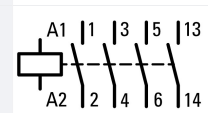




**Contactor, 24 V 50/60 Hz, 3 pole, 380 V 400 V, 5.5 kW, Contacts N/O = Normally open= 1 N/O, Screw terminals, AC operation**

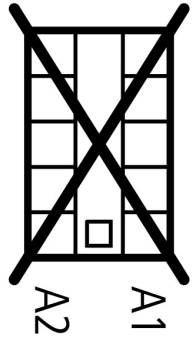
**Part no. DILEM12-10(24V50/60HZ)**  
**Catalog No. 127079**  
**Alternate Catalog No. XTMC12A10T**

### Delivery program

|   |                |    |  |  |
|---|----------------|----|--|--|
| Product range   |                |    |  | Contactors   |
| Application   |                |    |  | Contactors for Motors<br>Mini Contactors for Motors and Resistive Loads  |
| Subrange  |                |    |  | DILEM contactors   |
| Utilization category                                      |                |    |  | AC-1: Non-inductive or slightly inductive loads, resistance furnaces<br>NAC-3: Normal AC induction motors: starting, switch off during running<br>AC-4: Normal AC induction motors: starting, plugging, reversing, inching |
| Connection technique                                      |                |    |  | Screw terminals  |
| Description   |                |    |  | With auxiliary contact   |
| Number of poles   |                |    |  | 3 pole   |
| <b>Rated operational current</b>                          |                |    |  |  |
| AC-3  |                |    |  |  |
| 380 V 400 V   | $I_e$          | A  |  | 12   |
| AC-1  |                |    |  |  |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz |                |    |  |  |
| Open  |                |    |  |  |
| at 40 °C  | $I_{th} = I_e$ | A  |  | 22   |
| <b>Max. rating for three-phase motors, 50 - 60 Hz</b>     |                |    |  |  |
| AC-3  |                |    |  |  |
| 220 V 230 V   | P              | kW |  | 3  |
| 380 V 400 V   | P              | kW |  | 5.5  |
| 660 V 690 V   | P              | kW |  | 4  |
| AC-4  |                |    |  |  |
| 220 V 230 V   | P              | kW |  | 1.5  |
| 380 V 400 V   | P              | kW |  | 3  |
| 660 V 690 V   | P              | kW |  | 3  |
| <b>Contacts</b>   |                |    |  |  |
| N/O = Normally open                                       |                |    |  | 1 N/O  |
| Contact sequence  |                |    |  |    |
| For use with  |                |    |  | ...DILEM<br>...DILE  |
| Actuating voltage   |                |    |  | 24 V 50/60 Hz  |
| Voltage AC/DC   |                |    |  | AC operation   |

### Technical data

|  |              |          |  |  |
|--|--------------|----------|--|--|
| <b>General</b>                                 |              |          |  |  |
| Standards                                      |              |          |  | IEC/EN 60947, VDE 0660, CSA, UL  |
| Lifespan, mechanical; Coil 50/60 Hz            | Operations   | $x 10^6$ |  | 5  |
| Lifespan, mechanical                           | Operations   | $x 10^6$ |  | 5  |
| Maximum operating frequency                    |              |          |  |  |
| Mechanical                                     |              | Ops./h   |  | 9000   |
| electrical (Contactors without overload relay) | Operations/h |          |  | Page 05/070  |
| Climatic proofing                              |              |          |  | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30 |

