



TYPE APPROVAL CERTIFICATE
No. ELE428210PU/001

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	MOULDED CASE CIRCUIT BREAKER
<i>Type</i>	METASOL ABN53C/ABN63C/ABN103C ABS33C/ABS53C/ABS63C ABH33C
<i>Applicant</i>	LSIS CO., LTD. 1 SONGJEONG-DONG, HEUNGDEOK-GU 361-720 CHEONGJU-CITY, CHUNGBUK KOREA, REPUBLIC OF
<i>Manufacturer</i>	LSIS CO., LTD.
<i>Place of manufacture</i>	1 SONGJEONG-DONG, HEUNGDEOK-GU 361-720 CHEONGJU-CITY, CHUNGBUK KOREA, REPUBLIC OF
<i>Reference standards</i>	IEC 60947-2

Issued in **BUSAN** on **January 24, 2011**. This Certificate is valid until **January 23, 2016**



RINA

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This certificate consists of this page and 1 enclosure

This certificate annuls and replaces existing certificate No. ELE066909PU/001 issued on 03/07/2009



METASOL

Product Description

- Moulded case circuit breaker type METASOL applicable to the marine environment with following rating :

Type	Rated Freq. [Hz]	Rated Current at 45 °C In[A]	Rated Oper. Volt. Ue[V]	Service Short-circuit Breaking Capacity Ics[kA]	Ultimate Short-circuit Breaking Capacity Icu[kA]	Rated Short-circuit Making Capacity Icm[kA]	Util. Category
ABN53c	50/60	15~50	690 480/500 415/460 220/240	Ics = Icu	2.5 7.5 14 30	3.55 12.75 28 63	A
ABN63c	50/60	15~60	690 480/500 415/460 220/240	Ics = Icu	2.5 7.5 14 30	3.55 12.75 28 63	A
ABN103c	50/60	15~100	690 480/500 415/460 220/240	Ics = Icu	5 10 18 35	7.5 17 36 73.5	A
ABS33c	50/60	15~30 (3~10)	690 480/500 415/460 220/240	Ics = Icu	2.5 (-) 7.5 (5) 14 (10) 30 (25)	3.55 (-) 12.75 (7.5) 28 (17) 63 (52.5)	A
ABS53c	50/60	15~50	690 480/500 415/460 220/240	Ics = Icu	5 10 18 35	7.5 17 36 73.5	A
ABS63c	50/60	15~60	690 480/500 415/460 220/240	Ics = Icu	5 10 18 35	7.5 17 36 73.5	A
ABH33c	50/60	15~30	690 480/500 415/460 220/240	Ics = Icu	5 10 18 35	7.5 17 36 73.5	A

*Note) 220/240 = 220V, 240V, 250V

Reference Documents

- Performance Test : KEMA Test Certificate No. NL-17236 dated 30/11/2009, KEMA Test Report No. 2109959.50 dated 13/05/2008
- Environmental Test (including Vibration & Inclination Test) : PT&T Report No. R49-0911 dated 01/06/2009

Note/Remark

- The product is subject to the compliance with RINA Rules and Standards mentioned on the certificates
- Type Approval certifies that a representative sample of the product has been found to meet the applicable design criteria
- Any modification or change shall not be valid until approval is granted by RINA as a result of due assessment.
- Circuit Breakers with nominal current greater than 100A are subject to Final Inspection/Final Test of the Society.

BUSAN 23 January, 2011

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