



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

21-2138198-PDA
13-Jul-2021
12-Jul-2026
Genoa Engineering Department

CERTIFICATE OF Product Design Assessment

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

ABB S.P.A. - ABB SACE DIVISION

located at

**ACCOUNTING SERVICES, VIA L. LAMA, 33, SESTO S. GIOVANNI
(MI), Italy, 20099**

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: **Circuit Breaker**
Model: **Emax2 type E1.2, E2.2, E4.2 and E6.2 (UL 1066 Version)**
Endorsements:
Tier: **2 - PDA Issued**

This Product Design Assessment (PDA) Certificate remains valid until 12/Jul/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

G. Barbini

Giorgio Barbini, 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)

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ACCOUNTING SERVICES

VIA L. LAMA, 33

SESTO S. GIOVANNI (MI)

Italy 20099

Telephone: +39-035-395111

Fax: +39-035-395306

Email: antonio.pizzoti@it.abb.com

Web: www.bol.it.abb.com

Tier: 2 - PDA Issued

Product: Circuit Breaker
Model: Emax2 type E1.2, E2.2, E4.2 and E6.2 (UL 1066 Version)
Endorsements:

Intended Service:

Circuit Breakers for installation in electrical switchboards and panels for Marine and Offshore Installations.

Description:

Low Voltage Air Circuit Breakers with electronic release.

Rating:

Rated Voltage 600 Vac

Rated Frequency 50 - 60 Hz

Rated Current 800 to 5000 A

(Please refer to attachment for details about breaking and making capacities).

Service Restriction:

- 1) Unit Certification is not required.
- 2) If the manufacturer or purchaser's request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
- 3) The scope of Type Approval is to comply with MSC.1/Circ.1221 dated 11 December 2006.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

Technical Catalog No.1SXU200040C0201 Ed.2020.06 for SACE Emax2 ANSI C37 / UL 1066 Standards

UL Certificate of Compliance E194191 Emax2 E1.2 dated 15 June 2021

UL Certificate of Compliance 20150505-E194191 Emax2 E2.2 dated 15 June 2021

UL Certificate of Compliance 20170731-E194191 Emax2 E4.2 dated 15 June 2021

UL Certificate of Compliance 20190221-E194191 Emax2 E6.2 dated 15 June 2021

Terms of Validity:

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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.

STANDARDS**ABS Rules:**

2021 Rules for Marine Vessels Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-8-3/5.3.3

2021 Rules for Conditions of Classification, Part 1 – Mobile Offshore Units and Structures: 1-1-4/9.7, 1-1-A2 and 3,

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6-1-7/13.1

2021 Facilities on Offshore Installations: 1-1-4/9.7, 1-1-A2 and 1-1-A3, 3-6/11.3.3

National:

NA

International:

UL 1066 Ed.4 (2012-04-13) ANSI Approved on 2017-03-22

ANSI/NEMA C37.50 (2018)

ANSI/IEEE C37.13 (2015)

ANSI/IEEE C37.17 (2012)

Government:

NA

EUMED:

NA

OTHERS:

NA

E1.2 UL – 3 and 4 poles, fixed and withdrawable

Breaker Type	Frame Size	Rated Short Circuit (kA)			Short time (kA)		
		254 vac	508 vac	635 vac	254 vac	508 vac	635 vac
E1.2B	800, 1200A	42	42	42	42	42	42
E1.2N	800, 1200A	50	50	42	50	50	50
E1.2S	250,400,800,1200A	65	65	42	50	50	50

Trip unit versions Ekip DIP, Ekip LCD, Ekip Hi-LCD, Ekip G Hi-LCD, Ekip Touch, Ekip Hi-Touch, or Ekip G Hi-Touch.

E2.2 UL – 3 and 4 poles, fixed and withdrawable

Breaker Type	Frame Size	Rated Short Circuit (kA)			Short time (kA)		
		254 vac	508 vac	635 vac	254 vac	508 vac	635 vac
E2.2B	1600A	42	42	42	42	42	42
E2.2N	1600, 2000 A	50	50	50	50	50	50
E2.2S	800, 1200, 1600, 2000 A	65	65	65	65	65	65
E2.2H	800, 1200, 1600, 2000 A	85	85	85	85	85	85
E2.2V	250,400,800,1200, 1600, 2000A	100	100	85	85	85	85

Trip unit versions Ekip DIP, Ekip LCD, Ekip Hi-LCD, Ekip G Hi-LCD, Ekip Touch, Ekip Hi-Touch, or Ekip G Hi-Touch.

E4.2 UL – 3 and 4 poles, fixed and withdrawable

Breaker Type	Frame Size	Rated Short Circuit (kA)			Short time (kA)		
		254 vac	508 vac	635 vac	254 vac	508 vac	635 vac
E4.2S	2500, 3200A	65	65	65	65	65	65
E4.2H	2500, 3200A	85	85	85	85	85	85
E4.2V	800,1200,1600, 2000,2500, 3200A	100	100	100	100	100	100
E4.2L	800,1200,1600, 2000,2500, 3200A	125	125	100	100	100	100

Trip unit versions Ekip DIP, Ekip LCD, Ekip Hi-LCD, Ekip G Hi-LCD, Ekip Touch, Ekip Hi-Touch, or Ekip G Hi-Touch.

E6.2 UL – 3 and 4 poles, fixed and withdrawable

Breaker Type	Frame Size	Rated Short Circuit (kA)			Short time (kA)		
		254 vac	508 vac	635 vac	254 vac	508 vac	635 vac
E6.2H	4000, 5000A	85	85	85	85	85	85
E6.2V	4000, 5000A	100	100	100	100	100	100

Trip unit versions Ekip DIP, Ekip LCD, Ekip Hi-LCD, Ekip G Hi-LCD, Ekip Touch, Ekip Hi-Touch, or Ekip G Hi-Touch.