



00000

Eaton 276735

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 4 kW, 1 NC, TVC100: 100 V 50 Hz/100-110 V 60 Hz, AC operation, Screw terminals

0000

| | |
|-----------------------------|---|
| PRODUCT NAME | Eaton Moeller® series DILM contactor |
| CATALOG NUMBER | 276735 |
| PRODUCT LENGTH/DEPTH | 75 mm |
| PRODUCT HEIGHT | 68 mm |
| PRODUCT WIDTH | 45 mm |
| PRODUCT WEIGHT | 0.24 kg |
| CERTIFICATIONS | CSA File No.: 012528 CSA-C22.2 No. 14-05 IEC/EN 60947-4-1 UL VDE 0660 UL Category Control No.: NLDX CE CSA UL 508 IEC/EN 60947 UL File No.: E29096 CSA Class No.: 2411-03, 3211-04 |
| CATALOG NOTES | Contacts according to EN 50012 |

□□□

| | |
|---|--|
| NUMBER OF POLES | Three-pole |
| 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. |
| 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. |

□□

CHARACTERISTIC CURVE

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

[eaton-contactors-switch-dilm-characteristic-curve-002.eps](#)

[eaton-contactors-dilm7-15-dilmp20-il03407013z.pdf](#)

[eaton-contactors-contact-dilm-wiring-diagram-002.eps](#)

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

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

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

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

| | |
|---|---|
| 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. |
| FITTED WITH: | Mirror contact |
| OPERATING FREQUENCY | 9000 mechanical Operations/h (AC operated) |
| POLLUTION DEGREE | 3 |
| UTILIZATION CATEGORY | AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching |
| CLIMATIC PROOFING | Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78 |
| CONNECTION TO SMARTWIRE-DT | No |
| RATED IMPULSE WITHSTAND VOLTAGE (UIMP) | 8000 V AC |
| CONNECTION | Screw terminals |
| FRAME SIZE | FS1 |
| AMBIENT OPERATING TEMPERATURE - MAX | 60 °C |
| AMBIENT OPERATING TEMPERATURE - MIN | -25 °C |
| AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX | 40 °C |
| AMBIENT OPERATING | 25 °C |

| | |
|--|--|
| TEMPERATURE (ENCLOSED) - MIN | |
| AMBIENT STORAGE TEMPERATURE - MAX | 80 °C |
| AMBIENT STORAGE TEMPERATURE - MIN | 40 °C |
| 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 | 3 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 |
| 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 |
| EQUIPMENT HEAT DISSIPATION, CURRENT- DEPENDENT PVID | 0 W |
| HEAT DISSIPATION CAPACITY PDISS | 0 W |
| HEAT DISSIPATION PER POLE, CURRENT- DEPENDENT PVID | 0.2 W |
| APPLICATION | Contactors for Motors |
| PRODUCT CATEGORY | Contactors |
| PROTECTION | Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274) |

| | |
|--|--|
| ARCING TIME | 10 ms |
| ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT | Screw connection |
| SCREWDRIVER SIZE | 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver |
| VOLTAGE TYPE | AC |
| DEGREE OF PROTECTION | IP20 |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) | 1 |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) | 0 |
| NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS) | 1 |
| NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT | 0 |
| NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT) | 3 |
| RATED BREAKING CAPACITY AT 220/230 V | 90 A |
| RATED BREAKING CAPACITY AT 380/400 V | 90 A |
| RATED BREAKING CAPACITY AT 500 V | 70 A |
| RATED BREAKING CAPACITY AT 660/690 V | 50 A |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX | 100 V |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN | 100 V |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX | 110 V |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN | 100 V |
| DROP-OUT VOLTAGE | AC operated: 0.6 - 0.3 x UC, AC operated |
| OVERVOLTAGE CATEGORY | III |
| DUTY FACTOR | 100 % |

| | |
|---|--|
| EMITTED INTERFERENCE | According to EN 60947-1 |
| INTERFERENCE IMMUNITY | According to EN 60947-1 |
| LIFESPAN, MECHANICAL | 10,000,000 Operations (AC operated) |
| 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, at 50 Hz |
| SAFE ISOLATION | 400 V AC, Between coil and contacts, According to EN 61140 400 V AC, Between the contacts, According to EN 61140 |
| POWER CONSUMPTION, PICK-UP, 60 Hz | 30 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz |
| SCREW SIZE | M3.5, Terminal screw |
| POWER CONSUMPTION, SEALING, 50 Hz | 3.4 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz 1.4 W, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz |
| POWER CONSUMPTION, SEALING, 60 Hz | 4.4 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz 1.4 W, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz |
| 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) | A600, AC operated (UL/CSA) P300, DC operated (UL/CSA) |
| TERMINAL CAPACITY (FLEXIBLE WITH FERRULE) | 2 x (0.75 - 2,5) mm ² 1 x (0.75 - 2.5) mm ² 2 x (0.75 - 2.5) mm ² |
| 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 3.4 g, N/C 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 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 |
| TERMINAL CAPACITY (SOLID) | 2 x (0.75 - 2.5) mm ² 1 x (0.75 - 4) mm ² |
| TERMINAL CAPACITY (SOLID/STRANDED AWG) | Single 18 - 10, double 18 - 14 |
| SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE) | 20 A, Maximum motor rating (UL/CSA) |
| TIGHTENING TORQUE | 1.2 Nm, Screw terminals |
| RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX | 0 V |
| RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN | 0 V |
| RATED INSULATION VOLTAGE (UI) | 690 V |
| RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947) | 112 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 | 9 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V | 9 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V | 9 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V | 7 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V | 5 A |

