

Contactor relay, 24 V 50 Hz, 3 N/O, 1 NC, Screw terminals, AC operation

Part no. DILA-31(24V50HZ)
276351

**EL Number
(Norway)** 4130204

| General specifications | | |
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| Product name | | Eaton Moeller® series DILA Control Relay |
| Part no. | | DILA-31(24V50HZ) |
| EAN | | 4015082763510 |
| Product Length/Depth | | 75 millimetre |
| Product height | | 68 millimetre |
| Product width | | 45 millimetre |
| Product weight | | 0.24 kilogram |
| Compliances | | CE Marked |
| Certifications | | CSA Std. C22.2 No. 14-05 IEC 60947-4-1 UL 508 EN 60947-4-1 VDE CSA-C22.2 No. 14-05 UL CSA File No.: 012528 EN 60947-5-1 CSA CSA Class No.: 3211-03 UL Category Control No.: NKCR VDE 0660 IEC/EN 60947-4-1 UL File No.: E29184 CE IEC/EN 60947 |
| Product Tradename | | DILA |
| Product Type | | Control Relay |
| Product Sub Type | | None |
| Catalog Notes | | Coil terminal markings according to EN 50005 Contact numbers according to EN 50011 Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified. |
| Features & Functions | | |
| Features | | Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module |
| Fitted with: | | Positive operation contacts |
| General information | | |
| Application | | Contactor relays |
| Degree of protection | | IP20 |
| Shock resistance | | 7 g, N/O auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 5 g, N/C auxiliary contact, Basic unit with auxiliary contact module, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms |
| Lifespan, mechanical | | 20,000,000 Operations (AC operated) |
| Mounting method | | Screw |
| Operating frequency | | 9000 Operations/h |
| Overvoltage category | | III |
| Pollution degree | | 3 |
| Product category | | DILA relays |
| 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 |
| Voltage type | | AC |
| Climatic environmental conditions | | |
| Ambient operating temperature - min | | -25 °C |
| Ambient operating temperature - max | | 60 °C |

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| 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 Damp heat, constant, to IEC 60068-2-78 |
| Terminal capacities | | |
| Terminal capacity (flexible with ferrule) | | 2 x (0.75 - 2.5) mm ² , Screw terminals 1 x (0.75 - 2.5) mm ² , Screw terminals |
| Terminal capacity (solid) | | 1 x (0.75 - 4) mm ² , Screw terminals 2 x (0.75 - 2.5) mm ² , Screw terminals |
| Terminal capacity (solid/stranded AWG) | | 18 - 14, Screw terminals |
| Stripping length (main cable) | | 10 mm |
| Screw size | | M3.5, Terminal screw |
| Screwdriver size | | 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver |
| Tightening torque | | 1.2 Nm, Screw terminals |
| Electrical rating | | |
| Conventional thermal current I _{th} at 60°C (3-pole, open) | | 16 A |
| Rated operational current (I _e) | | 6 A at 60 V, DC L/R ≤ 15 ms (with 1 contact in series) 6 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series) 5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series) 10 A at 60 V, DC L/R ≤ 15 ms (with 2 contacts in series) 2 A at 110 V, DC L/R ≤ 50 ms (with 3 contacts in series) 10 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series) 4 A at 60 V, DC L/R ≤ 50 ms (with 3 contacts in series) 3 A at 110 V, DC L/R ≤ 15 ms (with 1 contact in series) 1 A at 220 V, DC L/R ≤ 15 ms (with 1 contact in series) 4 A at 24 V, DC L/R ≤ 50 ms (with 3 contacts in series) 1 A at 220 V, DC L/R ≤ 50 ms (with 3 contacts in series) 16 A |
| Rated operational current (I _e) at AC-15, 220 V, 230 V, 240 V | | 4 A |
| Rated operational current (I _e) at AC-15, 380 V, 400 V, 415 V | | 4 A |
| Rated operational current (I _e) at AC-15, 500 V | | 1.5 A |
| Rated insulation voltage (U _i) | | 690 V |
| Rated operational voltage (U _e) at AC - max | | 690 V |
| Short-circuit protection rating without welding | | 10 A gG/gL, 500 V, Max. Fuse, Contacts |
| Safe isolation | | 400 V AC, Between auxiliary contacts, According to EN 61140 400 V AC, Between coil and auxiliary contacts, According to EN 61140 |
| Switching capacity (auxiliary contacts, general use) | | 1 A, 250 V DC, (UL/CSA) 15 A, 600 V AC, (UL/CSA) |
| Switching capacity (auxiliary contacts, pilot duty) | | A600, AC operated (UL/CSA) P300, DC operated (UL/CSA) |
| Magnet system | | |
| Duty factor | | 100 % |
| Pick-up voltage | | 0.8 - 1.1 V AC x U _c (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz) |
| Power consumption, pick-up, 50 Hz | | 24 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz |
| Power consumption, pick-up, 60 Hz | | 24 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz |
| Power consumption, sealing, 50 Hz | | 1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz 3.4 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz |
| Power consumption, sealing, 60 Hz | | 1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz |
| Rated control supply voltage (U _s) at AC, 50 Hz - min | | 24 V |
| Rated control supply voltage (U _s) at AC, 50 Hz - max | | 24 V |
| Rated control supply voltage (U _s) at AC, 60 Hz - min | | 0 V |
| Rated control supply voltage (U _s) at AC, 60 Hz - max | | 0 V |
| Rated control supply voltage (U _s) at DC - min | | 0 V |
| Rated control supply voltage (U _s) at DC - max | | 0 V |
| Switching time (AC operated, make contacts, closing delay) - min | | 15 ms |
| Switching time (AC operated, make contacts, closing delay) - max | | 21 ms |
| Switching time (AC operated, make contacts, opening delay) - min | | 9 ms |
| Switching time (AC operated, make contacts, opening delay) - max | | 18 ms |
| Communication | | |

