

# Eaton 276585

Catalog Number: 276585

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 3 kW, 1 NC, 230 V 50 Hz, 240 V 60 Hz, AC operation, Screw terminals DILM7-01(230V50HZ,240V60HZ)

## General specifications

<b>Product Name</b>	<b>Catalog Number</b>
Eaton Moeller® series DILM Contactor	276585
<b>Model Code</b>	<b>EAN</b>
DILM7-01(230V50HZ,240V60HZ)	4015082765859
<b>Product Length/Depth</b>	<b>Product Height</b>
75 mm	68 mm
<b>Product Width</b>	<b>Product Weight</b>
45 mm	.24 kg
<b>Certifications</b>	<b>Catalog Notes</b>
IEC/EN 60947-4-1 VDE 0660 UL File No.: E29096 UL Category Control No.: NLDX CSA File No.: 012528 IEC/EN 60947 CE UL 60947-4-1 CSA-C22.2 No. 60947-4-1-14 CSA Class No.: 2411-03, 3211-04 UL CSA	Contacts according to EN 50012

## Product specifications

### Terminal capacity (flexible with ferrule)

1 x (0.75 - 2.5) mm<sup>2</sup>

2 x (0.75 - 2.5) mm<sup>2</sup>

2 x (0.75 - 2.5) mm<sup>2</sup>

### Rated operational current for specified heat dissipation (I<sub>n</sub>)

7 A

### 10.11 Short-circuit rating

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

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

3 kW

### Conventional thermal current I<sub>th</sub> (3-pole, enclosed)

18 A

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

2.2 kW

### Rated operational current (I<sub>e</sub>) at AC-4, 440 V

5 A

### Rated control supply voltage (U<sub>s</sub>) at AC, 50 Hz - min

230 V

### Conventional thermal current I<sub>th</sub> at 60°C (3-pole, open)

20 A

### 10.4 Clearances and creepage distances

Meets the product standard's requirements.

### Number of contacts (normally closed) as main contact

0

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

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

65 kA, CB, SCCR (UL/CSA)

25 A, Class RK5/ 20 A Class J, max. Fuse, SCCR (UL/CSA)

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

### Conventional thermal current I<sub>th</sub> at 55°C (3-pole, open)

21 A

### Rated operational power (NEMA)

2.2 kW

### 10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

## Resources

### Catalogs

Switching and protecting motors - catalog

Product Range Catalog Switching and protecting motors

Product overview for machinery

SmartWire-DT Catalog

### Certification reports

DA-DC-00004237.pdf

DA-DC-00004095.pdf

0000SPC-571

### Drawings

210N017

eaton-contactors-module-dilm-dimensions-002.eps

eaton-contactors-mounting-dilm-dimensions.eps

210N018

210T013

eaton-contactors-module-dilm-dimensions.eps

2110DIM-2

eaton-contactors-mounting-dilm-dimensions-002.eps

eaton-contactors-frame-dilm-dimensions.eps

2110DIM-1

eaton-contactors-dilm-3d-drawing-007.eps

210I044

eaton-general-ie-ready-dilm-contactor-standards.eps

### Installation instructions

IL03407013Z2018\_07

IL03407013Z

### Specifications and datasheets

Eaton Specification Sheet - 276585

### Wiring diagrams

eaton-contactors-contact-dilm-wiring-diagram-002.eps

210S027

2100SWI-117

Ambient storage temperature - min

40 °C

Fitted with:

Mirror contact

Rated breaking capacity at 380/400 V

70 A

Short-circuit current rating (basic rating)

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

5 kA, SCCR (UL/CSA)

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

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

230 V

Rated breaking capacity at 660/690 V

40 A

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

15 A

Special purpose rating of elevator control

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

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

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

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

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

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

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

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

Ambient operating temperature - max

60 °C

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

.25 HP

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

2.4 kW

Electrical connection type of main circuit

Screw connection

Number Of Poles

Three-pole

Ambient operating temperature - min

-25 °C

10.6 Incorporation of switching devices and components

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.

#### 10.3 Degree of protection of assemblies

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

#### Application

Contactors for Motors

#### Operating frequency

9000 mechanical Operations/h (AC operated)

#### Voltage type

AC

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

35 A gG/gL

#### Product category

Contactors

#### Rated operational current (I<sub>e</sub>) at AC-4, 220 V, 230 V, 240 V

5 A

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

3.5 kW

#### Power consumption, pick-up, 50 Hz

24 VA, Dual-frequency coil in a cold state and 1.0 x U<sub>s</sub>, at 50 Hz

#### Heat dissipation capacity P<sub>diss</sub>

0 W

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

3 HP

#### Special purpose rating of tungsten incandescent lamps

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

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

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

9 ms

#### Rated operational current (I<sub>e</sub>) at AC-4, 500 V

4.5 A

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

2.2 kW

#### Terminal capacity (solid/stranded AWG)

Single 18 - 10, double 18 - 14

#### 10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

#### Degree of protection

IP20

#### Overvoltage category

III

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

18 ms

#### Ambient storage temperature - max

80 °C

#### Pollution degree

3

#### Rated operational current (I<sub>e</sub>) at AC-1, 380 V, 400 V, 415 V

22 A

#### Power consumption, pick-up, 60 Hz

30 VA, Dual-frequency coil in a cold state and 1.0 x U<sub>s</sub>, at 60 Hz

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

21 ms

#### Rated impulse withstand voltage (U<sub>imp</sub>)

8000 V AC

#### Connection

Screw terminals

#### Tightening torque

1.2 Nm, Screw terminals

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

2.9 kW

#### Frame size

FS1

#### Conventional thermal current I<sub>th</sub> (1-pole, enclosed)

45 A

#### Rated operational current (I<sub>e</sub>) at AC-3, 660 V, 690 V

4 A

#### 10.2.2 Corrosion resistance

Meets the product standard's requirements.

