

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Contactor

with type designation(s)
DILDC300/22, DILDC400/22, DILDC500/22, DILDC600/22

Issued to

Eaton Industries GmbH
Bonn, Germany

is found to comply with
DNV GL rules for classification – Ships

Application :

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

Type	Rated Voltage (V)	Rated Current (A)	Frequency (Hz)
DILDC300/22	1000V DC	300A DC	
DILDC400/22	1000V DC	400A DC	
DILDC500/22	1000V DC	500A DC	
DILDC600/22	1000V DC	600A DC	

This Certificate is valid until **2021-08-31**.

Issued at **Hamburg** on **2016-11-07**

DNV GL local station: **Essen**

Approval Engineer: **Jens Dietrich**

for **DNV GL**

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

Bi-directional DC contactors with rated voltage 1000V DC,
Actuating Voltage Ranges: 110V...250V AC (-30%...+15%) or 110V...350V DC (-30%...+15%),
Main Contacts: 2x NO with rated current, Auxiliary Contacts: 2xNO, 2xNC,
Utilization Category: DC-1,
Main circuit:
Rated impulse withstand voltage U_{imp} : 8kV,
Rated insulation voltage U_i : 1000 V.
Auxiliary circuit:
Rated impulse withstand voltage U_{imp} : 6kV,
Rated insulation voltage of auxiliary circuits U_i : 600 V.

Application/Limitation

Temperature class: B, Humidity class: B, Vibration class: A, EMC class: A.
Contactors for installation inside switchboards/enclosures onboard ships and mobile offshore units.
IP degree is 00. End user is responsible for correct IP degree wrt. rules and location.

Tests carried out

Type tests according to IEC 60947-4-1:2010 + A1:2012;
Applicable tests according to class guideline DNV GL CG-0339, November 2015.

Marking of product

Manufacturers label with type designation and ratings.

Periodical assessment

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

The main elements of the periodical assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and 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 to be performed at least every second year.

END OF CERTIFICATE