



**Safety contactor relay, 4N/O+4N/C, electronically-compatible auxiliary contact, DC**



**Part no.** DILAS-R44(24VDC)  
**Catalog No.** 191720  
**Alternate Catalog No.** XTSRE10BE44TD

## Delivery program

|                                  |                |   |   |
|----------------------------------|----------------|---|---|
| Product range                    |                |   | DILAS safety contactor relays   |
| Application                      |                |   | Contact relays  |
| Description                      |                |   | Basic devices and top mounting auxiliary contacts with interlocked opposing contacts (except microswitches)<br>2 electronic-compatible auxiliary microswitch contacts (1 NO + 1 NC) |
| Connection technique             |                |   | Screw terminals   |
| <b>Rated operational current</b> |                |   |   |
| AC-15                            |                |   |   |
| 220 V 230 V 240 V                | I <sub>e</sub> | A | 4   |
| 380 V 400 V 415 V                | I <sub>e</sub> | A | 4   |
| <b>Contacts</b>                  |                |   |   |
| N/O = Normally open              |                |   | 4 N/O   |
| N/C = Normally closed            |                |   | 4 NC  |
| Contact sequence                 |                |   |   |
| Actuating voltage                |                |   | 24 V DC   |
| Voltage AC/DC                    |                |   | DC operation  |
| Suppressor circuit               |                |   | built-in  |
| Connection to SmartWire-DT       |                |   | no  |
| <b>Instructions</b>              |                |   | Contact numbers to EN 50011<br>Coil terminal markings to EN 50005<br>built-in suppressor circuit'   |

## Technical data

|   |              |                   |  |
|---|--------------|-------------------|--|
| <b>General</b>                                  |              |                   |  |
| Standards                                       |              |                   | IEC/EN 60947, EN 60947-5-1, VDE 0660, UL, CSA                                  |
| Lifespan, mechanical                            |              |                   |  |
| DC operated                                     | Operations   | x 10 <sup>6</sup> | 20   |
| Maximum operating frequency                     | Operations/h |                   | 9000   |
| Climatic proofing                               |              |                   | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature                             |              |                   |  |
| Open  |              | °C                | -25 - +60  |
| Enclosed  |              | °C                | - 25 - 40  |
| Ambient temperature, storage                    |              | °C                | - 40 - 80  |
| Mounting position                               |              |                   |  |
| Mounting position                               |              |                   |  |
| Mechanical shock resistance (IEC/EN 60068-2-27) |              |                   |  |
| Half-sinusoidal shock, 10 ms                    |              |                   |  |
| Basic unit with auxiliary contact module        |              | g                 |  |
| N/O contact                                     |              | g                 | 7  |

|   |                 |                                      |
|---|-----------------|--------------------------------------|
| N/C contact   | g               | 5                                    |
| Degree of Protection  |                 | IP20                                 |
| Protection against direct contact when actuated from front (EN 50274) |                 | Finger and back-of-hand proof        |
| Weight  |                 |                                      |
| DC operated   | kg              | 0.344                                |
| Terminal capacities   | mm <sup>2</sup> |                                      |
| Screw terminals   |                 |                                      |
| Solid   | mm <sup>2</sup> | 1 x (0.75 - 4)<br>2 x (0.75 - 2.5)   |
| Flexible with ferrule   | mm <sup>2</sup> | 1 x (0.75 - 2.5)<br>2 x (0.75 - 2.5) |
| Solid or stranded   | AWG             | 18 - 14                              |
| Stripping length  | mm              | 10                                   |
| Terminal screw  |                 | M3.5                                 |
| Pozidriv screwdriver  | Size            | 2                                    |
| Standard screwdriver  | mm              | 0.8 x 5.5<br>1 x 6                   |
| Max. tightening torque  | Nm              | 1.2                                  |