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| Connection | | Screw terminals |
| Connection to SmartWire-DT | | No |
| Contacts | | |
| Code number | | 31E |
| Control circuit reliability | | $\lambda < 5 \times 10^{-7}$ (1 failure at 2,000,000 operations for $U_{\#} = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA) |
| Number of auxiliary contacts (change-over contacts) | | 0 |
| Number of contacts (normally closed contacts) | | 1 |
| Number of contacts (normally open contacts) | | 3 |
| Number of auxiliary contacts (normally closed contacts) | | 1 |
| Number of auxiliary contacts (normally open contacts) | | 3 |
| Design verification | | |
| Equipment heat dissipation, current-dependent P _{vid} | | 0 W |
| Heat dissipation capacity P _{diss} | | 0 W |
| Heat dissipation per pole, current-dependent P _{vid} | | 0.5 W |
| Rated operational current for specified heat dissipation (I _n) | | 15.5 A |
| Static heat dissipation, non-current-dependent P _{vs} | | 1.4 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. |
| 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) / Contactor relay (EC000196) | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss13-27-37-10-01 [AAB716019]) | | |
| Rated control supply voltage AC 50 Hz | V | 24 - 24 |
| Rated control supply voltage AC 60 Hz | V | 0 - 0 |
| Rated control supply voltage DC | V | 0 - 0 |
| Voltage type for actuating | | AC |
| Rated operation current | A | 16 |
| Rated operation current I _e , 400 V | A | 4 |
| Mounting method | | Screw |
| With LED indication | | No |
| Suitable for manual operation | | No |
| Interface | | No |
| Number of auxiliary contacts as normally closed contact | | 1 |

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| Number of auxiliary contacts as normally open contact | | 3 |
| Number of auxiliary contacts as normally closed contact, delayed switching | | 0 |
| Number of auxiliary contacts as normally open contact, leading | | 0 |
| Number of auxiliary contacts as change-over contact | | 0 |
| Operating voltage AC 50 Hz | V | 17 - 500 |
| Operating voltage AC 60 Hz | V | 17 - 500 |
| Operating voltage DC | V | 24 - 220 |
| Voltage type (operating voltage) | | AC/DC |
| Rated switch current | A | 16 |
| Connection type auxiliary circuit | | Screw connection |
| Width | mm | 45 |
| Height | mm | 68 |
| Depth | mm | 75 |