|  |                  |      |  |
|--|------------------|------|--|
| <b>Ambient temperature</b>   |                  |      |  |
| Open   | °C               |      | -25 - +50  |
| Enclosed   | °C               |      | - 25 - 40  |
| <b>Storage</b>   |                  |      |  |
| Min. ambient temperature, storage  | °C               |      | - 40   |
| Ambient temperature, storage max.  | °C               |      | + 80   |
| Mounting position  |                  |      | As required, except vertical with terminals A1/A2 at the bottom                    |
| Mounting position  |                  |      |  |
| <b>Mechanical shock resistance (IEC/EN 60068-2-27)</b>                       |                  |      |  |
| <b>Half-sinusoidal shock, 10 ms</b>  |                  |      |  |
| <b>Basic unit without auxiliary contact module</b>                           |                  |      |  |
| Main contacts, make contacts   | g                |      | 10   |
| Main contacts Make/break contacts  | g                |      |  |
| Make   | g                |      | 8  |
| <b>Basic unit with auxiliary contact module</b>                              |                  |      |  |
| Main contacts make contact   | g                |      |  |
| Make   | g                |      | 10   |
| Auxiliary contacts Make/break contacts                                       | g                |      | 20 / 20  |
| <b>Degree of Protection</b>  |                  |      |  |
|  |                  |      | IP20   |
| <b>Protection against direct contact when actuated from front (EN 50274)</b> |                  |      |  |
|  |                  |      | Finger and back-of-hand proof  |
| <b>Altitude</b>  |                  |      |  |
|  | m                |      | Max. 2000  |
| <b>Weight</b>  |                  |      |  |
|  | kg               |      | 0.17   |
| <b>Terminal capacity of auxiliary and main contacts</b>                      |                  |      |  |
| <b>Screw terminals</b>   |                  |      |  |
| Solid  | mm <sup>2</sup>  |      | 1 x (0.75 - 2.5)<br>2 x (0.75 - 2.5)   |
| Flexible with ferrule  | mm <sup>2</sup>  |      | 1 x (0.75 - 1.5)<br>2 x (0.75 - 1.5)   |
| Solid or stranded  | AWG              |      | 18 - 14  |
| Stripping length   | mm               |      | 8  |
| 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  |
| <b>Main conducting paths</b>   |                  |      |  |
| 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  |
| <b>Safe isolation to EN 61140</b>  |                  |      |  |
| between coil and contacts  |                  | V AC | 300  |
| between the contacts   |                  | V AC | 300  |
| <b>Making capacity (cos φ to IEC/EN 60947)</b>                               |                  |      |  |
|  |                  | A    | 120  |
| <b>Breaking capacity</b>   |                  |      |  |
| 220 V 230 V  |                  | A    | 96   |
| 380 V 400 V  |                  | A    | 96   |
| 500 V  |                  | A    | 72   |

|                                       |       |   |    |
|---------------------------------------|-------|---|----|
| 660 V 690 V                           |       | A | 42 |
| Short-circuit protection maximum fuse |       |   |    |
| Type "2", 500 V                       | gL/gG | A | 20 |
| Type "1", 500 V                       | gL/gG | A | 35 |

## AC

|   |                |     |  |
|---|----------------|-----|--|
| AC-1  |                |     |  |
| Rated operational current                                 |                |     |  |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz |                |     |  |
| Open  |                |     |  |
| at 40 °C  | $I_{th} = I_e$ | A   | 22   |
| at 50 °C  | $I_{th} = I_e$ | A   | 20   |
| at 55 °C  | $I_{th} = I_e$ | A   | 19   |
| enclosed  | $I_{th}$       | A   | 16   |
| Notes   |                |     | At maximum permissible ambient air temperature.    |
| Conventional free air thermal current, 1 pole             |                |     |  |
| Notes   |                |     | At maximum permissible ambient air temperature.    |
| open  | $I_{th}$       | A   | 50   |
| enclosed  | $I_{th}$       | A   | 40   |
| AC-3  |                |     |  |
| Rated operational current                                 |                |     |  |
| Open, 3-pole: 50 – 60 Hz                                  |                |     |  |
| Notes   |                |     | At maximum permissible ambient temperature (open.) |
| 220 V 230 V   | $I_e$          | A   | 12   |
| 240 V   | $I_e$          | A   | 12   |
| 380 V 400 V   | $I_e$          | A   | 12   |
| 415 V   | $I_e$          | A   | 10.5   |
| 440V  | $I_e$          | A   | 10.5   |
| 500 V   | $I_e$          | A   | 9  |
| 660 V 690 V   | $I_e$          | A   | 5.2  |
| Motor rating  |                |     |  |
| 220 V 230 V   | P              | kWh | 3  |
| 240V  | P              | kW  | 3  |
| 380 V 400 V   | P              | kW  | 5.5  |
| 415 V   | P              | kW  | 5.5  |
| 440 V   | P              | kW  | 5.5  |
| 500 V   | P              | kW  | 5.5  |
| 660 V 690 V   | P              | kW  | 4  |
| AC-4  |                |     |  |
| Rated operational current                                 |                |     |  |
| Open, 3-pole: 50 – 60 Hz                                  |                |     |  |
| Notes   |                |     | At maximum permissible ambient air temperature.    |
| 220 V 230 V   | $I_e$          | A   | 6.6  |
| 240 V   | $I_e$          | A   | 6.6  |
| 380 V 400 V   | $I_e$          | A   | 6.6  |
| 415 V   | $I_e$          | A   | 6.6  |
| 440 V   | $I_e$          | A   | 6.6  |
| 500 V   | $I_e$          | A   | 5  |
| 660 V 690 V   | $I_e$          | A   | 3.4  |
| Motor rating  |                |     |  |
| 220 V 230 V   | P              | kW  | 1.5  |
| 240 V   | P              | kW  | 1.5  |
| 380 V 400 V   | P              | kW  | 3  |
| 415 V   | P              | kW  | 3  |
| 440 V   | P              | kW  | 3  |

