

# DATASHEET - DILMP32-01(RDC24)



**Contactor, 4 pole, 32 A, 1 NC, 24 V DC, DC operation**



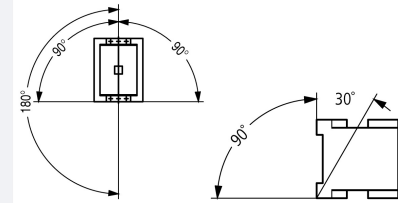
**Part no.** DILMP32-01(RDC24)  
**Catalog No.** 118913  
**Alternate Catalog No.** XTCF032C01TD  
**EL-Nummer (Norway)** 4110216

## Delivery program

|   |                |   |  |
|---|----------------|---|--|
| Product range   |                |   | Contactors   |
| Application   |                |   | Contactors for 4 pole electric consumers   |
| Subrange  |                |   | Contactors up to 200 A, 4 pole   |
| Utilization category                                      |                |   | AC-1: Non-inductive or slightly inductive loads, resistance furnaces<br>NAC-3: Normal AC induction motors: starting, switch off during running |
| Connection technique                                      |                |   | Screw terminals  |
| Number of poles   |                |   | 4 pole   |
| <b>Rated operational current</b>                          |                |   |  |
| AC-1  |                |   |  |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz |                |   |  |
| at 40 °C  | $I_{th} = I_e$ | A | 32   |
| at 50 °C  | $I_{th} = I_e$ | A | 30   |
| at 55 °C  | $I_{th} = I_e$ | A | 29   |
| at 60 °C  | $I_{th} = I_e$ | A | 28   |
| <b>Contacts</b>   |                |   |  |
| N/C = Normally closed                                     |                |   | 1 NC   |
| Contact sequence  |                |   |  |
| For use with  |                |   | DILM32-XHI(C)...<br>DILA-XHI(V)(C)...  |
| Actuating voltage   |                |   | 24 V DC  |
| Voltage AC/DC   |                |   | DC operation   |
| Connection to SmartWire-DT                                |                |   | yes<br>in conjunction with DIL-SWD SmartWire DT contactor module   |
| <b>Instructions</b>                                       |                |   | Contacts to EN 50 012.<br>integrated suppressor circuit in actuating electronics<br>with mirror contact.                                       |

## Technical data

|                                 |              |               |   |
|---------------------------------|--------------|---------------|---|
| <b>General</b>                  |              |               |   |
| Standards                       |              |               | IEC/EN 60947, VDE 0660, UL, CSA   |
| Lifespan, mechanical            |              |               |   |
| AC operated                     | Operations   | $\times 10^6$ | 10  |
| DC operated                     | Operations   | $\times 10^6$ | 10  |
| Operating frequency, mechanical |              |               |   |
| AC operated                     | Operations/h |               | 5000  |
| DC operated                     | Operations/h |               | 5000  |
| Climatic proofing               |              |               | Damp heat, constant, to IEC 60068-2-3<br>Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature             |              |               |   |
| Open                            |              | °C            | -25 - +60   |
| Enclosed                        |              | °C            | - 25 - 40   |
| Storage                         |              | °C            | - 40 - 80   |
| Mounting position               |              |               |   |

|   |                 |  |   |
|---|-----------------|--|---|
| Mounting position   |                 |  |  |
| Mechanical shock resistance (IEC/EN 60068-2-27)                       |                 |  |   |
| Half-sinusoidal shock, 10 ms  |                 |  |   |
| Main contacts   |                 |  |   |
| N/O contact   | g               |  | 10  |
| Auxiliary contacts  |                 |  |   |
| N/O contact   | g               |  | 7   |
| N/C contact   | g               |  | 5   |
| Degree of Protection  |                 |  | IP00  |
| Altitude  | m               |  | Max. 2000   |
| Protection against direct contact when actuated from front (EN 50274) |                 |  | Finger and back-of-hand proof   |
| Stripping length  | mm              |  | 10  |
| Terminal capacity main cable  |                 |  |   |
| Solid   | mm <sup>2</sup> |  | 1 x (0.75 - 16)<br>2 x (0.75 - 10)  |
| Flexible with ferrule   | mm <sup>2</sup> |  | 1 x (0.75 - 16)<br>2 x (0.75 - 10)  |
| Stranded  | mm <sup>2</sup> |  | 1 x 16  |
| Solid or stranded   | AWG             |  | 18 - 6  |
| Terminal screw  |                 |  | M5  |
| Tightening torque   | Nm              |  | 3   |
| Stripping length  | mm              |  | 10  |
| Terminal capacity control circuit cables                              |                 |  |   |
| 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  |
| Tightening torque   | Nm              |  | 1.2   |
| Tool  |                 |  |   |
| Main cable  |                 |  |   |
| Pozidriv screwdriver  | Size            |  | 2   |
| Standard screwdriver  | mm              |  | 0.8 x 5.5<br>1 x 6  |
| Control circuit cables  |                 |  |   |
| Pozidriv screwdriver  | Size            |  | 2   |
| Standard screwdriver  | mm              |  | 0.8 x 5.5<br>1 x 6  |