#### 10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

#### 10.2.7 Inscriptions

Meets the product standard's requirements.

Rated operational current (I<sub>e</sub>) at AC-3, 380 V, 400 V, 415 V

7 A

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

15 ms

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

20 A gG/gL

Special purpose rating of ballast electrical discharge lamps

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

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

Number of auxiliary contacts (normally open contacts)

0

Special purpose rating of definite purpose rating

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

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

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

3.5 kW

Shock resistance

5 g, N/C auxiliary 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

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

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

Rated operational current (I<sub>e</sub>) at DC-1, 110 V

20 A

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

2 HP

#### Drop-out voltage

AC operated: 0.6 - 0.3 x UC, AC operated

#### Power consumption, sealing, 60 Hz

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

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

#### Resistance per pole

2.5 mΩ

#### Ambient operating temperature (enclosed) - min

25 °C

#### Stripping length (control circuit cable)

10 mm

#### 10.12 Electromagnetic compatibility

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

#### 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)

#### 10.2.5 Lifting

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

#### Stripping length (main cable)

10 mm

#### Ambient operating temperature (enclosed) - max

40 °C

#### Special purpose rating of resistance air heating

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

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

#### Rated control supply voltage (Us) at DC - min

0 V

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

25 A, Class RK5/20 A, Class J, max. Fuse, SCCR (UL/CSA)

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

#### 10.8 Connections for external conductors

Is the panel builder's responsibility.

#### Number of main contacts (normally open contact)

3

Rated breaking capacity at 220/230 V

70 A

Screw size

M3.5, Terminal screw

Rated operational current (I<sub>e</sub>) at AC-4, 400 V

5 A

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

16 A gG/gL

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

5 HP

Protection

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

Power consumption, sealing, 50 Hz

1.4 W, Dual-frequency coil in a cold state and 1.0 x U<sub>s</sub>, at 50 Hz

3.4 VA, Dual-frequency coil in a cold state and 1.0 x U<sub>s</sub>, at 50 Hz

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

4.5 kW

Rated breaking capacity at 500 V

50 A

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

4 kW

Climatic proofing

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

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

Emitted interference

According to EN 60947-1

Connection to SmartWire-DT

No

Static heat dissipation, non-current-dependent P<sub>vs</sub>

1.4 W

Rated control supply voltage (U<sub>s</sub>) at DC - max

0 V

10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

Utilization category

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



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

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

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

7 A

10.5 Protection against electric shock

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

Safe isolation

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

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

10.13 Mechanical function

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

10.9.4 Testing of enclosures made of insulating material

Is the panel builder's responsibility.

Number of contacts (normally closed contacts)

1

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

.1 W

Actuating voltage

230 V 50 Hz, 240 V 60 Hz

Switching capacity (auxiliary contacts, general use)

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

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

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

4 A

Equipment heat dissipation, current-dependent  $P_{vid}$

0 W

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

1.5 HP

Pick-up voltage

0.8 - 1.1 V AC x  $U_c$

Suitable for

Also motors with efficiency class IE3

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

22 A

#### Terminal capacity (solid)

2 x (0.75 - 2.5) mm<sup>2</sup>

1 x (0.75 - 4) mm<sup>2</sup>

#### Number of auxiliary contacts (normally closed contacts)

1

#### Interference immunity

According to EN 60947-1

#### 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.

#### Lifespan, mechanical

10,000,000 Operations (AC operated)

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

20 A gG/gL

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

112 A

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

1.5 kW

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

2.5 kW

#### Rated operational current (I<sub>e</sub>) at DC-1, 60 V

20 A

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

1 kW

#### Rated operational voltage (U<sub>e</sub>) at AC - max

690 V

#### Rated control supply voltage (U<sub>s</sub>) at AC, 60 Hz - min

240 V

#### 10.7 Internal electrical circuits and connections

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.

#### Switching capacity (main contacts, general use)

20 A, Maximum motor rating (UL/CSA)

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

21 A

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

5 A

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

1 HP

Screwdriver size

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

2, Terminal screw, Pozidriv screwdriver

Duty factor

100 %

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

7 A

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

50 A

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

240 V

Arcing time

10 ms

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

2.3 kW

Switching capacity (auxiliary contacts, pilot duty)

A600, AC operated (UL/CSA)

P300, DC operated (UL/CSA)

Rated insulation voltage ( $U_i$ )

690 V

Altitude

Max. 2000 m



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