

# Specifications



## Eaton 199215

Eaton Moeller® series DILA Contactor relay, 110 V 50 Hz, 120 V 60 Hz, 2 N/O, 2 NC, Push in terminals, AC operation

### General specifications

|                             |                                                                                                                                                                                                                   |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PRODUCT NAME</b>         | Eaton Moeller® series<br>DILA Control relay                                                                                                                                                                       |
| <b>CATALOG NUMBER</b>       | 199215                                                                                                                                                                                                            |
| <b>MODEL CODE</b>           | DILA-<br>22(110V50HZ,120V60HZ)-<br>PI                                                                                                                                                                             |
| <b>EAN</b>                  | 4015081972999                                                                                                                                                                                                     |
| <b>PRODUCT LENGTH/DEPTH</b> | 75 mm                                                                                                                                                                                                             |
| <b>PRODUCT HEIGHT</b>       | 68 mm                                                                                                                                                                                                             |
| <b>PRODUCT WIDTH</b>        | 45 mm                                                                                                                                                                                                             |
| <b>PRODUCT WEIGHT</b>       | 0.227 kg                                                                                                                                                                                                          |
| <b>CERTIFICATIONS</b>       | IEC/EN 60947<br>VDE 0660<br>EN 60947-5-1<br>CSA File No.: 012528<br>CSA Class No.: 3211-03<br>UL File No.: E29184<br>UL 508<br>CSA-C22.2 No. 14-05<br>CE marking<br>UL Category Control No.:<br>NKCR<br>UL<br>CSA |

## Climatic environmental conditions

**AMBIENT OPERATING TEMPERATURE - MAX** 60 °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, constant, to IEC 60068-2-78  
Damp heat, cyclic, to IEC 60068-2-30

## Contacts

**CODE NUMBER** 22E

**CONTROL CIRCUIT RELIABILITY**  $\lambda < 5 \times 10^{-7}$  (1 failure at 2,000,000 operations for  $U_e = 24$  V DC,  $U_{min} = 17$  V,  $I_{min} = 5.4$  mA)  
 $\lambda < 5 \times 1/10^7$  (1 failure at 2,000,000 operations for  $U_e = 24$  V DC,  $U_{min} = 17$  V,  $I_{min} = 5.4$  mA)

**NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)** 0

**NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)** 2

**NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)** 2

**NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)** 2

**NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)** 2

## Communication

**CONNECTION TO SMARTWIRE-DT** No

## Design verification

**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.

|                                                                                         |                                                                    |
|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b> | Meets the product standard's requirements.                         |
| <b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>                                 | Meets the product standard's requirements.                         |
| <b>10.2.5 LIFTING</b>                                                                   | Does not apply, since the entire switchgear needs to be evaluated. |
| <b>10.2.6 MECHANICAL IMPACT</b>                                                         | Does not apply, since the entire switchgear needs to be evaluated. |
| <b>10.2.7 INSCRIPTIONS</b>                                                              | Meets the product standard's requirements.                         |
| <b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>                                          | Does not apply, since the entire switchgear needs to 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>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>                               | 0 W                                                                |
| <b>HEAT DISSIPATION CAPACITY PDISS</b>                                                  | 0 W                                                                |

## Electrical rating

### RATED INSULATION VOLTAGE (UI)

690 V

### RATED OPERATIONAL CURRENT (IE)

10 A at 60 V, DC L/R  $\leq$  15 ms (with 2 contacts in series)  
 6 A at 110 V, DC L/R  $\leq$  15 ms (with 3 contacts in series)  
 6 A at 60 V, DC L/R  $\leq$  15 ms (with 1 contact in series)  
 10 A at 24 V, DC L/R  $\leq$  15 ms (with 1 contact in series)  
 3 A at 110 V, DC L/R  $\leq$  15 ms (with 1 contact in series)  
 4 A at 24 V, DC L/R  $\leq$  50 ms (with 3 contacts in series)  
 2 A at 110 V, DC L/R  $\leq$  50 ms (with 3 contacts in series)  
 1 A at 220 V, DC L/R  $\leq$  50 ms (with 3 contacts in series)  
 1 A at 220 V, DC L/R  $\leq$  15 ms (with 1 contact in series)  
 5 A at 220 V, DC L/R  $\leq$  15 ms (with 3 contacts in series)  
 4 A at 60 V, DC L/R  $\leq$  50 ms (with 3 contacts in series)  
 16 A

### 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

4 A

### RATED OPERATIONAL CURRENT (IE) AT AC-15, 500 V

1.5 A

### RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX

690 V

### SAFE ISOLATION

400 V AC, Between auxiliary contacts,  
 According to EN 61140  
 400 V AC, Between coil and auxiliary contacts,  
 According to EN 61140

