

# Eaton 276397

Catalog Number: 276397

Eaton Moeller® series DILA Contactor relay, 190 V 50 Hz, 220 V 60 Hz, 2 N/O, 2 NC, Screw terminals, AC operation

## General specifications



Photo is representative

<b>Product Name</b>	<b>Catalog Number</b>
Eaton Moeller® series DILA Control relay	276397
	<b>EAN</b>
	4015082763978
<b>Product Length/Depth</b>	<b>Product Height</b>
75 mm	68 mm
<b>Product Width</b>	<b>Product Weight</b>
45 mm	0.237 kg

## Certifications

CSA Class No.: 3211-03  
EN 60947-5-1  
UL File No.: E29184  
CSA-C22.2 No. 14-05  
IEC/EN 60947  
IEC/EN 60947-4-1  
UL 508  
CSA File No.: 012528  
UL Category Control No.: NKCR  
VDE 0660  
CSA  
CE  
UL

## Features & Functions

### Features

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

### Fitted with:

Positive operation contacts

## General

### Application

Contact relays

### Degree of protection

IP20

### Shock resistance

5 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms

7 g, N/O auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms

### Lifespan, mechanical

20,000,000 Operations (AC operated)

### Mounting method

DIN-rail/screw

### Connection

Screw terminals

### Operating frequency

9000 Operations/h

### Overvoltage category

III

### Pollution degree

3

### Product category

DILA relays

### 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

### Voltage type

AC

## Climatic environmental conditions

### Ambient operating temperature - min

-25 °C

## Terminal capacities

### Terminal capacity (flexible with ferrule)

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

Ambient operating temperature - max

60 °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, constant, to IEC 60068-2-78

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

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

Terminal capacity (solid)

1 x (0.75 - 4) mm<sup>2</sup>, Screw terminals

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

Terminal capacity (solid/stranded AWG)

18 - 14, Screw terminals

Stripping length (main cable)

10 mm

Screw size

M3.5, Terminal screw

Screwdriver size

2, Terminal screw, Pozidriv screwdriver

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

## Electrical rating

Rated operational current (I<sub>e</sub>)

10 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series)

6 A at 60 V, DC L/R ≤ 15 ms (with 1 contact in series)

1 A at 220 V, DC L/R ≤ 15 ms (with 1 contact in series)

3 A at 110 V, DC L/R ≤ 15 ms (with 1 contact in series)

2 A at 110 V, DC L/R ≤ 50 ms (with 3 contacts in series)

4 A at 24 V, DC L/R ≤ 50 ms (with 3 contacts in series)

4 A at 60 V, DC L/R ≤ 50 ms (with 3 contacts in series)

5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series)

6 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series)

10 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series)

1 A at 220 V, DC L/R ≤ 50 ms (with 3 contacts in series)

16 A

Rated operational current (I<sub>e</sub>) at AC-15, 220 V, 230 V, 240 V

4 A

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

4 A

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

1.5 A

Rated insulation voltage (Ui)

690 V

Rated operational voltage (Ue) at AC - max

690 V

Short-circuit protection rating without welding

10 A gG/gL, 500 V, Max. Fuse, Contacts

Safe isolation

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

400 V AC, Between coil and auxiliary contacts, According to EN

61140

Switching capacity (auxiliary contacts, general use)

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

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

Switching capacity (auxiliary contacts, pilot duty)

P300, DC operated (UL/CSA)

A600, AC operated (UL/CSA)

## Magnet system

Duty factor

100 %

Pick-up voltage

0.8 - 1.1 V AC x Uc (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz)

Power consumption, pick-up, 50 Hz

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

Power consumption, pick-up, 60 Hz

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

Power consumption, sealing, 50 Hz

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

1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil

50/60 Hz

Power consumption, sealing, 60 Hz

1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil

50/60 Hz

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

190 V

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

190 V

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

220 V

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

220 V

Rated control supply voltage (Us) at DC - max

0 V

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

15 ms

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

21 ms

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

9 ms

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

max  
18 ms

## Contacts

Code number

22D

Control circuit reliability

$\lambda < 5 \times 10^{-7}$  (1 failure at 2,000,000 operations for  $U_e = 24$  V DC,  
 $U_{min} = 17$  V,  $I_{min} = 5.4$  mA)

Number of auxiliary contacts (change-over contacts)

0

Number of contacts (normally closed contacts)

2

Number of contacts (normally open contacts)

2

Number of auxiliary contacts (normally open contacts)

2

## Communication

Connection to SmartWire-DT

No

## Design verification

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

0 W

Heat dissipation capacity  $P_{diss}$

0 W

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

0.5 W

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

15.5 A

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

1.4 W

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

### Catalogs

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

[Switching and protecting motors - catalog](#)

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

### Characteristic curve

[eaton-contactors-dila-relay-characteristic-curve.eps](#)

[eaton-contactors-component-dila-relay-characteristic-curve.eps](#)

### Declarations of conformity

[DA-DC-00004810.pdf](#)

[DA-DC-00004792.pdf](#)

### Drawings

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

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

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

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

[eaton-contactors-dilm-3d-drawing-007.eps](#)

### eCAD model

[ETN.DILA-22\(190V50HZ,220V60HZ\)](#)

### 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](#)

### System overview

[eaton-contactors-dila-system-overview.eps](#)

### Wiring diagrams

[2100SWI-108](#)



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