



CERTIFICATE NUMBER 21-2181527 -PDA-DUP
EFFECTIVE DATE 15-November-2021
EXPIRATION DATE 14-November-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 DALIAN INDUSTRIAL PRODUCTS CO., LTD.

located at
DALIAN, CHINA

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

This Product Design Assessment (PDA) Certificate remains valid until 14-November-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 DALIAN INDUSTRIAL PRODUCTS CO., LTD.

DONGBEI 3-5

DALIAN ECONOMIC & TECHNICAL DEVELOPMENT ZONE

DALIAN

China 116600

Telephone: +86-411-87613072

Fax: +86-411-87613007

Email: tianyu@mdi.china.meap.com

Web:

Tier: 3 - Type Approved, unit certification not required

Product: Molded Case Circuit Breaker

Model: WS-V Series

Endorsements:

Intended Service:

Protection and switching of distribution circuits for Marine use.

Description:

Low Voltage Circuit Breakers, refer to attached list

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:

Drawing No. KGA110141 INFORMATION FOR APPLICATION,

Drawing No. LN852A551 Characteristics curves, Rev: C

Drawing No. LN852A552 Characteristics curves, Rev: B

Drawing No. LN852A553 Characteristics curves, Rev: B

Drawing No. LN852A564 Characteristics curves, Rev: B

Drawing No. LN852A691 Characteristics curves, Rev: 0

Drawing No. LN852A692 Characteristics curves, Rev: 0

Drawing No. LN852A693 Characteristics curves, Rev: 0

Drawing No. LN852A694 Characteristics curves, Rev: A

Drawing No. LN852A695 Characteristics curves, Rev: 0

Drawing No. LN852A696 Characteristics curves, Rev: 0

Drawing No. LN852A805 Characteristics curves, Rev: 0

Drawing No. LN852A806 Characteristics curves, Rev: 0

Drawing No. LN806A315 Outline dimension, Rev: 0

Drawing No. LN806A462 Outline dimension, Rev: 0

Drawing No. LN806A463 Outline dimension, Rev: 0

Drawing No. LN807A124 Outline dimension, Rev: 0

Drawing No. LN106A898 Construction Drawing, Rev: 0

Drawing No. LN106A899 Construction Drawing, Rev: 0

Drawing No. LN106A900 Construction Drawing, Rev: 0

Drawing No. LN106A901 Construction Drawing, Rev: 0

Drawing No. LN106A902 Construction Drawing, Rev: 0

Drawing No. LN106A904 Construction Drawing, Rev: 0

Drawing No. LN216A146 Construction Drawing, Rev: 0

Drawing No. LN216A147 Construction Drawing, Rev: 0

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Drawing No. LN334A924 PARTS LIST LN334A924 NF125-SXV, Rev: 0
Drawing No. LN334A925 PARTS LIST LN334A925 NF125-LXV HXV 160-SXV 25-32A, Rev: 0
Drawing No. LN334A926-1 PARTS LIST LN334A926-1 NF125-LXV HXV 125A, Rev: 0
Drawing No. LN334A926-2 PARTS LIST LN334A926-2 NF160-SXV LXV HXV 160A, Rev: 0
Drawing No. LN334A926-3 PARTS LIST LN334A926-3 NF250-SXV LXV HXV, Rev: 0
Drawing No. LN334A927-1 PARTS LIST LN334A927-1 NF125-SGV LGV HGV, Rev: 0
Drawing No. LN334A927-2 PARTS LIST LN334A927-2 NF125-SGV LGV HGV, Rev: 0
Drawing No. LN334A927-3 PARTS LIST LN334A927-3 NF160-SGV LGV HGV, Rev: 0
Drawing No. LN334A927-4 PARTS LIST LN334A927-4 NF250-SGV LGV HGV, Rev: 0
Drawing No. LN334A928-1 PARTS LIST LN334A928-1 NF125-RGV, Rev: 0
Drawing No. LN334A928-2 PARTS LIST LN334A928-2 NF125-RGV, Rev: 0
Drawing No. LN334A928-3 PARTS LIST LN334A928-3 NF250-RGV, Rev: 0
Drawing No. LN334A928-4 PARTS LIST LN334A928-4 NF250-RGV, Rev: 0
Drawing No. LN334A930 PARTS LIST LN334A930 NF125-SXV PLUG IN, Rev: 0
Drawing No. LN334A931 PARTS LIST LN334A931 NF250-SXV PLUG IN, Rev: 0
Drawing No. LN334A933 PARTS LIST LN334A933 NF250-HEV SEV, Rev: 0
Drawing No. KGA110079 NF125-SXV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110080 NF125-LXV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110081 NF125-HXV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110082 NF160-SXV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110083 NF160-LXV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110084 NF160-HXV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110085 NF250-SXV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110086 NF250-LXV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110087 NF250-HXV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110088 NF125-SGV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110089 NF125-LGV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110090 NF125-HGV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110091 NF125-RGV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110093 NF250-SGV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110094 NF250-LGV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110095 NF250-HGV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110096 NF250-RGV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation
Drawing No. KGA110099 NF125-HEV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation

