NF63-HRV, NF63-HV, NF125-HV, NF250-HV, NF125-RV, NF250-RV, NF125-UV, NF250-UV

Type	Pole	Rated current at 45°C In (A)	Rated operational voltage Ue (V)	Breaking current (RMS) Icu(*1)/Ics(*2) (kA)	Making current (peak asym- metrical) Icm(*3) (kA)
NF63-CV	2, 3	3,4,5,6,7,1,8,10,12,15,16, 20,25,30,32,40,45,50,60,63	AC500	2.5/2.5	3.8
			(AC450)	2.5/2.5	3.8
			AC240	7.5/7.5	14.4
			DC250	2.5/2.5	2.5
NF125-CVF	2, 3	60,75,100	AC500	7.5/4	15.0
			AC450	10/5	20.0
			AC240	30/15	69.0
			DC250	7.5/4	7.5
NF125-CV	2, 3	50,60,63,75,80,100,125	AC500	7.5/4	15.0
			AC450	10/5	20.0
			AC240	30/15	69.0
			DC250	7.5/4	7.5
NF250-CV	2, 3	125,150,175,200,225,250	AC500	10/8	20.5
			AC450	15/12	31.0
			AC240	36/27	78.6
			DC250	15/12	15
NF32-SV	2, 3	3,4,5,6,7,1,8,10,12, 15,16,20, 25,30,32	AC500	2.5/2.5	3.8
			(AC450)	2.5/2.5	3.8
			AC240	7.5/7.5	14.4
			DC250	2.5/2.5	2.5
NF63-SV	2, 3	3,4,5,6,7,1,8,10,12,15,16, 20,25,30,32,40,45,50,60,63	AC500	7.5/7.5	15
			(AC450)	7.5/7.5	15
			AC240	15/15	30.7
			DC250	7.5/7.5	7.5
NF125-SV	2, 3	12.5,15,16,20,25,30,32,40,45, 50,60,63,71,75,80,90,100,125	AC690	8/8	15.5
			AC500	18/18	36
			AC450	25/25	60.1
			AC240	50/50	110
NF250-SV	2, 3	125,150,175,200,225,250	DC250	40/40	40
			AC690	8/8	15.5
			AC500	30/30	63
			AC450	36/36	76.8
NF63-HRV	2, 3	15,20,30,40,50	AC240	85/85	206
			AC450	30/15	73.3
			AC500	20/10	40
			DC250	40/20	40
NF63-HV	2, 3	10,15,16,20,25,30, 32,40,45,50,60,63	AC240	25/19	53.4
			AC450	10/8	20.0
			AC500	7.5/7.5	15
			DC250	7.5/7.5	7.5

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Company: Mitsubishi Electric Corporation
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Product/Equipment: Molded Case Circuit Breaker
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Type	Pole	Rated current at 45°C In (A)	Rated operational voltage Ue (V)	Breaking current (RMS) Icu(*1)/Ics(*2) (kA)	Making current (peak asym- metrical) Icm(*3) (kA)
NF125-HV	3	15,16,20,25,30,32,40,45, 50,60,63,75,80,100,125	AC690 AC500 AC450 AC240	10/8 30/23 50/38 100/75	19.9 63 115 234
NF250-HV	2, 3	125,150,175,200,225,250	AC690 AC500 AC450 AC240 DC250	10/8 50/38 65/65 100/100 40/40	19.9 115 144 234 40
NF125-RV	2, 3	15,20,30,40,50,60,75,100,125	AC450 AC240	125/125 150/150	284 354
NF250-RV	2, 3	125,150,175,200,225,250	AC450 AC240	125/125 150/150	284 354
NF125-UV	2, 3	15,20,30,40,50,60,75,100,125	AC690 AC500 (AC450) (AC240)	10/10 200/200 200/200 200/200	19.9 498 498 498
NF250-UV	2, 3	125,150,175,225,250	AC690 AC500 (AC450) (AC240)	15/15 200/200 200/200 200/200	31.5 498 498 498

Remarks

- (*1) Rated ultimate short-circuit breaking capacity
- (*2) Rated service short-circuit breaking capacity
- (*3) Rated short-circuit making capacity

Standard: IEC 60937-2 Ed. 4.2 (2013)

Utilization category: A

Pollution degree: 3

Suitability for isolation: Suitable for isolation

Markings for line and load terminals: Unmarked

Over current release: Thermal and Magnetic

Rated frequency (for A.C.): 50-60 Hz

Number of phases (for A.C.): single phase for 2-pole, single and three phase for 3-pole