



**Contactor, 380 V 400 V 450 kW, 2 N/O, 2 NC, RA 250: 110 - 250 V 40 - 60 Hz/110 - 350 V DC, AC and DC operation, Screw connection**



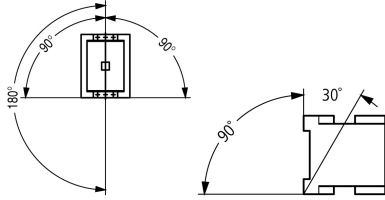
**Part no.** DILM820/22(RA250)  
**Catalog No.** 208225  
**Alternate Catalog No.** XTCE820N22A  
**EL-Nummer (Norway)** 4134090

## Delivery program

|                                                               |                |    |                                                                                                                                                                                                                            |
|---------------------------------------------------------------|----------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product range                                                 |                |    | Contactors                                                                                                                                                                                                                 |
| Application                                                   |                |    | Contactors for Motors                                                                                                                                                                                                      |
| Subrange                                                      |                |    | Comfort devices greater than 170 A                                                                                                                                                                                         |
| 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 connection                                                                                                                                                                                                           |
| <b>Rated operational current</b>                              |                |    |                                                                                                                                                                                                                            |
| AC-3                                                          |                |    |                                                                                                                                                                                                                            |
| 380 V 400 V                                                   | $I_e$          | A  | 820                                                                                                                                                                                                                        |
| AC-1                                                          |                |    |                                                                                                                                                                                                                            |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz     |                |    |                                                                                                                                                                                                                            |
| Open                                                          |                |    |                                                                                                                                                                                                                            |
| at 40 °C                                                      | $I_{th} = I_e$ | A  | 1225                                                                                                                                                                                                                       |
| Conventional free air thermal current, 1 pole                 |                |    |                                                                                                                                                                                                                            |
| open                                                          | $I_{th}$       | A  | 2500                                                                                                                                                                                                                       |
| <b>Max. rating for three-phase motors, 50 - 60 Hz</b>         |                |    |                                                                                                                                                                                                                            |
| AC-3                                                          |                |    |                                                                                                                                                                                                                            |
| 220 V 230 V                                                   | P              | kW | 260                                                                                                                                                                                                                        |
| 380 V 400 V                                                   | P              | kW | 450                                                                                                                                                                                                                        |
| 660 V 690 V                                                   | P              | kW | 750                                                                                                                                                                                                                        |
| 1000 V                                                        | P              | kW | 800                                                                                                                                                                                                                        |
| AC-4                                                          |                |    |                                                                                                                                                                                                                            |
| 220 V 230 V                                                   | P              | kW | 209                                                                                                                                                                                                                        |
| 380 V 400 V                                                   | P              | kW | 355                                                                                                                                                                                                                        |
| 660 V 690 V                                                   | P              | kW | 633                                                                                                                                                                                                                        |
| 1000 V                                                        | P              | kW | 678                                                                                                                                                                                                                        |
| Contact sequence                                              |                |    |                                                                                                                                                                                                                            |
| Can be combined with auxiliary contact                        |                |    | DILM820-XHI...                                                                                                                                                                                                             |
| Actuating voltage                                             |                |    | RA 250: 110 - 250 V 40 - 60 Hz/110 - 350 V DC                                                                                                                                                                              |
| Voltage AC/DC                                                 |                |    | AC and DC operation                                                                                                                                                                                                        |
| <b>Contacts</b>                                               |                |    |                                                                                                                                                                                                                            |
| N/O = Normally open                                           |                |    | 2 N/O                                                                                                                                                                                                                      |
| N/C = Normally closed                                         |                |    | 2 NC                                                                                                                                                                                                                       |
| <b>Auxiliary contacts</b>                                     |                |    |                                                                                                                                                                                                                            |
| possible variants at auxiliary contact module fitting options |                |    | on the side: 2 x DILM820-XHI11(V)-SI; 2 x DILM820-XHI11-SA                                                                                                                                                                 |
| Side mounting auxiliary contacts                              |                |    |                                                                                                                                                                                                                            |
| <b>Instructions</b>                                           |                |    | Interlocked opposing contacts according to IEC/EN 60947-5-1 Appendix L, inside the auxiliary contact module<br>Auxiliary contacts used as mirror contacts according to IEC/EN 60947-4-1 Appendix F (not N/C late open)     |
| <b>Instructions</b>                                           |                |    | integrated suppressor circuit in actuating electronics                                                                                                                                                                     |

