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## Eaton 276509

Eaton Moeller® series DILA Contactor relay,  
24 V 50/60 Hz, 2 N/O, 2 NC, Spring-loaded  
terminals, AC operation

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| <b>PRODUCT NAME</b>             | Eaton Moeller® series<br>DILA Control relay                                                                                                                                                                                                                                                       |
| <b>CATALOG NUMBER</b>           | 276509                                                                                                                                                                                                                                                                                            |
| <b>PRODUCT<br/>LENGTH/DEPTH</b> | 75 mm                                                                                                                                                                                                                                                                                             |
| <b>PRODUCT HEIGHT</b>           | 68 mm                                                                                                                                                                                                                                                                                             |
| <b>PRODUCT WIDTH</b>            | 45 mm                                                                                                                                                                                                                                                                                             |
| <b>PRODUCT WEIGHT</b>           | 0.225 kg                                                                                                                                                                                                                                                                                          |
| <b>COMPLIANCES</b>              | CE Marked                                                                                                                                                                                                                                                                                         |
| <b>CERTIFICATIONS</b>           | IEC 60947-4-1<br>UL 508<br>EN 60947-4-1<br>CSA Std. C22.2 No. 14-05<br>VDE<br>CSA-C22.2 No. 14-05<br>IEC/EN 60947-4-1<br>VDE 0660<br>CSA Class No.: 3211-03<br>CSA<br>CSA File No.: 012528<br>UL<br>CE<br>EN 60947-5-1<br>UL Category Control No.:<br>NKCR<br>IEC/EN 60947<br>UL File No.: E29184 |
| <b>CATALOG NOTES</b>            | This item can only be<br>ordered until December<br>31, 2023 with a maximum<br>delivery date of May 31,<br>2024.                                                                                                                                                                                   |

**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.

**10.2.7 INSCRIPTIONS**

Meets the product standard's requirements.

**10.3 DEGREE OF PROTECTION OF**

Does not apply, since the entire switchgear needs to

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|                                                                 |                                                                                |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------|
| <b>ASSEMBLIES</b>                                               | be evaluated.                                                                  |
| <b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>                   | Meets the product standard's requirements.                                     |
| <b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>                   | Does not apply, since the entire switchgear needs to be evaluated.             |
| <b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>   | Does not apply, since the entire switchgear needs to be evaluated.             |
| <b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>        | Is the panel builder's responsibility.                                         |
| <b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>                 | Is the panel builder's responsibility.                                         |
| <b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>                 | Is the panel builder's responsibility.                                         |
| <b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>                         | Is the panel builder's responsibility.                                         |
| <b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b> | Is the panel builder's responsibility.                                         |
| <b>FITTED WITH:</b>                                             | Positive operation contacts                                                    |
| <b>OPERATING FREQUENCY</b>                                      | 9000 Operations/h                                                              |
| <b>POLLUTION DEGREE</b>                                         | 3                                                                              |
| <b>CLIMATIC PROOFING</b>                                        | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30 |
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b>                      | 60 °C                                                                          |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b>                      | -25 °C                                                                         |
| <b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>           | 40 °C                                                                          |
| <b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>           | 25 °C                                                                          |
| <b>AMBIENT STORAGE TEMPERATURE - MAX</b>                        | 80 °C                                                                          |
| <b>AMBIENT STORAGE TEMPERATURE - MIN</b>                        | 40 °C                                                                          |
| <b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>       | 0 W                                                                            |
| <b>HEAT DISSIPATION CAPACITY PDISS</b>                          | 0 W                                                                            |
| <b>HEAT DISSIPATION PER POLE, CURRENT-</b>                      | 0.5 W                                                                          |

|                                                                                   |                                                                                                      |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <b>DEPENDENT PVID</b>                                                             |                                                                                                      |
| <b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b>                        | 0                                                                                                    |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>                    | 2                                                                                                    |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS, DELAYED SWITCHING)</b> | 0                                                                                                    |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>                      | 2                                                                                                    |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS, LEADING)</b>             | 0                                                                                                    |
| <b>NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)</b>                              | 2                                                                                                    |
| <b>NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)</b>                                | 2                                                                                                    |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>                       | 24 V                                                                                                 |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>                       | 24 V                                                                                                 |
| <b>CONNECTION TO SMARTWIRE-DT</b>                                                 | No                                                                                                   |
| <b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>                                     | 6000 V AC                                                                                            |
| <b>CONNECTION</b>                                                                 | Spring-loaded terminals                                                                              |
| <b>APPLICATION</b>                                                                | Contactor relays                                                                                     |
| <b>PRODUCT CATEGORY</b>                                                           | DILA relays                                                                                          |
| <b>PROTECTION</b>                                                                 | Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274) |
| <b>CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)</b>                    | 16 A                                                                                                 |
| <b>VOLTAGE TYPE OF OPERATING VOLTAGE</b>                                          | AC/DC                                                                                                |
| <b>RATED SWITCH CURRENT</b>                                                       | 16 A                                                                                                 |
| <b>OPERATING VOLTAGE AT AC, 50 HZ - MIN</b>                                       | 17 V                                                                                                 |