## Contacts

|   |                                  |       |   |
|---|----------------------------------|-------|---|
| Positive operating contacts to ZH 1/457, including auxiliary contact module |                                  |       | Yes   |
| Rated impulse withstand voltage   | U <sub>imp</sub>                 | V AC  | 6000  |
| Overvoltage category/pollution degree                                       |                                  |       | III/3   |
| Rated insulation voltage  | U <sub>i</sub>                   | V AC  | 690   |
| Rated operational voltage   | U <sub>e</sub>                   | V AC  | 690   |
| Safe isolation to EN 61140  |                                  |       |   |
| between coil and auxiliary contacts   |                                  | V AC  | 400   |
| between the auxiliary contacts  |                                  | V AC  | 400   |
| Rated operational current   |                                  | A     |   |
| Conventional free air thermal current, 1 pole                               |                                  |       |   |
| Open  |                                  |       |   |
| at 60 °C  | I <sub>th</sub> = I <sub>e</sub> | A     | 16  |
| AC-15   |                                  |       |   |
| 220 V 230 V 240 V   | I <sub>e</sub>                   | A     | 4   |
| 380 V 400 V 415 V   | I <sub>e</sub>                   | A     | 4   |
| 500 V   | I <sub>e</sub>                   | A     | 1.5   |
| DC current  |                                  |       |   |
| Notes   |                                  |       | Switch-on and switch-off conditions based on DC-13, time constant as specified. |
| DC L/R ≤ 15 ms  |                                  |       |   |
| Contacts in series:   |                                  | A     |   |
| 1   | 24 V                             | A     | 10  |
| 1   | 60 V                             | A     | 6   |
| 2   | 60 V                             | A     | 10  |
| 1   | 110 V                            | A     | 3   |
| 3   | 110 V                            | A     | 6   |
| 1   | 220 V                            | A     | 1   |
| 3   | 220 V                            | A     | 5   |
| DC L/R ≤ 50 ms  |                                  |       |   |
| Contacts in series:   |                                  | A     |   |
| 3   | 24 V                             | A     | 4   |
| 3   | 60 V                             | A     | 4   |
| 3   | 110 V                            | A     | 2   |
| 3   | 220 V                            | A     | 1   |
| Short-circuit rating without welding  |                                  |       |   |
| Maximum overcurrent protective device                                       |                                  |       |   |
| 220 V 230 V 240 V   |                                  | PKZM0 | 4   |
| 380 V 400 V 415 V   |                                  | PKZM0 | 4   |

|                                       |  |         |      |
|---------------------------------------|--|---------|------|
| Short-circuit protection maximum fuse |  |         |      |
| 500 V                                 |  | A gG/gL | 10   |
| Current heat loss at $I_{th}$         |  |         |      |
| DC operated                           |  | W       | 1.07 |

## Magnet systems

|   |                      |      |  |
|---|----------------------|------|--|
| Voltage tolerance   |                      |      |  |
| DC operated   |                      |      |  |
| Notes   |                      |      | Smoothed DC, three-phase bridge rectifiers or smoothed double-wave rectification |
| Pick-up voltage   |                      |      | 0.8 1.1  |
| Power consumption   |                      |      |  |
| DC operation  |                      |      |  |
| DC operated   | Pull-in =<br>sealing | W    | 3  |
| duty factor   |                      | % DF | 100  |
| Changeover time at 100 % $U_S$ (recommended value)            |                      |      |  |
| DC operated closing delay                                     |                      | ms   |  |
| Switching times, DC operated, max. closing delay              |                      | ms   | 31   |
| DC operated N/O contact opening delay                         |                      | ms   |  |
| Switching times, DC actuated make contact Opening delay, max. |                      | ms   | 12   |

## Rating data for approved types

|                    |  |   |      |
|--------------------|--|---|------|
| Auxiliary contacts |  |   |      |
| Pilot Duty         |  |   |      |
| AC operated        |  |   | A600 |
| DC operated        |  |   | P300 |
| General Use        |  |   |      |
| AC                 |  | V | 600  |
| AC                 |  | A | 15   |
| DC                 |  | V | 250  |
| DC                 |  | A | 1    |

## Additional technical data

|                     |  |  |  |
|---------------------|--|--|--|
| Further information |  |  | → auxiliary contact component DILA-XHIR22 (139580) |
|---------------------|--|--|--|

