Product specifications

Eaton 277161

Catalog Number: 277161

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 11 kW, 1 NC, 110 V 50 Hz, 120 V 60 Hz, AC operation, Screw terminals



Photo is representative

General specifications

Product Name	**Catalog Number**
Eaton Moeller® series DILM contactor	277161
Model Code	**EAN**
DILM25-01(110V50HZ,120V60HZ)	4015082771614
Product Length/Depth	**Product Height**
97 mm	85 mm
Product Width	**Product Weight**
45 mm	0.428 kg
Certifications	**Catalog Notes**
VDE 0660 UL Category Control No.: NLDX CSA CSA File No.: 012528 IEC/EN 60947 IEC/EN 60947-4-1 CSA-C22.2 No. 60947-4-1-14 UL 60947-4-1 UL UL File No.: E29096 CSA Class No.: 2411-03, 3211-04 CE	Contacts according to EN 50012

Powering Business Worldwide

defaultTaxonomyAttributeLabel

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

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

Resources

Catalogs

Product Range Catalog Switching and protecting motors

Switching and protecting motors - catalog

SmartWire-DT Catalog

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

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-contactors-dilm-3d-drawing-009.eps

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

eCAD model

DA-CE-ETN.DILM25-01(110V50HZ,120V60HZ)

Installation instructions

IL03407014Z

Installation videos

WIN-WIN with push-in technology

mCAD model

DA-CD-dil_m17_38

DA-CS-dil_m17_38

System overview

eaton-contactors-dilm-contactor-system-overview.eps

Wiring diagrams

2100SWI-117

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

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, cyclic, to IEC 60068-2-30
Damp heat, constant, to IEC 60068-2-78

Connection to SmartWire-DT

No

Rated impulse withstand voltage (Uimp)

8000 V AC

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

Connection

Screw terminals

Frame size

FS2

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

7.5 HP

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

5 HP

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

10 HP

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

15 HP

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

20 HP

Conventional thermal current ith (1-pole, enclosed)

90 A

Conventional thermal current ith (3-pole, enclosed)

36 A

Conventional thermal current ith at 55°C (3-pole, open)

42 A

Conventional thermal current ith of main contacts (1-pole, open)

100 A

Equipment heat dissipation, current-dependent Pvid

4.2 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

1.4 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

0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver

Voltage type

AC

Degree of protection

IP00

Number of auxiliary contacts (normally closed contacts)

1

Number of auxiliary contacts (normally open contacts)

0

Number of contacts (normally closed contacts)

1

Number of contacts (normally closed) as main contact

0

Number of main contacts (normally open contact)

3

Rated breaking capacity at 220/230 V

250 A

Rated breaking capacity at 380/400 V

250 A

Rated breaking capacity at 500 V

250 A

Rated breaking capacity at 660/690 V

150 A

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

110 V

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

110 V

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

120 V

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

120 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)

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 coil and contacts, According to EN 61140

440 V AC, Between the 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

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

Power consumption, sealing, 60 Hz

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

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

Terminal capacity (stranded)

1 x 16 mm², Main cables

Switching capacity (auxiliary contacts, general use)

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

10 A, 600 V AC, (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

2 x (0.75 - 10) mm², Main cables

1 x (0.75 - 2.5) mm², Control circuit cables

1 x (0.75 - 16) mm², Main cables

Shock resistance

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

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

7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, 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

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

Terminal capacity (solid)

1 x (0.75 - 16) mm², Main cables

2 x (0.75 - 10) mm², Main cables

1 x (0.75 - 4) mm², Control circuit cables

2 x (0.75 - 2.5) mm², Control circuit cables

Terminal capacity (solid/stranded AWG)

18 - 14, Control circuit cables

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

Switching capacity (main contacts, general use)

40 A, Maximum motor rating (UL/CSA)

Tightening torque

3.2 Nm, Screw terminals, Main cables

1.2 Nm, Screw terminals, Control circuit 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)

350 A

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

45 A

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

25 A

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

25 A

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

25 A

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

25 A

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

15 A

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

13 A

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

13 A

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

13 A

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

13 A

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

10 A

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

40 A

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

40 A

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

40 A

Rated operational current for specified heat dissipation (In)

25 A

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

8.5 kW

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

11 kW

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

14.5 kW

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

3.5 kW

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

4 kW

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

6 kW

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

6.5 kW

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

7 kW

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

8 kW

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

8.5 kW

Rated operational power (NEMA)

11 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)

5 kA, SCCR (UL/CSA)

125 A, max. CB, 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)

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

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

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

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

125/100 A, Class J, max. Fuse, SCCR (UL/CSA)

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

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

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

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

100 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 (600V 60Hz 3phase, 347V 60Hz 1phase)

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

Special purpose rating of definite purpose rating

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

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

Special purpose rating of elevator control

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

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

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

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

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

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

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

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

Special purpose rating of refrigeration control (CSA only)

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

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)

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

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

Conventional thermal current ith at 40°C (3-pole, open)

45 A

Conventional thermal current ith at 50°C (3-pole, open)

43 A

Conventional thermal current ith at 60°C (3-pole, open)

40 A

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

15.5 kW

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

17.5 kW

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

14 kW

Actuating voltage

110 V 50 Hz, 120 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

Eaton Corporation plc
Eaton House
30 Pembroke Road
Dublin 4, Ireland
Eaton.com

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