

Eaton 290097

Catalog Number: 290097

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 7.5 kW, 1 NC, 24 V 50/60 Hz, AC operation, Screw terminals DILM15-01(24V50/60HZ)

General specifications



Product Name

Eaton Moeller® series DILM contactor

Catalog Number

290097

Product Length/Depth

75 mm

Product Height

68 mm

Product Width

45 mm

Product Weight

0.24 kg

Compliances

CE Marked

Certifications

IEC 60947-4-1

CSA Std. C22.2 No. 14-05

UL 508

EN 60947-4-1

VDE

CSA File No.: 012528

IEC/EN 60947-4-1

VDE 0660

UL 60947-4-1

UL File No.: E29096

CE

IEC/EN 60947

CSA-C22.2 No. 60947-4-1-14

UL Category Control No.: NLDX

CSA Class No.: 2411-03, 3211-04

UL

CSA

Catalog Notes

Contacts according to EN 50012

Model Code

DILM15-01(24V50/60HZ)

Charakterystyka & Funkcje

Fitted with:

Mirror contact

Number Of Poles

Three-pole

Parametry ogólne

Application

Contactors for Motors

Frame size

FS1

Lifespan, mechanical

7,000,000 Operations (Coil 50/60 Hz)

10,000,000 Operations (AC operated)

Operating frequency

5000 mechanical Operations/h (AC operated)

Overvoltage category

III

Pollution degree

3

Product category

Contactors

Protection

Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)

Rated impulse withstand voltage (Uimp)

8000 V AC

Resistance per pole

2.5 m Ω

Utilization category

AC-3: Normal AC induction motors: starting, switch off during running

AC-4: Normal AC induction motors: starting, plugging, reversing, inching

AC-1: Non-inductive or slightly inductive loads, resistance furnaces

Voltage type

AC

Warunki otoczenia, mechaniczne

Shock resistance

5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms

5.7 g, N/O main contact, Mechanical, according to IEC/EN

Klimatyczne warunki środowiskowe

Ambient operating temperature - min

-25 °C

Ambient operating temperature - max

60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms

3.4 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms

7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms

3.4 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms

10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms

60 °C

Ambient operating temperature - max

60 °C

Ambient operating temperature (enclosed) - min

25 °C

Ambient operating temperature (enclosed) - max

40 °C

Ambient storage temperature - min

40 °C

Ambient storage temperature - max

80 °C

Climatic proofing

Damp heat, cyclic, to IEC 60068-2-30

Damp heat, constant, to IEC 60068-2-78

Kompatybilność elektromagnetyczna

Emitted interference

According to EN 60947-1

Interference immunity

According to EN 60947-1

Pojemność zacisków

Terminal capacity (flexible with ferrule)

2 x (0.75 - 2.5) mm²

1 x (0.75 - 2.5) mm²

2 x (0.75 - 2.5) mm²

Terminal capacity (solid)

2 x (0.75 - 2.5) mm²

1 x (0.75 - 4) mm²

Terminal capacity (solid/stranded AWG)

Single 18 - 10, double 18 - 14

Stripping length (main cable)

10 mm

Stripping length (control circuit cable)

10 mm

Screw size

M3.5, Terminal screw

Screwdriver size

2, Terminal screw, Pozidriv screwdriver

0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver

Tightening torque

1.2 Nm, Screw terminals

Elektryczna moc znamionowa

Rated breaking capacity at 220/230 V

124 A

Rated breaking capacity at 380/400 V

124 A

Rated breaking capacity at 500 V

100 A

Rated breaking capacity at 660/690 V

70 A

Rated operational current (I_e) at AC-1, 380 V, 400 V, 415 V

22 A

Rated operational current (I_e) at AC-3, 220 V, 230 V, 240 V

15.5 A

Rated operational current (I_e) at AC-3, 380 V, 400 V, 415 V

15.5 A

Rated operational current (I_e) at AC-3, 440 V

15.5 A

Rated operational current (I_e) at AC-3, 500 V

12.5 A

Rated operational current (I_e) at AC-3, 660 V, 690 V

9 A

Rated operational current (I_e) at AC-4, 220 V, 230 V, 240 V

7 A

Rated operational current (I_e) at AC-4, 400 V

7 A

Rated operational current (I_e) at AC-4, 500 V

6 A

Rated operational current (I_e) at AC-4, 660 V, 690 V

5 A

Rated operational current (I_e) at DC-1, 60 V

20 A

Rated operational current (I_e) at DC-1, 110 V

20 A

Rated operational current (I_e) at DC-1, 220 V

15 A

Rated insulation voltage (U_i)

Wytrzymałość zwarcia

Short-circuit current rating (basic rating)