## Design verification as per IEC/EN 61439

|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 15.5   |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 1  |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 0  |
| Static heat dissipation, non-current-dependent   | $P_{vs}$   | W  | 2.6  |
| Heat dissipation capacity  | $P_{diss}$ | W  | 0  |
| Operating ambient temperature min.   |            | °C | -25  |
| Operating ambient temperature max.   |            | °C | 60   |
| IEC/EN 61439 design verification   |            |    |  |
| 10.2 Strength of materials and parts   |            |    |  |
| 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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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. |

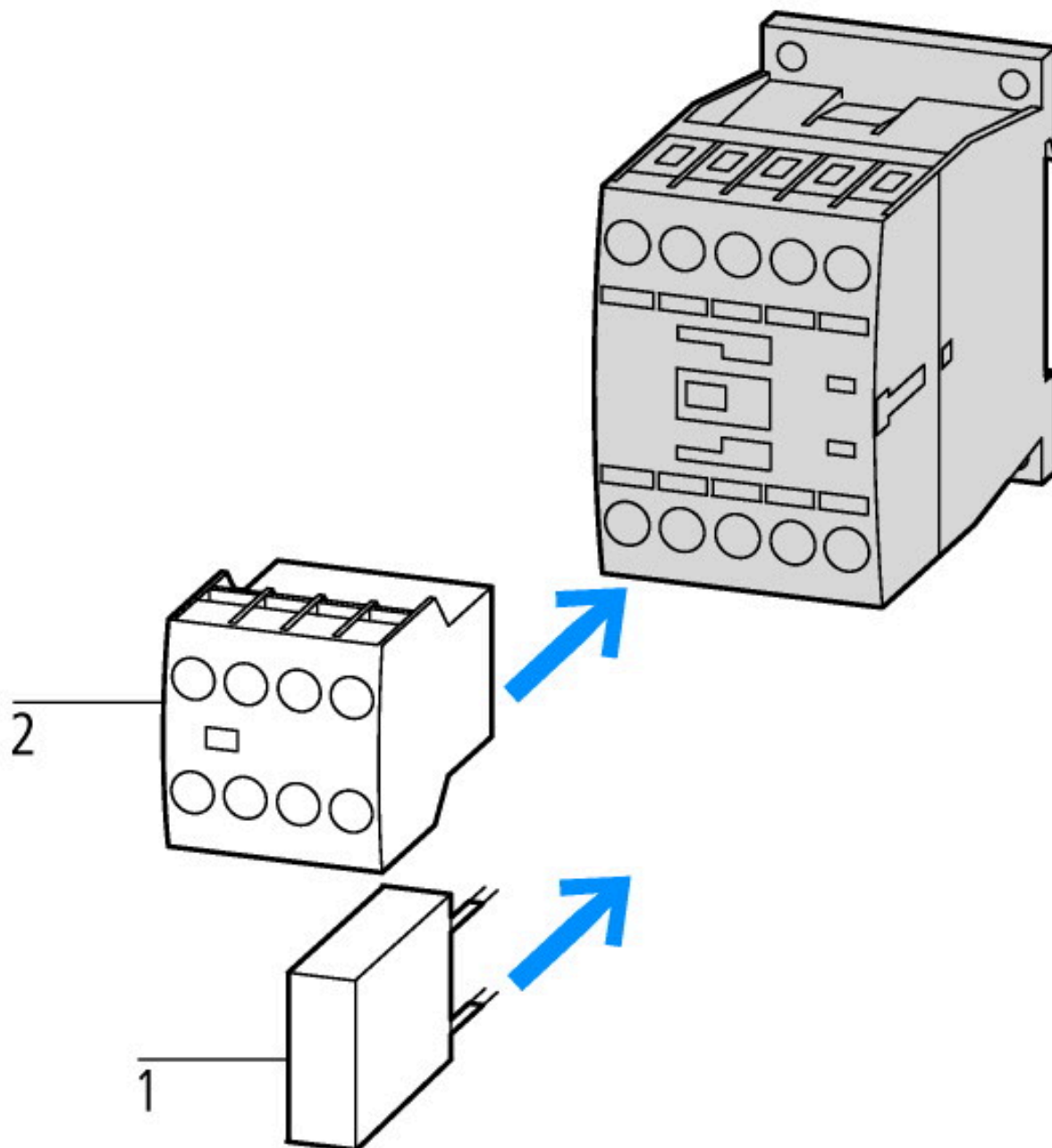
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|--|--|--|--|
| 10.7 Internal electrical circuits and connections        |  |  | Is the panel builder's responsibility.   |
| 10.8 Connections for external conductors                 |  |  | Is the panel builder's responsibility.   |
| 10.9 Insulation properties                               |  |  |  |
| 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 7.0

