



Marine & Offshore

Certificate number: 35054/B0 BV

File number: ACE2/162/5

Product code: 2644H

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
SCHNEIDER ELECTRIC INDUSTRIES SAS
 Grenoble Cedex 09 - FRANCE

for the type of product
MINI-BREAKERS
 iC60 series
 Miniature circuit breakers

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
 IEC 60947-2 (2013)

This certificate is issued to attest that Bureau Veritas Marine & Offshore 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: 10 Aug 2023

For Bureau Veritas Marine & Offshore,
 At BV LYON, on 10 Aug 2018,
 Yann Krempelwicz



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 Marine & Offshore. 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 available on the internet site 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 Marine & Offshore 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 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

iC60 is the commercial range name of miniature circuit breakers and is purposed in 3 breaking capacities and 3 connections types.

1.1 - Technical information:

Reference temperature:	50°C
Connection types:	Single terminal, double terminals and distribution board
Degree of protection:	IP20
Positive contact indication:	Yes

1.2 - Product range:

Type		iC60N		iC60H		iC60L	
Number of poles		1P, 1P+N	2, 3, 4P	1P, 1P+N	2, 3, 4P	1P	2, 3, 4P
Curves		B, C, D		B, C, D		B, C, K, Z	
Ratings (A)		0.5 to 63		0.5 to 63		0.5 to 63	
Maximum operational voltage (V)	AC (50/60Hz)	240/415,	440	240/415,	440	240/415,	440
Minimum operational voltage (V)	AC (50/60Hz)	12		12		12	
Insulation voltage (VAC)		500					
Rated withstand voltage (kV)		6					

AC Breaking capacity	Ue (50/60Hz)	Breaking Capacity					
		Ph/N	Ph/Ph	Ph/N	Ph/Ph	Ph/N	Ph/Ph
Icu	12...60V	50 (0.5 to 4A) 36 (6 to 63A)	-	70 (0.5 to 4A) 42 (6 to 63A)	-	100 (0.5 to 4A) 80 (6 to 63A)	100(0.5to 4A) 80 (6 to 63A)
	12...133V	-	50 (0.5 to 4A) 36 (6 to 63A)	-	70 (0.5 to 4A) 42 (6 to 63A)	-	-
	100...133V	50 (0.5 to 4A) 20 (6 to 63A)	-	70 (0.5 to 4A) 30 (6 to 63A)	-	100 (0.5 to 4A) 50 (6 to 25A) 36 (32/40A) 30 (50/63A)	100(0.5to 4A) 70 (6 to 63A)
	220...240V	50 (0.5 to 4A) 10 (6 to 63A)	50 (0.5 to 4A) 20 (6 to 63A)	70 (0.5 to 4A) 15 (6 to 63A)	70 (0.5 to 4A) 30 (6 to 63A)	100 (0.5 to 4A) 25 (6 to 25A) 20 (32/40A) 15 (50/63A)	100(0.5to 4A) 50 (6 to 25A) 36 (32/40A) 30 (50/63A)
	380...415V	-	50 (0.5 to 4A) 10 (6 to 63A)	-	70 (0.5 to 4A) 15 (6 to 63A)	-	100(0.5to 4A) 25 (6 to 25A) 20 (32/40A) 15 (50/63A)
	440V	-	25 (0.5 to 4A) 6 (6 to 63A)	-	50 (0.5 to 4A) 10 (6 to 63A)	-	70 (0.5 to 4A) 20 (6 to 25A) 15 (32/40A) 10 (50/63A)
	Ics		100% of Icu 75% of Icu	(0.5 to 4A) (6 to 63A)	100% of Icu 50% of Icu	(0.5 to 4A) (6 to 63A)	100% of Icu 50% of Icu
Icn	240/415V 230/400V	6000	6000	1000	1000	15000	15000

2. DOCUMENTS AND DRAWINGS:

Specification provided by the manufacturer, ref. N°Acti9 iC60 marine certification request 20130410

3. TEST REPORTS:**Volta L2E:**

Test report N°201210125_002, dated 05.03.2013.
 Test report N°201210125_004 & N°201210125_005, dated 11.03.2013.
 Test report N°201210125_008, dated 07.03.2013.

IECEE:

Test report N° 125733-652073, dated 29 Oct 2014
 Test report N° 125733-652075/1, dated 29 Oct 2014
 Test report N° 125733-652076, dated 29 Oct 2014
 Test report N° 141095-684360, dated 03 Jun 2016

IECEE CB SCHEME:

Report N° FR 652073B/M1, dated 04 Jul 2016
 Report N° FR 652075B/M1, dated 04 Jul 2016
 Report N° FR 652076B/M1, dated 04 Jul 2016

4. APPLICATION / LIMITATION:

4.1 - BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships.
 4.2 - BUREAU VERITAS Environmental Category, **EC Code: 31**

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The MINI-BREAKERS are to be supplied by **SCHNEIDER ELECTRIC INDUSTRIES SAS** 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 and as such does not require a BV product certificate.
 5.3 - **SCHNEIDER ELECTRIC INDUSTRIES SAS** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
 5.4 - For information, **SCHNEIDER ELECTRIC INDUSTRIES SAS** has declared to Bureau Veritas the following production sites:

SCHNEIDER ELECTRIC BULGARIA EOOD
Plovdiv Plant
Industrial Zone Plovdiv
4202 Radinovo
BULGARIA

SCHNEIDER ELECTRIC INDIA PVT. LTD.
No. 172, Poonamallee Bypass Road
Poonamallee
600 056 CHENNAI
INDIA

MERLIN GERIN (ALES)
1, rue Maurice Ravel
ZI du Croupillac - BP 229
30319 ALES
FRANCE

6. MARKING OF PRODUCT:

As required by IEC 60947-2.

7. OTHERS:

7.1 - It is **SCHNEIDER ELECTRIC INDUSTRIES SAS**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
 7.2 - This certificate supersedes the Type Approval Certificate N° 35054/A0 BV issued on 05 Jul 2013 by the Society.

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