|             |   |    |   |
|-------------|---|----|---|
| 500 V       | P | kW | 3 |
| 660 V 690 V | P | kW | 3 |

## DC

|                                |       |   |    |
|--------------------------------|-------|---|----|
| Rated operational current open |       |   |    |
| DC-1                           |       |   |    |
| 12 V                           | $I_e$ | A | 20 |
| 24 V                           | $I_e$ | A | 20 |
| 60 V                           | $I_e$ | A | 20 |
| 110 V                          | $I_e$ | A | 20 |
| 220 V                          | $I_e$ | A | 20 |

## Magnet systems

|   |         |         |           |
|---|---------|---------|-----------|
| Voltage tolerance                                 |         |         |           |
| AC operated                                       |         |         |           |
| Dual-frequency coil 50/60 Hz                      | Pick-up | $x U_c$ | 0.8 - 1.1 |
| Power consumption                                 |         |         |           |
| AC operation                                      |         |         |           |
| Dual-frequency coil 50/60 Hz at 50 Hz             | Pick-up | VA      | 30        |
| Dual-frequency coil 50/60 Hz at 50 Hz             | Pick-up | W       | 26        |
| Dual-frequency coil 50/60 Hz at 50 Hz             | Sealing | VA      | 5.4       |
| Dual-frequency coil 50/60 Hz at 50 Hz             | Sealing | W       | 1.8       |
| Dual-frequency coil 50/60 Hz at 60 Hz             | Pick-up | VA      | 29        |
| Dual-frequency coil 50/60 Hz at 60 Hz             | Pick-up | W       | 24        |
| Dual-frequency coil 50/60 Hz at 60 Hz             | Sealing | VA      | 3.9       |
| Dual-frequency coil 50/60 Hz at 60 Hz             | Sealing | W       | 1.8       |
| Duty factor                                       |         | % DF    | 100       |
| Switching times at 100 % $U_c$                    |         |         |           |
| Make contact                                      |         | ms      |           |
| Closing delay                                     |         | ms      |           |
| Closing delay min.                                |         | ms      | 14        |
| Closing delay max.                                |         | ms      | 21        |
| Opening delay                                     |         | ms      |           |
| Opening delay min.                                |         | ms      | 8         |
| Opening delay max.                                |         | ms      | 18        |
| Closing delay with top mounting auxiliary contact |         | ms      | 45        |
| Reversing contactors                              |         |         |           |
| Changeover time at 110 % $U_c$                    |         |         |           |
| Changeover time min.                              |         | ms      | 16        |
| Changeover time max.                              |         | ms      | 21        |
| Arcing time at 690 V AC                           |         | ms      | 12        |

## Current heat losses (3- or 4-pole)

|                        |  |    |      |
|------------------------|--|----|------|
| at $I_{th}$ , 50 °C    |  | W  | 5.9  |
| at $I_e$ to AC-3/400 V |  | W  | 2.1  |
| Impedance per pole     |  | mΩ | 9.18 |

