



Marine & Offshore  
Division

Certificate number: 23267/B0 BV

File number: ACE2/138/12

Product code: 2634H

*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*

**LSIS CO., LTD. (Cheongju Plant)**  
Cheongju (Chungbuk) - KOREA (REPUBLIC OF)

*for the type of product*

**CONTACTORS (LOW VOLTAGE)**  
Electromagnetic Contactor MC type  
Thermal Overload Relay MT Type

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships,  
IEC 60947-1 (2010), IEC 60947-4-1 (2009), IEC 60947-5-1 (2009).

*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: 03 Nov 2020**

For BUREAU VERITAS,  
At BV PUSAN, on 03 Nov 2015,  
Hwan Geuk Choi



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.

The electronic version is available at: <http://www.veristarp.com/veristarnb/jsp/viewPublicPdfTypec.jsp?id=iog9irzioa>  
BV Mod. Ad.E 530 October 2014

This certificate consists of 2 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

Electromagnetic Contactors MC-6a, MC-9a, MC-12a, MC-18a, MC-9b, MC-12b, MC-18b, MC-22b, MC-32a, MC-40a, MC-50a, MC-65a, MC-75a, MC-85a, MC-100a, MC-130a, MC-150a, MC185a, MC-225a, MC-265a, MC-330a, MC-400a, MC-500a, MC-630a, MC-800a

Thermal Over load Relays MT-12, MT-32, MT-63, MT-95, MT-150, MT-225, MT-400, MT-800

Coil a.c. supply: from 24 to 600V, 50/60Hz

Coil d.c. supply: from 12 to 250V

Poles	3
Rated Operational Power:	From 2.2 kW to 900 kW
Operational voltage (Ue):	Up to 690Vac
Insulation voltage (Ui):	690V for MC-6a to MC-22b; 1000V from MC-32a
Impulse withstand voltage (Uimp):	6k for MC-6a to MC-22b; 8kVac from MC-32a
Frequency:	50/60Hz
Utilization category:	AC1, AC2, AC3, AC4

### 2. DOCUMENTS AND DRAWINGS:

- According to Manufacturer's catalogue 2009.09,
- Layout Drawings filed in ACE 02/138/12.

### 3. TEST REPORTS:

- KEMA Performance Test Report n° 2113421.52 dated 25/08/2008.
- KEMA Performance Test Report n° 2108402.50 dated 01/11/2007.
- KEMA Performance Test Report n° 2113421.50 dated 25/08/2008.
- Underwriters Laboratories Performance Test Report n° 08CA56358-20090219 dated 13/09/2009.
- KEMA Performance Test Reports n° 2123631.50, 51, 52, 53, 54, 55, 56 dated 19/08/2009.
- PT&T Environmental Test Reports n° R410-2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205 dated November 2010.
- PT&T Environmental Test Reports n° R410-2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213 dated November 2010.

### 4. APPLICATION / LIMITATION:

4.1 - According to BV Rules 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.**

### 5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **LSIS CO., LTD. (Cheongju Plant)** 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 - **LSIS CO., LTD. (Cheongju Plant)** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products :

**LSIS CO., LTD. (Cheongju Plant)**  
**95, Baekbong-ro**  
**Heungdeok-gu**  
**Cheongju (Chungbuk)**  
**KOREA (REPUBLIC OF)**

### 6. MARKING OF PRODUCT:

According to IEC 60947 specifications.

### 7. OTHERS:

7.1 - 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 **LSIS CO., LTD. (Cheongju Plant)**, 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.

7.2 - This certificate cancels and replaces the Type Approval Certificate No. 23267/A1 BV issued on 28.Jul.2011. by the Society.

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