

# Eaton 127075

Catalog Number: 127075

Eaton Moeller® series DILEM Contactor, 230 V 50 Hz, 240 V 60 Hz, 3 pole, 380 V 400 V, 5.5 kW, Contacts N/O = Normally open= 1 N/O, Screw terminals, AC operation DILEM12-10(230V50HZ,240V60HZ)

### General specifications



Photo is representative

#### Product Name

Eaton Moeller® series DILEM Mini contactor

#### Catalog Number

127075

#### Model Code

DILEM12-10(230V50HZ,240V60HZ)

#### EAN

4015081246106

#### Product Length/Depth

52 mm

#### Product Height

58 mm

#### Product Width

45 mm

#### Product Weight

0.17 kg

#### Certifications

CSA  
CSA Class No.: 3211-04  
IEC/EN 60947  
UL 508  
CSA-C22.2 No. 14-05  
UL  
VDE 0660  
IEC/EN 60947-4-1  
UL File No.: E29096  
CSA File No.: 012528  
CE  
UL Category Control No.: NLDX

#### Catalog Notes

Contacts according to EN 50012

## Features & Functions

### Features

Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module

### Fitted with:

Auxiliary contact

### Number Of Poles

Three-pole

## General

### Application

Contactors for Motors  
Mini Contactors for Motors  
and Resistive Loads

### Lifespan, mechanical

150,000 Operations (at 240 V, DC, L/R = 50 ms: 2 contacts in series 0.5 A)  
5,000,000 Operations (Coil 50/60 Hz)  
200,000 Operations (at 240 V, AC-15)  
5,000,000 Operations

### Mounting position

As required (except vertical with terminals A1/A2 at the bottom)

### Operating frequency

9000 mechanical Operations/h

### 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)

6000 V AC

### Shock resistance

20 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms  
10 g, N/O main contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms  
8 g, N/O auxiliary contact, Basic unit without auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms  
10 g, N/O main contact, Basic unit without auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms  
20 g, N/O auxiliary contact, Basic unit with auxiliary contact

module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms

#### 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

#### Voltage type

AC

## Climatic environmental conditions

Ambient operating temperature - min

-25 °C

Ambient operating temperature - max

50 °C

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, cyclic, to IEC 60068-2-30

Damp heat, constant, to IEC 60068-2-78

## Terminal capacities

#### 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 (solid)

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

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

#### Terminal capacity (solid/stranded AWG)

18 - 14

#### Stripping length (main cable)

8 mm

#### Screwdriver size

2, Terminal screw, Pozidriv screwdriver

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

#### Tightening torque

1.2 Nm, Screw terminals

## Electrical rating

Rated breaking capacity at 220/230 V

96 A

Rated breaking capacity at 380/400 V

96 A

Rated breaking capacity at 500 V

72 A

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

3 kW

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

5.5 kW

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

5.5 kW

Rated breaking capacity at 660/690 V

42 A

Rated making capacity up to 440 V (cos phi to IEC/EN 60947)

120 A

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

1.5 kW

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

1.5 kW

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

3 kW

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

3 kW

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

3 kW

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

3 kW

Rated operational voltage (Ue) at AC - max

690 V

Rated insulation voltage (Ui)

690 V

Rated operational current (Ie)

0.5 A at 220 V, DC L/R  $\leq$  15 ms (with 3 contacts in series)

2.5 A at 60 V, DC L/R  $\leq$  15 ms (with 2 contacts in series)

1.5 A at 100 V, DC L/R  $\leq$  15 ms (with 3 contacts in series)

2.5 A at 24 V, DC L/R  $\leq$  15 ms (with 1 contact in series)

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

22 A

Rated operational current (Ie) at AC-15, 220 V, 230 V, 240 V

6 A

Rated operational current (Ie) at AC-15, 380 V, 400 V, 415 V

3 A

Rated operational current (Ie) at AC-15, 500 V

1.5 A

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

12 A

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

12 A

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

10.5 A

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

## Short-circuit rating

Short-circuit current rating (basic rating)

5 kA, SCCR (UL/CSA)

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

Short-circuit protection

PKZM0-4, Maximum overcurrent protective device, Short-circuit protection only, Auxiliary contacts, Short-circuit rating without welding

6 A gG/gL, Max. Fuse 500V, Auxiliary contacts, Short-circuit rating without welding

10 A fast, Max. Fuse 500V, Auxiliary contacts, Short-circuit rating without welding

Short-circuit protection rating (type 1 coordination) at 500 V

35 A gG/gL

Short-circuit protection rating (type 2 coordination) at 500 V

20 A gG/gL

## Conventional thermal current Ith

Conventional thermal current Ith (1-pole, enclosed)

40 A

Conventional thermal current Ith (3-pole, enclosed)

16 A

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

19 A

Conventional thermal current Ith of auxiliary contacts (1-pole, open)

