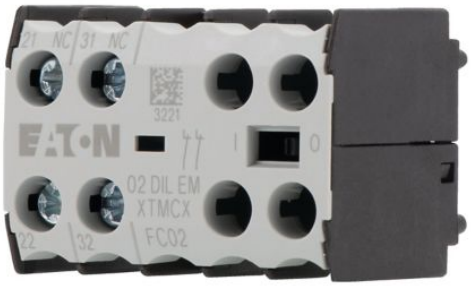
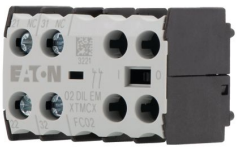
# Specifications







## Eaton 048912

Eaton Moeller® series DILE Auxiliary contact module, 4 pole, 3 N/O, 1 NC, Front fixing, Screw terminals, DILE(E)M, DILER

### General specifications

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|---|---|
| **PRODUCT NAME** | Eaton Moeller® series DILE Accessory Auxiliary contact module |
| **CATALOG NUMBER** | 048912 |
| **MODEL CODE** | 31DILE |
| **EAN** | 4015080489122 |
| **PRODUCT LENGTH/DEPTH** | 36 mm |
| **PRODUCT HEIGHT** | 32 mm |
| **PRODUCT WIDTH** | 45 mm |
| **PRODUCT WEIGHT** | 0.04 kg |
| **CERTIFICATIONS** | CSA Class No.: 3211-03<br>CSA-C22.2 No. 14-05<br>CE<br>IEC/EN 60947<br>VDE 0660<br>UL 508<br>UL Category Control No.: NKCR<br>CSA<br>UL<br>IEC/EN 60947-4-1<br>UL File No.: E29184<br>CSA File No.: 012528 |

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## Climatic environmental conditions

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|---|---|
| **AMBIENT OPERATING TEMPERATURE - MAX** | 50 °C |
| **AMBIENT STORAGE TEMPERATURE - MAX** | 80 °C |
| **AMBIENT OPERATING TEMPERATURE - MIN** | -25 °C |
| **AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX** | 40 °C |
| **AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN** | -25 °C |
| **AMBIENT STORAGE TEMPERATURE - MIN** | -40 °C |
| **CLIMATIC PROOFING** | Damp heat, cyclic, to IEC 60068-2-30<br>Damp heat, constant, to IEC 60068-2-78 |

## Conventional thermal current Ith

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| **CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)** | 10 A |

## Contacts

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| **CODE NUMBER** | 71E in combination with DILER-40(-G)<br>62 in combination with DILER-31(-G)<br>53 in combination with DILER-22 |
| **CONTROL CIRCUIT RELIABILITY** | < 2 λ, < 1 failure at 100,000,000 Operations (at $U_e$ = 24 V DC, Umin = 17 V, Imin = 5.4 mA) |
| **NUMBER OF CONTACTS (CHANGE-OVER CONTACTS)** | 0 |
| **NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)** | 1 |
| **NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)** | 3 |

## Design verification

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| **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. |

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| **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. |
| **EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID** | 0 W |
| **HEAT DISSIPATION CAPACITY PDISS** | 0 W |
| **HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID** | 0.24 W |
| **RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)** | 4 A |
| **STATIC HEAT** | 0 W |

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| **DISSIPATION, NON-CURRENT-DEPENDENT PVS** | |

## Electrical rating

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| **RATED INSULATION VOLTAGE (UI)** | 690 V |
| **RATED OPERATIONAL CURRENT (IE)** | 2.5 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series)<br>1.5 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series)<br>0.5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series)<br>2.5 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series) |
| **RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V** | 4 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V** | 2 A |
| **RATED OPERATIONAL CURRENT (IE) AT AC-15, 500 V** | 1.5 A |
| **RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX** | 600 V |
| **SAFE ISOLATION** | 300 V AC, Between auxiliary contacts, According to EN 61140<br>300 V AC, Between coil and auxiliary contacts, According to EN 61140 |

## Features & functions

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| **ELECTRIC CONNECTION TYPE** | Screw connection |
| **FEATURES** | Interlocked opposing contacts within an auxiliary contact module (according to IEC 60947-5-1 Annex L) |
| **FITTED WITH:** | Interlocked opposing contacts<br>Switching elements according to EN 50005 |
| **FUNCTIONS** | For standard applications |
| **NUMBER OF POLES** | Four-pole |

## General information

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| **DEGREE OF PROTECTION** | IP20 |
| **LIFESPAN, MECHANICAL** | 150,000 Operations (at 240 V, DC, L/R = 50 ms: 2 contacts in series 0.5 A)<br>20,000,000 Operations (DC operated)<br>10,000,000 Operations (AC operated)<br>200,000 Operations (at 240 V, AC-15) |
| **MODEL** | Top mounting |
| **MOUNTING METHOD** | Front fastening |
| **MOUNTING POSITION** | As required (except vertical with terminals A1/A2 at the bottom) |
| **OPERATING FREQUENCY** | 9000 Operations/h |
| **OVERVOLTAGE CATEGORY** | III |
| **POLLUTION DEGREE** | 3 |
| **PROTECTION** | Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274) |
| **RATED IMPULSE WITHSTAND VOLTAGE (UIMP)** | 6000 V AC |
| **SHOCK RESISTANCE** | 10 g, N/O contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms<br>8 g, N/C contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms |

## Short-circuit rating

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| **SHORT-CIRCUIT PROTECTION RATING** | 10 A fast, 500V, Maximum fuse, Short-circuit rating without welding, Contacts |
| **SHORT-CIRCUIT PROTECTION RATING WITHOUT WELDING** | 6 A gG/gL, 500 V, Max. Fuse, Contacts |

## Switching capacity

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| **SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)** | 10 A, 600 V AC, (UL/CSA)<br>0.5 A, 250 V DC, (UL/CSA) |
| **SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)** | A600, AC operated (UL/CSA)<br>P300, DC operated (UL/CSA) |

## Terminal capacities

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| **SCREW SIZE** | M3.5, Terminal screw |
| **SCREWDRIVER SIZE** | 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver<br>2, Terminal screw, Pozidriv screwdriver |
| **TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)** | 2 x (0.75 - 1.5) mm²<br>1 x (0.75 - 1.5) mm² |
| **TERMINAL CAPACITY (SOLID)** | 2 x (0.75 - 2.5) mm²<br>1 x (0.75 - 2.5) mm² |
| **TERMINAL CAPACITY (SOLID/STRANDED AWG)** | Single 18 – 14, double 18 – 14 |

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| **TIGHTENING TORQUE** | 1.2 Nm, Screw terminals |

## Resources

| | |
|---|---|
| CATALOGUES | eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf |
| CHARACTERISTIC CURVE | eaton-contactors-switch-dilm-characteristic-curve-002.eps<br><br>eaton-contactors-short-time-loading-dilm-characteristic-curve.eps |
| DECLARATIONS OF CONFORMITY | eaton-accessory-declaration-of-conformity-eu250790en.pdf<br><br>eaton-accessory-declaration-of-conformity-uk251273en.pdf |
| DRAWINGS | eaton-contactors-diler-dimensions-002.eps<br><br>eaton-contactors-contact-dile-accessory-3d-drawing.eps |
| ECAD MODEL | ETN.048912.edz |
| INSTALLATION INSTRUCTIONS | IL03407009Z |
| MCAD MODEL | eaton-contact-blocks-mcad-drawings-hs-dile.dwg<br><br>DA-CS-hs_dile |
| WIRING DIAGRAMS | eaton-contactors-contact-dila-accessory-wiring-diagram-005.eps |

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

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