### SHORT-CIRCUIT PROTECTION RATING WITHOUT WELDING

10 A gG/gL, 500 V, Max. Fuse, Contacts

### SWITCHING CAPACITY

15 A, 600 V AC, (UL/CSA)

## Features & functions

### FEATURES

Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module

### FITTED WITH:

Positive operation contacts

|                                                            |                                                          |
|------------------------------------------------------------|----------------------------------------------------------|
| <b>(AUXILIARY CONTACTS, GENERAL USE)</b>                   | 1 A, 250 V DC, (UL/CSA)                                  |
| <b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b> | A600, AC operated (UL/CSA)<br>P300, DC operated (UL/CSA) |

| General information                           |                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>APPLICATION</b>                            | Contactors relays                                                                                                                                                                                                                                                                              |
| <b>CONNECTION</b>                             | Push in terminals                                                                                                                                                                                                                                                                              |
| <b>DEGREE OF PROTECTION</b>                   | IP20                                                                                                                                                                                                                                                                                           |
| <b>LIFESPAN, MECHANICAL</b>                   | 20,000,000 Operations (AC operated)                                                                                                                                                                                                                                                            |
| <b>MOUNTING METHOD</b>                        | DIN-rail/screw                                                                                                                                                                                                                                                                                 |
| <b>OPERATING FREQUENCY</b>                    | 9000 Operations/h                                                                                                                                                                                                                                                                              |
| <b>OVERVOLTAGE CATEGORY</b>                   | III                                                                                                                                                                                                                                                                                            |
| <b>POLLUTION DEGREE</b>                       | 3                                                                                                                                                                                                                                                                                              |
| <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>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b> | 6000 V AC                                                                                                                                                                                                                                                                                      |
| <b>SHOCK RESISTANCE</b>                       | 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<br>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 |
| <b>VOLTAGE TYPE</b>                           | AC                                                                                                                                                                                                                                                                                             |

| Magnet system                                                           |                                                                                                                                                     |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DUTY FACTOR</b>                                                      | 100 %                                                                                                                                               |
| <b>PICK-UP VOLTAGE</b>                                                  | 0.8 - 1.1 V AC x U <sub>c</sub> (voltage tolerance - single-voltage coil 50 Hz and dual-voltage coil 50 Hz, 60 Hz)                                  |
| <b>POWER CONSUMPTION, PICK-UP, 50 HZ</b>                                | 24 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz                                                                             |
| <b>POWER CONSUMPTION, PICK-UP, 60 HZ</b>                                | 24 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz                                                                             |
| <b>POWER CONSUMPTION, SEALING, 50 HZ</b>                                | 3.4 VA, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz<br>1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz |
| <b>POWER CONSUMPTION, SEALING, 60 HZ</b>                                | 1.4 W, AC, Single-frequency coil 50 Hz and Dual-frequency coil 50/60 Hz                                                                             |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>             | 110 V                                                                                                                                               |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>             | 110 V                                                                                                                                               |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>             | 120 V                                                                                                                                               |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>             | 120 V                                                                                                                                               |
| <b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX</b> | 21 ms                                                                                                                                               |
| <b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN</b> | 15 ms                                                                                                                                               |

|                                                                         |       |
|-------------------------------------------------------------------------|-------|
| <b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX</b> | 18 ms |
| <b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN</b> | 9 ms  |

## Terminal capacities

|                                                  |                                                                    |
|--------------------------------------------------|--------------------------------------------------------------------|
| <b>SCREWDRIVER SIZE</b>                          | 3.0 x 0.5 mm, Terminal screw                                       |
| <b>STRIPPING LENGTH (MAIN CABLE)</b>             | 10 mm                                                              |
| <b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b> | 2 x (0.5 - 1.5) mm <sup>2</sup><br>1 x (0.5 - 2.5) mm <sup>2</sup> |
| <b>TERMINAL CAPACITY (SOLID)</b>                 | 1 x (0.5 - 2.5) mm <sup>2</sup><br>2 x (0.5 - 2.5) mm <sup>2</sup> |
| <b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>    | 20 - 14                                                            |
| <b>TERMINAL CAPACITY (FLEXIBLE)</b>              | 1 x (0.5 - 2.5) mm <sup>2</sup><br>2 x (0.5 - 2.5) mm <sup>2</sup> |

## Resources

### CATALOGUES

[eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf](#)

[Product Range Catalog Switching and protecting motors](#)

### DECLARATIONS OF CONFORMITY

[eaton-control-relay-declaration-of-conformity-eu250722en.pdf](#)

[eaton-control-relay-declaration-of-conformity-uk251205en.pdf](#)

### DRAWINGS

[eaton-contactors-dimensions-007.eps](#)

### ECAD MODEL

[ETN.199215.edz](#)

### INSTALLATION VIDEOS

[WIN-WIN with push-in technology](#)

### MCAD MODEL

[eaton-iec-contactors-mcad-3d-models-dil-m7-15-pi.stp](#)

[eaton-iec-contactors-mcad-drawings-dil-m7-15-pi.dwg](#)

### WIRING DIAGRAMS

[2100SWI-108](#)

**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**



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