

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Miniature Circuit Breaker**with type designation(s)  
**iC60**

Issued to

**Schneider Electric Industries S.A.S.**  
**Eybens Isere, France**

is found to comply with

**DNV GL rules for classification – Ships, offshore units, and high speed and light craft****Application :****Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**This Certificate is valid until **2022-12-31**.Issued at **Høvik** on **2018-04-20**DNV GL local station: **Marseille**Approval Engineer: **Nicolay Horn**for **DNV GL**

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**Andreas Kristoffersen**  
**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.

Job Id: **262.1-015865-4**  
 Certificate No: **TAE00000UU**  
 Revision No: **2**

## Name and Place of manufacturer

Schneider Electric / Merlin Gerin  
 F-30319 Alès Cedex, France

M/s. Schneider Electric India Pvt. Ltd.  
 Chennai-600056, India

Schneider Electric Bulgaria EOOD  
 4202 Radinovo, Bulgaria

## Product description

Miniature Circuit Breakers with the following type designations:

### AC

Type iC60N:

Number of poles:	1, 1+N, 2, 3, 4	
Rated operation voltage AC (V):	12-60 (ph/N), 12-133 (ph/ph), 100-133 (ph/N), 220-240, 380 -415 (ph/ph), 440 (ph/ph)	
Uimp (kV):	6	
Rated current (A):	0.5 - 63, (1 - 63 in DC)	
Frequency (Hz):	50 - 60	
Rated Ambient Temperature:	50°C	
Utilization Category	A	
Tripping characteristics:	B, C, D	
Breaking capacity Icu:	Ph / N	Ph / Ph
12 - 60V	50 kA (0.5 - 4A), 36 kA (6 - 63A)	-
12 -133V	-	50 kA (0.5 - 4A), 36 kA (6 - 63A)
100 - 133V	50 kA (0.5 - 4A), 20 kA (6 - 63A)	-
220 - 240V	50 kA (0.5 - 4A), 10 kA (6 - 63A)	50 kA (0.5 - 4A), 20 kA (6 - 63A)
380 - 415V	-	50 kA (0.5 - 4A), 10 kA (6 - 63A)
440V	-	25 kA (0.5 - 4A), 6 kA (6 - 63A)
Breaking capacity Ics:	100% of Icu (0.5 - 4A) 75% of Icu (6 - 63A)	
Power factor:	0.2 - 0.85	

Type iC60H:

Number of poles:	1, 1+N, 2, 3, 4	
Rated operation voltage AC (V):	12-60 (ph/N), 12-133 (ph/ph), 100-133 (ph/N), 220-240, 380 -415 (ph/ph), 440 (ph/ph)	
Uimp (kV):	6	
Rated current (A):	0.5 - 63, (1 - 63 in DC)	
Frequency (Hz):	50 - 60	
Rated Ambient Temperature:	50°C	
Utilization Category:	A	
Tripping characteristics:	B, C, D	
Breaking capacity Icu:	Ph / N	Ph / Ph
12 - 60V	70 kA (0.5 - 4A), 42 kA(6 - 63A)	-
12 -133V	-	70 kA (0.5 - 4A), 42 kA (6 - 63A)
100 - 133V	70 kA (0.5 - 4A), 30 kA(6 - 63A)	-
220 - 240V	70 kA (0.5 - 4A), 15 kA(6 - 63A)	70 kA (0.5 - 4A), 30 kA (6 - 63A)
380 - 415V	-	70 kA (0.5 - 4A), 15 kA (6 - 63A)
440V	-	50 kA (0.5 - 4A), 10 kA (6 - 63A)
Breaking capacity Ics:	100% of Icu (0.5 - 4A) 50% of Icu (6 - 63A)	
Power factor:	0.2 - 0.85	

