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276600
Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 3 kW, 1 NC, 24 V DC, DC operation, Screw terminals DILM7-01(24VDC)
Contact us about this product

Specifications

GENERAL SPECIFICATIONS

PRODUCT NAME
Eaton Moeller® series DILM Contactor

CATALOG NUMBER
276600

MODEL CODE
DILM7-01(24VDC)

EAN
4015082766009

PRODUCT LENGTH/DEPTH
75 mm

PRODUCT HEIGHT
68 mm

PRODUCT WIDTH
45 mm

PRODUCT WEIGHT
.296 kg

CERTIFICATIONS
CSA
CE
UL
VDE 0660
UL 60947-4-1
JL Category Control No.: NLDX
CSA Class No.: 2411-03, 3211-04
CSA File No.: 012528
IEC/EN 60947

FEATURES & FUNCTIONS

FITTED WITH:
Mirror contact
Varistor suppressor circuit

NUMBER OF POLES
Three-pole

GENERAL

APPLICATION
Contactors for Motors

LIFESPAN, MECHANICAL
10,000,000 Operations (DC operated)

OPERATING FREQUENCY
9000 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)

CSA-C22.2 No. 60947-4-1-14
IEC/EN 60947-4-1
UL File No.: E29096

MODEL CODE

DILM7-01(24VDC)

8000 V AC

RESISTANCE PER POLE

4.6 mΩ

SUITABLE FOR

Also motors with efficiency class IE3

UTILIZATION CATEGORY

AC-4: Normal AC induction motors: starting, plugging, reversing, inching
AC-3: Normal AC induction motors: starting, switch off during running
AC-1: Non-inductive or slightly inductive loads, resistance furnaces

VOLTAGE TYPE

DC

AMBIENT CONDITIONS, MECHANICAL

SHOCK RESISTANCE

5.7 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms
3.4 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms
7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
3.4 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, 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

CLIMATIC ENVIRONMENTAL CONDITIONS

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, cyclic, to IEC 60068-2-30
Damp heat, constant, to IEC 60068-2-78

ELECTRO MAGNETIC COMPATIBILITY

EMITTED INTERFERENCE

According to EN 60947-1

INTERFERENCE IMMUNITY

According to EN 60947-1

TERMINAL CAPACITIES

TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)

2 x (0.75 - 2.5) mm²
1 x (0.75 - 2.5) mm²

TERMINAL CAPACITY (SOLID)

1 x (0.75 - 4) mm²
2 x (0.75 - 2.5) mm²

TERMINAL CAPACITY (SOLID/STRANDED AWG)

Single 18 - 10, double 18 - 14

STRIPPING LENGTH (MAIN CABLE)

10 mm

STRIPPING LENGTH (CONTROL CIRCUIT CABLE)

10 mm

SCREW SIZE

M3.5, Terminal screw

SCREWDRIVER SIZE

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

TIGHTENING TORQUE
1.2 Nm, Screw terminals

ELECTRICAL RATING

RATED BREAKING CAPACITY AT 220/230 V
70 A

RATED BREAKING CAPACITY AT 380/400 V
70 A

RATED BREAKING CAPACITY AT 500 V
50 A

RATED BREAKING CAPACITY AT 660/690 V
40 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
7 A

RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V
7 A

RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V
7 A

RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V
5 A

RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V
4 A

RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V
5 A

RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V
5 A

RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V
4.5 A

RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V
4 A

RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V
20 A

RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V
20 A

RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V
15 A

RATED INSULATION VOLTAGE (UI)
690 V

RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V
22 A

RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ

2.2 kW

RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ
3 kW

RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ
4 kW

RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ
1 kW

RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ
1.5 kW

RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ
2.3 kW

RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ
2.4 kW

RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ
2.5 kW

RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ
2.9 kW

RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX
690 V

SHORT-CIRCUIT RATING

SHORT-CIRCUIT CURRENT RATING (BASIC RATING)
45 A, max. Fuse, SCCR (UL/CSA)
60 A, max. CB, SCCR (UL/CSA)
5 kA, SCCR (UL/CSA)

SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)
25 A, Class RK5/ 20 A Class J, max. Fuse, SCCR (UL/CSA)
30/100 kA, Fuse, SCCR (UL/CSA)
16 A, max. CB, SCCR (UL/CSA)
65 kA, CB, SCCR (UL/CSA)

SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)
30/100 kA, Fuse, SCCR (UL/CSA)
25 A, Class RK5/20 A, Class J, max. 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
20 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
16 A gG/gL

CONVENTIONAL THERMAL CURRENT

CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)
45 A

CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)
18 A

CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)
21 A

CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)
50 A

SWITCHING CAPACITY

SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)
20 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