## Technical data

### General

|                                                                       |                                     |                 |                                                                                                             |
|-----------------------------------------------------------------------|-------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------|
| Standards                                                             |                                     |                 | IEC/EN 60947, VDE 0660, UL, CSA                                                                             |
| Lifespan, mechanical                                                  |                                     |                 |                                                                                                             |
| AC operated                                                           | Operations                          | $\times 10^6$   | 5                                                                                                           |
| DC operated                                                           | Operations                          | $\times 10^6$   | 5                                                                                                           |
| Operating frequency, mechanical                                       |                                     |                 |                                                                                                             |
| AC operated                                                           | Operations/h                        |                 | 1000                                                                                                        |
| DC operated                                                           | Operations/h                        |                 | 1000                                                                                                        |
| Climatic proofing                                                     |                                     |                 | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30                              |
| Ambient temperature                                                   |                                     |                 |                                                                                                             |
| Open                                                                  |                                     | °C              | -40 - +60                                                                                                   |
| Enclosed                                                              |                                     | °C              | - 40 - + 40                                                                                                 |
| Storage                                                               |                                     | °C              | - 40 - + 80                                                                                                 |
| 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               | 10                                                                                                          |
| N/C contact                                                           |                                     | g               | 8                                                                                                           |
| Degree of Protection                                                  |                                     |                 | IP00                                                                                                        |
| Protection against direct contact when actuated from front (EN 50274) |                                     |                 | Finger and back-of-hand proof with terminal shroud or terminal block                                        |
| Altitude                                                              |                                     | m               | Max. 2000                                                                                                   |
| Weight                                                                |                                     |                 |                                                                                                             |
| AC operated                                                           |                                     | kg              | 16.54                                                                                                       |
| DC operated                                                           |                                     | kg              | 16.54                                                                                                       |
| Weight                                                                |                                     | kg              | 16.54                                                                                                       |
| Terminal capacity main cable                                          |                                     |                 |                                                                                                             |
| Flexible with cable lug                                               |                                     | mm <sup>2</sup> | 50 - 240                                                                                                    |
| Stranded with cable lug                                               |                                     | mm <sup>2</sup> | 70 - 240                                                                                                    |
| Solid or stranded                                                     |                                     | AWG             | 2/0 - 500 MCM                                                                                               |
| Flat conductor                                                        | Lamellenzahl<br>x Breite x<br>Dicke | mm              | Fixing with flat cable terminal or cable terminal blocks<br>See terminal capacity for cable terminal blocks |
| Busbar                                                                | Width                               | mm              | 60                                                                                                          |
| Main cable connection screw/bolt                                      |                                     |                 | M12                                                                                                         |
| Tightening torque                                                     |                                     | Nm              | 35                                                                                                          |
| Terminal capacity control circuit cables                              |                                     |                 |                                                                                                             |
| 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 - 2.5)<br>2 x (0.75 - 2.5)                                                                        |
| Solid or stranded                                                     |                                     | AWG             | 18 - 14                                                                                                     |
| Control circuit cable connection screw/bolt                           |                                     |                 | M3.5                                                                                                        |
| Tightening torque                                                     |                                     | Nm              | 1.2                                                                                                         |
| Tool                                                                  |                                     |                 |                                                                                                             |
| Main cable                                                            |                                     |                 |                                                                                                             |

|                        |  |      |    |
|------------------------|--|------|----|
| Width across flats     |  | mm   | 18 |
| Control circuit cables |  |      |    |
| Pozidriv screwdriver   |  | Size | 2  |