### Main conducting paths

|                                       |             |      |                                  |
|---------------------------------------|-------------|------|----------------------------------|
| Rated impulse withstand voltage       | $U_{imp}$   | V AC | 8000                             |
| Overvoltage category/pollution degree |             |      | III/3                            |
| Rated insulation voltage              | $U_i$       | V AC | 690                              |
| Rated operational voltage             | $U_e$       | V AC | 690                              |
| Safe isolation to EN 61140            |             |      |                                  |
| between coil and contacts             |             | V AC | 440                              |
| between the contacts                  |             | V AC | 440                              |
| Making capacity (cos $\varphi$ )      | Up to 690 V | A    | 238<br>According to IEC/EN 60947 |
| Breaking capacity                     |             |      |                                  |
| 220 V 230 V                           |             | A    | 180                              |
| 380 V 400 V                           |             | A    | 180                              |

|                                       |             |   |     |
|---------------------------------------|-------------|---|-----|
| 500 V                                 |             | A | 180 |
| 660 V 690 V                           |             | A | 120 |
| <b>Short-circuit rating</b>           |             |   |     |
| Short-circuit protection maximum fuse |             |   |     |
| Type "2" coordination                 |             |   |     |
| 400 V                                 | gG/gL 500 V | A | 35  |
| 690 V                                 | gG/gL 690 V | A | 35  |
| Type "1" coordination                 |             |   |     |
| 400 V                                 | gG/gL 500 V | A | 63  |
| 690 V                                 | gG/gL 690 V | A | 50  |

## AC

|   |                |     |    |
|---|----------------|-----|----|
| <b>AC-1</b>   |                |     |    |
| Rated operational current                                 |                |     |    |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz |                |     |    |
| Open  |                |     |    |
| at 40 °C  | $I_{th} = I_e$ | A   | 32 |
| at 50 °C  | $I_{th} = I_e$ | A   | 30 |
| at 55 °C  | $I_{th} = I_e$ | A   | 29 |
| at 60 °C  | $I_{th} = I_e$ | A   | 28 |
| enclosed  | $I_{th}$       | A   | 27 |
| Conventional free air thermal current, 1 pole             |                |     |    |
| open  | $I_{th}$       | A   | 84 |
| enclosed  | $I_{th}$       | A   | 76 |
| <b>Motor rating</b>                                       |                |     |    |
| 220/230 V   | P              | kWh | 12 |
| 240 V   | P              | kW  | 13 |
| 380/400 V   | P              | kW  | 20 |
| 415 V   | P              | kW  | 22 |
| 440 V   | P              | kW  | 23 |
| 500 V   | P              | kW  | 26 |
| 690 V   | P              | kW  | 35 |

|                           |       |     |  |
|---------------------------|-------|-----|--|
| <b>AC-3</b>               |       |     |  |
| Rated operational current |       |     |  |
| Open, 3-pole: 50 – 60 Hz  |       |     |  |
| Notes                     |       |     | At maximum permissible ambient temperature (open.) |
| 220 V 230 V               | $I_e$ | A   | 18   |
| 240 V                     | $I_e$ | A   | 18   |
| 380 V 400 V               | $I_e$ | A   | 18   |
| 415 V                     | $I_e$ | A   | 18   |
| 440V                      | $I_e$ | A   | 18   |
| 500 V                     | $I_e$ | A   | 18   |
| 660 V 690 V               | $I_e$ | A   | 12   |
| <b>Motor rating</b>       |       |     |  |
| 220 V 230 V               | P     | kWh | 5  |
| 240V                      | P     | kW  | 5.5  |
| 380 V 400 V               | P     | kW  | 7.5  |
| 415 V                     | P     | kW  | 10   |
| 440 V                     | P     | kW  | 10.5   |
| 500 V                     | P     | kW  | 12   |
| 660 V 690 V               | P     | kW  | 11   |

## DC

|                                 |       |   |    |
|---------------------------------|-------|---|----|
| Rated operational current, open |       |   |    |
| DC-1                            |       |   |    |
| 60 V                            | $I_e$ | A | 32 |

|       |       |   |    |
|-------|-------|---|----|
| 110 V | $I_e$ | A | 32 |
| 220 V | $I_e$ | A | 32 |

### Current heat loss

|                           |  |    |     |
|---------------------------|--|----|-----|
| 3 pole, at $I_{th}$ (60°) |  | W  | 6.6 |
| Impedance per pole        |  | mΩ | 2.7 |

### Magnet systems

|  |          |         |  |
|--|----------|---------|--|
| Voltage tolerance  |          |         |  |
| AC operated 50/60 Hz   |          | $x U_c$ | 0.85 - 1.1   |
| DC operated  | Pick-up  | $x U_c$ | At least double-pulse bridge rectifier - 0.7 - 1.2 |
| DC operated  | Drop-out | $x U_c$ | At least double-pulse bridge rectifier - 0.2 - 0.6 |
| Power consumption of the coil in a cold state and $1.0 \times U_S$                         |          |         |  |
| Notes on DC actuation  |          |         |  |
| DC operated  | Pick-up  | W       | 12   |
| DC operated  | Sealing  | W       | 0.9  |
| Duty factor  |          |         |  |
| Changeover time at 100 % $U_S$ (recommended value)   |          |         |  |
| Main contacts  |          |         |  |
| DC operated  |          | ms      |  |
| Notes on DC actuation  |          |         |  |
| Closing delay  |          | ms      | 47   |
| Opening delay  |          | ms      | 30   |
| Arcing time  |          | ms      | 10   |
| Permissible residual current with actuation of A1 - A2 by the electronics (with 0 signal). |          | mA      | $\leq 1$   |

### Rating data for approved types

|                              |  |    |        |
|------------------------------|--|----|--------|
| Switching capacity           |  |    |        |
| Maximum motor rating         |  |    |        |
| Three-phase                  |  |    |        |
| 200 V<br>208 V               |  | HP | 7.5    |
| 230 V<br>240 V               |  | HP | 10     |
| 460 V<br>480 V               |  | HP | 15     |
| 575 V<br>600 V               |  | HP | 20     |
| Single-phase                 |  |    |        |
| 115 V<br>120 V               |  | HP | 2      |
| 230 V<br>240 V               |  | HP | 5      |
| General use                  |  | A  | 40     |
| Auxiliary contacts           |  |    |        |
| Pilot Duty                   |  |    |        |
| AC operated                  |  |    | A600   |
| DC operated                  |  |    | P300   |
| General Use                  |  |    |        |
| AC                           |  | V  | 600    |
| AC                           |  | A  | 10     |
| DC                           |  | V  | 250    |
| DC                           |  | A  | 1      |
| Short Circuit Current Rating |  |    |        |
| Basic Rating                 |  |    |        |
| SCCR                         |  | kA | 5      |
| max. Fuse                    |  | A  | 125    |
| max. CB                      |  | A  | 125    |
| 480 V High Fault             |  |    |        |
| SCCR (fuse)                  |  | kA | 10/100 |

|   |    |                 |
|---|----|-----------------|
| max. Fuse   | A  | 125/70 Class J  |
| SCCR (CB)   | kA | 10/65           |
| max. CB   | A  | 50/32           |
| 600 V High Fault  |    |                 |
| SCCR (fuse)   | kA | 10/100          |
| max. Fuse   | A  | 125/100 Class J |
| SCCR (CB)   | kA | 10/22           |
| max. CB   | A  | 50/32           |
| Special Purpose Ratings                                   |    |                 |
| Electrical Discharge Lamps (Ballast)                      |    |                 |
| 480V 60Hz 3phase, 277V 60Hz 1phase                        | A  | 40              |
| 600V 60Hz 3phase, 347V 60Hz 1phase                        | A  | 40              |
| Incandescent Lamps (Tungsten)                             |    |                 |
| 480V 60Hz 3phase, 277V 60Hz 1phase                        | A  | 40              |
| 600V 60Hz 3phase, 347V 60Hz 1phase                        | A  | 40              |
| Resistance Air Heating                                    |    |                 |
| 480V 60Hz 3phase, 277V 60Hz 1phase                        | A  | 40              |
| 600V 60Hz 3phase, 347V 60Hz 1phase                        | A  | 40              |
| Refrigeration Control (CSA only)                          |    |                 |
| LRA 480V 60Hz 3phase                                      | A  | 240             |
| FLA 480V 60Hz 3phase                                      | A  | 40              |
| LRA 600V 60Hz 3phase                                      | A  | 180             |
| FLA 600V 60Hz 3phase                                      | A  | 30              |
| Definite Purpose Ratings (100,000 cycles acc. to UL 1995) |    |                 |
| LRA 480V 60Hz 3phase                                      | A  | 150             |
| FLA 480V 60Hz 3phase                                      | A  | 25              |
| Elevator Control  |    |                 |
| 200V 60Hz 3phase  | HP | 3               |
| 200V 60Hz 3phase  | A  | 11              |
| 240V 60Hz 3phase  | HP | 5               |
| 240V 60Hz 3phase  | A  | 15.2            |
| 480V 60Hz 3phase  | HP | 10              |
| 480V 60Hz 3phase  | A  | 14              |
| 600V 60Hz 3phase  | HP | 15              |
| 600V 60Hz 3phase  | A  | 17              |

## Design verification as per IEC/EN 61439

|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 32   |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 2.2  |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 6.6  |
| Static heat dissipation, non-current-dependent   | $P_{vs}$   | W  | 0.9  |
| 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.   |
| 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.                         |

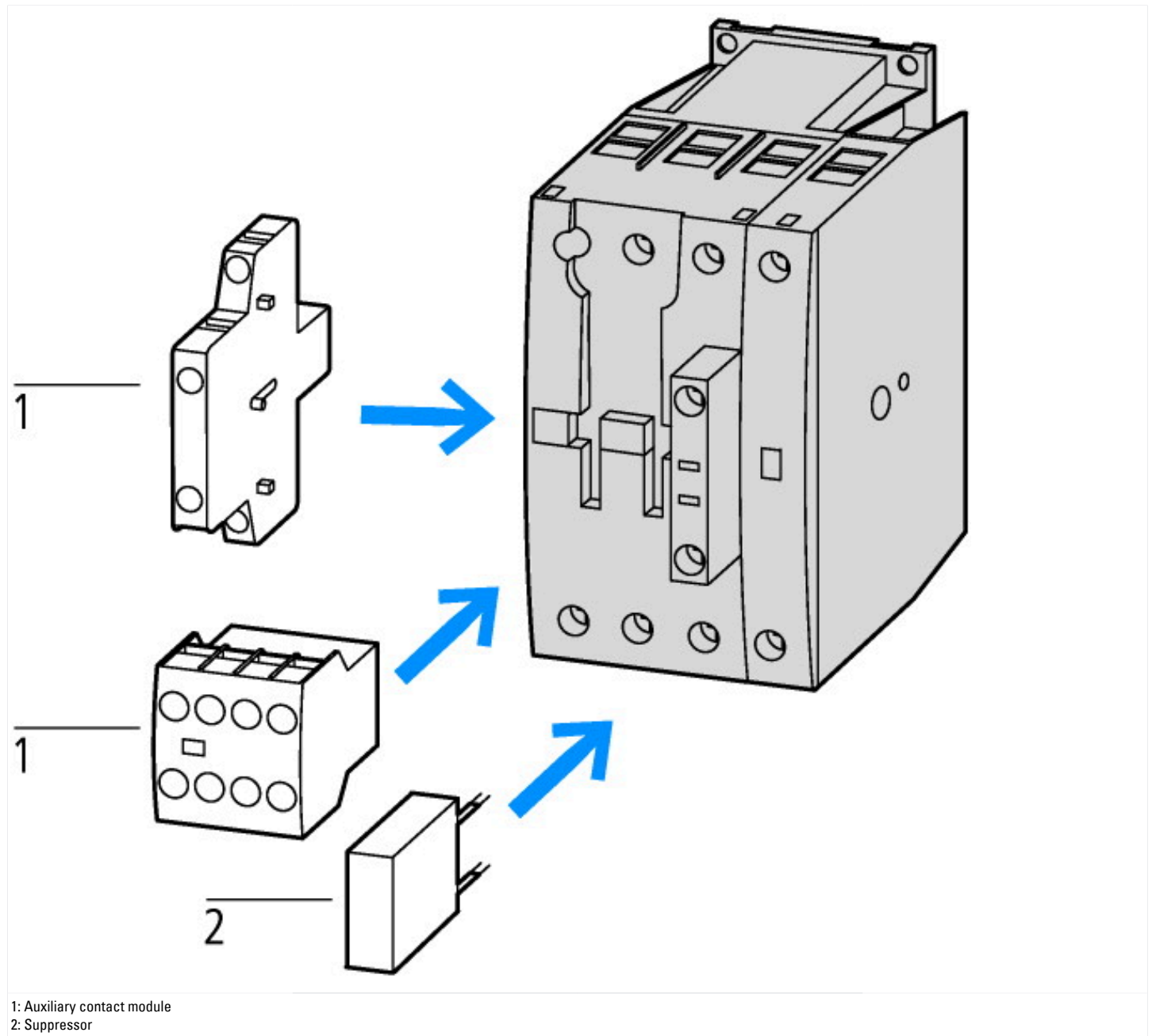
## Technical data ETIM 7.0

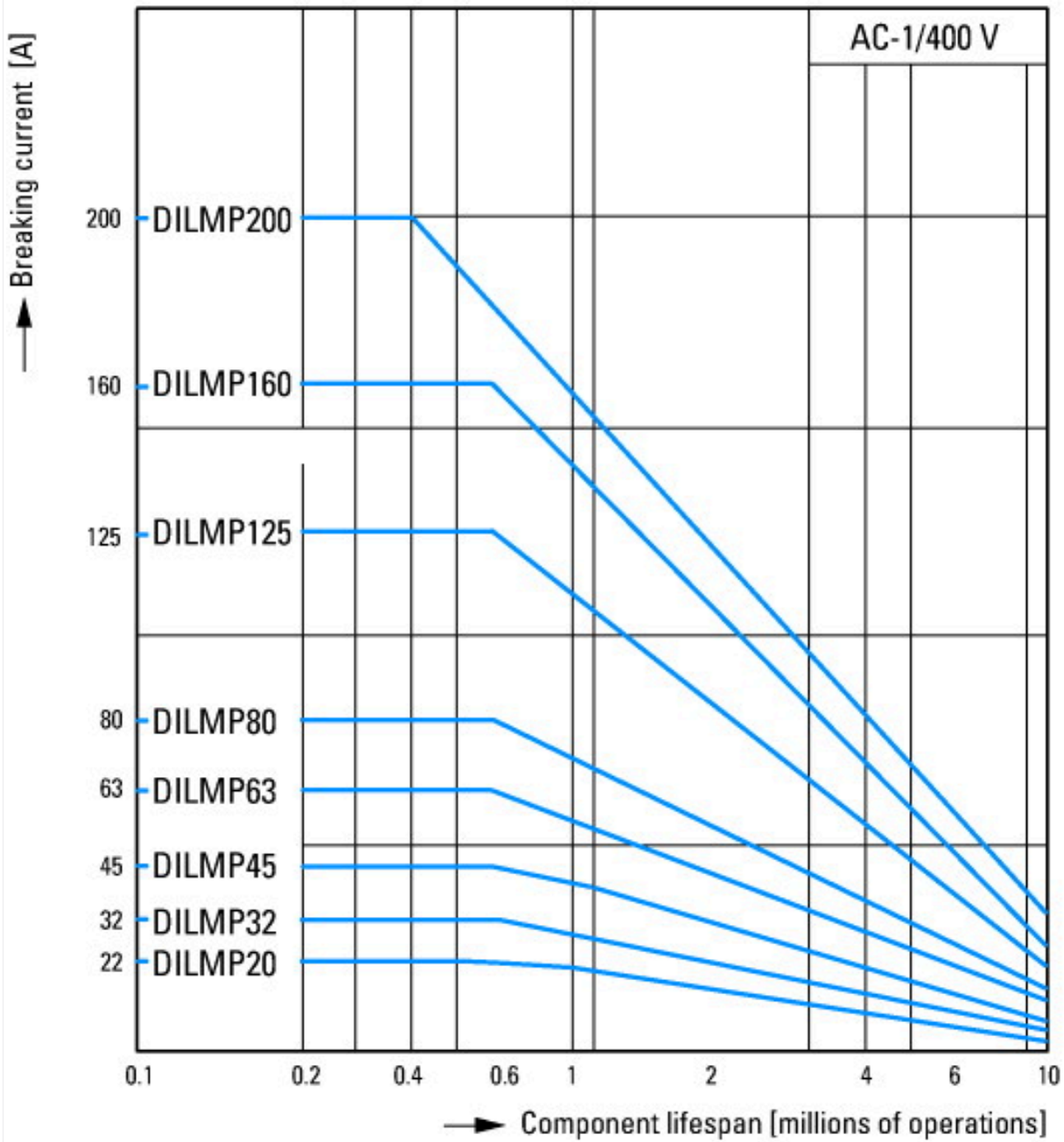
|   |    |                  |
|---|----|------------------|
| Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066)   |    |                  |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss10.0.1-27-37-10-03 [AAB718015]) |    |                  |
| Rated control supply voltage 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 - 27          |
| Voltage type for actuating  |    | DC               |
| Rated operation current Ie at AC-1, 400 V   | A  | 32               |
| Rated operation current Ie at AC-3, 400 V   | A  | 18               |
| Rated operation power at AC-3, 400 V  | kW | 7.5              |
| Rated operation current Ie at AC-4, 400 V   | A  | 15               |
| Rated operation power at AC-4, 400 V  | kW | 7                |
| Rated operation power NEMA  | kW | 11               |
| Modular version   |    | No               |
| Number of auxiliary contacts as normally open contact   |    | 0                |
| Number of auxiliary contacts as normally closed contact   |    | 1                |
| Type of electrical connection of main circuit   |    | Screw connection |
| Number of normally closed contacts as main contact  |    | 0                |
| Number of main contacts as normally open contact  |    | 4                |

## Approvals

|                                      |  |  |
|--------------------------------------|--|--|
| Product Standards                    |  | IEC/EN 60947-4-1; UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CE marking |
| UL File No.                          |  | E29096   |
| UL Category Control No.              |  | NLDX   |
| CSA File No.                         |  | 012528   |
| CSA Class No.                        |  | 2411-03, 3211-04   |
| North America Certification          |  | UL listed, CSA certified   |
| Specially designed for North America |  | No   |