## Auxiliary contacts

|  |           |      |       |
|--|-----------|------|-------|
| Positive operating contacts to EN 60947-5-1 appendix L, including auxiliary contact module |           |      | Yes   |
| Rated impulse withstand voltage  | $U_{imp}$ | V AC | 6000  |
| Overvoltage category/pollution degree  |           |      | III/3 |
| Rated insulation voltage   | $U_i$     | V AC | 690   |
| Rated operational voltage  | $U_e$     | V AC | 600   |
| Safe isolation to EN 61140   |           |      |       |
| between coil and auxiliary contacts  |           | V AC | 300   |
| between the auxiliary contacts   |           | V AC | 300   |
| Rated operational current  |           |      |       |
| AC-15  |           |      |       |

|   |              |               |  |
|---|--------------|---------------|--|
| 220 V 240 V   | $I_e$        | A             | 6  |
| 380 V 415 V   | $I_e$        | A             | 3  |
| 500 V   | $I_e$        | A             | 1.5  |
| DC L/R $\leq$ 15 ms                                 |              |               |  |
| Contacts in series:                                 |              | A             |  |
| 1   | 24 V         | A             | 2.5  |
| 2   | 60 V         | A             | 2.5  |
| 3   | 100 V        | A             | 1.5  |
| 3   | 220 V        | A             | 0.5  |
| Conv. thermal current                               | $I_{th}$     | A             | 10   |
| Control circuit reliability                         | Failure rate | $\lambda$     | $<10^{-8}$ , < one failure at 100 million operations<br>(at $U_e = 24$ V DC, $U_{min} = 17$ V, $I_{min} = 5.4$ mA) |
| Component lifespan at $U_e = 240$ V                 |              |               |  |
| AC-15   | Operations   | $\times 10^6$ | 0.2  |
| DC current  |              |               |  |
| L/R = 50 ms: 2 contacts in series at $I_e = 0.5$ A  | Operations   | $\times 10^6$ | 0.15   |
| Notes   |              |               | Switch-on and switch-off conditions based on DC-13, time constant as specified                                     |
| Short-circuit rating without welding                |              |               |  |
| Maximum overcurrent protective device               |              |               |  |
| Short-circuit protection only                       |              |               | PKZM0-4  |
| Short-circuit protection maximum fuse               |              |               |  |
| 500 V   |              | A gG/gL       | 6  |
| 500 V   |              | A fast        | 10   |
| Current heat loss at a load of $I_{th}$ per contact |              | W             | 1.1  |

### Rating data for approved types

|                              |  |      |      |
|------------------------------|--|------|------|
| Switching capacity           |  |      |      |
| Maximum motor rating         |  |      |      |
| Three-phase                  |  |      |      |
| 200 V<br>208 V               |  | HP   | 2    |
| 230 V<br>240 V               |  | HP   | 3    |
| 460 V<br>480 V               |  | HP   | 5    |
| 575 V<br>600 V               |  | HP   | 5    |
| Single-phase                 |  |      |      |
| 115 V<br>120 V               |  | HP   | 0.5  |
| 230 V<br>240 V               |  | HP   | 1.5  |
| General use                  |  | A    | 15   |
| Auxiliary contacts           |  |      |      |
| Pilot Duty                   |  |      |      |
| AC operated                  |  |      | A600 |
| DC operated                  |  |      | P300 |
| General Use                  |  |      |      |
| AC                           |  | V    | 600  |
| AC                           |  | A    | 10   |
| DC                           |  | V    | 250  |
| DC                           |  | A    | 0.5  |
| Short Circuit Current Rating |  | SCCR |      |
| Basic Rating                 |  |      |      |
| SCCR                         |  | kA   | 5    |
| max. Fuse                    |  | A    | 45   |

## Design verification as per IEC/EN 61439

| Technical data for design verification   |            |    |  |
|--|------------|----|--|
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 12   |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 0.7  |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 2.1  |
| Static heat dissipation, non-current-dependent   | $P_{vs}$   | W  | 1.8  |
| Heat dissipation capacity  | $P_{diss}$ | W  | 0  |
| Operating ambient temperature min.   |            | °C | -25  |
| Operating ambient temperature max.   |            | °C | 50   |
| 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.   |
| 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.                         |