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Type iC60L

Number of poles:	1, 1+N, 2, 3, 4	
Rated operation voltage AC (V):	12-60 (ph/N), 12-133 (ph/ph), 100-133 (ph/N), 220-240, 380 -415 (ph/ph), 440 (ph/ph)	
Uimp (kV):	6	
Rated current (A):	0.5 - 63, (1 - 63 in DC)	
Frequency:	50 - 60 Hz	
Rated Ambient Temperature:	50 °C	
Utilization Category	A	
Tripping characteristics:	B, C, K, Z	
Breaking capacity Icu:	Ph / N	Ph / Ph
12 - 60V	100 kA (0.5 - 4A), 70 kA (6 - 63A)	100 kA (0.5 - 4A), 80 kA (6 - 63A)
12 - 133V	-	-
100 - 133V	100 kA (0.5 - 4A), 50 kA (6 - 25A) 36 kA (32/40A), 30 kA(50/63A)	100 kA (0.5 - 4A), 70 kA (6 - 63A)
220 - 240V	100 kA (0.5 - 4A), 25 kA(6 - 25A)	100 kA (0.5 - 4A), 50 kA (6 - 25A)
380 - 415V	20 kA (32/40A), 15 kA(50 /63A)	36 kA (32 / 40A), 30 kA (50/63A)
440V	-	100 kA (0.5 - 4A), 25 kA (6 - 25A)
	-	20 kA (32 / 40A), 15 kA (50/63A)
	-	70 kA (0.5 - 4A), 20 kA (6 - 25A)
	-	15 kA (32 / 40A), 10 kA (50/63A)
Breaking capacity Ics:	100% of Icu (0.5 - 4A) 50% of Icu (6 - 63A)	
<b>Power factor:</b>	0.2 - 0.85	

**DC**

Type	iC60N	iC60H	iC60L
Number of poles	1P, 1P+N, 2, 3, 4P	1P, 1P+N, 2, 3, 4P	1P, 2, 3, 4P
Rated operation voltage DC (V):	12-72 (1 ph), ≤125 (2P in series), ≤180 3P in series, ≤250 (4P in series)		
Uimp (kV):	6		
Ratings (A) In	0.5 to 63		
Rated Ambient Temperature:	50°C		
Utilization Category	A		
Tripping characteristics:	B, C, D	B, C, D	B, C, K, Z
DC Breaking capacity Icu:			
12 V up to 60 V (1P)	15	20	25
≤ 72 V (1P)	10	15	20
≤ 125 V (2P in series)	10	15	20
≤ 180 V (3P in series)	10	15	20
≤ 250 V (4P in series)	10	15	20
DC Breaking capacity Ics:	100 % of Icu	100 % of Icu	100 % of Icu

**Application /limitation**

For installation inside switchboard, distribution board and control gear enclosures.

Environmental classes:

Vibration class	A
Humidity class	B
Temperature class	A

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## Type Approval documentation

### Technical Info :

«Schneider Electric Acti9 iC60 miniature circuit breaker – Marine certification request ». Brochure from Schneider dated 2013-04-10.

### Test reports:

TÜV Test report nos 28231175 001 issued 2016-02-24 and 28231177 001 & 28231177 001 issued 2016-02-26 and 28226592 001 issued 2015-03-26.

Volta Test reports nos. 201409356\_001 dated 2015-07-31 & 201409357\_001 dated 2015-08-10.

Volta Test reports nos. 201409359\_001 dated 2015-08-25 & 201501479\_001 dated 2015-07-29.

LCIE Test reports nos. 125733-652073, 125733-652075/75-1/75-2/75-3 dated 2014-10-29.

VDE test reports nos. 5010813-4402-0012/170099-1 & 2 dated 2012-06-28.

VDE test reports nos. 5010813-4402-0001/11836-1 2, 3 & 4 dated 2010-06-01.

VDE test reports nos. 5010813-4402-0001/148759-1 dated 2011-05-11.

Volta Test report no. 201210125\_002, \_004, \_005 & \_008 dated 2013-03-11.

## Tests carried out

Type tested according to IEC 60947-2. Vibration test in according to IEC 60068-2-6 & DNV Sfc 2.4. Dry heat test in accordance with IEC 60068-2-2 & DNV Sfc 2.4. Damp heat test in accordance with IEC 60068-2-30 & DNV Sfc 2.4.

## Marking of product

Manufacturer name - Type designation – Data according to IEC 60947-2 specifications - date/manufacturing code

## Periodical assessment

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

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE