

Eaton 109910

Catalog Number: 109910

Eaton Moeller® series DILMP Contactor, 4 pole, 125 A, RDC 24:
24 - 27 V DC, DC operation



General specifications

Product Name

Eaton Moeller® series DILMP 4-pole
contactor

Catalog Number

109910

Model Code

DILMP125(RDC24)

EAN

4015081094769

Product Length/Depth

160 mm

Product Height

170 mm

Product Width

122 mm

Product Weight

2.73 kg

Certifications

CSA Class No.: 2411-03, 3211-04

VDE 0660

UL

UL File No.: E29096

CE

CSA

IEC/EN 60947-4-1

CSA-C22.2 No. 60947-4-1-14

IEC/EN 60947

UL 60947-4-1

UL Category Control No.: NLDX

CSA File No.: 012528

Catalog Notes

Also tested according to AC-3e.

Features & Functions

Fitted with:

Suppressor circuit in actuating electronics

Number Of Poles

Four-pole

General

Application

Contactors for 4 pole electric consumers

Lifespan, mechanical

10,000,000 Operations (DC operated)

10,000,000 Operations (AC operated)

Operating frequency

3600 mechanical Operations/h (AC operated)

3600 mechanical Operations/h (DC 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

Residual current

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

Resistance per pole

0.6 m Ω

Utilization category

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

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

Voltage type

DC

Ambient conditions, mechanical

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

Climatic environmental conditions

Ambient operating temperature - min

-25 °C

Ambient operating temperature - max

60 °C

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

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 60068-2-3

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

Electro Magnetic Compatibility

Interference immunity

According to EN 60947-1

Terminal capacities

Terminal capacity (copper band)

2 x (6 x 16 x 0.8) mm (Number of segments x width x thickness),
Main cables

Terminal capacity (flexible with ferrule)

1 x (0.75 - 1.5) mm²

2 x (0.75 - 1.5) mm²

Terminal capacity (flexible)

1 x (0.75 - 2.5) mm²

2 x (0.75 - 2.5) mm²

Terminal capacity (solid)

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

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

1 x (0.75 - 2.5) mm²

Terminal capacity (solid/stranded AWG)

18 - 14, Control circuit cables

8 - 3/0, Main cables

Terminal capacity (stranded)

1 x (16 - 120) mm², Main cables

2 x (16 - 95) mm², Main cables

Stripping length (main cable)

15 mm

Stripping length (control circuit cable)

10 mm

Screw size

M10, Terminal screw, Main cables

5 mm AF, Hexagon socket-head spanner, Terminal screw, Main

cables

M3.5, Terminal screw, Control circuit cables

Screwdriver size

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

2, Terminal screw, Control circuit cables, Pozidriv screwdriver

Tightening torque

14 Nm, Screw terminals, Main cables

1.2 Nm, Screw terminals, Control circuit cables

Electrical Rating

Rated breaking capacity at 220/230 V

800 A

Rated breaking capacity at 380/400 V

800 A

Rated breaking capacity at 500 V

800 A

Rated breaking capacity at 660/690 V

650 A

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

125 A

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

80 A

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

80 A

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

80 A

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

80 A

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

65 A

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

115 A

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

125 A

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

125 A

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

125 A

Rated insulation voltage (U_i)

690 V

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

125 A

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

49 kW

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

78 kW

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

85 kW

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

90 kW

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

103 kW

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

136 kW

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

27.5 kW

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

37 kW

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

48 kW

Rated operational voltage (U_e) at AC - max

690 V

Conventional thermal current

Conventional thermal current *i*_{th} (1-pole, enclosed)

292 A

Conventional thermal current *i*_{th} (3-pole, enclosed)

100 A

Conventional thermal current *i*_{th} at 55°C (3-pole, open)

110 A

Conventional thermal current *i*_{th} of main contacts (1-pole, open)

325 A

Short-circuit rating

Short-circuit current rating (basic rating)

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

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

10 kA, SCCR (UL/CSA)

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

65 kA, CB, SCCR (UL/CSA)

300/300 A, Class J, max. Fuse, SCCR (UL/CSA)

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

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

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

30 kA, CB, SCCR (UL/CSA)

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

300/300 A, Class J, max. Fuse, SCCR (UL/CSA)

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

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

250 A gG/gL

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

200 A gG/gL

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

160 A gG/gL

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

160 A gG/gL

Switching capacity

Switching capacity (main contacts, general use)

125 A, Maximum motor rating (UL/CSA)

Switching time

Arcing time

15 ms

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

35 ms

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

30 ms

Magnet system

Drop-out voltage

0.2 - 0.6 x UC, DC operated

Duty factor

100 %

Pick-up voltage

0.7 - 1.2 V DC x U_c

0.8 - 1.1 V AC/DC x U_s

Power consumption (pick-up) at DC

149 W

Power consumption (sealing) at DC

1.9 W

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

0 V

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

0 V

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

0 V

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

0 V

Rated control supply voltage (U_s) at DC - min

24 V

Rated control supply voltage (U_s) at DC - max

27 V

Safety

Safe isolation

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

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

Motor Rating

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

7.5 HP

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

25 HP

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

15 HP

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

30 HP

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

60 HP

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

75 HP

Communication

Connection to SmartWire-DT

No

Contacts

Number of auxiliary contacts (normally closed contacts)

0

Number of auxiliary contacts (normally open contacts)

0

Special purpose ratings

Special purpose rating of ballast electrical discharge lamps

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

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

Special purpose rating of elevator control

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

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

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

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

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

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

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

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

Special purpose rating of refrigeration control (CSA only)

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

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

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

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

Special purpose rating of resistance air heating

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

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

Special purpose rating of tungsten incandescent lamps

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

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

Design verification

Equipment heat dissipation, current-dependent P_{vid}

22.2 W

Heat dissipation capacity P_{diss}

0 W

Rated operational current for specified heat dissipation (I_n)

125 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

Catalogues

Product Range Catalog Switching and protecting motors

Switching and protecting motors - catalog

SmartWire-DT Catalog

[eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf](#)

Characteristic curve

[eaton-contactors-switching-dilmp-characteristic-curve.eps](#)

2110DIA-3

Declarations of conformity

[DA-DC-00004818.pdf](#)

[DA-DC-00004781.pdf](#)

Drawings

[eaton-contactors-dimensions-2110dim-14.eps](#)

2110DIM-14

[eaton-contactors-dilmp-dimensions-004.eps](#)

[eaton-contactors-dilmp-dimensions-003.eps](#)

[eaton-contactors-mounting-dilm-dimensions.eps](#)

[eaton-contactors-mounting-dilm-dimensions-002.eps](#)

2110DIM-15

[eaton-contactors-characteristic-curve-2110dia-3.eps](#)

210N018

[eaton-contactors-dimensions-2110dim-15.eps](#)

210N017

eCAD model

[ETN.109910.edz](#)

[DA-CE-ETN.DILMP125\(RDC24\)](#)

Installation instructions

[IL03407049Z](#)

Installation videos

[WIN-WIN with push-in technology](#)

mCAD model

[eaton-cadenas-path-01-geo-dil_mp125_200.3db](#)

[eaton-cadenas-front_view-dil_mp125_200_front.pra](#)

[DA-CS-dil_mp125_200](#)

[DA-CD-dil_mp125_200](#)

eaton-cadenas-drill_view-dil_mp125_200_drill.pra

eaton-cadenas-side_view-dil_mp125_200_side.pra

Wiring diagrams

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

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