

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Contactor**

with type designation(s)

DIL M (C) series (DIL M 7 to 225A) DIL A series (DIL A-22, DIL A-31, DIL A-40)

Issued to

**Eaton Industries GmbH
Bonn, Germany**

is found to comply with

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**Application :****Contactors for installation inside switchboards/enclosures onboard ships and mobile offshore units.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Rated Voltage (V) 690****Rated Current (A) 7 to 225****Frequency (Hz) 50 / 60**This Certificate is valid until **2019-12-31**.Issued at **Høvik** on **2015-08-04**for **DNV GL**DNV GL local station: **Essen Business Support**Approval Engineer: **Hanwee Low**

**Marit Laumann
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

Contactors of type DIL M (C) and DIL A series, covering the following variants:
DIL M (C)7, DIL M (C) 9, DIL M (C) 12, DIL M (C)17, DIL M(C) 25, DIL M (C) 32,
DIL M (C) 40, DIL M (C)50, DIL M(C) 65, DIL M (C) 80, DIL M (C)95, DIL M (C) 115, DIL M 150, DIL M
(C) 170,, DIL M 185 A, DIL M 225 A. Auxiliary contactors: DIL A-22, DIL A-31, DIL A-40.

Technical data:

Types:	DILM7	DILM9	DILM12	DILM17	DILM25	DILM32
Rated operational voltage [V]	690	690	690	690	690	690
Rating utilisation Category AC-						
At 40°C [A]	22	22	22	40	45	45
At 60°C [A]	20	20	20	35	40	40
Rating utilisation Category AC-						
At 230 V [A]	7	9	12	18	25	32
At 400 V [A]	7	9	12	18	25	32
At 500 V [A]	5	7	10	18	25	32
At 690 V [A]	4	5	7	12	15	18
Motor rating						
At 230 V [kW]	2.2	2.5	3.5	5	7.5	10
At 400 V [kW]	3	4	5.5	7.5	11	15
At 500 V [kW]	3.5	4.5	7	12	17.5	23
At 690 V [kW]	3.5	4.5	6.5	11	14	17
Making capacity [A]	112	112	144	238	350	384
Aux. Contact rated voltage AC	500	500	500	500	500	500

Types:	DILM40	DILM50	DILM65	DILM80	DILM95
Rated operational voltage [V]	690	690	690	690	690
Rating utilisation Category AC-					
At 40°C [A]	60	80	98	110	130
At 60°C [A]	50	65	80	90	110
Rating utilisation Category AC-					
At 230 V [A]	40	50	65	80	95
At 400 V [A]	40	50	65	80	95
At 500 V [A]	40	50	65	80	95
At 690 V [A]	25	32	37	65	80
Motor rating					
At 230 V [kW]	12.5	15.5	20	25	30
At 400 V [kW]	18.5	22	30	37	45
At 500 V [kW]	28	36	47	58	70
At 690 V [kW]	23	30	35	63	75
Making capacity [A]	560	700	910	1120	1330
Aux. Contact rated voltage AC	500	500	500	500	500

Types:	DILM115	DILM150	DILM170	DILM185	DILM225
Rated operational voltage [V]	690	690	690	690	690
Rating utilisation Category AC-					
At 40°C [A]	160	190	225	337	356
At 60°C [A]	130	160	185	245	275
Rating utilisation Category AC-					
At 230 V [A]	115	150	170	185	225
At 400 V [A]	115	150	170	185	225
At 500 V [A]	115	150	170	185	225
At 690 V [A]	93	100	100	150	160
Motor rating					
At 230 V [kW]	37	48	52	55	70
At 400 V [kW]	55	75	90	90	110
At 500 V [kW]	85	110	120	132	160
At 690 V [kW]	90	96	96	140	150
Making capacity [A]	1610	2100	2100	2700	2700
Aux. Contact rated voltage AC	500	500	500	500	500

General data:

C = Cage Clamp
Ambient temperature: -25 to 60 °C

Coil voltages*: 12 - 500 V, 50 Hz
24 - 600 V, 60 Hz
12 - 220 V DC

* See catalogue for details.

Types of actuation:

- Conventionally via the A 1-A2 coil connections

Contactors may be equipped with additional clip-on auxiliary contacts according to Manufacturer's data sheet.

Auxiliary contacts rated current: 10 A

The produced plastic materials are free of halogen as defined in DIN V DE 0472 part 815.

Application/Limitation

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.

Type Approval documentation

Tests carried out

Type tests according to IEC 60947-4-1, IEC 60947-5-1, EMC tests in accordance with EN/ IEC 55022 & EN/ IEC 61000 and environmental tests (Power Supply Variation, Power Supply Failure, Vibration, Damp heat, Dry heat & Cold).

Marking of product

Eaton, type designation and rating.



Job Id: **262.1-011101-5**
Certificate No: **TAE0000086**

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