# Specifications

**Photo is representative**

## Eaton 191718

Eaton Moeller® series DILMS Safety contactor, 380 V 400 V: 55 kW, 2 N/O, 2 NC, RDC 24: 24 - 27 V DC, DC operation, Screw terminals, integrated suppressor circuit in actuating electronics

| General specifications | |
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| **PRODUCT NAME** | Eaton Moeller® series DILMS Safety contactor |
| **CATALOG NUMBER** | 191718 |
| **MODEL CODE** | DILMS115-22(RDC24) |
| **EAN** | 4015081922314 |
| **PRODUCT LENGTH/DEPTH** | 175 mm |
| **PRODUCT HEIGHT** | 170 mm |
| **PRODUCT WIDTH** | 90 mm |
| **PRODUCT WEIGHT** | 2.31 kg |
| **CERTIFICATIONS** | CSA Class No.: 2411-03, 3211-04<br>CSA File No.: 012528<br>IEC/EN 60947<br>VDE 0660<br>UL 60947-4-1<br>UL File No.: E29096<br>CE<br>UL<br>CSA<br>UL Category Control No.: NLDX<br>IEC/EN 60947-4-1<br>CSA-C22.2 No. 60947-4-1-14 |
| **CATALOG NOTES** | Contacts according to EN 50012 |
| **GLOBAL CATALOG** | 191718 |
| **PRODUCT TYPE** | Safety contactor |

Powering Business Worldwide

## Product specifications

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| **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. |

## Resources

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| CATALOGS | eaton-dilms-safety-contactor-flyer-fl034004en-en-us.pdf<br><br>Product Range Catalog Switching and protecting motors |
| CHARACTERISTIC CURVE | eaton-contactors-component-dilm-characteristic-curve-003.eps<br><br>eaton-contactors-short-time-loading-dilm-characteristic-curve-002.eps<br><br>eaton-contactors-short-time-loading-dilm-characteristic-curve.eps<br><br>eaton-contactors-switch-dilm-characteristic-curve.eps<br><br>eaton-contactors-switch-dilm-characteristic-curve-002.eps |
| DECLARATIONS OF CONFORMITY | eaton-safety-contactor-declaration-of-conformity-eu250754en.pdf<br><br>eaton-safety-contactor-declaration-of-conformity-uk251237en.pdf |
| DRAWINGS | eaton-contactors-mounting-dilm-dimensions-002.eps<br><br>eaton-contactors-mounting-dilm-dimensions.eps<br><br>eaton-contactors-dilm-dimensions-011.eps<br><br>eaton-contactors-dilm-dimensions-003.eps<br><br>eaton-general-ie-ready-dilm-contactor-standards.eps<br><br>eaton-contactors-complete-unit-dilms-safety-3d-drawing.eps |
| ECAD MODEL | ETN.191718.edz |
| INSTALLATION | IL034063ZU |

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| **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<br>Suppressor circuit in actuating electronics |
| **OPERATING FREQUENCY** | 3600 mechanical Operations/h (DC operated) |
| **POLLUTION DEGREE** | 3 |
| **UTILIZATION CATEGORY** | AC-4: Normal AC induction motors: starting, plugging, reversing, inching<br>AC-1: Non-inductive or slightly inductive loads, resistance furnaces<br>AC-3: Normal AC induction motors: starting, switch off during running |
| **CLIMATIC PROOFING** | Damp heat, cyclic, to IEC 60068-2-30<br>Damp heat, constant, to IEC 60068-2-78 |
| **RATED IMPULSE WITHSTAND VOLTAGE (UIMP)** | 8000 V AC |
| **CONNECTION** | Screw terminals |
| **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 |

| INSTRUCTIONS | |
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| INSTALLATION VIDEOS | WIN-WIN with push-in technology |
| MCAD MODEL | DA-CS-dil_m80_170<br>eaton-iec-contactors-mcad-drawings-dil-m80-170.dwg |
| PEP ECO-PASSPORT | eaton-iec-contactors-pep-eato-00125-v0101-en.pdf |
| WIRING DIAGRAMS | 2100SWI-125 |

