

# TYPE APPROVAL CERTIFICATE

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**This is to certify:**

**That the Automatic Fuse**

with type designation(s)  
**iC60**

Issued to

**Schneider Electric Industries SAS**  
**EYBENS, France**

is found to comply with  
**DNV GL rules for classification – Ships and offshore units**

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**Application :**

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

This Certificate is valid until **2017-12-31**.

Issued at **Høvik** on **2016-01-07**

DNV GL local station: **Marseille**

Approval Engineer: **Nicolay Horn**

for **DNV GL**

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**Marit Laumann**  
**Head of Section**

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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: **262.1-015865-2**  
Certificate No: **TAE00000UU**

## 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:

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)<br>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)<br>50% of Icu (6 - 63A)                                       |                                   |
| <b>Power factor:</b>            | 0.2 - 0.85                                                                           |                                   |

## Application /limitation

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

## Type Approval documentation

### 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 are complied with, and that no alterations are made to the product design or choice of systems/components/materials.

The main elements of the assessment are:

- Inspection of factory samples, selected at random from the production line (where practicable).
- Review of production and inspection routines, including test records from product sample tests and control routines.
- Ensuring that systems/components/materials used comply with type approved documents and/or referenced system/component/material specifications.



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- Review of possible changes in design of systems/components/materials, software version and performance, and make sure that such changes do not affect the type approval given.
- Ensuring traceability between manufacturer's product type marking and the type approval certificate.
- Ensuring that type approved documentation is available.

Assessment to be performed at least every second year.

END OF CERTIFICATE