

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the RCBO - Residual Current Circuit-Breaker with overcurrent protection**

with type designation(s)

**DS201, DS201 M, DS201 M 110V, DS202C M, DS202C M 110V**

Issued to

**ABB S.p.A.**  
**Milano-MI, Italy**

is found to comply with

**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

## Application :

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

This Certificate is valid until **2021-10-04**.

Issued at **Hamburg** on **2016-10-05**

DNV GL local station: **Milan**

Approval Engineer: **Thomas Hartmann**

for **DNV GL**

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**Duy Nam Le**  
**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.

## Product description

1P+N -- Residual Current Circuit-Breaker with overcurrent protection.

|                                                      |    | DS201                | DS201 M              | DS201 M 110V         |
|------------------------------------------------------|----|----------------------|----------------------|----------------------|
| Operating characteristics                            |    | AC, A, APR           | AC, A, APR           | A                    |
| Rated current $I_n$                                  | A  | $1 \leq I_n \leq 40$ | $4 \leq I_n \leq 40$ | $6 \leq I_n \leq 40$ |
| Rated sensitivity $I_{\Delta n}$                     | mA | 10/30/100/300        | 10/30/100/300        | 30                   |
|                                                      |    |                      |                      |                      |
| Rated residual breaking capacity $I_{\Delta m}$      | kA | 6                    | 6                    | 6                    |
| Rated service breaking capacity $I_{CS}$ @ 230VAC    | kA | 6                    | 7,5                  | 7,5                  |
| Rated ultimate breaking capacity $I_{CU}$ @ 230VAC   | kA | 10                   | 10                   | 10                   |
| Thermo-magnetic release characteristic               |    | B, C, K              | B, C                 | B, C                 |
|                                                      |    |                      |                      |                      |
| -Rated voltage $U_e$                                 | V  | 230-240              | 230-240              | 230-240              |
| -Rated frequency                                     | Hz | 50...60              | 50...60              | 50...60              |
| -Rated insulation voltage $U_i$                      | V  | 500                  | 500                  | 500                  |
| -Rated impulse withstand voltage $U_{imp}$           | kV | 4                    | 4                    | 4                    |
| Dielectric test voltage at ind. frequency for 1 min. | kV | 2,5                  | 2,5                  | 2,5                  |
| Degree of protection housing/ terminals              |    | IP 4X/ IP2X          | IP 4X/ IP2X          | IP 4X/ IP2X          |

2P -- Residual Current Circuit-Breaker with overcurrent protection.

|                                                      |    | DS202C M             | DS202C M 110V        |
|------------------------------------------------------|----|----------------------|----------------------|
| Operating characteristics                            |    | A, APR               | A                    |
| Rated current $I_n$                                  | A  | $6 \leq I_n \leq 32$ | $6 \leq I_n \leq 32$ |
| Rated sensitivity $I_{\Delta n}$                     | mA | 10/30/300            | 30                   |
|                                                      |    |                      |                      |
| Rated residual breaking capacity $I_{\Delta m}$      | kA | 6                    | 6                    |
| Rated service breaking capacity $I_{CS}$ @ 230VAC    | kA | 7,5                  | 7,5                  |
| Rated ultimate breaking capacity $I_{CU}$ @ 230VAC   | kA | 10                   | 10                   |
| Thermo-magnetic release characteristic               |    | B, C                 | C                    |
|                                                      |    |                      |                      |
| -Rated voltage $U_e$                                 | V  | 230-240              | 230-240              |
| -Rated frequency                                     | Hz | 50...60              | 50...60              |
| -Rated insulation voltage $U_i$                      | V  | 500                  | 500                  |
| -Rated impulse withstand voltage $U_{imp}$           | kV | 4                    | 4                    |
| Dielectric test voltage at ind. frequency for 1 min. | kV | 2,5                  | 2,5                  |
| Degree of protection housing/ terminals              |    | IP 4X/ IP2X          | IP 4X/ IP2X          |

## Application/Limitation

For installation inside switchboards, distribution boards and controlgear enclosure.

Temperature class: B  
Humidity class: B  
Vibration class: A

## **Type Approval documentation**

### **Tests carried out**

IEC 61009-1 (1996) +A1 (2002)+A2(2006); IEC61009-2-1 (1991); IEC 61009-2-2 (1991)  
DNVGL-CG-0339

### **Marking of product**

ABB – type designation - voltage – frequency – current – tripping current – operating characteristic

### **Place of Manufacture:**

ABB S.p.A.  
SANTA PALOMBA- 00040 (Roma), Italy

### **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.

Assessment to be performed at least every second year.

END OF CERTIFICATE