Product specifications

Eaton 109877

Catalog Number: 109877

Eaton Moeller® series DILMP Contactor, 4 pole, 80 A, 110 V 50 Hz, 120 V 60 Hz, AC operation



Photo is representative

General specifications

Product Name
Eaton Moeller® series DILMP 4-pole contactor

Catalog Number
109877

Model Code
DILMP80(110V50HZ,120V60HZ)

EAN
4015081094431

Product Length/Depth
132 mm

Product Height
115 mm

Product Width
74 mm

Product Weight
1.04 kg

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

Catalog Notes
Contacts according to EN 50012

Powering Business Worldwide

defaultTaxonomyAttributeLabel

Number Of Poles

Four-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

Switching and protecting motors - catalog

SmartWire-DT Catalog

Product Range Catalog Switching and protecting motors

Characteristic curve

eaton-contactors-switching-dilmp-characteristic-curve.eps

eaton-contactors-characteristic-curve-2110dia-3.eps

Drawings

eaton-contactors-dilmp-dimensions.eps

eaton-contactors-dilmp-dimensions-002.eps

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

eaton-contactors-mounting-dilm-dimensions.eps

eCAD model

DA-CE-ETN.DILMP80(110V50HZ,120V60HZ)

Installation instructions

IL03407049Z

Installation videos

WIN-WIN with push-in technology

mCAD model

DA-CD-dil_mp63_80

DA-CS-dil_mp63_80

Wiring diagrams

eaton-contactors-contact-dilem-wiring-diagram.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.

Operating frequency

5000 mechanical Operations/h (DC operated)
5000 mechanical Operations/h (AC operated)

Pollution degree

3

Climatic proofing

Damp heat, cyclic, to IEC 60068-2-30
Damp heat, constant, to IEC 60068-2-3

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

Connection

Screw terminals

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

3 HP

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

15 HP

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

10 HP

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

20 HP

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

40 HP

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

50 HP

Conventional thermal current ith (1-pole, enclosed)

186 A

Conventional thermal current ith (3-pole, enclosed)

64 A

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

73 A

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

207 A

Equipment heat dissipation, current-dependent Pvid

25.8 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

8.6 W

Application

Contactors for 4 pole electric consumers

Product category

Contactors

Protection

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

Electrical connection type of main circuit

Screw connection

Screwdriver size

2, Terminal screw, Pozidriv screwdriver

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

Voltage type

AC

Degree of protection

IP00

Number of auxiliary contacts (normally closed contacts)

0

Number of auxiliary contacts (normally open contacts)

0

Number of contacts (normally closed) as main contact

0

Number of main contacts (normally open contact)

4

Rated breaking capacity at 220/230 V

500 A

Rated breaking capacity at 380/400 V

500 A

Rated breaking capacity at 500 V

500 A

Rated breaking capacity at 660/690 V

296 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 - 0.4 x UC, AC operated

Overvoltage category

III

Duty factor

100 %

Lifespan, mechanical

10,000,000 Operations (AC operated)

10,000,000 Operations (DC operated)

Pick-up voltage

0.8 - 1.1 V AC x Uc

0.85 - 1.1 V AC/DC x Us

Power consumption, pick-up, 50 Hz

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

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

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

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

Residual current

1 mA (with actuation of A1 - A2 by the electronics with "0" signal)

Screw size

M6, Terminal screw, Main cables

M3.5, Terminal screw, Control circuit cables

Power consumption, sealing, 50 Hz

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

Power consumption, sealing, 60 Hz

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

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

Terminal capacity (stranded)

1 x (16 - 50) mm², Main cables

2 x (16 - 35) mm², Main cables

Terminal capacity (copper band)

2 x (6 x 9 x 0.8) mm (Number of segments x width x thickness),

Main cables

Terminal capacity (flexible with ferrule)

1 x (2.5 - 35) mm², Main cables
2 x (2.5 - 25) mm², Main cables
1 x (0.75 - 2.5) mm², Control circuit cables
2 x (0.75 - 2.5) mm², Control circuit cables

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

Terminal capacity (solid)

2 x (2.5 - 16) mm², Main cables
1 x (0.75 - 4) mm², Control circuit cables
1 x (2.5 - 16) mm², Main cables
2 x (0.75 - 2.5) mm², Control circuit cables

Terminal capacity (solid/stranded AWG)

18 - 14, Control circuit cables
12 - 2, Main Cables

Switching capacity (main contacts, general use)

80 A, Maximum motor rating (UL/CSA)

Tightening torque

3.3 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)

700 A

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

80 A

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

50 A

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

50 A

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

50 A

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

50 A

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

32 A

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

40 A

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

80 A

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

80 A

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

80 A

Rated operational current for specified heat dissipation (In)

80 A

Rated operational power at AC-1, 220/230 V, 50 Hz

29 kW

Rated operational power at AC-1, 240 V, 50 Hz

32 kW

Rated operational power at AC-1, 380/400 V, 50 Hz

50 kW

Rated operational power at AC-1, 415 V, 50 Hz

55 kW

Rated operational power at AC-1, 440 V, 50 Hz

58 kW

Rated operational power at AC-1, 500 V, 50 Hz

66 kW

Rated operational power at AC-1, 690 V, 50 Hz

87 kW

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

17 kW

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

22 kW

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

30 kW

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

20 kW

Rated operational power (NEMA)

29.8 kW

Rated operational voltage (Ue) at AC - max

690 V

Resistance per pole

1.9 m Ω

Static heat dissipation, non-current-dependent Pvs

4.1 W

Stripping length (control circuit cable)

10 mm

Stripping length (main cable)

10 mm

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

18 ms

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

12 ms

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

13 ms

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

8 ms

Short-circuit current rating (basic rating)

10 kA, SCCR (UL/CSA)

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

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

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

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

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

250/150 A, Class J, max. Fuse, SCCR (UL/CSA)

65 kA, CB, SCCR (UL/CSA)

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

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

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

250/150 A, Class J, max. Fuse, SCCR (UL/CSA)

30 kA, CB, SCCR (UL/CSA)

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

160 A gG/gL

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

80 A gG/gL

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

80 A gG/gL

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

63 A gG/gL

Special purpose rating of ballast electrical discharge lamps

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

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

Special purpose rating of elevator control

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

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

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

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

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

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

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

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

Special purpose rating of resistance air heating

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

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

Special purpose rating of tungsten incandescent lamps

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

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

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

80 A

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

76 A

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

69 A

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

32 kW

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

36 kW

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

30 kW

Actuating voltage

110 V 50 Hz, 120 V 60 Hz

Altitude

Max. 2000 m

Operating voltage at AC, 50 Hz - min

230 V

Operating voltage at AC, 50 Hz - max

690 V

Operating voltage at AC, 60 Hz - min

230 V

Operating voltage at AC, 60 Hz - max

690 V

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