10 A

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

50 A

## Switching capacity

Switching capacity (main contacts, general use)

15 A, Maximum motor rating (UL/CSA)

Switching capacity (auxiliary contacts, general use)

10 A, 600 V AC, (UL/CSA)

0.5 A, 250 V DC, (UL/CSA)

Switching capacity (auxiliary contacts, pilot duty)

9 A

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

5.2 A

Rated operational current (I<sub>e</sub>) at AC-4, 220 V, 230 V, 240 V

6.6 A

Rated operational current (I<sub>e</sub>) at AC-4, 440 V

6.6 A

Rated operational current (I<sub>e</sub>) at AC-4, 500 V

5 A

Rated operational current (I<sub>e</sub>) at AC-4, 660 V, 690 V

3.4 A

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

20 A

Rated operational current (I<sub>e</sub>) at DC-1, 12 V

20 A

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

20 A

Rated operational current (I<sub>e</sub>) at DC-1, 24 V

20 A

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

20 A

#### Safe isolation

300 V AC, Between coil and auxiliary contacts, According to EN 61140

300 V AC, Between auxiliary contacts, According to EN 61140

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

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

P300, DC operated (UL/CSA)

A600, AC operated (UL/CSA)

## Magnet system

#### Arcing time

12 ms at 690 V AC

#### Changeover time

16 - 21 ms

#### Duty factor

100 %

#### Pick-up voltage

0.8 - 1.1 V AC x U<sub>c</sub> (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz)

1.1 V AC x U<sub>c</sub> (voltage tolerance - dual frequency coil 50/60 Hz)

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

22 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz

25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz

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

25 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz

22 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz

#### Power consumption, sealing, 50 Hz

1.8 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz

4.6 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz

#### Power consumption, sealing, 60 Hz

1.8 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz

#### Rated control supply voltage (U<sub>s</sub>) at AC, 50 Hz - min

230 V

#### Rated control supply voltage (U<sub>s</sub>) at AC, 50 Hz - max

230 V

#### Rated control supply voltage (U<sub>s</sub>) at AC, 60 Hz - min

240 V

#### Rated control supply voltage (U<sub>s</sub>) at AC, 60 Hz - max

240 V

Rated control supply voltage (Us) at DC - min

0 V

Rated control supply voltage (Us) at DC - max

0 V

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

14 ms

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

21 ms

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

8 ms

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

18 ms

Switching time (AC operated, N/O, with auxiliary contact module, closing delay)

45 ms

## Motor rating

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

2 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

5 HP

## Contacts

Control circuit reliability

$< 2 \lambda$ ,  $< 1$  failure at 100,000,000 Operations (at  $U_e = 24$  V DC,  $U_{min} = 17$  V,  $I_{min} = 5.4$  mA)

Number of auxiliary contacts (normally closed contacts)

0

Number of auxiliary contacts (normally open contacts)

1

## Design verification

Equipment heat dissipation, current-dependent  $P_{vid}$

2.1 W

Heat dissipation capacity  $P_{diss}$

0 W

Heat dissipation per pole, current-dependent  $P_{vid}$

0.7 W

Rated operational current for specified heat dissipation ( $I_n$ )

12 A

Static heat dissipation, non-current-dependent  $P_{vs}$

1.8 W

10.2.2 Corrosion resistance

## Resources

Catalogues

Product Range Catalog Switching and protecting motors

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

Switching and protecting motors - catalog

Characteristic curve

[eaton-contactors-short-time-loading-dilm-characteristic-curve.eps](#)

[eaton-contactors-switch-dilm-characteristic-curve.eps](#)

2100DIA-7

[eaton-contactors-component-dilm-characteristic-curve-003.eps](#)

210U038

210U039

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

#### Declarations of conformity

DA-DC-00004812.pdf

DA-DC-00004788.pdf

#### Drawings

210X011

210X007

210X005

eaton-contactors-dimensions-210x005.eps

eaton-contactors-diler-dimensions-004.eps

eaton-contactors-diler-dimensions-005.eps

eaton-contactors-dimensions-210x007.eps

eaton-contactors-dilem-dimensions.eps

#### Drawings

eaton-contactors-3d-drawing-019.eps

210I001

230K003

eaton-tripping-devices-mounting-diler-contactor-relay-symbol.eps

#### eCAD model

DA-CE-ETN.DILEM12-10(230V50HZ,240V60HZ)

ETN.127075.edz

#### Installation instructions

IL03407009Z

#### mCAD model

eaton-cadenas-drill\_view-dil\_em\_drill.pra

eaton-cadenas-side\_view-dil\_em\_side.pra

eaton-cadenas-path-01-geo-dil\_em.3db

DA-CS-dil\_em

DA-CD-dil\_em

eaton-cadenas-front\_view-dil\_em\_front.pra

#### System overview

eaton-contactors-accessory-dilem-system-overview.eps

210O006

#### Wiring diagrams

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

210S026

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.



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