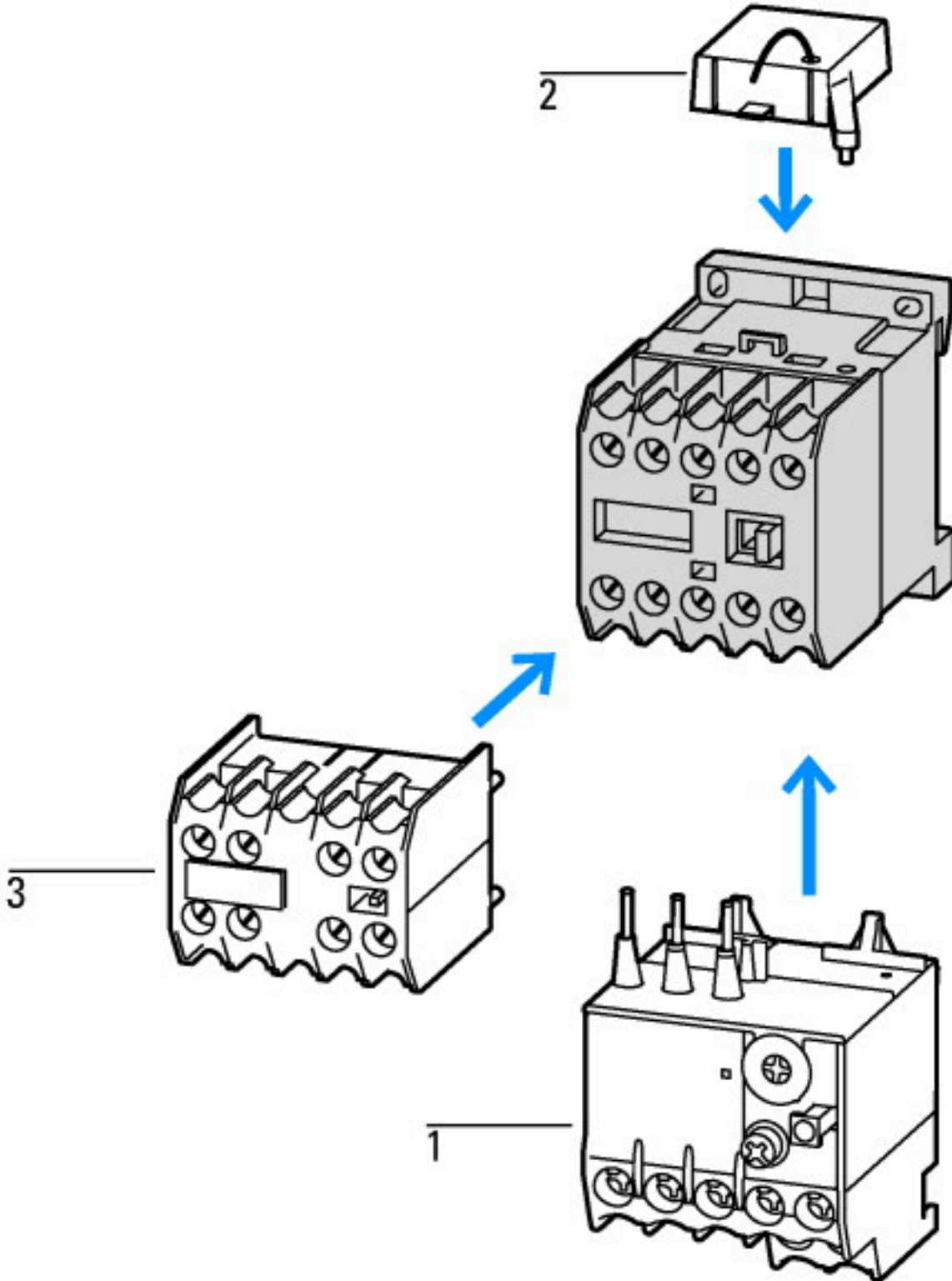
## Technical data ETIM 7.0

| 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@ss10.0.1-27-37-10-03 [AAB718015]) |  |    |                  |
| Rated control supply voltage $U_s$ at AC 50HZ   |  | V  | 24 - 24          |
| Rated control supply voltage $U_s$ at AC 60HZ   |  | V  | 24 - 24          |
| Rated control supply voltage $U_s$ at DC  |  | V  | 0 - 0            |
| Voltage type for actuating  |  |    | AC               |
| Rated operation current $I_e$ at AC-1, 400 V  |  | A  | 22               |
| Rated operation current $I_e$ at AC-3, 400 V  |  | A  | 9                |
| Rated operation power at AC-3, 400 V  |  | kW | 4                |
| Rated operation current $I_e$ at AC-4, 400 V  |  | A  | 6.6              |
| Rated operation power at AC-4, 400 V  |  | kW | 3                |
| Rated operation power NEMA  |  | kW | 3.7              |
| Modular version   |  |    | No               |
| Number of auxiliary contacts as normally open contact   |  |    | 1                |
| Number of auxiliary contacts as normally closed contact   |  |    | 0                |
| Type of electrical connection of main circuit   |  |    | Screw connection |
| Number of normally closed contacts as main contact  |  |    | 0                |