## 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 | 1000                                                                                                                                            |
| Rated operational voltage              | $U_e$        | V AC | 1000                                                                                                                                            |
| Safe isolation to EN 61140             |              |      |                                                                                                                                                 |
| between coil and contacts              |              | V AC | 500                                                                                                                                             |
| between the contacts                   |              | V AC | 500                                                                                                                                             |
| Making capacity (p.f. to IEC/EN 60947) |              | A    | 9840                                                                                                                                            |
| Breaking capacity                      |              |      |                                                                                                                                                 |
| 220 V 230 V                            |              | A    | 8200                                                                                                                                            |
| 380 V 400 V                            |              | A    | 8200                                                                                                                                            |
| 500 V                                  |              | A    | 8200                                                                                                                                            |
| 660 V 690 V                            |              | A    | 8200                                                                                                                                            |
| 1000 V                                 |              | A    | 5800                                                                                                                                            |
| Component lifespan                     |              |      |                                                                                                                                                 |
|                                        |              |      | AC1: See → Engineering, characteristic curves<br>AC3: See → Engineering, characteristic curves<br>AC4: See → Engineering, characteristic curves |
| Short-circuit rating                   |              |      |                                                                                                                                                 |
| Short-circuit protection maximum fuse  |              |      |                                                                                                                                                 |
| Type "2" coordination                  |              |      |                                                                                                                                                 |
| 400 V                                  | gG/gL 500 V  | A    | 630                                                                                                                                             |
| 690 V                                  | gG/gL 690 V  | A    | 630                                                                                                                                             |
| 1000 V                                 | gG/gL 1000 V | A    | 630                                                                                                                                             |
| Type "1" coordination                  |              |      |                                                                                                                                                 |
| 400 V                                  | gG/gL 500 V  | A    | 1200                                                                                                                                            |
| 690 V                                  | gG/gL 690 V  | A    | 1200                                                                                                                                            |
| 1000 V                                 | gG/gL 1000 V | A    | 800                                                                                                                                             |

## 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 | 1225                                               |
| at 50 °C                                                  | $I_{th} = I_e$ | A | 1095                                               |
| at 55 °C                                                  | $I_{th} = I_e$ | A | 1044                                               |
| at 60 °C                                                  | $I_{th} = I_e$ | A | 1000                                               |
| Conventional free air thermal current, 1 pole             |                |   |                                                    |
| Note                                                      |                |   | at maximum permissible ambient air temperature     |
| open                                                      | $I_{th}$       | A | 2500                                               |
| 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 | 820                                                |
| 240 V                                                     | $I_e$          | A | 820                                                |
| 380 V 400 V                                               | $I_e$          | A | 820                                                |
| 415 V                                                     | $I_e$          | A | 820                                                |
| 440V                                                      | $I_e$          | A | 820                                                |
| 500 V                                                     | $I_e$          | A | 820                                                |
| 660 V 690 V                                               | $I_e$          | A | 820                                                |

|                           |                |     |     |
|---------------------------|----------------|-----|-----|
| 1000 V                    | I <sub>e</sub> | A   | 580 |
| Motor rating              | P              | kWh |     |
| 220 V 230 V               | P              | kW  | 260 |
| 240V                      | P              | kW  | 285 |
| 380 V 400 V               | P              | kW  | 450 |
| 415 V                     | P              | kW  | 500 |
| 440 V                     | P              | kW  | 450 |
| 500 V                     | P              | kW  | 600 |
| 660 V 690 V               | P              | kW  | 750 |
| 1000 V                    | P              | kW  | 800 |
| AC-4                      |                |     |     |
| Rated operational current |                |     |     |
| Open, 3-pole: 50 – 60 Hz  |                |     |     |
| 220 V 230 V               | I <sub>e</sub> | A   | 656 |
| 240 V                     | I <sub>e</sub> | A   | 656 |
| 380 V 400 V               | I <sub>e</sub> | A   | 656 |
| 415 V                     | I <sub>e</sub> | A   | 656 |
| 440 V                     | I <sub>e</sub> | A   | 656 |
| 500 V                     | I <sub>e</sub> | A   | 656 |
| 660 V 690 V               | I <sub>e</sub> | A   | 656 |
| 1000 V                    | I <sub>e</sub> | A   | 464 |
| Motor rating              | P              | kWh |     |
| 220 V 230 V               | P              | kW  | 209 |
| 240 V                     | P              | kW  | 228 |
| 380 V 400 V               | P              | kW  | 355 |
| 415 V                     | P              | kW  | 394 |
| 440 V                     | P              | kW  | 418 |
| 500 V                     | P              | kW  | 474 |
| 660 V 690 V               | P              | kW  | 633 |
| 1000 V                    | P              | kW  | 678 |

