

Eaton 051618

Eaton Moeller® series DILEEM Contactor,
110 V 50/60 Hz, 3 pole, 380 V 400 V, 3 kW,
Contacts N/C = Normally closed= 1 NC,
Screw terminals, AC operation

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| PRODUCT NAME | Eaton Moeller® series DILEEM Mini contactor |
| CATALOG NUMBER | 051618 |
| PRODUCT LENGTH/DEPTH | 52 mm |
| PRODUCT HEIGHT | 58 mm |
| PRODUCT WIDTH | 45 mm |
| PRODUCT WEIGHT | 0.17 kg |
| CERTIFICATIONS | CE IEC/EN 60947 UL Category Control No.: NLDX UL 508 CSA CSA-C22.2 No. 14-05 VDE 0660 CSA Class No.: 3211-04 UL IEC/EN 60947-4-1 UL File No.: E29096 CSA File No.: 012528 |
| CATALOG NOTES | Also tested according to AC-3e. |

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| NUMBER OF POLES | Three-pole |
| FEATURES | Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module |
| 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. |

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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: | Auxiliary contact |
| OPERATING FREQUENCY | 9000 mechanical Operations/h |
| POLLUTION DEGREE | 3 |
| CLIMATIC PROOFING | Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78 |
| RATED IMPULSE WITHSTAND VOLTAGE (UIMP) | 6000 V AC |
| UTILIZATION CATEGORY | AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-3: Normal AC induction motors: starting, switch off during running |
| CONNECTION | Screw terminals |
| AMBIENT OPERATING TEMPERATURE - MAX | 50 °C |

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| 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 | 0.25 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 |
| ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE | 3 HP |
| ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE | 3 HP |
| CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED) | 40 A |
| CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED) | 16 A |
| CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN) | 19 A |
| CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN) | 10 A |
| CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN) | 50 A |
| EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID | 0.6 W |

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| HEAT DISSIPATION CAPACITY PDISS | 0 W |
| HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID | 0.2 W |
| SWITCHING TIME (AC OPERATED, N/O, WITH AUXILIARY CONTACT MODULE, CLOSING DELAY) | 45 ms |
| APPLICATION | Mini Contactors for Motors and Resistive Loads |
| PRODUCT CATEGORY | Contactors |
| PROTECTION | Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274) |
| ARCING TIME | 12 ms at 690 V AC |
| 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 |
| MOUNTING POSITION | As required (except vertical with terminals A1/A2 at the bottom) |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS) | 1 |
| NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS) | 0 |
| 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 |

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| RATED BREAKING CAPACITY AT 500 V | 64 A |
| RATED BREAKING CAPACITY AT 660/690 V | 42 A |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX | 110 V |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN | 110 V |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX | 110 V |
| RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN | 110 V |
| OVERVOLTAGE CATEGORY | III |
| CONTROL CIRCUIT RELIABILITY | < 2 λ , < 1 failure at 100,000,000 Operations (at $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA) |
| DUTY FACTOR | 100 % |
| CHANGEOVER TIME | 16 - 21 ms |
| LIFESPAN, MECHANICAL | 7,000,000 Operations (Coil 50/60 Hz) 10,000,000 Operations 200,000 Operations (at 240 V, AC-15) 150,000 Operations (at 240 V, DC, L/R = 50 ms: 2 contacts in series 0.5 A) |
| PICK-UP VOLTAGE | 0.8 - 1.1 V AC \times U_c (voltage tolerance - dual frequency coil 50/60 Hz) |
| POWER CONSUMPTION, PICK-UP, 50 HZ | 30 VA, AC, Dual-frequency coil at 50 Hz 26 W, AC, Dual-frequency coil at 50 Hz |
| SAFE ISOLATION | 300 V AC, Between coil and auxiliary contacts, According to EN 61140 300 V AC, Between the contacts, According to EN 61140 300 V AC, Between coil and contacts, According to EN 61140 300 V AC, Between auxiliary contacts, According to EN 61140 |