|                                             |                                                                                                                                           |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OPERATING VOLTAGE AT AC, 50 HZ - MAX</b> | 500 V                                                                                                                                     |
| <b>OPERATING VOLTAGE AT AC, 60 HZ - MIN</b> | 17 V                                                                                                                                      |
| <b>OPERATING VOLTAGE AT AC, 60 HZ - MAX</b> | 500 V                                                                                                                                     |
| <b>OPERATING VOLTAGE AT DC - MIN</b>        | 24 VDC                                                                                                                                    |
| <b>OPERATING VOLTAGE AT DC - MAX</b>        | 220 VDC                                                                                                                                   |
| <b>SCREWDRIVER SIZE</b>                     | 0.6 x 3.5 mm, Spring-loaded terminals                                                                                                     |
| <b>VOLTAGE TYPE</b>                         | AC                                                                                                                                        |
| <b>CODE NUMBER</b>                          | 22D                                                                                                                                       |
| <b>DEGREE OF PROTECTION</b>                 | IP20                                                                                                                                      |
| <b>OVERVOLTAGE CATEGORY</b>                 | III                                                                                                                                       |
| <b>CONTROL CIRCUIT RELIABILITY</b>          | $\lambda < 5 \times 10^{-7}$ (1 failure at 2,000,000 operations for $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA)                |
| <b>CONNECTION TYPE (AUXILIARY CIRCUIT)</b>  | Spring clamp connection                                                                                                                   |
| <b>DUTY FACTOR</b>                          | 100 %                                                                                                                                     |
| <b>LIFESPAN, MECHANICAL</b>                 | 20,000,000 Operations (AC operated)                                                                                                       |
| <b>MOUNTING METHOD</b>                      | DIN rail                                                                                                                                  |
| <b>PICK-UP VOLTAGE</b>                      | 0.8 - 1.1 V AC x $U_c$ (voltage tolerance - dual frequency coil 50/60 Hz)                                                                 |
| <b>SAFE ISOLATION</b>                       | 400 V AC, Between auxiliary contacts,<br>According to EN 61140<br>400 V AC, Between coil and auxiliary contacts,<br>According to EN 61140 |
| <b>POWER CONSUMPTION, PICK-UP, 60 HZ</b>    | 27 VA, AC, Dual-frequency coil at 60 Hz<br>25 VA, AC, Dual-frequency coil at 60 Hz                                                        |
|                                             | 1.4 W, Dual-frequency coil in a cold state and $1.0 \times U_s$                                                                           |
| <b>POWER CONSUMPTION, SEALING, 60 HZ</b>    | 4.2 VA, Dual-frequency coil in a cold state and $1.0 \times U_s$                                                                          |
|                                             | 3.3 VA, Dual-frequency coil in a cold state and $1.0 \times U_s$                                                                          |
| <b>RATED OPERATIONAL CURRENT (IE)</b>       | 1 A at 220 V, DC L/R $\leq 50$ ms (with 3 contacts in series)<br>10 A at 60 V, DC L/R $\leq 15$                                           |