## Characteristics

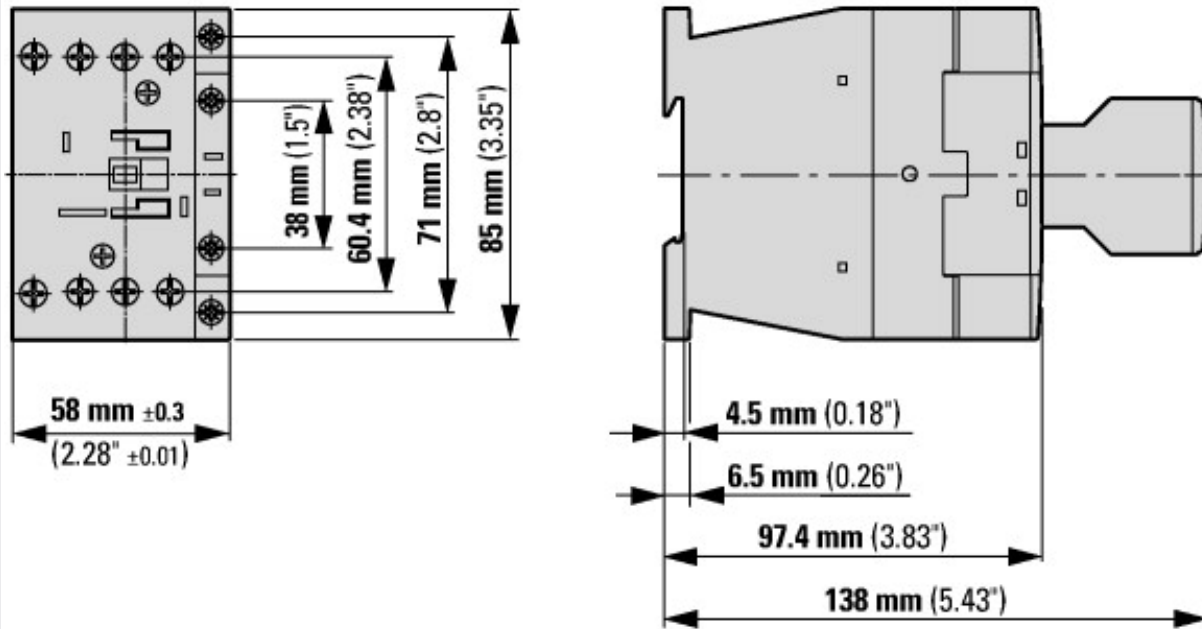




Switching conditions for 4 pole, non-motor loads  
 Operating characteristics  
 Non inductive and slightly inductive loads  
 Electrical characteristics  
 Switch on: 1 x rated operational current  
 Switch off: 1 x rated operational current  
 Utilization category  
 100 % AC-1  
 Typical examples of application  
 Electric heat



## Dimensions



Contacteur with auxiliary contact module



distance at side to earthed parts: 6 mm

DILMP32  
DILMP45

## Assets (links)

### Declaration of CE Conformity

00003050

### Instruction Leaflets

IL03407049Z2018\_05

## Additional product information (links)

### IL03407049Z (AWA2100-2356) 4 pole contactors

IL03407049Z (AWA2100-2356) 4 pole contactors [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03407049Z2018\\_05.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407049Z2018_05.pdf)

Motor starters and "Special Purpose Ratings" for the North American market [http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct\\_3258146.pdf](http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.pdf)

|  |   |
|--|---|
| Switchgear of Power Factor Correction Systems  | <a href="http://www.moeller.net/binary/ver_techpapers/ver934en.pdf">http://www.moeller.net/binary/ver_techpapers/ver934en.pdf</a> |
| X-Start - Modern Switching Installations Efficiently Fitted and Wired Securely                 | <a href="http://www.moeller.net/binary/ver_techpapers/ver938en.pdf">http://www.moeller.net/binary/ver_techpapers/ver938en.pdf</a> |
| Mirror Contacts for Highly-Reliable Information Relating to Safety-Related Control Functions   | <a href="http://www.moeller.net/binary/ver_techpapers/ver944en.pdf">http://www.moeller.net/binary/ver_techpapers/ver944en.pdf</a> |
| Effect of the Cabel Capacitance of Long Control Cables on the Actuation of Contactors          | <a href="http://www.moeller.net/binary/ver_techpapers/ver949en.pdf">http://www.moeller.net/binary/ver_techpapers/ver949en.pdf</a> |
| Switchgear for Luminaires  | <a href="http://www.moeller.net/binary/ver_techpapers/ver955en.pdf">http://www.moeller.net/binary/ver_techpapers/ver955en.pdf</a> |
| Standard Compliant and Functionally Safe Engineering Design with Mechanical Auxiliary Contacts | <a href="http://www.moeller.net/binary/ver_techpapers/ver956en.pdf">http://www.moeller.net/binary/ver_techpapers/ver956en.pdf</a> |
| The Interaction of Contactors with PLCs  | <a href="http://www.moeller.net/binary/ver_techpapers/ver957en.pdf">http://www.moeller.net/binary/ver_techpapers/ver957en.pdf</a> |
| Busbar Component Adapters for modern Industrial control panels                                 | <a href="http://www.moeller.net/binary/ver_techpapers/ver960en.pdf">http://www.moeller.net/binary/ver_techpapers/ver960en.pdf</a> |