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 6 A
220 V, 230 V, 240 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 6 A
400 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 6 A
440 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 5 A
500 V

RATED OPERATIONAL

CURRENT (IE) AT AC-4, 4.5 A
660 V, 690 V

RATED OPERATIONAL

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

RATED OPERATIONAL

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

RATED OPERATIONAL

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

RATED OPERATIONAL

CURRENT FOR SPECIFIED 9 A
HEAT DISSIPATION (IN)

RATED OPERATIONAL

POWER AT AC-3, 240 V, 50 3 kW
HZ

RATED OPERATIONAL

POWER AT AC-3, 380/400 4 kW
V, 50 HZ

RATED OPERATIONAL

POWER AT AC-3, 415 V, 50 5.5 kW
HZ

RATED OPERATIONAL

POWER AT AC-4, 220/230 1.5 kW
V, 50 HZ

RATED OPERATIONAL

POWER AT AC-4, 240 V, 50 1.6 kW
HZ

RATED OPERATIONAL

POWER AT AC-4, 380/400 2.5 kW
V, 50 HZ

RATED OPERATIONAL

POWER AT AC-4, 415 V, 50 2.8 kW
HZ

RATED OPERATIONAL

POWER AT AC-4, 440 V, 50 3 kW
HZ

RATED OPERATIONAL

POWER AT AC-4, 500 V, 50 2.8 kW

| | |
|---|---|
| Hz | |
| RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 Hz | 3.6 kW |
| RATED OPERATIONAL POWER (NEMA) | 3.7 kW |
| RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX | 690 V |
| RESISTANCE PER POLE | 2.5 mΩ |
| STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS | 1.4 W |
| STRIPPING LENGTH (CONTROL CIRCUIT CABLE) | 10 mm |
| STRIPPING LENGTH (MAIN CABLE) | 10 mm |
| SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX | 21 ms |
| SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN | 15 ms |
| SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX | 18 ms |
| SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN | 9 ms |
| SHORT-CIRCUIT CURRENT RATING (BASIC RATING) | 60 A, max. CB, SCCR (UL/CSA) 45 A, max. Fuse, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA) |
| SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V) | 65 kA, CB, SCCR (UL/CSA) 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) |
| SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V) | 25 A, Class RK5/20 A, Class J, max. Fuse, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) |
| SHORT-CIRCUIT | 35 A gG/gL |

**PROTECTION RATING
(TYPE 1 COORDINATION)
AT 400 V**

| | |
|---------------------|---------------------------------------|
| SUITABLE FOR | Also motors with efficiency class IE3 |
|---------------------|---------------------------------------|

**SHORT-CIRCUIT
PROTECTION RATING
(TYPE 1 COORDINATION)
AT 690 V**

| | |
|---|------------|
| SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V | 20 A gG/gL |
|---|------------|

**SHORT-CIRCUIT
PROTECTION RATING
(TYPE 2 COORDINATION)
AT 690 V**

| | |
|---|--|
| SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS | 18 A (600V 60Hz 3phase, 347V 60Hz 1phase) 18 A (480V 60Hz 3phase, 277V 60Hz 1phase) |
|---|--|

| | |
|--|--|
| SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING | 9 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 54 A, LRA 480 V 60 Hz 3- ph, 100,000 cycles acc. to UL 1995, (UL/CSA) |
|--|--|

| | |
|---|--|
| SPECIAL PURPOSE RATING OF ELEVATOR CONTROL | 7.8 A, 200 V 60 Hz 3-ph, (UL/CSA) 5 HP, 600 V 60 Hz 3-ph, (UL/CSA) 3 HP, 480 V 60 Hz 3-ph, (UL/CSA) 4.8 A, 480 V 60 Hz 3-ph, (UL/CSA) 2 HP, 240 V 60 Hz 3-ph, (UL/CSA) 2 HP, 200 V 60 Hz 3-ph, (UL/CSA) 6.8 A, 240 V 60 Hz 3-ph, (UL/CSA) 6.1 A, 600 V 60 Hz 3-ph, (UL/CSA) |
|---|--|

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

| | |
|---|--|
| SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING | 18 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 18 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, |
|---|--|

| | |
|---|--|
| | (UL/CSA) |
| SPECIAL PURPOSE | 14 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) |
| RATING OF TUNGSTEN INCANDESCENT LAMPS | 14 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) |
| CONVENTIONAL | |
| THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN) | 22 A |
| CONVENTIONAL | |
| THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN) | 21 A |
| CONVENTIONAL | |
| THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN) | 20 A |
| RATED OPERATIONAL | |
| POWER AT AC-3, 440 V, 50 HZ | 5.5 kW |
| RATED OPERATIONAL | |
| POWER AT AC-3, 500 V, 50 HZ | 4.5 kW |
| RATED OPERATIONAL | |
| POWER AT AC-3, 690 V, 50 HZ | 4.5 kW |
| ACTUATING VOLTAGE | TVC100: 100 V 50 Hz/100- 110 V 60 Hz |
| ALTITUDE | Max. 2000 m |
| OPERATING VOLTAGE AT AC, 50 Hz - MIN | 24 V |
| OPERATING VOLTAGE AT AC, 50 Hz - MAX | 690 V |
| OPERATING VOLTAGE AT AC, 60 Hz - MIN | 24 V |
| OPERATING VOLTAGE AT AC, 60 Hz - MAX | 690 V |

□□□□:

□□□□:

□□□:

□□: