# DATASHEET - DILM32-10(230V50HZ,240V60HZ)



**Contactor, 3 pole, 380 V 400 V 15 kW, 1 N/O, 230 V 50 Hz, 240 V 60 Hz, AC operation, Screw terminals**

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|---|---|
| **Part no.** | **DILM32-10(230V50HZ,240V60HZ)** |
| | **277260** |
| **EL Number (Norway)** | **4130427** |

## General specifications

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|---|---|
| Product name | Eaton Moeller® series DILM contactor |
| Part no. | DILM32-10(230V50HZ,240V60HZ) |
| EAN | 4015082772604 |
| Product Length/Depth | 97 millimetre |
| Product height | 85 millimetre |
| Product width | 45 millimetre |
| Product weight | 0.428 kilogram |
| Certifications | IEC/EN 60947-4-1<br>CSA-C22.2 No. 60947-4-1-14<br>CSA File No.: 012528<br>CSA Class No.: 2411-03, 3211-04<br>CSA<br>IEC/EN 60947<br>UL File No.: E29096<br>VDE 0660<br>UL<br>UL Category Control No.: NLDX<br>CE<br>UL 60947-4-1 |
| Product Tradename | DILM |
| Product Type | Contactor |
| Product Sub Type | None |
| Catalog Notes | Contacts according to EN 50012 |

## General information

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|---|---|
| Application | Contactors for Motors |
| Connection | Screw terminals |
| Degree of protection | IP00 |
| Frame size | FS2 |
| Lifespan, mechanical | 10,000,000 Operations (AC operated) |
| Operating frequency | 5000 mechanical Operations/h (AC operated) |
| Overvoltage category | III |
| Pollution degree | 3 |
| Product category | Contactors |
| Protection | Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274) |
| Rated impulse withstand voltage (Uimp) | 8000 V AC |
| Resistance per pole | 2.7 mΩ |
| Suitable for | Also motors with efficiency class IE3 |
| Utilization category | AC-1: Non-inductive or slightly inductive loads, resistance furnaces<br>AC-3: Normal AC induction motors: starting, switch off during running<br>AC-4: Normal AC induction motors: starting, plugging, reversing, inching |
| Voltage type | AC |

## Ambient conditions, mechanical

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|---|---|
| Shock resistance | 10 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms<br>5.3 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms<br>6.9 g, N/O main 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>3.5 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 |

## Climatic environmental conditions

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|---|---|
| Altitude | Max. 2000 m |
| Ambient operating temperature - min | -25 °C |
| Ambient operating temperature - max | 60 °C |
| Ambient operating temperature (enclosed) - min | -25 °C |
| Ambient operating temperature (enclosed) - max | 40 °C |
| Ambient storage temperature - min | -40 °C |
| Ambient storage temperature - max | 80 °C |
| Climatic proofing | Damp heat, cyclic, to IEC 60068-2-30<br>Damp heat, constant, to IEC 60068-2-78 |

## Electro magnetic compatibility

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|---|---|
| Emitted interference | According to EN 60947-1 |
| Interference immunity | According to EN 60947-1 |

## Terminal capacities

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| Terminal capacity (flexible with ferrule) | 1 x (0.75 - 2.5) $mm^2$, Control circuit cables<br>1 x (0.75 - 16) $mm^2$, Main cables<br>2 x (0.75 - 2.5) $mm^2$, Control circuit cables<br>2 x (0.75 - 10) $mm^2$, Main cables |
| Terminal capacity (solid) | 1 x (0.75 - 4) $mm^2$, Control circuit cables<br>2 x (0.75 - 2.5) $mm^2$, Control circuit cables<br>2 x (0.75 - 10) $mm^2$, Main cables<br>1 x (0.75 - 16) $mm^2$, Main cables |
| Terminal capacity (solid/stranded AWG) | 18 - 14, Control circuit cables<br>Single 18 - 6, double 18 - 8, Main cables |
| Terminal capacity (stranded) | 1 x 16 $mm^2$, Main cables |
| Stripping length (main cable) | 10 mm |
| Stripping length (control circuit cable) | 10 mm |
| Screw size | M3.5, Terminal screw, Control circuit cables<br>M5, Terminal screw, Main cables |
| Screwdriver size | 2, Terminal screw, Pozidriv screwdriver<br>0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver |
| Tightening torque | 1.2 Nm, Screw terminals, Control circuit cables<br>3.2 Nm, Screw terminals, Main cables |

## Electrical rating

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|---|---|
| Rated breaking capacity at 220/230 V | 320 A |
| Rated breaking capacity at 380/400 V | 320 A |
| Rated breaking capacity at 500 V | 320 A |
| Rated breaking capacity at 660/690 V | 180 A |
| Rated operational current (Ie) at AC-1, 380 V, 400 V, 415 V | 45 A |
| Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V | 32 A |
| Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V | 32 A |
| Rated operational current (Ie) at AC-3, 440 V | 32 A |
| Rated operational current (Ie) at AC-3, 500 V | 32 A |
| Rated operational current (Ie) at AC-3, 660 V, 690 V | 18 A |
| Rated operational current (Ie) at AC-4, 220 V, 230 V, 240 V | 15 A |
| Rated operational current (Ie) at AC-4, 440 V | 15 A |
| Rated operational current (Ie) at AC-4, 500 V | 15 A |
| Rated operational current (Ie) at AC-4, 660 V, 690 V | 12 A |
| Rated operational current (Ie) at DC-1, 60 V | 40 A |
| Rated operational current (Ie) at DC-1, 110 V | 40 A |
| Rated operational current (Ie) at DC-1, 220 V | 40 A |
| Rated insulation voltage (Ui) | 690 V |
| Rated making capacity up to 690 V (cos phi to IEC/EN 60947) | 384 A |
| Rated operational power at AC-3, 240 V, 50 Hz | 11 kW |
| Rated operational power at AC-3, 380/400 V, 50 Hz | 15 kW |
| Rated operational power at AC-3, 415 V, 50 Hz | 19 kW |
| Rated operational power at AC-3, 440 V, 50 Hz | 20 kW |
| Rated operational power at AC-3, 500 V, 50 Hz | 23 kW |
| Rated operational power at AC-3, 690 V, 50 Hz | 17 kW |
| Rated operational power at AC-4, 220/230 V, 50 Hz | 4 kW |

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| Rated operational power at AC-4, 240 V, 50 Hz | 4.5 kW |
| Rated operational power at AC-4, 415 V, 50 Hz | 7.5 kW |
| Rated operational power at AC-4, 440 V, 50 Hz | 8 kW |
| Rated operational power at AC-4, 500 V, 50 Hz | 9 kW |
| Rated operational power at AC-4, 660/690 V, 50 Hz | 10 kW |
| Rated operational voltage (Ue) at AC - max | 690 V |
| **Short-circuit rating** | |
| Short-circuit current rating (basic rating) | 125 A, max. CB, SCCR (UL/CSA)<br>125 A, max. Fuse, SCCR (UL/CSA)<br>5 kA, SCCR (UL/CSA) |
| Short-circuit current rating (high fault at 480 V) | 50/32 A, max. CB, SCCR (UL/CSA)<br>10/65 kA, CB, SCCR (UL/CSA)<br>125/70 A, Class J, max. Fuse, SCCR (UL/CSA)<br>10/100 kA, Fuse, SCCR (UL/CSA) |
| Short-circuit current rating (high fault at 600 V) | 10/22 kA, CB, SCCR (UL/CSA)<br>50/32 A, max. CB, SCCR (UL/CSA)<br>125/125 A, Class J, max. Fuse, SCCR (UL/CSA)<br>10/100 kA, Fuse, SCCR (UL/CSA) |
| Short-circuit protection rating (type 1 coordination) at 400 V | 125 A gG/gL |
| Short-circuit protection rating (type 1 coordination) at 690 V | 63 A gG/gL |
| Short-circuit protection rating (type 2 coordination) at 400 V | 63 A gG/gL |
| Short-circuit protection rating (type 2 coordination) at 690 V | 35 A gG/gL |
| **Conventional thermal current Ith** | |
| Conventional thermal current ith (1-pole, enclosed) | 90 A |
| Conventional thermal current ith (3-pole, enclosed) | 36 A |
| Conventional thermal current ith at 55°C (3-pole, open) | 42 A |
| Conventional thermal current ith at 60°C (3-pole, open) | 40 A |
| Conventional thermal current ith of main contacts (1-pole, open) | 100 A |
| **Switching capacity** | |
| Switching capacity (main contacts, general use) | 40 A, Maximum motor rating (UL/CSA) |
| Switching capacity (auxiliary contacts, general use) | 1 A, 250 V DC, (UL/CSA)<br>10 A, 600 V AC, (UL/CSA) |
| Switching capacity (auxiliary contacts, pilot duty) | P300, DC operated (UL/CSA)<br>A600, AC operated (UL/CSA) |
| **Magnet system** | |
| Arcing time | 10 ms |
| Drop-out voltage | AC operated: 0.6 - 0.3 x UC, AC operated |
| Duty factor | 100 % |
| Pick-up voltage | 0.8 - 1.1 V AC x Uc |
| Power consumption, pick-up, 50 Hz | 52 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz |
| Power consumption, pick-up, 60 Hz | 67 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz |
| Power consumption, sealing, 50 Hz | 2.1 W, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz<br>7.1 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz |
| Power consumption, sealing, 60 Hz | 8.7 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz<br>2.1 W, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz |
| Rated control supply voltage (Us) at AC, 50 Hz - min | 230 V |
| Rated control supply voltage (Us) at AC, 50 Hz - max | 230 V |
| Rated control supply voltage (Us) at AC, 60 Hz - min | 240 V |
| Rated control supply voltage (Us) at AC, 60 Hz - max | 240 V |
| Rated control supply voltage (Us) at DC - min | 0 V |
| Rated control supply voltage (Us) at DC - max | 0 V |
| Switching time (AC operated, make contacts, closing delay) - min | 16 ms |
| Switching time (AC operated, make contacts, closing delay) - max | 22 ms |
| Switching time (AC operated, make contacts, opening delay) - min | 8 ms |
| Switching time (AC operated, make contacts, opening delay) - max | 14 ms |
| **Motor rating** | |
| Assigned motor power at 115/120 V, 60 Hz, 1-phase | 2 HP |
| Assigned motor power at 200/208 V, 60 Hz, 3-phase | 10 HP |
| Assigned motor power at 230/240 V, 60 Hz, 1-phase | 5 HP |