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| **AMBIENT STORAGE TEMPERATURE - MAX** | 80 °C |
| **AMBIENT STORAGE TEMPERATURE - MIN** | -40 °C |
| **ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE** | 10 HP |
| **ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE** | 40 HP |
| **ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE** | 25 HP |
| **ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE** | 50 HP |
| **ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE** | 100 HP |
| **ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE** | 100 HP |
| **CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)** | 285 A |
| **CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)** | 115 A |
| **CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)** | 135 A |
| **CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)** | 325 A |
| **EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID** | 18.9 W |
| **HEAT DISSIPATION CAPACITY PDISS** | 0 W |
| **HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID** | 6.3 W |
| **SWITCHING TIME (DC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX** | 35 ms |
| **SWITCHING TIME (DC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX** | 30 ms |
| **APPLICATION** | Contactors for Motors |

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| **PRODUCT CATEGORY** | Safety contactors |
| **PROTECTION** | Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274) |
| **ARCING TIME** | 15 ms |
| **ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT** | Screw connection |
| **SCREWDRIVER SIZE** | 2, Terminal screw, Control circuit cables, Pozidriv screwdriver<br>0.8 x 5.5/1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver |
| **VOLTAGE TYPE** | DC |
| **DEGREE OF PROTECTION** | IP00 |
| **NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)** | 2 |
| **NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)** | 2 |
| **NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)** | 2 |
| **NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT** | 0 |
| **NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)** | 2 |
| **NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)** | 3 |
| **POWER CONSUMPTION (PICK-UP) AT DC** | 149 W |
| **POWER CONSUMPTION (SEALING) AT DC** | 1.9 W |
| **RATED BREAKING CAPACITY AT 220/230 V** | 1150 A |
| **RATED BREAKING CAPACITY AT 380/400 V** | 1150 A |
| **RATED BREAKING CAPACITY AT 500 V** | 1150 A |
| **RATED BREAKING CAPACITY AT 660/690 V** | 1100 A |
| **DROP-OUT VOLTAGE** | 0.6 - 0.15 x UC, DC operated<br>At least smoothed two- |

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| | phase bridge rectifier or three-phase rectifier |
| **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 (DC operated) |
| **PICK-UP VOLTAGE** | 0.7 - 1.2 V DC x Uc |
| **SAFE ISOLATION** | 690 V AC, Between coil and contacts, According to EN 61140<br>690 V AC, Between the contacts, According to EN 61140 |
| **RESIDUAL CURRENT** | 1 mA (with actuation of A1 - A2 by the electronics with "0" signal) |
| **SCREW SIZE** | M3.5, Terminal screw, Control circuit cables<br>M10, Terminal screw, Main cables<br>5 mm AF, Hexagon socket-head spanner, Terminal screw, Main cables |
| **TERMINAL CAPACITY (STRANDED)** | 1 x (16 - 95) mm², Main cables<br>2 x (16 - 70) mm², Main cables |
| **SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)** | 10 A, 600 V AC, (UL/CSA)<br>1 A, 250 V DC, (UL/CSA) |
| **SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)** | P300, DC operated (UL/CSA)<br>A600, AC operated (UL/CSA) |
| **TERMINAL CAPACITY (COPPER BAND)** | 2 x (6 x 16 x 0.8) mm (Number of segments x width x thickness), Main cables |
| **TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)** | 1 x (0.75 - 2.5) mm², Control circuit cables<br>2 x (10 - 70) mm², Main cables<br>1 x (10 - 95) mm², Main cables<br>2 x (0.75 - 2.5) mm², Control circuit cables |
| **SHOCK RESISTANCE** | 10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms |

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| | 10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms<br>7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms<br>5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms<br>5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms<br>7 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms |
| **TERMINAL CAPACITY (SOLID)** | 2 x (0.75 - 2.5) mm², Control circuit cables<br>1 x (0.75 - 2.5) mm², Control circuit cables |
| **TERMINAL CAPACITY (SOLID/STRANDED AWG)** | Single 8...3/0, double 8...2/0, Main cables<br>18 - 14, Control circuit cables |
| **SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)** | 180 A, Maximum motor rating (UL/CSA) |
| **TIGHTENING TORQUE** | 14 Nm, Screw terminals, Main cables<br>1.2 Nm, Screw terminals, Control circuit cables |
| **RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX** | 24 V |
| **RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN** | 24 V |
| **RATED INSULATION VOLTAGE (UI)** | 690 V |
| **RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)** | 1610 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V** | 160 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V** | 115 A |

