Product specifications

Eaton 276732

Catalog Number: 276732

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 4 kW, 1 NC, 220 V 50/60 Hz, AC operation, Screw terminals

General specifications

Product Name
Eaton Moeller® series DILM contactor

Catalog Number
276732

Model Code
DILM9-01(220V50/60HZ)

EAN
4015082767327

Product Length/Depth
75 mm

Product Height
68 mm

Product Width
45 mm

Product Weight
0.24 kg

Warranty
1 year

Compliances
CE Marked
RoHS Compliant

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

Catalog Notes
Contacts according to EN 50012

Powering Business Worldwide

defaultTaxonomyAttributeLabel

Electrical connection type for auxiliary- and control-current circuit

Screw connection

Amperage Rating

170A

HP rating - max

0.5, 1.5/ 3, 3, 5, 7.5 hp (1/3PH @120,240/208,240,480,600 V)

Number Of Poles

Three-pole

Type

Full voltage non-reversing miniature contactor

Voltage rating

400 V

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.

Resources

Catalogs

Product Range Catalog Switching and protecting motors

SmartWire-DT Catalog

eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf

Characteristic curve

eaton-contactors-component-dilm-characteristic-curve-003.eps

eaton-contactors-switch-dilm-characteristic-curve.eps

eaton-contactors-switch-dilm-characteristic-curve-002.eps

Declarations of conformity

DA-DC-00004792.pdf

DA-DC-00004810.pdf

Drawings

eaton-contactors-module-dilm-dimensions.eps

eaton-contactors-frame-dilm-dimensions.eps

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

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

eaton-contactors-mounting-dilm-dimensions.eps

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

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

eCAD model

ETN.276732.edz

Installation instructions

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

Installation videos

WIN-WIN with push-in technology

mCAD model

DA-CD-dil_m7_15

DA-CS-dil_m7_15

Specifications and datasheets

Eaton Specification Sheet - 276732

System overview

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

Wiring diagrams

2100SWI-117

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.

Fitted with:

Mirror contact

Frequency rating

50-60 Hz

Operating frequency

9000 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

Connection to SmartWire-DT

No

Rated impulse withstand voltage (Uimp)

8000 V AC

Utilization category

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

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

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

Connection

Screw terminals

Frame size

FS1

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

0.5 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

1.5 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

5 HP

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

7.5 HP

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

Equipment heat dissipation, current-dependent Pvid

0 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

0.2 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)

Terminals

Screw terminals

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

IP20

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

Operating temperature - max

60 °C

Operating temperature - min

-25 °C

Rated breaking capacity at 220/230 V

90 A

Rated breaking capacity at 380/400 V

90 A

Rated breaking capacity at 500 V

70 A

Rated breaking capacity at 660/690 V

50 A

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

220 V

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

220 V

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

220 V

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

220 V

Coil voltage

220 Vac, 50-60 Hz

Contact configuration

1 NC

Continuous ampere rating

20 A

Drop-out voltage

AC operated: 0.6 - 0.3 x UC, AC operated

Overvoltage category

III

Duty factor

100 %

Number of contacts

1 NC

Emitted interference

According to EN 60947-1

Operation

Reversing

Interference immunity

According to EN 60947-1

Lifespan, mechanical

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

10,000,000 Operations (AC operated)

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

Safe isolation

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

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

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

Screw size

M3.5, Terminal screw

Power consumption, sealing, 50 Hz

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

1.2 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

1.2 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

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

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

2 x (0.75 - 2,5) mm²

1 x (0.75 - 2.5) mm²

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

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

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

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

Switching capacity (main contacts, general use)

20 A, Maximum motor rating (UL/CSA)

Power consumption

4 kW

Tightening torque

1.2 Nm, Screw terminals

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)

112 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

9 A

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

9 A

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

9 A

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

7 A

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

5 A

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

6 A

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

6 A

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

6 A

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

5 A

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

4.5 A

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

20 A

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

15 A

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

20 A

Rated operational current for specified heat dissipation (In)

9 A

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

3 kW

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

4 kW

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

5.5 kW

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

1.5 kW

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

1.6 kW

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

2.5 kW

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

2.8 kW

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

3 kW

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

2.8 kW

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

3.6 kW

Rated operational power (NEMA)

3.7 kW

Rated operational voltage (Ue) at AC - max

690 V

Resistance per pole

2.5 mΩ

Static heat dissipation, non-current-dependent Pvs

1.4 W

Stripping length (control circuit cable)

10 mm

Stripping length (main cable)

10 mm

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

21 ms

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

15 ms

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

18 ms

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

9 ms

Short-circuit current rating (basic rating)

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

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

5 kA, SCCR (UL/CSA)

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

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)

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

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)

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

35 A gG/gL

Suitable for

Also motors with efficiency class IE3

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

20 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

16 A gG/gL

Special purpose rating of ballast electrical discharge lamps

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

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

Special purpose rating of definite purpose rating

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

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

Special purpose rating of elevator control

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

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

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

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

4.8 A, 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)

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

Special purpose rating of refrigeration control (CSA only)

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)

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

Special purpose rating of resistance air heating

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

18 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)

Operating temperature

-25° to 60°C

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

22 A

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

21 A

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

20 A

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

5.5 kW

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

4.5 kW

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

4.5 kW

Actuating voltage

220 V 50/60 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

Eaton.com/socialmedia