|                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                                                             | ms (with 2 contacts in series)<br>3 A at 110 V, DC L/R ≤ 15 ms (with 1 contact in series)<br>4 A at 60 V, DC L/R ≤ 50 ms (with 3 contacts in series)<br>5 A at 220 V, DC L/R ≤ 15 ms (with 3 contacts in series)<br>2 A at 110 V, DC L/R ≤ 50 ms (with 3 contacts in series)<br>6 A at 110 V, DC L/R ≤ 15 ms (with 3 contacts in series)<br>10 A at 24 V, DC L/R ≤ 15 ms (with 1 contact in series)<br>6 A at 60 V, DC L/R ≤ 15 ms (with 1 contact in series)<br>1 A at 220 V, DC L/R ≤ 15 ms (with 1 contact in series)<br>4 A at 24 V, DC L/R ≤ 50 ms (with 3 contacts in series)<br>16 A |
|                                                             | 1.4 W, Dual-frequency coil in a cold state and 1.0 x Us                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>POWER CONSUMPTION, SEALING, 50 HZ</b>                    | 4.2 VA, Dual-frequency coil in a cold state and 1.0 x Us                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                             | 3.3 VA, Dual-frequency coil in a cold state and 1.0 x Us                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)</b> | 1 A, 250 V DC, (UL/CSA)<br>15 A, 600 V AC, (UL/CSA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b>  | A600, AC operated (UL/CSA)<br>P300, DC operated (UL/CSA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b> | 24 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b> | 24 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>        | 0 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>        | 0 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>RATED INSULATION VOLTAGE (UI)</b>                        | 690 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RATED OPERATIONAL<br/>CURRENT (IE) AT AC-15,<br/>220 V, 230 V, 240 V</b>         | 4 A                                                                                                                                                                                                                                                                      |
| <b>RATED OPERATIONAL<br/>CURRENT (IE) AT AC-15,<br/>380 V, 400 V, 415 V</b>         | 4 A                                                                                                                                                                                                                                                                      |
| <b>RATED OPERATIONAL<br/>CURRENT (IE) AT AC-15,<br/>500 V</b>                       | 1.5 A                                                                                                                                                                                                                                                                    |
| <b>RATED OPERATIONAL<br/>CURRENT FOR SPECIFIED<br/>HEAT DISSIPATION (IN)</b>        | 15.5 A                                                                                                                                                                                                                                                                   |
| <b>RATED OPERATIONAL<br/>VOLTAGE (UE) AT AC -<br/>MAX</b>                           | 690 V                                                                                                                                                                                                                                                                    |
| <b>STATIC HEAT<br/>DISSIPATION, NON-<br/>CURRENT-DEPENDENT<br/>PVS</b>              | 1.4 W                                                                                                                                                                                                                                                                    |
| <b>STRIPPING LENGTH<br/>(MAIN CABLE)</b>                                            | 10 mm                                                                                                                                                                                                                                                                    |
| <b>SWITCHING TIME (AC<br/>OPERATED, MAKE<br/>CONTACTS, CLOSING<br/>DELAY) - MAX</b> | 21 ms                                                                                                                                                                                                                                                                    |
| <b>SWITCHING TIME (AC<br/>OPERATED, MAKE<br/>CONTACTS, CLOSING<br/>DELAY) - MIN</b> | 15 ms                                                                                                                                                                                                                                                                    |
| <b>SWITCHING TIME (AC<br/>OPERATED, MAKE<br/>CONTACTS, OPENING<br/>DELAY) - MAX</b> | 18 ms                                                                                                                                                                                                                                                                    |
| <b>SWITCHING TIME (AC<br/>OPERATED, MAKE<br/>CONTACTS, OPENING<br/>DELAY) - MIN</b> | 9 ms                                                                                                                                                                                                                                                                     |
| <b>TERMINAL CAPACITY<br/>(FLEXIBLE WITH<br/>FERRULE)</b>                            | 2 x (0.75 - 1.5) mm <sup>2</sup> ,<br>Spring-loaded terminals<br>with or without ferrule DIN<br>46228<br>1 x (0.75 - 1.5) mm <sup>2</sup> ,<br>Spring-loaded terminals<br>with or without ferrule DIN<br>46228                                                           |
| <b>SHOCK RESISTANCE</b>                                                             | 5 g, N/C auxiliary contact,<br>Basic unit with auxiliary<br>contact module,<br>Mechanical, according to<br>IEC/EN 60068-2-27, Half-<br>sinusoidal shock 10 ms<br>7 g, N/O auxiliary contact,<br>Basic unit with auxiliary<br>contact module,<br>Mechanical, according to |

|                                                 |                                                                                                |
|-------------------------------------------------|------------------------------------------------------------------------------------------------|
|                                                 | IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms                                                 |
| TERMINAL CAPACITY (SOLID/STRANDED AWG)          | 18 - 14, Spring-loaded terminals                                                               |
| SHORT-CIRCUIT PROTECTION RATING WITHOUT WELDING | 10 A gG/gL, 500 V, Max. Fuse, Contacts                                                         |
| TERMINAL CAPACITY (SOLID)                       | 1 x (0.75 - 2.5) mm², Spring-loaded terminals<br>2 x (0.75 - 2.5) mm², Spring-loaded terminals |
| ACTUATING VOLTAGE                               | 24 V 50/60 Hz                                                                                  |

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| PROJECT NAME:   |
| PROJECT NUMBER: |
| PREPARED BY:    |
|                 |



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