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| POWER CONSUMPTION, PICK-UP, 60 HZ | 29 VA, AC, Dual-frequency coil at 60 Hz 24 W, AC, Dual-frequency coil at 60 Hz |
| SCREW SIZE | M3.5, Terminal screw |
| POWER CONSUMPTION, SEALING, 50 HZ | 1.8 W, Coil in a cold state and 1.0 x Us 5.4 VA, Coil in a cold state and 1.0 x Us |
| POWER CONSUMPTION, SEALING, 60 HZ | 1.8 W, AC, Dual-frequency coil at 60 Hz 3.9 VA, AC, Dual-frequency coil at 60 Hz 1.8 W, Coil in a cold state and 1.0 x Us 5.4 VA, Coil in a cold state and 1.0 x Us |
| RATED OPERATIONAL CURRENT (IE) | 2.5 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series) 2.5 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series) 0.5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series) 1.5 A at 100 V, DC L/R ≤ 15 ms (with 3 contacts in series) |
| SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE) | 10 A, 600 V AC, (UL/CSA) 0.5 A, 250 V DC, (UL/CSA) |
| SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY) | P300, DC operated (UL/CSA) A600, AC operated (UL/CSA) |
| TERMINAL CAPACITY (FLEXIBLE WITH FERRULE) | 2 x (0.75 - 1.5) mm ² 1 x (0.75 - 1.5) mm ² |
| SHOCK RESISTANCE | 10 g, N/O main contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms 20 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms 10 g, N/C auxiliary contact, Basic unit without auxiliary |

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| | contact module, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms 20 g, N/O auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms 10 g, N/O main contact, Basic unit without auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms |
| TERMINAL CAPACITY (SOLID) | 1 x (0.75 - 2.5) mm ² 2 x (0.75 - 2.5) mm ² |
| TERMINAL CAPACITY (SOLID/STRANDED AWG) | 18 - 14 |
| SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE) | 15 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 440 V (COS PHI TO IEC/EN 60947) | 110 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V | 22 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V | 6 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V | 3 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-15, 500 V | 1.5 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V | 6.6 A |

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| RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V | 6.6 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V | 6.6 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V | 5 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V | 3.5 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, 440 V | 5 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V | 3.7 A |
| RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V | 2.9 A |
| RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V | 20 A |
| RATED OPERATIONAL CURRENT (IE) AT DC-1, 12 V | 20 A |
| RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V | 20 A |
| RATED OPERATIONAL CURRENT (IE) AT DC-1, 24 V | 20 A |
| RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V | 20 A |
| RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN) | 6.6 A |
| RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ | 1.8 kW |
| RATED OPERATIONAL POWER AT AC-3, 380/400 | 3 kW |

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| V, 50 HZ | |
| RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ | 3.1 kW |
| RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ | 1.1 kW |
| RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ | 1.3 kW |
| RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ | 2.2 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 | 2.2 kW |
| RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ | 2.2 kW |
| RATED OPERATIONAL POWER (NEMA) | 2.2 kW |
| RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX | 690 V |
| RESISTANCE PER POLE | 9.18 mΩ |
| STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS | 1.8 W |
| STRIPPING LENGTH (MAIN CABLE) | 8 mm |
| SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX | 21 ms |
| SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN | 14 ms |
| SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX | 18 ms |
| SWITCHING TIME (AC | 8 ms |

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| OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN | |
| SHORT-CIRCUIT CURRENT RATING (BASIC RATING) | 45 A, max. Fuse, SCCR (UL/CSA) 5 kA, SCCR (UL/CSA) |
| SHORT-CIRCUIT PROTECTION | PKZM0-4, Maximum overcurrent protective device, Short-circuit protection only, Auxiliary contacts, Short-circuit rating without welding 6 A gG/gL, Max. Fuse 500V, Auxiliary contacts, Short-circuit rating without welding 10 A fast, Max. Fuse 500V, Auxiliary contacts, Short-circuit rating without welding |
| SUITABLE FOR | Also motors with efficiency class IE3 |
| SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 500 V | 20 A gG/gL |
| SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 500 V | 10 A gG/gL |
| CONVENTIONAL THERMAL CURRENT I_{TH} AT 40°C (3-POLE, OPEN) | 22 A |
| CONVENTIONAL THERMAL CURRENT I_{TH} AT 50°C (3-POLE, OPEN) | 20 A |
| RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ | 3.3 kW |
| RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ | 3 kW |
| RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ | 3 kW |
| ACTUATING VOLTAGE | 110 V 50/60 Hz |
| ALTITUDE | Max. 2000 m |
| OPERATING VOLTAGE AT AC, 50 HZ - MIN | 24 V |
| OPERATING VOLTAGE AT AC, 50 HZ - MAX | 690 V |

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| 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: |
| : |



Eaton House
30 Pembroke Road
Dublin 4,
Eaton.com
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