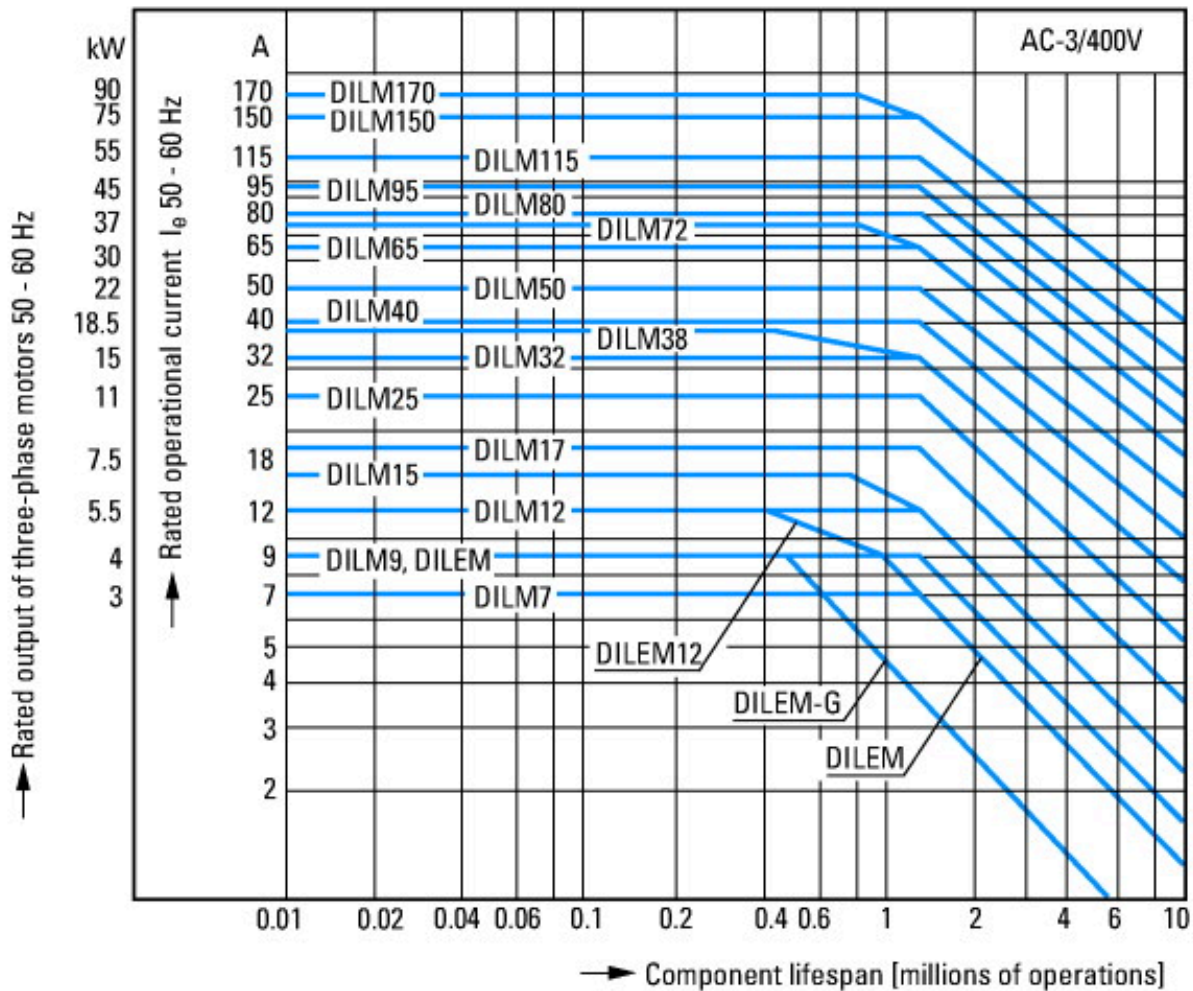
## Approvals

|                                      |   |
|--------------------------------------|---|
| Product Standards                    | IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking |
| UL File No.                          | E29096  |
| UL Category Control No.              | NLDX  |
| CSA File No.                         | 012528  |
| CSA Class No.                        | 3211-04   |
| North America Certification          | UL listed, CSA certified                                  |
| Specially designed for North America | No  |

