

**DNV·GL**

Certificate No:  
**E-14281**  
File No:  
**823.10**  
Job Id:  
**262.1-017170-1**

## TYPE APPROVAL CERTIFICATE

**This is to certify:**  
**That the Circuit Breaker**

with type designation(s)  
**HKW & KW**

Issued to  
**Eaton Electrical**  
**Moon Township, United States**

is found to comply with  
**Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**

### Application :

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

**Rated Voltage (V) 690**  
**Rated Current (A) 125 - 400**  
**Frequency (Hz) 50 - 60**

This Certificate is valid until **2019-06-30**.

Issued at **Høvik** on **2015-09-29**

DNV GL local station: **New York**

Approval Engineer: **Nicolay Horn**



for **DNV GL**

Digitally Signed By: **Laumann, Marit**

Location: **DNV GL Høvik, Norway**

Signing Date: **2015-11-13**

**Marit Laumann**  
**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.

Certificate No: **E-14281**  
File No: **823.10**  
Job Id: **262.1-017170-1**

## Name and place of manufacturer

Cutler-Hammer Industries,  
Park Industrial Itabo KM18, Arecibo Plant,  
Carretera Sanchez, Haina

## Product description

Technical info:

Product:	Moulded case circuit breakers
Types:	HKW and KW
Number of poles:	3 and 4
Rated current (A):	125, 250, 315, and 400
Rated operational voltage :	240, 415 and 690 V AC
Rated insulation voltage:	690 V
Rated impulse withstand voltage Uimp:	8 kV
Rated frequency Hz:	50 - 60
Utilization category:	A
Max ambient temperature:	50 °C

Short circuit data:

	HKW	KW
Rated Short-circuit Service Breaking cap. Ics (kA)		
240V AC	100	85
415V AC	70	45
690V AC	13	10
Rated Ultimate short- circuit Breaking cap. Icu (kA)		
240V AC	100	85
415V AC	70	45
690V AC	25	20

## Application/Limitation

Suitable for use in an IT system with a capacity of 1.2 times the maximum trip current at 690 V AC.

## Type Approval documentation

Technical:

"Specification of the Certified Product, Annex to KEMA- KEUR CERTIFICATE no. 2085698.01 issued 2001-10-17.

Test reports:

KEMA test reports nos.:2024331.61 & 62 issued 2003-07-25.

CLARK test report no.: EL8006 dated February 2006.


UL test report no.: MC8387 dated 2004-06-06.

Alion EMC test report no.: 03\_0903\_1 dated 2003-07-29.

LF Research test report no.: 2006-152 dated December 2006.

## Tests carried out

Type tests according to IEC 60947-2 including EMC, vibration test and damp heat test.



Certificate No: **E-14281**  
File No: **823.10**  
Job Id: **262.1-017170-1**

## **Marking of product**

EATON/Cutler Hammer – HKW/KW – Circuit-Breaker – Type data

## **Periodical assessment**

The scope of the periodical assessment is to verify that the conditions stipulated for the type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the survey to be dealt with:

- Ensure that type approved documentation is available.
- Ensure that materials used comply with type approved documents and/or referenced material specifications.
- Review design, materials, performance and production process with respect to possible changes, in order to ensure compliance with the type approved documentation and/or referenced material specifications.
- Ensure traceability between manufacturer's product marking and the DNV Type Approval Certificate.

Assessment to be carried out at least every second year.

END OF CERTIFICATE