Product specifications

Eaton 276834

Catalog Number: 276834

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 5.5 kW, 1 N/O, 24 V 50/60 Hz, AC operation, Screw terminals



General specifications

Product Name
Eaton Moeller® series DILM contactor

Catalog Number
276834

EAN
4015082768348

Product Length/Depth
75 mm

Product Height
68 mm

Product Width
45 mm

Product Weight
0.24 kg

Certifications
CE
CSA-C22.2 No. 60947-4-1-14
IEC/EN 60947-4-1
CSA File No.: 012528
CSA
CSA Class No.: 2411-03, 3211-04
IEC/EN 60947
VDE 0660
UL 60947-4-1
UL File No.: E29096
UL Category Control No.: NLDX
UL

Catalog Notes
Contacts according to EN 50012

Features & Functions

Number Of Poles

Three-pole

General

Application

Contactors for Motors

Frame size

FS1

Lifespan, mechanical

10,000,000 Operations (AC operated)

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

Operating frequency

9000 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

Suitable for

Also motors with efficiency class IE3

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

Voltage type

AC

Ambient conditions, mechanical

Shock resistance

Climatic environmental conditions

Ambient operating temperature - min

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

-25 °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, constant, to IEC 60068-2-78
Damp heat, cyclic, to IEC 60068-2-30

Electro Magnetic Compatibility

Emitted interference

According to EN 60947-1

Interference immunity

According to EN 60947-1

Terminal capacities

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)

1 x (0.75 - 4) mm²
2 x (0.75 - 2.5) 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

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

Tightening torque

1.2 Nm, Screw terminals

Electrical Rating

Rated breaking capacity at 220/230 V

120 A

Rated breaking capacity at 380/400 V

120 A

Rated breaking capacity at 500 V

100 A

Rated breaking capacity at 660/690 V

70 A

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

22 A

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

12 A

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

12 A

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

12 A

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

10 A

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

7 A

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

7 A

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

7 A

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

6 A

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

5 A

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

20 A

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

20 A

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

15 A

Rated insulation voltage (Ui)

Short-circuit rating

Short-circuit current rating (basic rating)

5 kA, SCCR (UL/CSA)

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

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

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

25 A, Class RK5/ 45 A Class J, max. Fuse, SCCR (UL/CSA)

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

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

25 A, Class RK5/45 A, Class J, max. Fuse, SCCR (UL/CSA)

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

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

35 A gG/gL

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

25 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

Conventional thermal current

Conventional thermal current ith (1-pole, enclosed)

45 A

Conventional thermal current ith (3-pole, enclosed)

18 A

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

21 A

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

50 A

Switching capacity

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 kW

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

5.5 kW

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

7 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)

P300, DC operated (UL/CSA)

A600, AC operated (UL/CSA)

Switching time

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

Magnet system

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

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

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

Power consumption, pick-up, 60 Hz

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

27 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

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

4.2 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
1.4 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

Motor Rating

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

1 HP

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

3 HP

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

2 HP

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

3 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

Communication

Connection

Screw terminals

Connection to SmartWire-DT

No

Contacts

Number of contacts (normally open contacts)

1

Number of auxiliary contacts (normally closed contacts)

0

Number of auxiliary contacts (normally open contacts)

1

Safety

Safe isolation

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

Special purpose ratings

Special purpose rating of ballast electrical discharge lamps

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

Special purpose rating of definite purpose rating

12 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
72 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)

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

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

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

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

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

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

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

Special purpose rating of refrigeration control (CSA only)

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

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

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

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)

Design verification

Equipment heat dissipation, current-dependent Pvid

0 W

Heat dissipation capacity Pdiss

0 W

Rated operational current for specified heat dissipation (In)

12 A

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.

Resources

Catalogs

SmartWire-DT Catalog

Switching and protecting motors - catalog

Product Range Catalog Switching and protecting motors

Drawings

eaton-contactors-mounting-dilm-dimensions.eps

eaton-contactors-frame-dilm-dimensions.eps

eaton-contactors-module-dilm-dimensions.eps

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

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

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

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

Installation instructions

eaton-contactors-dila-dilm7-15-dilmp20-instruction-leaflet-il03407013z.pdf

Installation video

WIN-WIN with push-in technology

Wiring diagrams

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

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