## Characteristics



- 1: Overload relay
- 2: Suppressor
- 3: Auxiliary contact modules



Squirrel-cage motor  
 Operating characteristics  
 Starting: from rest  
 Stopping: after attaining full running speed  
 Electrical characteristics  
 Make: up to 6 x rated motor current  
 Break: up to 1 x rated motor current  
 Utilization category  
 100 % AC-3  
 Typical applications  
 Compressors  
 Lifts  
 Mixers  
 Pumps  
 Escalators  
 Agitators  
 Fans  
 Conveyor belts  
 Centrifuges  
 Hinged flaps  
 Bucket-elevators  
 Air conditioning system  
 General drives in manufacturing and processing machines

Extreme switching duty  
 Squirrel-cage motor  
 Operating characteristics  
 Inching, plugging, reversing  
 Electrical characteristics  
 Make: up to 6 x rated motor current  
 Break: up to 6 x rated motor current  
 Utilization category  
 100 % AC-4  
 Typical applications  
 Printing presses  
 Wire-drawing machines  
 Centrifuges  
 Special drives for manufacturing and processing machines





Switching duty for non-motor loads, 3-pole, 4-pole  
 Operating characteristics  
 Non-inductive or slightly inductive loads  
 Electrical characteristics  
 Make: 1 x rated current  
 Break: 1 x rated current  
 Utilization category  
 100 % AC-1  
 Typical applications  
 Electric heat



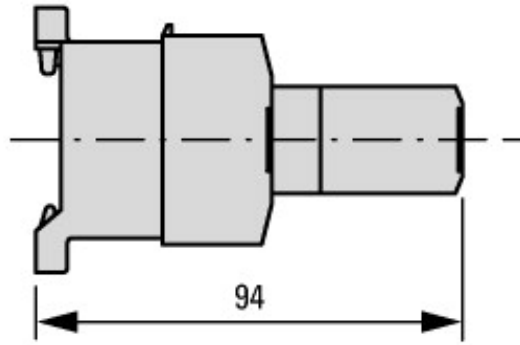
Short-time loading, 3-pole  
 Time interval between two loading cycles: 15 minutes

### Dimensions

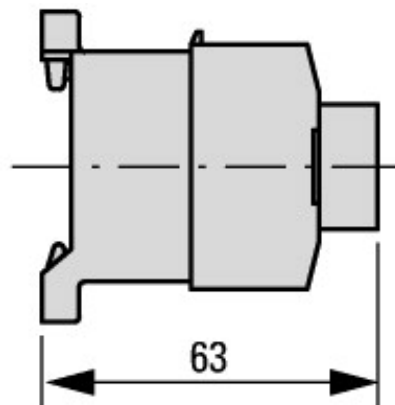
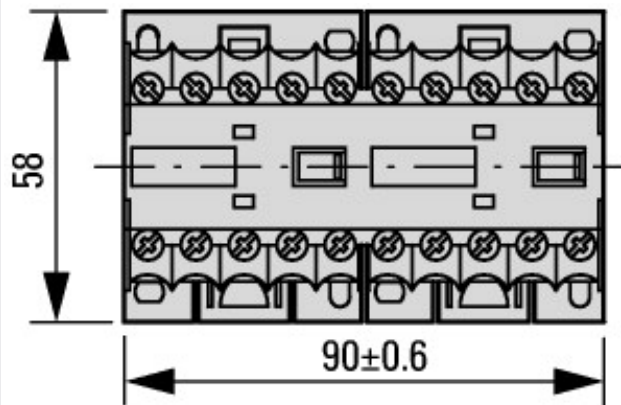




2DILE-... + MVDILE + ...DILE  
2DILE-...-G + MVDILE + ...DILE



2DILE-... + MVDILE + ...DILE  
2DILE-...-G + MVDILE + ...DILE



2DILE-... + MVDILE  
2DILE-...-G + MVDILE

## Additional product information (links)

### IL03407009Z (AWA2100-0882) Mini contactor relay

IL03407009Z (AWA2100-0882) Mini contactor relay

[https://es-assets.eaton.com/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03407009Z2020\\_05.pdf](https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407009Z2020_05.pdf)