

Specifications



Photo is representative



Eaton 290091

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 7.5 kW, 1 NC, 190 V 50 Hz, 220 V 60 Hz, AC operation, Screw terminals

General specifications

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| PRODUCT NAME | Eaton Moeller® series DILM contactor |
| CATALOG NUMBER | 290091 |
| MODEL CODE | DILM15-01(190V50HZ,220V60HZ) |
| EAN | 4015082900915 |
| PRODUCT LENGTH/DEPTH | 75 mm |
| PRODUCT HEIGHT | 68 mm |
| PRODUCT WIDTH | 45 mm |
| PRODUCT WEIGHT | 0.24 kg |
| CERTIFICATIONS | CSA IEC/EN 60947 IEC/EN 60947-4-1 CE UL File No.: E29096 CSA File No.: 012528 CSA Class No.: 2411-03, 3211-04 UL 508 CSA-C22.2 No. 14-05 UL Category Control No.: NLDX UL VDE 0660 |
| CATALOG NOTES | Contacts according to EN 50012 |
| GLOBAL CATALOG | 290091 |



Powering Business Worldwide

Product specifications

ELECTRICAL CONNECTION TYPE FOR AUXILIARY- AND CONTROL-CURRENT CIRCUIT

Screw connection

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.

Resources

[SmartWire-DT Catalog](#)

CATALOGS

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

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

CHARACTERISTIC CURVE

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

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

[eaton-contactors-component-dilm-characteristic-curve-003.eps](#)

DECLARATIONS OF CONFORMITY

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

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

DRAWINGS

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

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

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

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

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

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

ECAD MODEL

[ETN.290091.edz](#)

INSTALLATION INSTRUCTIONS

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

INSTALLATION VIDEOS

[WIN-WIN with push-in technology](#)

MCAD MODEL

[DA-CS-dil m7 15](#)

[DA-CD-dil m7 15](#)

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| 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. |
| FITTED WITH: | Mirror contact |
| OPERATING FREQUENCY | 5000 mechanical Operations/h (AC operated) |
| POLLUTION DEGREE | 3 |
| 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 |
| UTILIZATION CATEGORY | AC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-1: Non-inductive or slightly inductive loads, resistance furnaces |
| CONNECTION | Screw terminals |

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| SYSTEM OVERVIEW | eaton-contactors-dilm-contactor-system-overview.eps |
| WIRING DIAGRAMS | 2100SWI-117 |

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| FRAME SIZE | FS1 |
| AMBIENT OPERATING TEMPERATURE - MAX | 60 °C |
| AMBIENT OPERATING TEMPERATURE - MIN | -25 °C |
| AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX | 40 °C |
| AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN | 25 °C |
| AMBIENT STORAGE TEMPERATURE - MAX | 80 °C |
| AMBIENT STORAGE TEMPERATURE - MIN | 40 °C |
| 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 | 3 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 |
| 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 |

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| HEAT DISSIPATION CAPACITY PDISS | 0 W |
| HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID | 0.5 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) | 0 |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) | 1 |
| 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 | 124 A |
| RATED BREAKING CAPACITY AT 380/400 V | 124 A |
| RATED BREAKING CAPACITY AT 500 V | 100 A |
| RATED BREAKING CAPACITY AT 660/690 V | 70 A |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX | 190 V |

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| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN | 190 V |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX | 220 V |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN | 220 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 the contacts, According to EN 61140 400 V AC, Between coil and 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 | 1.4 W, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz 3.4 VA, 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) | 1 A, 250 V DC, (UL/CSA) 10 A, 600 V AC, (UL/CSA) |
| SWITCHING CAPACITY (AUXILIARY CONTACTS, | P300, DC operated (UL/CSA) |

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| PILOT DUTY) | A600, AC operated (UL/CSA) |
| TERMINAL CAPACITY (FLEXIBLE WITH FERRULE) | 2 x (0.75 - 2.5) mm ² 1 x (0.75 - 2.5) mm ² |
| SHOCK RESISTANCE | <p>7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms</p> <p>3.4 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop- mounted, Half-sinusoidal shock 10 ms</p> <p>3.4 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop- mounted, Half-sinusoidal shock 10 ms</p> <p>5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms</p> <p>10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms</p> <p>5.7 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half- sinusoidal shock 10 ms</p> |
| 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 | 155 A |

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| 60947) | |
| 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 | 15.5 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V | 15.5 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V | 15.5 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V | 12.5 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V | 9 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V | 7 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V | 7 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V | 7 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V | 6 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V | 5 A |
| RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V | 20 A |
| RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V | 15 A |
| RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V | 20 A |
| RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN) | 15.5 A |
| RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ | 4.6 kW |
| RATED OPERATIONAL | 7.5 kW |

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| POWER AT AC-3, 380/400 V, 50 HZ | |
| RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ | 8 kW |
| RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ | 2 kW |
| RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ | 2.2 kW |
| RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ | 3 kW |
| RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ | 3.4 kW |
| RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ | 3.6 kW |
| RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ | 3.5 kW |
| RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ | 4.4 kW |
| RATED OPERATIONAL POWER (NEMA) | 7.4 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 | 18 ms |

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| OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX | |
| 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) | 25 A, Class RK5/ 60 A Class J, max. Fuse, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) |
| SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V) | 25 A, Class RK5/60 A, Class J, max. Fuse, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) |
| SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V | 63 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 | 20 A gG/gL |
| SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V | 20 A gG/gL |
| SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS | 20 A (600V 60Hz 3phase, 347V 60Hz 1phase) 20 A (480V 60Hz 3phase, 277V 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 | 7.5 HP, 480 V 60 Hz 3-ph, (UL/CSA) 3 HP, 240 V 60 Hz 3-ph, (UL/CSA) |

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| | 7.8 A, 200 V 60 Hz 3-ph, (UL/CSA) 9.6 A, 240 V 60 Hz 3-ph, (UL/CSA) 2 HP, 200 V 60 Hz 3-ph, (UL/CSA) 7.5 HP, 600 V 60 Hz 3-ph, (UL/CSA) 11 A, 480 V 60 Hz 3-ph, (UL/CSA) 9 A, 600 V 60 Hz 3-ph, (UL/CSA) |
| SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY) | 10 A, FLA 480 V 60 Hz 3phase; (CSA) 60 A, LRA 600 V 60 Hz 3phase; (CSA) 10 A, FLA 600 V 60 Hz 3phase; (CSA) 60 A, LRA 480 V 60 Hz 3phase; (CSA) |
| SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING | 20 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 20 A, 480 V 60 Hz 3phase, 277 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) |
| 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 | 8.4 kW |
| RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ | 7.5 kW |
| RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ | 7 kW |
| ACTUATING VOLTAGE | 190 V 50 Hz, 220 V 60 Hz |
| ALTITUDE | Max. 2000 m |

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| 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 |

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| PROJECT NAME: |
| PROJECT NUMBER: |
| PREPARED BY: |
| DATE: |



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