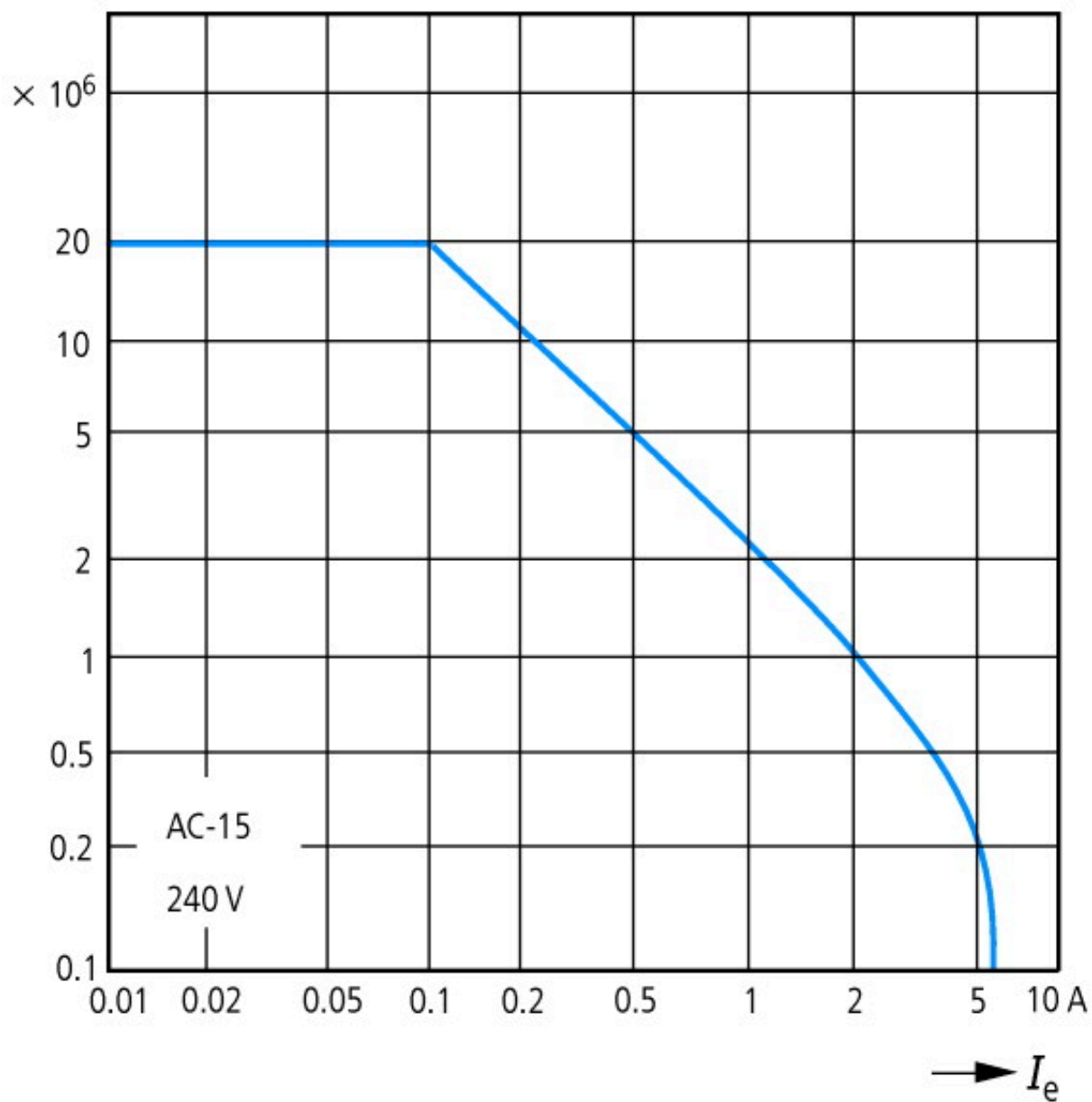
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|---|---|--|------------------|
| Low-voltage industrial components (EG000017) / Contactor relay (EC000196)   |   |  |                  |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Contactor relay (ecl@ss10.0.1-27-37-10-01 [AAB716014]) |   |  |                  |
| Rated control supply voltage Us at AC 50HZ  | V |  | 0 - 0            |
| Rated control supply voltage Us at AC 60HZ  | V |  | 0 - 0            |
| Rated control supply voltage Us at DC   | V |  | 24 - 24          |
| Voltage type for actuating  |   |  | DC               |
| Voltage type for actuating  |   |  | DC               |
| Rated operation current Ie, 400 V   | A |  | 4                |
| Connection type auxiliary circuit   |   |  | Screw connection |
| Mounting method   |   |  | DIN-rail/screw   |
| Interface   |   |  | No               |
| Number of auxiliary contacts as normally closed contact   |   |  | 4                |
| Number of auxiliary contacts as normally open contact   |   |  | 4                |
| Number of auxiliary contacts as normally closed contact, delayed switching  |   |  | 0                |
| Number of auxiliary contacts as normally open contact, leading  |   |  | 0                |
| With LED indication   |   |  | No               |
| Number of auxiliary contacts as change-over contact   |   |  | 0                |
| Manual operation possible   |   |  | No               |