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Drawing No. KGA110100_NF250-SEV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation

Drawing No. KGA110101_NF250-HEV TEST REPORT dated 2 August 2011, issued by Mitsubishi Electric Corporation

Drawing No. KGA110147 Electromagnetic Compatibility TEST REPORT dated 12 July 2011, 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: 21-2181527-PDA-DUP
Entry Date: 15 November 2021
Expire Date: 14 November 2026
Company: Mitsubishi Electric Dalian Industrial Products CO., LTD.
Factory or Works:
Product/Equipment: Molded Case Circuit Breaker
Model: WS-V Series

Type	Pole	Rated Current at 45°C In (Ir) (A)	Rated Voltage Ue (V)	Breaking Current (RMS) Icu(*1)/Ics(*2) (kA)	Making Current (peak asym-metrical) Icm(*3) (kA)	Power Factor or Time constant	Over current release
NF125-SXV	3	15,16,20,30,32, 40,50,60,63,75, 80,100,125	AC690	8/8	15.5	0.5	Thermal and Magnetic
			AC500	23/23	50.1	0.25	
			AC450	36/36	76.8	0.25	
			AC240	75/75	167	0.2	
NF125-LXV	2, 3	15,16,20,30,32, 40,50,60,63,75, 80,100,125	AC690	8/8	15.5	0.5	
			AC500	36/36	83.3	0.25	
			AC450	50/50	115	0.25	
			AC240	90/90	201	0.2	
			DC300	20/20	20.0	10ms	
NF125-HXV	2, 3	15,16,20,30,32, 40,50,60,63,75, 80,100,125	AC690	10/8	19.9	0.5	
			AC500	50/38	114	0.25	
			AC450	65/65	148	0.2	
			AC240	100/100	219	0.2	
			DC300	40/40	40.0	15ms	
NF160-SXV	2, 3	15,16,20,30,32, 40,50,60,63,75, 80,100,125, 150,160	AC690	8/8	15.5	0.5	
			AC500	30/30	63.0	0.25	
			AC450	36/36	76.8	0.25	
			AC240	85/85	189	0.2	
			DC300	20/20	20.0	10ms	
NF160-LXV	2, 3	125, 150, 160	AC690	8/8	15.5	0.5	
			AC500	36/36	83.3	0.25	
			AC450	50/50	115	0.25	
			AC240	90/90	201	0.2	
			DC300	20/20	20.0	10ms	
NF160-HXV	2, 3	125, 150, 160	AC690	10/8	19.9	0.5	
			AC500	50/38	114	0.25	
			AC450	65/65	148	0.2	
			AC240	100/100	219	0.2	
			DC300	40/40	40.0	15ms	
NF250-SXV	2, 3	100,125,150, 175,200,225, 250	AC690	8/8	15.5	0.5	
			AC500	30/30	63.0	0.25	
			AC450	36/36	76.8	0.25	
			AC240	85/85	189	0.2	
			DC300	20/20	20.0	10ms	
NF250-LXV	2, 3	100,125,150, 175,200,225, 250	AC690	8/8	15.5	0.5	
			AC500	36/36	83.3	0.25	
			AC450	50/50	115	0.25	
			AC240	90/90	201	0.2	
			DC300	20/20	20.0	10ms	
NF250-HXV	2, 3	100,125,150, 175,200,225, 250	AC690	10/8	19.9	0.5	
			AC500	50/38	114	0.25	
			AC450	65/65	148	0.2	
			AC240	100/100	219	0.2	
			DC300	40/40	40.0	15ms	

Design Assessment (DA) Certificate Attachment for Component Details

DA Certificate No: 21-2181527-PDA-DUP
Entry Date: 15 November 2021
Expire Date: 14 November 2026
Company: Mitsubishi Electric Dalian Industrial Products CO., LTD.
Factory or Works:
Product/Equipment: Molded Case Circuit Breaker
Model: WS-V Series

