

# Eaton 109923

Catalog Number: 109923

Eaton Moeller® series DILMP Contactor, 4 pole, 200 A, RAC 120:  
100 - 120 V 50/60 Hz, AC operation

## General specifications



### Product Name

Eaton Moeller® series DILMP 4-pole  
contactor

### Catalog Number

109923

### Model Code

DILMP200(RAC120)

### EAN

4015081094899

### Product Length/Depth

160 mm

### Product Height

170 mm

### Product Width

122 mm

### Product Weight

2.73 kg

### Certifications

CSA

UL

CE

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

UL Category Control No.: NLDX

UL File No.: E29096

CSA File No.: 012528

IEC/EN 60947

UL 60947-4-1

VDE 0660

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

IEC/EN 60947-4-1



Powering Business Worldwide

### Catalog Notes

Contacts according to EN 50012

## 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 $\Omega$

### Utilization category

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

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

### Voltage type

AC

## 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) mm<sup>2</sup>

2 x (0.75 - 1.5) mm<sup>2</sup>

### Terminal capacity (flexible)

1 x (0.75 - 2.5) mm<sup>2</sup>

2 x (0.75 - 2.5) mm<sup>2</sup>

### Terminal capacity (solid)

2 x (0.75 - 4) mm<sup>2</sup>, Control circuit cables

1 x (0.75 - 4) mm<sup>2</sup>, Control circuit cables

1 x (0.75 - 2.5) mm<sup>2</sup>

### Terminal capacity (solid/stranded AWG)

8 - 3/0, Main cables

18 - 14, Control circuit cables

### Terminal capacity (stranded)

1 x (16 - 120) mm<sup>2</sup>, Main cables

2 x (16 - 95) mm<sup>2</sup>, Main cables

### Stripping length (main cable)

15 mm

### Stripping length (control circuit cable)

10 mm

### Screw size

M10, Terminal screw, Main cables

M3.5, Terminal screw, Control circuit cables

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

#### Screwdriver size

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

1150 A

Rated breaking capacity at 380/400 V

1150 A

Rated breaking capacity at 500 V

1150 A

Rated breaking capacity at 660/690 V

800 A

Rated operational current (I<sub>e</sub>) at AC-1, 380 V, 400 V, 415 V

200 A

Rated operational current (I<sub>e</sub>) at AC-3, 220 V, 230 V, 240 V

115 A

Rated operational current (I<sub>e</sub>) at AC-3, 380 V, 400 V, 415 V

115 A

Rated operational current (I<sub>e</sub>) at AC-3, 440 V

115 A

Rated operational current (I<sub>e</sub>) at AC-3, 500 V

115 A

Rated operational current (I<sub>e</sub>) at AC-3, 660 V, 690 V

93 A

Rated operational current (I<sub>e</sub>) at AC-4, 400 V

136 A

Rated operational current (I<sub>e</sub>) at DC-1, 60 V

200 A

Rated operational current (I<sub>e</sub>) at DC-1, 110 V

200 A

Rated operational current (I<sub>e</sub>) at DC-1, 220 V

200 A

Rated insulation voltage (U<sub>i</sub>)

690 V

Rated operational current (I<sub>e</sub>) at AC-1, 380 V, 400 V, 415 V

200 A

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

79 kW

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

125 kW

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

137 kW

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

145 kW

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

165 kW

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

217 kW

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

40 kW

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

55 kW

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

70 kW

Rated operational voltage (Ue) at AC - max

690 V

## Conventional thermal current

Conventional thermal current  $i_{th}$  (1-pole, enclosed)

464 A

Conventional thermal current  $i_{th}$  (3-pole, enclosed)

160 A

Conventional thermal current  $i_{th}$  at 55°C (3-pole, open)

180 A

Conventional thermal current  $i_{th}$  of main contacts (1-pole, open)

516 A

## Short-circuit rating

Short-circuit current rating (basic rating)

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

10 kA, SCCR (UL/CSA)

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

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

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

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

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

65 kA, CB, SCCR (UL/CSA)

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

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

30 kA, CB, SCCR (UL/CSA)

300/300 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

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

250 A gG/gL

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

200 A gG/gL

## Switching capacity

Switching capacity (main contacts, general use)

180 A, Maximum motor rating (UL/CSA)

## Switching time

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

28 ms

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

33 ms

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

35 ms

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

max  
41 ms

## Magnet system

### Drop-out voltage

AC operated:  $0.6 - 0.25 \times UC$ , AC operated

### Duty factor

100 %

### Pick-up voltage

$0.8 - 1.15 \text{ V AC/DC} \times Us$

$0.8 - 1.15 \text{ V AC} \times Uc$

### Power consumption, pick-up, 50 Hz

180 VA, Dual-frequency coil in a cold state and  $1.0 \times Us$

### Power consumption, pick-up, 60 Hz

150 W, Dual-frequency coil in a cold state and  $1.0 \times Us$ , at 60 Hz

180 VA, Dual-frequency coil in a cold state and  $1.0 \times Us$

### Power consumption, sealing, 50 Hz

2.3 W, Dual-frequency coil in a cold state and  $1.0 \times Us$ , at 50 Hz

### Power consumption, sealing, 60 Hz

2.3 W, Dual-frequency coil in a cold state and  $1.0 \times Us$

3.1 VA, Dual-frequency coil in a cold state and  $1.0 \times Us$ , at 60 Hz

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

100 V

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

120 V

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

100 V

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

120 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

10 HP

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

40 HP

## Communication

Connection to SmartWire-DT

No

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

30 HP

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

60 HP

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

125 HP

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

125 HP

## Special purpose ratings

Special purpose rating of ballast electrical discharge lamps

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

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

Special purpose rating of elevator control

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

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

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

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

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

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

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

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

Special purpose rating of refrigeration control (CSA only)

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

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

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

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

Special purpose rating of resistance air heating

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

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

Special purpose rating of tungsten incandescent lamps

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

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

## Contacts

Number of auxiliary contacts (normally closed contacts)

0

Number of auxiliary contacts (normally open contacts)

0

## Safety

Safe isolation

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

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

## Design verification

Equipment heat dissipation, current-dependent P<sub>vid</sub>

57 W

Heat dissipation capacity P<sub>diss</sub>

0 W

Rated operational current for specified heat dissipation (I<sub>n</sub>)

200 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

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

[SmartWire-DT Catalog](#)

[Product Range Catalog Switching and protecting motors](#)

[Switching and protecting motors - catalog](#)

### Characteristic curve

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

2110DIA-3

### Declarations of conformity

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

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

### Drawings

210N018

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

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

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

2110DIM-14

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

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

2110DIM-15

210N017

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

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

### eCAD model

[ETN.DILMP200\(RAC120\).edz](#)

[ETN.109923.edz](#)

### Installation instructions

[IL03407049Z](#)

### Installation videos

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

### mCAD model

[eaton-cadenas-drill\\_view-dil\\_mp125\\_200\\_drill.pra](#)

[DA-CD-dil\\_mp125\\_200](#)

[eaton-cadenas-front\\_view-dil\\_mp125\\_200\\_front.pra](#)

[DA-CS-dil\\_mp125\\_200](#)

eaton-cadenas-side\_view-dil\_mp125\_200\_side.pra

eaton-cadenas-path-01-geo-dil\_mp125\_200.3db

### Wiring diagrams

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

210S028



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