



Marine & Offshore  
Division

Certificate number: 40753/A0 BV

File number: ACE2/170/1

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*

**Eaton Corporation**

Moon Township - UNITED STATES OF AMERICA

*for the type of product*

**CIRCUIT BREAKERS (LOW VOLTAGE)**

EG/F/JG/LG/N/R frames series.

**Requirements:**

Bureau Veritas Rules for the Classification of Steel Ships.

EC Code: 31.

IEC 60947-2 (2006).

*This certificate is issued to attest that BUREAU VERITAS 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: 11 Sep 2020**

**For BUREAU VERITAS,**

At BV PORT EVERGLADES CENTRE, on 11 Sep 2015,

Flavio Rosas



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. 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 Division available on the internet site [www.veristar.com](http://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 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.

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BV Mod. Ad.E 530 October 2014

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

The EG/FJG/LG/N/R frames series are low voltage circuit breakers for Marine and Offshore applications.

#### 1.1 - Approval's range:

##### 1.1.1 - EG Frame:

Type	Current rating	Poles	Rated service	short circuit	breaking capacity Ics
		-	240 Vac	415 Vac	250Vdc
E125B/EGB	16 - 125A	3, 4	25kA	18kA	10kA
E125E/EGE			35kA	25kA	10kA
E125S/EGS			43kA	30kA	35kA
E125H/EGH			50kA	35kA	42kA
E125C/EGC			200kA	100kA	42kA

##### 1.1.2 - F Frame:

Type	Current rating	Rated voltage	Poles	Rated service	short circuit	breaking capacity Ics
		AC	DC	-	240 Vac	415 Vac 690Vac 250Vdc(3P,4P)
FWF, FW	16 - 160A	240V	-	1	40kA	-
	16 - 225A	690V	250V	2, 3, 4	85kA	40kA 6kA 5kA

##### 1.1.3 - JG Frame:

Type	Current rating	Rated voltage	Poles	Rated service	short circuit	breaking capacity Ics
		AC	DC	-	240 Vac	415 Vac 690Vac 250Vdc
J250E, JGE	70-250A	690V	250V	3, 4	65kA	25kA 6kA 10kA
J250S, JGS					85kA	40kA 6kA 22kA
J250H, JGH					100kA	53kA 7kA 22kA
J250C, JGC					200kA	100kA 12kA 42kA

##### 1.1.4 - LG Frame:

Type	Current rating	Poles	Rated service	short circuit	breaking capacity Ics
		-	240 Vac	415 Vac	690Vac 250Vdc
L630E, LGE	250 - 630A	3, 4	65kA	35kA	6kA 22kA
L630S, LGS			85kA	50kA	10kA 22kA
L630H, LGH			100kA	70kA	13kA 42kA
L630C, LGC			200kA	100kA	15kA 42kA

##### 1.1.5 - N Frame:

Type	Current rating	Poles	Rated Service	short circuit	breaking capacity Ics
		-	240 Vac	415 Vac	690Vac
NGH	400 - 1250A	3, 4	100kA	50kA	13kA
NGC			100kA	50kA	18kA

##### 1.1.6 - R Frame:

Type	Current rating	Rated voltage	Poles	Rated service	short circuit	breaking capacity Ics
		AC	DC	-	240 Vac	415 Vac 690Vac
RGH	800 - 2500	690V	-	3, 4	100kA	50kA 13kA
RGC	800 - 2500	690V	-	3, 4	100kA	50kA 18kA

### 2. DOCUMENTS AND DRAWINGS :

Document ref. TD012019EN, dated Mar.2014.

Document ref. TD012030EN, dated Apr.2014.

Document ref. TD012029EN, dated Apr.2014.

Catalogs refs. CA08101001E, dated Mar.2009.

Catalog ref. CA1200001E, dated Jan. 2008.

Drawings refs. 69D4564/69D4563/69D2521/69D2520.

Drawings refs. 1495D64/1495D63.

Drawings refs. 1494D64/1494D63.

**3. TEST REPORTS :****IEC:**

- IECEE CB Scheme certificate No. CN20793, dated 03.Jun.2011.
- IECEE CB Scheme certificate No. CN20663, dated 20.May.2011.
- IECEE CB Scheme certificate No. CN20794, dated 03.Jun.2011.
- IECEE CB Scheme certificate No. CN21173, dated 11.Jul.2011.
- IECEE CB Scheme certificate No. CN21174, dated 11.Jul.2011.
- IECEE CB Scheme certificate No. CN20664, dated 20.May.2011.
- IECEE CB Scheme certificate No. CN20665, dated 20.May.2011.

**Eaton Corporation:**

- ROI No. 20141473-01, dated 30.Jun.2015.
- Environmental tests report No. 4125-01, dated Apr.2001.

**4. APPLICATION / LIMITATION :**

- 4.1 - BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships.
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.
- 4.3 - BUREAU VERITAS Environmental Category, EC Code: 31

**5. PRODUCTION SURVEY REQUIREMENTS :**

- 5.1 - The EG/F/JG/LG/N/R frames series are to be supplied by **Eaton Corporation** 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.
- 5.3 - **Eaton Corporation** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products :

**Eaton Electrical**  
1 Tuscarawas Rd  
Beaver, PA 15009  
USA

**Cutler-Hammer Industries, S.A**  
ITABO Industrial Park KM 18 Sanchez Rd  
San Cristobal  
Haina  
Dominican Republic

**6. MARKING OF PRODUCT :**

- 6.1 - Trade name.
- 6.2 - Date of manufacture and serial number.
- 6.3 - Equipment type or model identification under which it was type-tested

**7. OTHERS :**

This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **Eaton Corporation**, will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

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