

Eaton 277068

Catalog Number: 277068

Eaton Moeller® series DILM Contactor, 380 V 400 V 7.5 kW, 2 N/O, 1 NC, 230 V 50 Hz, 240 V 60 Hz, AC operation, Screw terminals

General specifications



Product Name **Catalog Number**

Eaton Moeller® series DILM contactor 277068

Model Code **EAN**

DILM17-21(230V50HZ,240V60HZ) 4015082770686

Product Length/Depth **Product Height**

138 mm 85 mm

Product Width **Product Weight**

45 mm 0.483 kg

Certifications **Catalog Notes**

CE Contacts according to EN 50012

VDE 0660

UL 60947-4-1

IEC/EN 60947-4-1

CSA File No.: 012528

IEC/EN 60947

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

UL Category Control No.: NLDX

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

UL File No.: E29096

CSA

UL

Electrical connection type for auxiliary- and control-current circuit
Screw connection

Number Of Poles

Three-pole

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.

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

Catalogs

Switching and protecting motors - catalog

SmartWire-DT Catalog

[eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf](#)

Product Range Catalog Switching and protecting motors

Characteristic curve

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

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

[eaton-contactors-component-dilm-characteristic-curve-003.eps](#)

[eaton-contactors-short-time-loading-dilm-characteristic-curve.eps](#)

Declarations of conformity

[DA-DC-00004783.pdf](#)

[DA-DC-00004816.pdf](#)

Drawings

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

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

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

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

[eaton-general-ie-ready-dilm-contactor-standards.eps](#)

[eaton-contactors-contact-dilm-3d-drawing-002.eps](#)

eCAD model

[ETN.277068.edz](#)

[DA-CE-ETN.DILM17-21\(230V50HZ,240V60HZ\)](#)

Installation instructions

[IL03407044Z](#)

Installation videos

[WIN-WIN with push-in technology](#)

mCAD model

[DA-CD-dil_m17_38_a_xhi](#)

[DA-CS-dil_m17_38_a_xhi](#)

Wiring diagrams

[2100SWI-127](#)

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.

Fitted with:

Mirror contact

Operating frequency

5000 mechanical Operations/h (AC operated)

Pollution degree

3

Climatic proofing

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

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

Rated impulse withstand voltage (Uimp)

8000 V AC

Utilization category

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

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

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

Connection

Screw terminals

Ambient operating temperature - max

60 °C

Ambient operating temperature - min

-25 °C

Ambient operating temperature (enclosed) - max

40 °C

Ambient operating temperature (enclosed) - min

25 °C

Ambient storage temperature - max

80 °C

Ambient storage temperature - min

40 °C

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

2 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

15 HP

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

80 A

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

32 A

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

37 A

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

88 A

Equipment heat dissipation, current-dependent P_{vid}

2.1 W

Heat dissipation capacity P_{diss}

0 W

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

0.7 W

Application

Contactors for Motors

Product category

Contactors

Protection

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

Arcing time

10 ms

Electrical connection type of main circuit

Screw connection

Screwdriver size

2, Terminal screw, Pozidriv screwdriver

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

Voltage type

AC

Degree of protection

IP00

Number of auxiliary contacts (normally closed contacts)

1

Number of auxiliary contacts (normally open contacts)

2

Number of contacts (normally closed contacts)

1

Number of contacts (normally closed) as main contact

0

Number of contacts (normally open contacts)

2

Number of main contacts (normally open contact)

3

Rated breaking capacity at 220/230 V

170 A

Rated breaking capacity at 380/400 V

170 A

Rated breaking capacity at 500 V

170 A

Rated breaking capacity at 660/690 V

120 A

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

230 V

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

230 V

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

240 V

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

240 V

Drop-out voltage

AC operated: 0.6 - 0.3 x UC, AC operated

Overvoltage category

III

Duty factor

100 %

Emitted interference

According to EN 60947-1

Interference immunity

According to EN 60947-1

Lifespan, mechanical

10,000,000 Operations (AC operated)

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

Pick-up voltage

0.8 - 1.1 V AC x Uc

Power consumption, pick-up, 50 Hz

52 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz

Safe isolation

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

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

Power consumption, pick-up, 60 Hz

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

Screw size

M3.5, Terminal screw, Control circuit cables

M5, Terminal screw, Main cables

Power consumption, sealing, 50 Hz

2.1 W, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz

2.5 W, Dual-frequency coil in a cold state and 1.0 x Us
2 W, Dual-frequency coil in a cold state and 1.0 x Us
7.1 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz

Power consumption, sealing, 60 Hz

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

2 W, Dual-frequency coil in a cold state and 1.0 x Us
2.1 W, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz
2.5 W, Dual-frequency coil in a cold state and 1.0 x Us

Terminal capacity (stranded)

1 x 16 mm², Main cables

Switching capacity (auxiliary contacts, general use)

10 A, 600 V AC, (UL/CSA)
1 A, 250 V DC, (UL/CSA)

Switching capacity (auxiliary contacts, pilot duty)

A600, AC operated (UL/CSA)
P300, DC operated (UL/CSA)

Terminal capacity (flexible with ferrule)

2 x (0.75 - 2.5) mm², Control circuit cables
1 x (0.75 - 2.5) mm², Control circuit cables
1 x (0.75 - 16) mm², Main cables
2 x (0.75 - 10) mm², Main cables

