Specifications

Eaton 109826

Catalog Number: 109826

Eaton Moeller® series DILMP Contactor, 4 pole, AC operation, AC-1: 45 A, 1 N/O, 230 V 50 Hz, 240 V 60 Hz, Screw terminals

Photo is representative

General specifications

Product Name
Eaton Moeller® series DILMP 4-pole contactor

Catalog Number
109826

Model Code
DILMP45-10(230V50HZ,240V60HZ)

EAN
4015081093960

Product Length/Depth
97 mm

Product Height
85 mm

Product Width
58 mm

Product Weight
0.49 kg

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

Catalog Notes
Contacts according to EN 50012

Features & Functions

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

5000 mechanical Operations/h (DC operated)

5000 mechanical Operations/h (AC 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

2.7 mΩ

Type

Full voltage non-reversing medium contactor

Used with

DILM32-XHI(C), DILA-XHI(V)(C)

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

AC

Ambient conditions, mechanical

Climatic environmental conditions

Shock resistance

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

Ambient operating temperature - min

-25 °C

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

Electro Magnetic Compatibility

Interference immunity

According to EN 60947-1

Terminal capacities

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 - 2.5) mm², Control circuit cables
1 x (0.75 - 16) mm², Main cables
2 x (0.75 - 10) mm², Main 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
18 - 6, Main cables

Terminal capacity (stranded)

1 x 16 mm², Main cables

Stripping length (main cable)

10 mm

Stripping length (control circuit cable)

10 mm

Screw size

M3.5, Terminal screw, Control circuit cables

M5, Terminal screw, Main cables

Screwdriver size

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

2, Terminal screw, Pozidriv screwdriver

Tightening torque

3 Nm, Screw terminals, Main cables

1.2 Nm, Screw terminals, Control circuit cables

Electrical Rating

Rated breaking capacity at 220/230 V

250 A

Rated breaking capacity at 380/400 V

250 A

Rated breaking capacity at 500 V

250 A

Rated breaking capacity at 660/690 V

144 A

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

45 A

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

25 A

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

25 A

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

25 A

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

25 A

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

15 A

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

15 A

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

45 A

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

45 A

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

45 A

Rated insulation voltage (Ui)

690 V

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

45 A

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

18 kW

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

28 kW

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

31 kW

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

33 kW

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

37 kW

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

49 kW

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

8.5 kW

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

11 kW

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

14.5 kW

Rated operational voltage (Ue) at AC - max

690 V

Short-circuit rating

Short-circuit current rating (basic rating)

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

5 kA, SCCR (UL/CSA)

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

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

125/70 A, Class J, max. Fuse, SCCR (UL/CSA)

50/32 A, max. CB, SCCR (UL/CSA)

10/100 kA, Fuse, SCCR (UL/CSA)

10/65 kA, CB, SCCR (UL/CSA)

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

125/100 A, Class J, max. Fuse, SCCR (UL/CSA)

10/100 kA, Fuse, SCCR (UL/CSA)

10/22 kA, CB, SCCR (UL/CSA)

50/32 A, max. CB, SCCR (UL/CSA)

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

100 A gG/gL

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

50 A gG/gL

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

35 A gG/gL

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

35 A gG/gL

Conventional thermal current

Conventional thermal current ith (1-pole, enclosed)

105 A

Conventional thermal current ith (3-pole, enclosed)

36 A

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

40 A

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

117 A

Switching capacity

Switching capacity (main contacts, general use)

40 A, Maximum motor rating (UL/CSA)

Switching capacity (auxiliary contacts, general use)

10 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)

Switching time

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

16 ms

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

22 ms

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

8 ms

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

14 ms

Magnet system

Drop-out voltage

AC operated: 0.6 - 0.4 x UC, AC operated

Duty factor

100 %

Pick-up voltage

0.8 - 1.1 V AC x Uc

0.85 - 1.1 V AC/DC x Us

Power consumption

11 kW

Power consumption, pick-up, 50 Hz

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

Power consumption, pick-up, 60 Hz

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

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

Power consumption, sealing, 50 Hz

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

Power consumption, sealing, 60 Hz

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

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

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

230 V

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

230 V

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

240 V

Rated control supply voltage (Us) 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

Coil voltage

230-240 Vac, 50/60 Hz

Motor Rating

Communication

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

2 HP

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

7.5 HP

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

5 HP

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

10 HP

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

15 HP

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

20 HP

Connection to SmartWire-DT

No

Contacts

Number of contacts

1 NO

Number of contacts (normally open contacts)

1

Number of auxiliary contacts (normally closed contacts)

0

Number of auxiliary contacts (normally open contacts)

1

Safety

Safe isolation

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

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

Special purpose ratings

Special purpose rating of ballast electrical discharge lamps

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

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

Special purpose rating of definite purpose rating

150 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)

25 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)

Special purpose rating of elevator control

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

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

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

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

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

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

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

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

Special purpose rating of refrigeration control (CSA only)

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

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

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

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

Special purpose rating of resistance air heating

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

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

Special purpose rating of tungsten incandescent lamps

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

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

Design verification

Equipment heat dissipation, current-dependent Pvid

13.2 W

Heat dissipation capacity Pdiss

0 W

Rated operational current for specified heat dissipation (In)

45 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

SmartWire-DT Catalog

Switching and protecting motors - catalog

eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf

Product Range Catalog Switching and protecting motors

Characteristic curve

2110DIA-3

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

Declarations of conformity

DA-DC-00004783.pdf

DA-DC-00004816.pdf

Drawings

210N018

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

eaton-contactors-dimensions-2110dim-10.eps

210N017

eaton-contactors-dimensions-2110dim-11.eps

2110DIM-10

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

eaton-contactors-mounting-dilm-dimensions.eps

2110DIM-11

eCAD model

ETN.DILMP45-10(230V50HZ,240V60HZ)

ETN.109826.edz

Installation instructions

IL03407049Z

Installation videos

WIN-WIN with push-in technology

mCAD model

eaton-cadenas-drill_view-dil_mp32_45_drill.pra

eaton-cadenas-side_view-dil_mp32_45_side.pra

eaton-cadenas-front_view-dil_mp32_45_front.pra

DA-CS-dil_mp32_45

eaton-cadenas-path-01-geo-dil_mp32_45.3db

DA-CD-dil_mp32_45

PEP Eco-passport

EATO-00016-V01.01-EN

Wiring diagrams

eaton-contactors-dilmp-wiring-diagram.eps

210S028

2110SWI-1

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