



TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00001WE
Revision No:
2

This is to certify:

That the Miniature Circuit Breaker

with type designation(s)
BH-D10 and BH-D6

Issued to

Mitsubishi Electric Dalian Industrial Product Co.,Ltd.
Dalian, China

is found to comply with

DNV 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.

Issued at **Høvik** on **2022-03-29**

for **DNV**

This Certificate is valid until **2027-03-28**.

DNV local station: **Dalian NB & CMC**

Approval Engineer: **Marcin Tobiasz**

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Trond Sjøvåg
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Miniature circuit breakers with the following characteristics:

Type BH-D6:

Number of Poles:	1P, 2P, 3P, 4P	1P + N
Rated current I_n [A]:	0,5 – 63*	0,5 – 40*
Tripping Characteristic:	B, C, D	B, C
Rated operational voltage U_e [V]:	230/400, 400	230
Rated insulation voltage U_i [V]:	440	440
Rated short circuit capacity I_{cn} [kA]:	6	6
Rated short circuit capacity I_{cs} [kA]:	6	6

Type BH-D10:

Number of Poles:	1P, 2P, 3P, 4P
Rated current I_n [A]:	0,5 – 63*
Tripping Characteristic:	B, C, D
Rated operational voltage U_e [V]:	230/400, 400
Rated insulation voltage U_i [V]:	440
Rated short circuit capacity I_{cn} [kA]:	10
Rated short circuit capacity I_{cs} [kA]:	7,5

Application/Limitation

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

Only to be installed in climate control cabinets, where no temperatures above 45°C will occur.

*Ratings given for ambient temperature of 30°C. De-rating according to manufacturer's documentation for 45°C.

Type Approval documentation

Tests carried out

Type tests according to IEC 60898-1: 2015. Vibration and damp heat test according to DNV-CG-0339.

Marking of product

MCB – type – voltage – rated current and trip characteristic – rated short circuit capacity

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, 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