Product specifications

Eaton 290058

Catalog Number: 290058

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 7.5 kW, 1 N/O, 230 V 50 Hz, 240 V 60 Hz, AC operation, Screw terminals DILM15-10(230V50HZ,240V60HZ)



General specifications

Product Name
Eaton Moeller® series DILM contactor

Catalog Number
290058

Model Code
DILM15-10(230V50HZ,240V60HZ)

EAN
4015082900588

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

Catalog Notes
Contacts according to EN 50012

Powering Business Worldwide

defaultTaxonomyAttributeLabel

Amperage Rating

170A

HP rating - max

1, 3/ 5, 5, 10, 10 hp (1/3PH @120, 240/208, 240, 480 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.

10.2.5 Lifting

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

Resources

Catalogs

SmartWire-DT Catalog

Switching and protecting motors - catalog

Product Range Catalog Switching and protecting motors

Characteristic curve

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

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

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

Declarations of conformity

DA-DC-00004792.pdf

DA-DC-00004810.pdf

Drawings

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

eaton-contactors-frame-dilm-dimensions.eps

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

eaton-contactors-mounting-dilm-dimensions.eps

eaton-contactors-module-dilm-dimensions.eps

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

eCAD model

ETN.DILM15-10(230V50HZ,240V60HZ)

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

PEP Eco-passport

EATO-00023-V01.01-EN

Specifications and datasheets

Eaton Specification Sheet - 290058

System overview

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

Wiring diagrams

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

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.

Frequency rating

50-60 Hz

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

Connection to SmartWire-DT

No

Rated impulse withstand voltage (Uimp)

8000 V AC

Utilization category

AC-1: Non-inductive or slightly inductive loads, resistance furnaces
AC-4: Normal AC induction motors: starting, plugging, reversing, inching
AC-3: Normal AC induction motors: starting, switch off during running

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

1 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

10 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

0.5 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)

0

Number of auxiliary contacts (normally open contacts)

1

Number of contacts (normally closed) as main contact

0

Number of contacts (normally open contacts)

1

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

124 A

Rated breaking capacity at 380/400 V

124 A

Rated breaking capacity at 500 V

100 A

Rated breaking capacity at 660/690 V

70 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

Coil voltage

230-240 Vac, 50/60 Hz

Continuous ampere rating

15.5 A

Drop-out voltage

AC operated: 0.6 - 0.3 x UC, AC operated

Overvoltage category

III

Duty factor

100 %

Number of contacts

1 NO

Emitted interference

According to EN 60947-1

Operation

Reversing

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

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

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

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

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, at 50 Hz

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

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

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

1 x (0.75 - 2.5) mm²

2 x (0.75 - 2,5) mm²

Shock resistance

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
5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, 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
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/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

7.5 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)

155 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

15.5 A

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

15.5 A

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

15.5 A

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

12.5 A

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

9 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, 440 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, 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)

15.5 A

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

4.6 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

8 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, 380/400 V, 50 Hz

3 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 power (NEMA)

7.4 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)

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

5 kA, SCCR (UL/CSA)

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

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

25 A, Class RK5/ 60 A Class J, max. Fuse, SCCR (UL/CSA)

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

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

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

25 A, Class RK5/60 A, Class J, max. Fuse, SCCR (UL/CSA)

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

63 A gG/gL

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

50 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

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

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

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

Special purpose rating of elevator control

7.8 A, 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)

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

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

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

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

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

Special purpose rating of refrigeration control (CSA only)

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

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

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

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

Special purpose rating of resistance air heating

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

20 A, 480 V 60 Hz 3phase, 277 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)

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

8.4 kW

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

7.5 kW

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

7 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

Powering Business Worldwide

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

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