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| Assigned motor power at 230/240 V, 60 Hz, 3-phase | 10 HP |
| Assigned motor power at 460/480 V, 60 Hz, 3-phase | 20 HP |
| Assigned motor power at 575/600 V, 60 Hz, 3-phase | 25 HP |
| **Communication** | |
| Connection to SmartWire-DT | No |
| **Contacts** | |
| Number of contacts (normally open contacts) | 1 |
| Number of auxiliary contacts (normally closed contacts) | 0 |
| Number of auxiliary contacts (normally open contacts) | 1 |
| Number of contacts (normally closed) as main contact | 0 |
| **Safety** | |
| Safe isolation | 440 V AC, Between coil and contacts, According to EN 61140<br>440 V AC, Between the contacts, According to EN 61140 |
| **Special purpose ratings** | |
| Special purpose rating of ballast electrical discharge lamps | 40 A (600V 60Hz 3phase, 347V 60Hz 1phase)<br>40 A (480V 60Hz 3phase, 277V 60Hz 1phase) |
| Special purpose rating of definite purpose rating | 32 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)<br>192 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) |
| Special purpose rating of elevator control | 25.3 A, 200 V 60 Hz 3-ph, (UL/CSA)<br>7.5 HP, 200 V 60 Hz 3-ph, (UL/CSA)<br>20 HP, 480 V 60 Hz 3-ph, (UL/CSA)<br>20 HP, 600 V 60 Hz 3-ph, (UL/CSA)<br>27 A, 480 V 60 Hz 3-ph, (UL/CSA)<br>22 A, 240 V 60 Hz 3-ph, (UL/CSA)<br>7.5 HP, 240 V 60 Hz 3-ph, (UL/CSA)<br>22 A, 600 V 60 Hz 3-ph, (UL/CSA) |
| Special purpose rating of refrigeration control (CSA only) | 180 A, LRA 600 V 60 Hz 3phase; (CSA)<br>40 A, FLA 480 V 60 Hz 3phase; (CSA)<br>30 A, FLA 600 V 60 Hz 3phase; (CSA)<br>240 A, LRA 480 V 60 Hz 3phase; (CSA) |
| Special purpose rating of resistance air heating | 40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)<br>40 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) |
| Special purpose rating of tungsten incandescent lamps | 40 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)<br>40 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) |
| **Design verification** | |
| Equipment heat dissipation, current-dependent Pvid | 6.6 W |
| Heat dissipation capacity Pdiss | 0 W |
| Heat dissipation per pole, current-dependent Pvid | 2.2 W |
| Rated operational current for specified heat dissipation (In) | 32 A |
| Static heat dissipation, non-current-dependent Pvs | 2.1 W |
| 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. |
| 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. |
| 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. |

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| 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. |

## Technical data ETIM 9.0

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|---|---|---|---|
| Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066) | | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss13-27-37-10-03 [AAB718020]) | | | |
| Rated control supply voltage AC 50 Hz | | V | 230 - 230 |
| Rated control supply voltage AC 60 Hz | | V | 240 - 240 |
| Rated control supply voltage DC | | V | 0 - 0 |
| Voltage type for actuating | | | AC |
| Number of normally closed contacts as main contact | | | 0 |
| Number of normally open contacts as main contact | | | 3 |
| Type of electrical connection of main circuit | | | Screw connection |
| Operating voltage AC 50 Hz | | V | 24 - 690 |
| Operating voltage AC 60 Hz | | V | 24 - 690 |
| Rated operation current Ie at AC-1, 400 V | | A | 45 |
| Rated operation current Ie at AC-3, 400 V | | A | 32 |
| Rated operation power at AC-3, 400 V | | kW | 15 |
| Rated operation current Ie at AC-4, 400 V | | A | 15 |
| Rated operation power at AC-4, 400 V | | kW | 7 |
| Rated operation power NEMA | | kW | 14.9 |
| Number of auxiliary contacts as normally open contact | | | 1 |
| Number of auxiliary contacts as normally closed contact | | | 0 |
| Modular version | | | No |
| Width | | mm | 45 |
| Height | | mm | 85 |
| Depth | | mm | 97 |


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