## Approvals

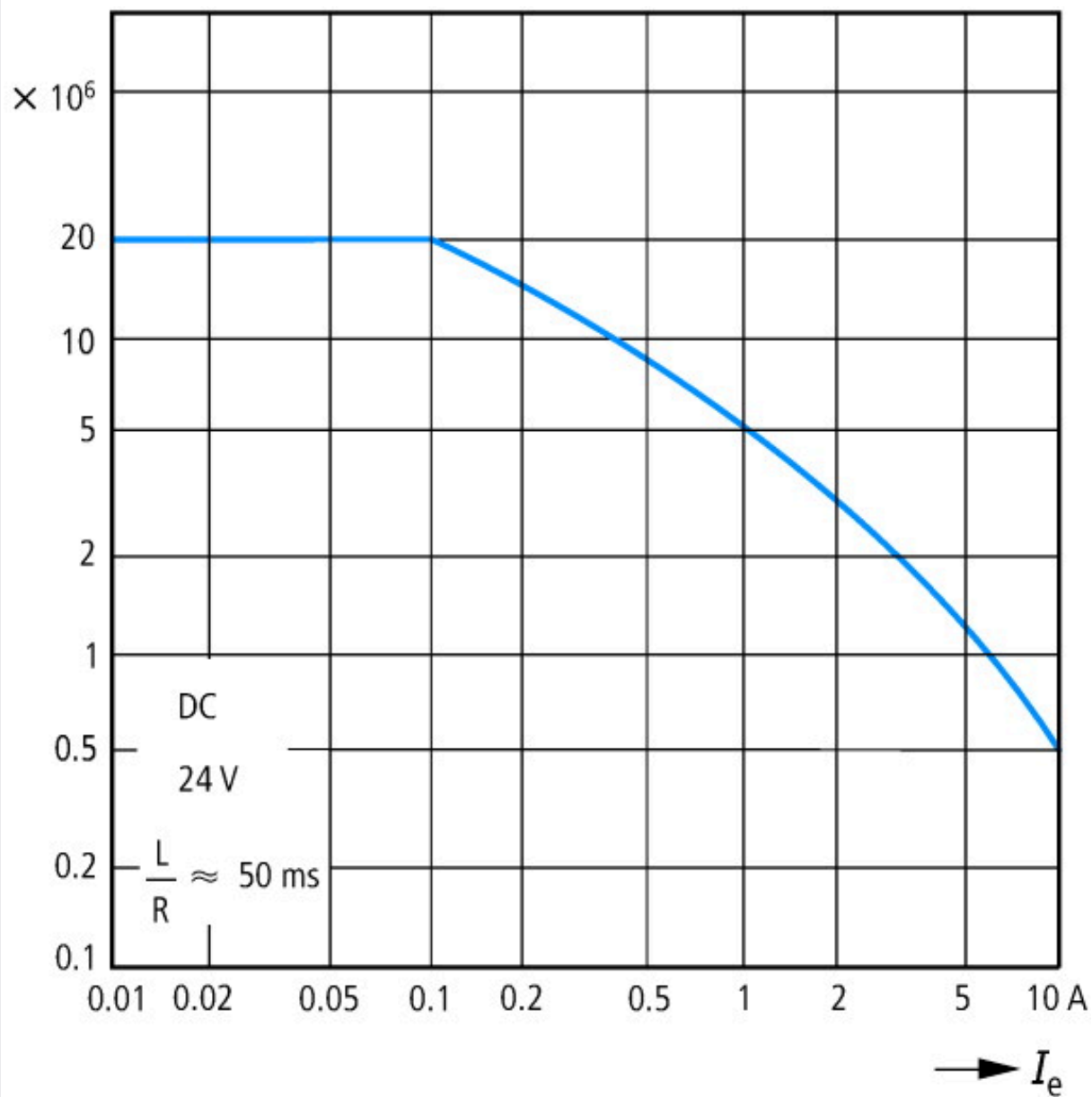
|                                      |  |  |   |
|--------------------------------------|--|--|---|
| Product Standards                    |  |  | IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking |
| UL File No.                          |  |  | E29184  |
| UL Category Control No.              |  |  | NKCR  |
| CSA File No.                         |  |  | 012528  |
| CSA Class No.                        |  |  | 3211-03   |
| North America Certification          |  |  | UL listed, CSA certified                                  |
| Specially designed for North America |  |  | No  |