5 kA, SCCR (UL/CSA)

45 A, max. Fuse, SCCR (UL/CSA)

60 A, max. CB, SCCR (UL/CSA)

Short-circuit current rating (high fault at 480 V)

25 A, Class RK5/ 60 A Class J, max. Fuse, SCCR (UL/CSA)

30/100 kA, Fuse, SCCR (UL/CSA)

Short-circuit current rating (high fault at 600 V)

30/100 kA, Fuse, SCCR (UL/CSA)

25 A, Class RK5/60 A, Class J, max. Fuse, SCCR (UL/CSA)

Short-circuit protection rating (type 1 coordination) at 400 V

63 A gG/gL

Short-circuit protection rating (type 1 coordination) at 690 V

50 A gG/gL

Short-circuit protection rating (type 2 coordination) at 400 V

20 A gG/gL

Short-circuit protection rating (type 2 coordination) at 690 V

20 A gG/gL

Konwencjonalny prąd termiczny

Conventional thermal current I_{th} (1-pole, enclosed)

45 A

Conventional thermal current I_{th} (3-pole, enclosed)

18 A

Conventional thermal current I_{th} at 55°C (3-pole, open)

21 A

Conventional thermal current I_{th} of main contacts (1-pole, open)

50 A

Zdolność przełączania

Switching capacity (main contacts, general use)

20 A, Maximum motor rating (UL/CSA)

Switching capacity (auxiliary contacts, general use)

1 A, 250 V DC, (UL/CSA)

10 A, 600 V AC, (UL/CSA)

690 V

Rated operational current (Ie) at AC-1, 380 V, 400 V, 415 V

22 A

Rated operational power at AC-3, 240 V, 50 Hz

4.6 kW

Rated operational power at AC-3, 380/400 V, 50 Hz

7.5 kW

Rated operational power at AC-3, 415 V, 50 Hz

8 kW

Rated operational power at AC-4, 220/230 V, 50 Hz

2 kW

Rated operational power at AC-4, 240 V, 50 Hz

2.2 kW

Rated operational power at AC-4, 415 V, 50 Hz

3.4 kW

Rated operational power at AC-4, 440 V, 50 Hz

3.6 kW

Rated operational power at AC-4, 500 V, 50 Hz

3.5 kW

Rated operational power at AC-4, 660/690 V, 50 Hz

4.4 kW

Rated operational voltage (Ue) at AC - max

690 V

Switching capacity (auxiliary contacts, pilot duty)

A600, AC operated (UL/CSA)

P300, DC operated (UL/CSA)