## Condensor operation

|                                                                                             |            |                   |     |
|---------------------------------------------------------------------------------------------|------------|-------------------|-----|
| Individual compensation, rated operational current I <sub>e</sub> of three-phase capacitors |            |                   |     |
| Open                                                                                        |            |                   |     |
| up to 525 V                                                                                 |            | A                 | 463 |
| 690 V                                                                                       |            | A                 | 265 |
| Max. inrush current peak                                                                    |            | x I <sub>e</sub>  | 30  |
| Component lifespan                                                                          | Operations | x 10 <sup>6</sup> | 0.1 |
| Max. operating frequency                                                                    |            | Ops/h             | 200 |

## Current heat loss

|                                                   |  |    |       |
|---------------------------------------------------|--|----|-------|
| 3 pole, at I <sub>th</sub> (60°)                  |  | W  | 96    |
| Current heat loss at I <sub>e</sub> to AC-3/400 V |  | W  | 65    |
| Impedance per pole                                |  | mΩ | 0.032 |

## Magnet systems

|                                                                        |          |    |                                                      |
|------------------------------------------------------------------------|----------|----|------------------------------------------------------|
| Voltage tolerance                                                      |          |    |                                                      |
| U <sub>S</sub>                                                         |          |    | 110 - 250 V 40-60 Hz<br>110 - 350 V DC               |
| AC operated                                                            | Pick-up  |    | 0.7 x U <sub>S min</sub> - 1.15 x U <sub>S max</sub> |
| DC operated                                                            | Pick-up  |    | 0.7 x U <sub>S min</sub> - 1.15 x U <sub>S max</sub> |
| AC operated                                                            | Drop-out |    | 0.2 x U <sub>S max</sub> - 0.6 x U <sub>S min</sub>  |
| DC operated                                                            | Drop-out |    | 0.2 x U <sub>S max</sub> - 0.6 x U <sub>S min</sub>  |
| Power consumption of the coil in a cold state and 1.0 x U <sub>S</sub> |          |    |                                                      |
| Note on power consumption                                              |          |    | Control transformer with u <sub>k</sub> ≤ 7%         |
| Pull-in power                                                          | Pick-up  | VA | 800                                                  |
| Pull-in power                                                          | Pick-up  | W  | 700                                                  |
| Sealing power                                                          | Sealing  | VA | 26.5                                                 |

|                                                                                                        |         |      |                                      |
|--------------------------------------------------------------------------------------------------------|---------|------|--------------------------------------|
| Sealing power                                                                                          | Sealing | W    | 11.4                                 |
| Duty factor                                                                                            |         | % DF | 100                                  |
| Changeover time at 100 % U <sub>S</sub> (recommended value)                                            |         |      |                                      |
| Main contacts                                                                                          |         |      |                                      |
| Closing delay                                                                                          |         | ms   | 70                                   |
| Opening delay                                                                                          |         | ms   | 110                                  |
| Behaviour in marginal and transitional conditions                                                      |         |      |                                      |
| Sealing                                                                                                |         |      |                                      |
| Voltage interruptions                                                                                  |         |      |                                      |
| (0 ... 0.2 x U <sub>C min</sub> ) ≤ 10 ms                                                              |         |      | Time is bridged successfully         |
| (0 ... 0.2 x U <sub>C min</sub> ) > 10 ms                                                              |         |      | Drop-out of the contactor            |
| Voltage drops                                                                                          |         |      |                                      |
| (0.2 ... 0.6 x U <sub>C min</sub> ) ≤ 12 ms                                                            |         |      | Time is bridged successfully         |
| (0.2 ... 0.6 x U <sub>C min</sub> ) > 12 ms                                                            |         |      | Drop-out of the contactor            |
| (0.6 ... 0.7 x U <sub>C min</sub> )                                                                    |         |      | Contactor remains switched on        |
| Excess voltage                                                                                         |         |      |                                      |
| (1.15 ... 1.3 x U <sub>C max</sub> )                                                                   |         |      | Contactor remains switched on        |
| Pick-up phase                                                                                          |         |      |                                      |
| (0 ... 0.7 x U <sub>C min</sub> )                                                                      |         |      | Contactor does not switch on         |
| (0.7 x U <sub>C min</sub> ... 1.15 x U <sub>C max</sub> )                                              |         |      | Contactor switches on with certainty |
| Admissible transitional contact resistance (of the external control circuit device when actuating A11) |         | mΩ   | ≤ 500                                |
| PLC signal level (A3 - A4) to IEC/EN 61131-2 (type 2)                                                  |         |      |                                      |
| High                                                                                                   |         | V    | 15                                   |
| Low                                                                                                    |         | V    | 5                                    |