ARCING TIME
10 ms

SWITCHING TIME (DC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX
31 ms

SWITCHING TIME (DC OPERATED, MAKE CONTACTS,

OPENING DELAY) - MAX
12 ms

MAGNET SYSTEM

DROP-OUT VOLTAGE
At least smoothed two-phase bridge rectifier or three-phase rectifier
0.6 - 0.15 x UC, DC operated

DUTY FACTOR
100 %

PICK-UP VOLTAGE
0.7 - 1.3 V DC x Uc (without auxiliary contact module and at ambient air temperature + 40 °C)
0.8 - 1.1 V DC x Uc
0.85 - 1.1 V DC x Uc (only with auxiliary contact module with 3 or more N/C contacts)

POWER CONSUMPTION (PICK-UP) AT DC
2.6 W

POWER CONSUMPTION (SEALING) AT DC
2.6 W

RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN
0 V

RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX
0 V

RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN
0 V

RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX
0 V

RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN
24 V

RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX
24 V

MOTOR RATING

ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE
.25 HP

ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE
1.5 HP

ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE
1 HP

ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE
2 HP

COMMUNICATION

CONNECTION TO SMARTWIRE-DT
Yes
In conjunction with DIL-SWD SmartWire DT contactor module

CONTACTS

NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)
1

NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)
1

ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE
3 HP

ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE
5 HP

SPECIAL PURPOSE RATINGS

SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS
12 A (600V 60Hz 3phase, 347V 60Hz 1phase)
12 A (480V 60Hz 3phase, 277V 60Hz 1phase)

SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING
42 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
7 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)

SPECIAL PURPOSE RATING OF ELEVATOR CONTROL
0.75 HP, 200 V 60 Hz 3-ph, (UL/CSA)
3.7 A, 200 V 60 Hz 3-ph, (UL/CSA)
1.5 HP, 240 V 60 Hz 3-ph, (UL/CSA)
2 HP, 480 V 60 Hz 3-ph, (UL/CSA)
3.9 A, 600 V 60 Hz 3-ph, (UL/CSA)
3 HP, 600 V 60 Hz 3-ph, (UL/CSA)
6 A, 240 V 60 Hz 3-ph, (UL/CSA)
3.4 A, 480 V 60 Hz 3-ph, (UL/CSA)

SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)
10 A, FLA 480 V 60 Hz 3phase; (CSA)
10 A, FLA 600 V 60 Hz 3phase; (CSA)
60 A, LRA 480 V 60 Hz 3phase; (CSA)
60 A, LRA 600 V 60 Hz 3phase; (CSA)

SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING
12 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
12 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)

SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS
14 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)
14 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)

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

DESIGN VERIFICATION

EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID
0 W

HEAT DISSIPATION CAPACITY PDISS
0 W

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)
7 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.

Download Links

3D models

DA-CS-dil_m7_15 (https://www.eaton.com/content/dam/eaton/cad/mcad/step/dil_m7_15.stp)

DA-CD-dil_m7_15 (https://www.eaton.com/content/dam/eaton/cad/mcad/dwg/dil_m7_15.dwg)

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Catalogues

Product Overview for machinery (https://www.eaton.com/content/dam/eaton/products/industrialcontrols-drives-automation-sensors/en-globalprime/Product-overview-for-Machinery)

Product overview for machinery (https://ecat.eaton.com/flip-cat/?edition=MOEM_EN_3#page_1)

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Certification reports

Drawings

0000SPC-571 (https://pl.eaton.com/image?doc_name=0000SPC-571)

DA-DC-00002875 (https://es-assets.eaton.com/DOCUMENTATION/DECLARATIONS/01_00002875.pdf)

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210N017 (https://pl.eaton.com/image?doc_name=210N017)

210N018 (https://pl.eaton.com/image?doc_name=210N018)

2110DIM-1 (https://pl.eaton.com/image?doc_name=2110DIM-1)

210T013 (https://pl.eaton.com/image?doc_name=210T013)

2110DIM-2 (https://pl.eaton.com/image?doc_name=2110DIM-2)

210I044 (https://pl.eaton.com/image?doc_name=210I044)

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Installation instructions

IL03407013Z (https://www.eaton.com/content/dam/eaton/technicaldocumentation/il/IL03407013Z2020_05.pdf)

IL03407013Z2018_07 (https://www.eaton.com/content/dam/eaton/technicaldocumentation/il/IL03407013Z2018_07.pdf)

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Wiring diagrams

210S027 (https://pl.eaton.com/image?doc_name=210S027)

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