- 1: Suppressor
- 2: Auxiliary contact module

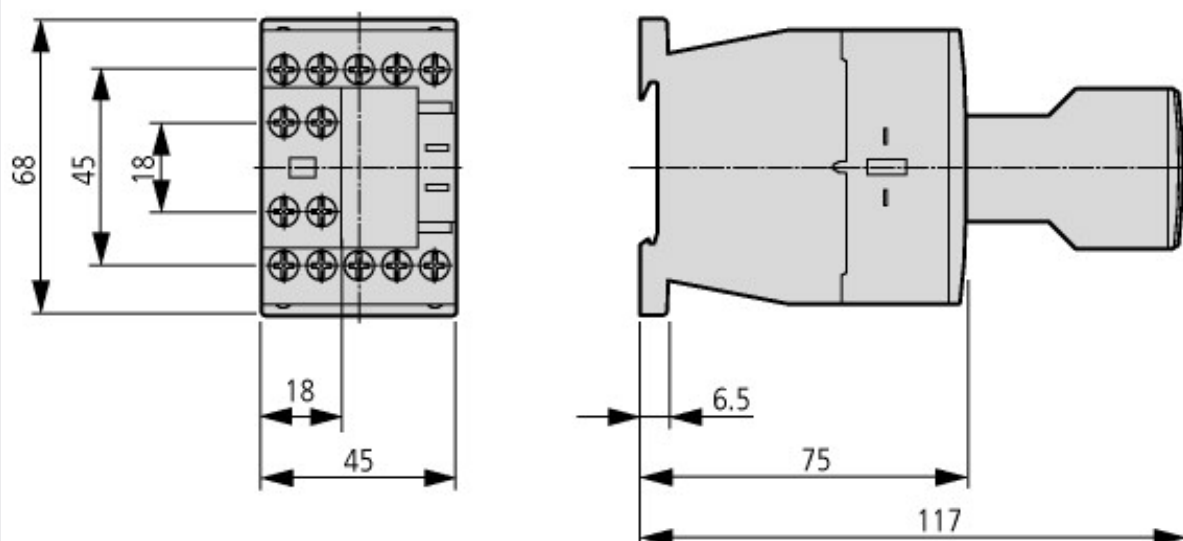


Component lifespan (operations)  
 $I_e$  = rated operational current

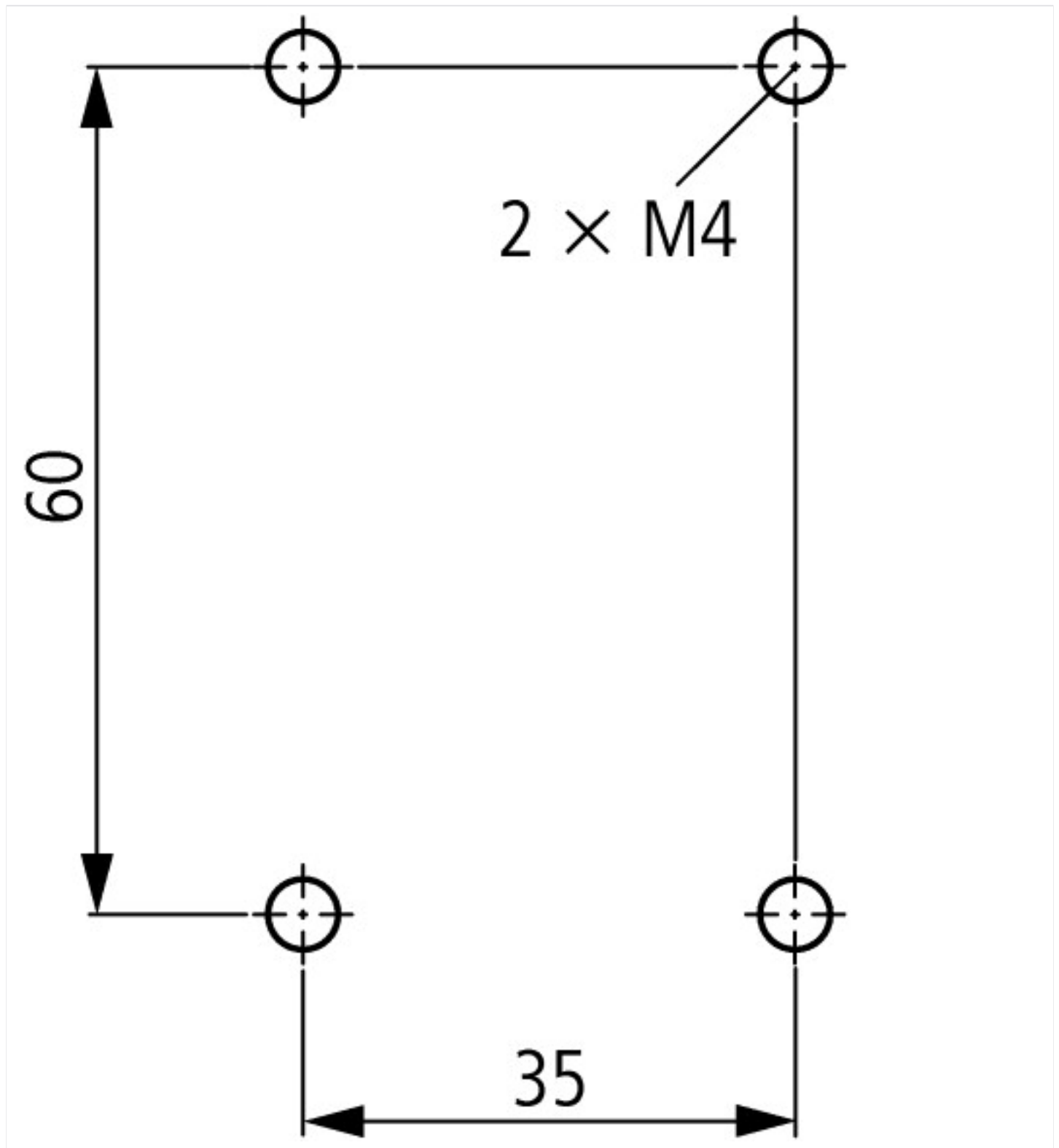


Component lifespan (operations)  
 $I_e$  = rated operational current  
 Three contacts in series

## Dimensions



Contactor with auxiliary contact module



## Assets (links)

### Declaration of CE Conformity

00003040

### Instruction Leaflets

IL034060ZU2018\_05

## Additional product information (links)

### IL034060ZU Safety Contactor

IL034060ZU Safety Contactor

[ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL034060ZU2018\\_05.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL034060ZU2018_05.pdf)