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| **RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V** | 115 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V** | 115 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V** | 115 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V** | 93 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V** | 55 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V** | 55 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V** | 55 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V** | 55 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V** | 45 A |
| **RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V** | 160 A |
| **RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V** | 90 A |
| **RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V** | 160 A |
| **RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)** | 115 A |
| **RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ** | 40 kW |
| **RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ** | 55 kW |
| **RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ** | 70 kW |
| **RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ** | 17 kW |
| **RATED OPERATIONAL POWER AT AC-4, 240 V, 50** | 19 kW |

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| **HZ** | |
| **RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ** | 28 kW |
| **RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ** | 33 kW |
| **RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ** | 35 kW |
| **RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ** | 40 kW |
| **RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ** | 43 kW |
| **RATED OPERATIONAL POWER (NEMA)** | 74.6 kW |
| **RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX** | 690 V |
| **RESISTANCE PER POLE** | 0.6 mΩ |
| **STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS** | 1.9 W |
| **STRIPPING LENGTH (CONTROL CIRCUIT CABLE)** | 10 mm |
| **STRIPPING LENGTH (MAIN CABLE)** | 24 mm |
| **SHORT-CIRCUIT CURRENT RATING (BASIC RATING)** | 10 kA, 600 A max. fuse, SCCR (UL/CSA)<br>10 kA, 600 A max. CB, SCCR (UL/CSA) |
| **SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)** | 100 kA, 300 A CLASS J max. fuse, SCCR (UL/CSA)<br>30 kA, 600 A max. fuse, SCCR (UL/CSA)<br>65 kA, 250 A max. CB, SCCR (UL/CSA) |
| **SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)** | 100 kA, 300 A CLASS J max. fuse, SCCR (UL/CSA)<br>30 kA, 600 A max. fuse, SCCR (UL/CSA) |
| **SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V** | 250 A gG/gL |
| **SUITABLE FOR** | Also motors with efficiency class IE3 |
| **SHORT-CIRCUIT PROTECTION RATING** | 250 A gG/gL |

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| **(TYPE 1 COORDINATION) AT 690 V** | |
| **SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V** | 250 A gG/gL |
| **SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V** | 250 A gG/gL |
| **SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS** | 160 A (480V 60Hz 3phase, 277V 60Hz 1phase)<br>160 A (600V 60Hz 3phase, 347V 60Hz 1phase) |
| **SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING** | 115 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)<br>690 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) |
| **SPECIAL PURPOSE RATING OF ELEVATOR CONTROL** | 92 A, 200 V 60 Hz 3-ph, (UL/CSA)<br>96 A, 480 V 60 Hz 3-ph, (UL/CSA)<br>100 HP, 600 V 60 Hz 3-ph, (UL/CSA)<br>104 A, 240 V 60 Hz 3-ph, (UL/CSA)<br>40 HP, 240 V 60 Hz 3-ph, (UL/CSA)<br>99 A, 600 V 60 Hz 3-ph, (UL/CSA)<br>30 HP, 200 V 60 Hz 3-ph, (UL/CSA)<br>75 HP, 480 V 60 Hz 3-ph, (UL/CSA) |
| **SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)** | 84 A, FLA 600 V 60 Hz 3phase; (CSA)<br>540 A, LRA 480 V 60 Hz 3phase; (CSA)<br>84 A, FLA 480 V 60 Hz 3phase; (CSA)<br>540 A, LRA 600 V 60 Hz 3phase; (CSA) |
| **SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING** | 160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)<br>160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) |
| **SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS** | 160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)<br>160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) |

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| **CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)** | 160 A |
| **CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)** | 142 A |
| **CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)** | 130 A |
| **RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ** | 75 kW |
| **RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ** | 85 kW |
| **RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ** | 90 kW |
| **ACTUATING VOLTAGE** | RDC 24: 24 - 27 V DC |
| **ALTITUDE** | Max. 2000 m |
| **OPERATING VOLTAGE AT AC, 50 HZ - MIN** | 230 V |
| **OPERATING VOLTAGE AT AC, 50 HZ - MAX** | 690 V |
| **OPERATING VOLTAGE AT AC, 60 HZ - MIN** | 230 V |
| **OPERATING VOLTAGE AT AC, 60 HZ - MAX** | 690 V |
| **OPERATING VOLTAGE AT DC - MIN** | 24 V |
| **OPERATING VOLTAGE AT DC - MAX** | 27 V |

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

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