Shock resistance

6.9 g, N/O main contact, Mechanical, according to IEC/EN
60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10
ms
5.3 g, N/O auxiliary contact, Mechanical, according to IEC/EN
60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10
ms
3.5 g, N/C auxiliary contact, Mechanical, according to IEC/EN
60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10
ms
5 g, N/C auxiliary contact, Mechanical, according to IEC/EN
60068-2-27, Half-sinusoidal shock 10 ms
10 g, N/O main contact, Mechanical, according to IEC/EN
60068-2-27, Half-sinusoidal shock 10 ms
7 g, N/O auxiliary contact, Mechanical, according to IEC/EN
60068-2-27, Half-sinusoidal shock 10 ms

Terminal capacity (solid)

2 x (0.75 - 2.5) mm², Control circuit cables
1 x (0.75 - 16) mm², Main cables
1 x (0.75 - 2.5) mm², Control circuit cables
2 x (0.75 - 10) mm², Main cables

Terminal capacity (solid/stranded AWG)

Single 18 - 6, double 18 - 8, Main cables

18 - 14, Control circuit cables

Switching capacity (main contacts, general use)

40 A, Maximum motor rating (UL/CSA)

Tightening torque

1.2 Nm, Screw terminals, Control circuit cables

3.2 Nm, Screw terminals, Main cables

Rated control supply voltage (Us) at DC - max

0 V

Rated control supply voltage (Us) at DC - min

0 V

Rated insulation voltage (Ui)

690 V

Rated making capacity up to 690 V (cos phi to IEC/EN 60947)

238 A

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

40 A

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

18 A

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

18 A

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

18 A

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

18 A

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

12 A

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

10 A

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

10 A

Rated operational current (Ie) at AC-4, 440 V

10 A

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

10 A

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

8 A

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

35 A

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

35 A

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

35 A

Rated operational current for specified heat dissipation (In)

18 A

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

5.5 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

10 kW

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

2.5 kW

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

3 kW

Rated operational power at AC-4, 380/400 V, 50 Hz

4.5 kW

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

5 kW

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

5.5 kW

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

6 kW

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

6.5 kW

Rated operational power (NEMA)

7.4 kW

Rated operational voltage (Ue) at AC - max

690 V

Resistance per pole

2.7 mΩ

Static heat dissipation, non-current-dependent Pvs

2.1 W

Stripping length (control circuit cable)

10 mm

Stripping length (main cable)

10 mm

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

22 ms

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

16 ms

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

14 ms

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

8 ms

Short-circuit current rating (basic rating)

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

5 kA, SCCR (UL/CSA)

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

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

10/100 kA, Fuse, SCCR (UL/CSA)

10/65 kA, CB, SCCR (UL/CSA)

125/70 A, Class J, max. Fuse, SCCR (UL/CSA)

50/32 A, max. CB, SCCR (UL/CSA)

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

125/70 A, Class J, max. Fuse, SCCR (UL/CSA)

10/22 kA, CB, SCCR (UL/CSA)

50/32 A, max. CB, SCCR (UL/CSA)

10/100 kA, Fuse, SCCR (UL/CSA)

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

63 A gG/gL

Suitable for

Also motors with efficiency class IE3

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

50 A gG/gL

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

35 A gG/gL

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

35 A gG/gL

Special purpose rating of ballast electrical discharge lamps

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

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

Special purpose rating of definite purpose rating

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

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

Special purpose rating of elevator control

11 A, 480 V 60 Hz 3-ph, (UL/CSA)

11 A, 200 V 60 Hz 3-ph, (UL/CSA)

7.5 HP, 480 V 60 Hz 3-ph, (UL/CSA)

11 A, 600 V 60 Hz 3-ph, (UL/CSA)

9.6 A, 240 V 60 Hz 3-ph, (UL/CSA)

3 HP, 240 V 60 Hz 3-ph, (UL/CSA)

10 HP, 600 V 60 Hz 3-ph, (UL/CSA)

3 HP, 200 V 60 Hz 3-ph, (UL/CSA)

Special purpose rating of refrigeration control (CSA only)

180 A, LRA 600 V 60 Hz 3phase; (CSA)

40 A, FLA 480 V 60 Hz 3phase; (CSA)

30 A, FLA 600 V 60 Hz 3phase; (CSA)

240 A, LRA 480 V 60 Hz 3phase; (CSA)

Special purpose rating of resistance air heating

40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)

40 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)

Special purpose rating of tungsten incandescent lamps

40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)

40 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)

Conventional thermal current i_{th} at 40°C (3-pole, open)

40 A

Conventional thermal current i_{th} at 50°C (3-pole, open)

38 A

Conventional thermal current i_{th} at 60°C (3-pole, open)

35 A

Rated operational power at AC-3, 440 V, 50 Hz

10.5 kW

Rated operational power at AC-3, 500 V, 50 Hz

12 kW

Rated operational power at AC-3, 690 V, 50 Hz

11 kW

Actuating voltage

230 V 50 Hz, 240 V 60 Hz

Altitude

Max. 2000 m

Operating voltage at AC, 50 Hz - min

24 V

Operating voltage at AC, 50 Hz - max

690 V

Operating voltage at AC, 60 Hz - min

24 V

Operating voltage at AC, 60 Hz - max

690 V



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