Czas przełączania

Arcing time

10 ms

Switching time (AC operated, make contacts, closing delay) - min

15 ms

Switching time (AC operated, make contacts, closing delay) - max

21 ms

Switching time (AC operated, make contacts, opening delay) - min

9 ms

Switching time (AC operated, make contacts, opening delay) - max

18 ms

System elektromagnetyczny

Drop-out voltage

AC operated: 0.6 - 0.3 x UC, AC operated

Duty factor

100 %

Pick-up voltage

0.8 - 1.1 V AC x Uc

Power consumption, pick-up, 50 Hz

27 VA, Dual-frequency coil in a cold state and 1.0 x Us

25 VA, Dual-frequency coil in a cold state and 1.0 x Us

Power consumption, pick-up, 60 Hz

27 VA, Dual-frequency coil in a cold state and 1.0 x Us

25 VA, Dual-frequency coil in a cold state and 1.0 x Us

Power consumption, sealing, 50 Hz

1.2 W, Dual-frequency coil in a cold state and 1.0 x Us

1.4 W, Dual-frequency coil in a cold state and 1.0 x Us

Power consumption, sealing, 60 Hz

1.4 W, Dual-frequency coil in a cold state and 1.0 x Us

4.2 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz

3.3 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz

1.2 W, Dual-frequency coil in a cold state and 1.0 x Us

Rated control supply voltage (Us) at AC, 50 Hz - min
24 V

Rated control supply voltage (Us) at AC, 50 Hz - max
24 V

Rated control supply voltage (Us) at AC, 60 Hz - min
24 V

Rated control supply voltage (Us) at AC, 60 Hz - max
24 V

Rated control supply voltage (Us) at DC - min
0 V

Rated control supply voltage (Us) at DC - max
0 V

Moc znamionowa silnika

Assigned motor power at 115/120 V, 60 Hz, 1-phase
1 HP

Assigned motor power at 200/208 V, 60 Hz, 3-phase
5 HP

Assigned motor power at 230/240 V, 60 Hz, 1-phase
3 HP

Assigned motor power at 230/240 V, 60 Hz, 3-phase
5 HP

Assigned motor power at 460/480 V, 60 Hz, 3-phase
10 HP

Assigned motor power at 575/600 V, 60 Hz, 3-phase
10 HP

Komunikacja

Connection

Screw terminals

Connection to SmartWire-DT

No

Styki

Number of contacts (normally closed contacts)
1

Number of auxiliary contacts (normally closed contacts)
1

Number of auxiliary contacts (normally open contacts)
0

Bezpieczeństwo

Safe isolation

400 V AC, Between the contacts, According to EN 61140

400 V AC, Between coil and contacts, According to EN 61140

Moce znamionowe dla zastosowań specjalnych

Special purpose rating of ballast electrical discharge lamps

20 A (600V 60Hz 3phase, 347V 60Hz 1phase)

20 A (480V 60Hz 3phase, 277V 60Hz 1phase)

Special purpose rating of definite purpose rating

15 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995,
(UL/CSA)

90 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995,
(UL/CSA)

Special purpose rating of elevator control

9 A, 600 V 60 Hz 3-ph, (UL/CSA)
11 A, 480 V 60 Hz 3-ph, (UL/CSA)
2 HP, 200 V 60 Hz 3-ph, (UL/CSA)
9.6 A, 240 V 60 Hz 3-ph, (UL/CSA)
7.5 HP, 600 V 60 Hz 3-ph, (UL/CSA)
3 HP, 240 V 60 Hz 3-ph, (UL/CSA)
7.8 A, 200 V 60 Hz 3-ph, (UL/CSA)
7.5 HP, 480 V 60 Hz 3-ph, (UL/CSA)

Special purpose rating of refrigeration control (CSA only)

10 A, FLA 480 V 60 Hz 3phase; (CSA)
10 A, FLA 600 V 60 Hz 3phase; (CSA)
60 A, LRA 480 V 60 Hz 3phase; (CSA)
60 A, LRA 600 V 60 Hz 3phase; (CSA)

Special purpose rating of resistance air heating

20 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
20 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)

Special purpose rating of tungsten incandescent lamps

14 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
14 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)

Weryfikacja projektu konstrukcji

Equipment heat dissipation, current-dependent P_{vid}

0 W

Heat dissipation capacity P_{diss}

0 W

Heat dissipation per pole, current-dependent P_{vid}

0.5 W

Rated operational current for specified heat dissipation (I_n)

15.5 A

Static heat dissipation, non-current-dependent P_{vs}

1.4 W

10.2.2 Corrosion resistance

Meets the product standard's requirements.

10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

10.2.3.2 Verification of resistance of insulating materials to normal heat

Meets the product standard's requirements.

10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects

Meets the product standard's requirements.

10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

10.2.5 Lifting

Does not apply, since the entire switchgear needs to be evaluated.

10.2.6 Mechanical impact

Does not apply, since the entire switchgear needs to be evaluated.

10.2.7 Inscriptions

Meets the product standard's requirements.

10.3 Degree of protection of assemblies

Does not apply, since the entire switchgear needs to be evaluated.

10.4 Clearances and creepage distances

Meets the product standard's requirements.

10.5 Protection against electric shock

Does not apply, since the entire switchgear needs to be

evaluated.

10.6 Incorporation of switching devices and components

Does not apply, since the entire switchgear needs to be evaluated.

10.7 Internal electrical circuits and connections

Is the panel builder's responsibility.

10.8 Connections for external conductors

Is the panel builder's responsibility.

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

10.9.4 Testing of enclosures made of insulating material

Is the panel builder's responsibility.

10.10 Temperature rise

The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.

10.11 Short-circuit rating

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

10.12 Electromagnetic compatibility

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

10.13 Mechanical function

The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Do pobrania

Characteristic curve

[eaton-contactors-switch-dilm-characteristic-curve-002.eps](#)

[eaton-contactors-switch-dilm-characteristic-curve.eps](#)

Deklaracje zgodności

[DA-DC-00004810.pdf](#)

[DA-DC-00004792.pdf](#)

DWG

[eaton-contactors-module-dilm-dimensions-002.eps](#)

[eaton-contactors-module-dilm-dimensions.eps](#)

[eaton-contactors-frame-dilm-dimensions.eps](#)

[eaton-contactors-dilm-3d-drawing-007.eps](#)

eCAD model

[DA-CE-ETN.DILM15-01\(24V50_60HZ\)](#)

Instrukcje montażu

[eaton-contactors-dila-dilm7-15-dilmp20-instruction-leaflet-il03407013z.pdf](#)

mCAD model

[DA-CD-dil_m7_15](#)

[DA-CS-dil_m7_15](#)

Schematy połączeń

[eaton-contactors-contact-dilm-wiring-diagram-002.eps](#)

[2100SWI-117](#)