Specifications

Eaton 199659



Catalog Number: 199659

Eaton Moeller® series DILMP Contactor, 4 pole, AC operation, AC-1: 22 A, 220 V 50/60 Hz, Push in terminals

General specifications

Product Name
Eaton Moeller® series DILMP 4-pole contactor

Catalog Number
199659

EAN
4015081983605

Product Length/Depth
75 mm

Product Height
68 mm

Product Width
45 mm

Product Weight
0.225 kg

Certifications
IEC/EN 60947
VDE 0660

Powering Business Worldwide

Features Functions

Number Of Poles

Four-pole

General

Application

Contactors for 4 pole electric consumers

Degree of protection

IP20

Lifespan, mechanical

10,000,000 Operations (AC operated)

Connection

Push in terminals

Operating frequency

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)

6000 V AC

Residual current

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

Resistance per pole

2.5 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

AC

Ambient conditions, mechanical

Shock resistance

7 g, N/O auxiliary contact, Mechanical, according to IEC/EN

Climatic environmental conditions

Ambient operating temperature - min

-25 °C

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

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

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, cyclic, to IEC 60068-2-30

Damp heat, constant, to IEC 60068-2-3

Electro magnetic compatibility

Interference immunity

According to EN 60947-1

Terminal capacities

Terminal capacity (flexible with ferrule)

1 x (0.5 - 2.5) mm²

2 x (0.5 - 1.5) mm²

Terminal capacity (flexible)

2 x (0.5 - 2.5) mm²

1 x (0.5 - 2.5) mm²

Terminal capacity (solid)

1 x (0.5 - 2.5) mm²

2 x (0.5 - 2.5) mm²

Terminal capacity (solid/stranded AWG)

20 - 14

Stripping length (main cable)

10 mm

Stripping length (control circuit cable)

10 mm

Screwdriver size

3 x 0.5 mm, Terminal screw

Electrical rating

Rated breaking capacity at 220/230 V

120 A

Short-circuit rating

Short-circuit current rating (basic rating)

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

5 kA, SCCR (UL/CSA)

Rated breaking capacity at 380/400 V

120 A

Rated breaking capacity at 500 V

100 A

Rated breaking capacity at 660/690 V

70 A

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

22 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

12 A

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

10 A

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

7 A

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

22 A

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

22 A

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

6 A

Rated insulation voltage (Ui)

690 V

Rated making capacity up to 690 V (cos phi to IEC/EN 60947)

144 A

Rated operational power at AC-1, 220/230 V, 50 Hz

8 kW

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

9 kW

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

14 kW

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

15 kW

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

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

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

30 kA, Fuse, SCCR (UL/CSA)

25 A, Class RK5, max. Fuse, SCCR (UL/CSA)

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

25 A, Class RK5, max. Fuse, SCCR (UL/CSA)

30 kA, Fuse, SCCR (UL/CSA)

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

35 A gG/gL

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

25 A gG/gL

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

20 A gG/gL

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

20 A gG/gL

Conventional thermal current Ith

Conventional thermal current ith (1-pole, enclosed)

54 A

Conventional thermal current ith (3-pole, enclosed)

18 A

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

20.5 A

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

60 A

Switching capacity

Switching capacity (main contacts, general use)

20 A, Maximum motor rating (UL/CSA)

Switching capacity (auxiliary contacts, general use)

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

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

Magnet system

Arcing time

10 ms

16 kW

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

18 kW

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

24 kW

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

4 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

7 kW

Rated operational voltage (Ue) at AC - max

690 V

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

Power consumption, pick-up, 50 Hz

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

Power consumption, pick-up, 60 Hz

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

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

Power consumption, sealing, 50 Hz

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

Power consumption, sealing, 60 Hz

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

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

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

220 V

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

220 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 - min

0 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

Motor rating

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

1 HP

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

5 HP

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

2 HP

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

5 HP

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

10 HP

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

10 HP

Communication

Connection to SmartWire-DT

No

Contacts

Number of contacts (normally closed contacts)

0

Number of contacts (normally open contacts)

0

Number of auxiliary contacts (normally closed contacts)

0

Number of auxiliary contacts (normally open contacts)

0

Safety

Safe isolation

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

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

Special purpose ratings

Special purpose rating of ballast electrical discharge lamps

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

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

Special purpose rating of definite purpose rating

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

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

Special purpose rating of elevator control

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

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

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

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

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

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

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

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

Special purpose rating of resistance air heating

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

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

Special purpose rating of tungsten incandescent lamps

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

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

Design verification

Equipment heat dissipation, current-dependent Pvid

3 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

1 W

Static heat dissipation, non-current-dependent Pvs

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

Resources

Catalogs

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

SmartWire-DT Catalog

Product Range Catalog Switching and protecting motors

Declarations of conformity

DA-DC-00004811.pdf

DA-DC-00004789.pdf

Drawings

eaton-contactors-dimensions-007.eps

eCAD model

ETN.199659.edz

Installation videos

WIN-WIN with push-in technology

mCAD model

dil_m7_15_pi.stp

dil_m7_15_pi.dwg

Wiring diagrams

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

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.

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