Type	Pole	Rated Current at 45°C In (Ir) (A)	Rated Voltage Ue (V)	Breaking Current (RMS) Icu(*1)/Ics(*2) (kA)	Making Current (peak asym-metrical) Icm(*3) (kA)	Power Factor or Time constant	Over current release
NF125-SGV	2, 3	20(16-20),25(20-25)	AC690	8/8	15.5	0.5	Thermal and Magnetic
		32(25-32),40(32-40)	AC500	30/30	63.0	0.25	
		50(35-50),63(45-63)	AC450	36/36	76.8	0.25	
		80(56-80),100(70-100)	AC240	85/85	189	0.2	
		125(90-125)	DC300	20/20	20.0	10ms	
NF125-LGV	2, 3	20(16-20),25(20-25)	AC690	8/8	15.5	0.5	
		32(25-32),40(32-40)	AC500	36/36	83.3	0.25	
		50(35-50),63(45-63)	AC450	50/50	115	0.25	
		80(56-80),100(70-100)	AC240	90/90	201	0.2	
		125(90-125)	DC300	20/20	20.0	10ms	
NF125-HGV	2, 3	20(16-20),25(20-25)	AC690	10/8	19.9	0.5	
		32(25-32),40(32-40)	AC500	50/38	114	0.25	
		50(35-50),63(45-63)	AC450	65/65	148	0.2	
		80(56-80),100(70-100)	AC240	100/100	219	0.2	
		125(90-125)	DC300	40/40	40.0	15ms	
NF250-SGV	2, 3	160(125-160)	AC690	8/8	15.5	0.5	
		200(140-200)	AC500	30/30	63.0	0.25	
		250(175-250)	AC450	36/36	76.8	0.25	
			AC240	85/85	189	0.2	
			DC300	20/20	20.0	10ms	
NF250-LGV	2, 3	160(125-160)	AC690	8/8	15.5	0.5	
		200(140-200)	AC500	36/36	83.3	0.25	
		250(175-250)	AC450	50/50	115	0.25	
			AC240	90/90	201	0.2	
			DC300	20/20	20.0	10ms	
NF250-HGV	2, 3	160(125-160)	AC690	10/8	19.9	0.5	
		200(140-200)	AC500	50/38	114	0.25	
		250(175-250)	AC450	65/65	148	0.2	
			AC240	100/100	219	0.2	
			DC300	40/40	40.0	15ms	
NF125-RGV	3	20(16-20),25(20-25)	AC450	125/125	278	0.2	
		32(25-32),40(32-40)					
		50(40-50),63(50-63)					
		80(63-80),100(80-100)					
NF125-UGV	3	20(16-20),25(20-25)	AC690	15/15	31.5	0.3	
		32(25-32),40(32-40)	AC500	200/200	498	0.2	
		50(40-50),63(50-63)	(AC450)	200/200	498	0.2	
		80(63-80),100(80-100)	(AC240)	200/200	498	0.2	
		125(100-125)					
NF250-RGV	3	160(125-160)	AC450	125/125	278	0.2	
		200(160-200)	AC240	150/150	349	0.2	
		250(200-250)					
NF250-UGV	3	160(125-160)	AC690	15/15	31.5	0.3	
		200(160-200)	AC500	200/200	498	0.2	
		225(175-225)	(AC450)	200/200	498	0.2	
			(AC240)	200/200	498	0.2	

Design Assessment (DA) Certificate Attachment for Component Details

DA Certificate No: 21-2181527-PDA-DUP
Entry Date: 15 November 2021
Expire Date: 14 November 2026
Company: Mitsubishi Electric Dalian Industrial Products CO., LTD.
Factory or Works:
Product/Equipment: Molded Case Circuit Breaker
Model: WS-V Series

Type	Pole	Rated Current at 45°C In (Ir) (A)	Rated Voltage (V)	Breaking Current (RMS) Icu(*1)/Ics(*2) (kA)	Making Current (peak asym-metrical) Icm(*3) (kA)	Power Factor or Time constant	Over current release
NF125-SEV	3	32(16-32),63(32-63) 125(63-125)	AC690	8/8	15.5	0.5	Electronic
			AC500	30/30	63.0	0.25	
			AC450	36/36	76.8	0.25	
			AC240	85/85	189	0.2	
NF125-HEV	3	32(16-32),63(32-63) 125(63-125)	AC690	10/8	19.9	0.5	
			AC500	50/38	114	0.25	
			AC450	65/65	148	0.2	
			AC240	100/100	219	0.2	
NF250-SEV	3	160(80-160) 250(125-250)	AC690	8/8	15.5	0.5	
			AC500	30/30	63.0	0.25	
			AC450	36/36	76.8	0.25	
			AC240	85/85	189	0.2	
NF250-HEV	3	160(80-160) 250(125-250)	AC690	10/8	19.9	0.5	
			AC500	50/38	114	0.25	
			AC450	65/65	148	0.2	
			AC240	100/100	219	0.2	

Remarks

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

Standard: IEC 60947-2 Ed. 5.1 b:2019

Utilization category: A

Pollution degree: 3

Suitability for isolation: Suitable for isolation

Markings for line and load terminals: Unmarked

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