## Electromagnetic compatibility (EMC)

|                               |  |  |                                                                                                                                                                                                                                 |
|-------------------------------|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electromagnetic compatibility |  |  | This product is designed for operation in industrial environments (environment A). Its use in residential environments (environment B) may cause radio-frequency interference, requiring additional noise suppression measures. |
|-------------------------------|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Rating data for approved types

|                              |  |      |      |
|------------------------------|--|------|------|
| Switching capacity           |  |      |      |
| Maximum motor rating         |  |      |      |
| Three-phase                  |  |      |      |
| 200 V<br>208 V               |  | HP   | 290  |
| 230 V<br>240 V               |  | HP   | 350  |
| 460 V<br>480 V               |  | HP   | 700  |
| 575 V<br>600 V               |  | HP   | 860  |
| General use                  |  | A    | 1225 |
| Auxiliary contacts           |  |      |      |
| Pilot Duty                   |  |      |      |
| AC operated                  |  |      | A600 |
| DC operated                  |  |      | P300 |
| General Use                  |  |      |      |
| AC                           |  | V    | 600  |
| AC                           |  | A    | 15   |
| DC                           |  | V    | 250  |
| DC                           |  | A    | 1    |
| Short Circuit Current Rating |  | SCCR |      |
| Basic Rating                 |  |      |      |
| SCCR                         |  | kA   | 42   |
| max. Fuse                    |  | A    | 2000 |
| max. CB                      |  | A    | 1200 |
| 480 V High Fault             |  |      |      |
| SCCR (fuse)                  |  | kA   | 85   |

|                                                           |    |      |
|-----------------------------------------------------------|----|------|
| max. Fuse                                                 | A  | 2000 |
| SCCR (CB)                                                 | kA | 85   |
| max. CB                                                   | A  | 1200 |
| 600 V High Fault                                          |    |      |
| SCCR (fuse)                                               | kA | 85   |
| max. Fuse                                                 | A  | 2000 |
| SCCR (CB)                                                 | kA | 85   |
| max. CB                                                   | A  | 1200 |
| Special Purpose Ratings                                   |    |      |
| Definite Purpose Ratings (100,000 cycles acc. to UL 1995) |    |      |
| LRA 480V 60Hz 3phase                                      | A  | 5400 |
| FLA 480V 60Hz 3phase                                      | A  | 900  |
| LRA 600V 60Hz 3phase                                      | A  | 5400 |
| FLA 600V 60Hz 3phase                                      | A  | 900  |

## Design verification as per IEC/EN 61439

|                                                                                                                        |                   |    |                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------|-------------------|----|----------------------------------------------------------------------------------------------------------------------------------|
| Technical data for design verification                                                                                 |                   |    |                                                                                                                                  |
| Rated operational current for specified heat dissipation                                                               | I <sub>n</sub>    | A  | 820                                                                                                                              |
| Heat dissipation per pole, current-dependent                                                                           | P <sub>vid</sub>  | W  | 21.67                                                                                                                            |
| Equipment heat dissipation, current-dependent                                                                          | P <sub>vid</sub>  | W  | 0                                                                                                                                |
| Static heat dissipation, non-current-dependent                                                                         | P <sub>vs</sub>   | W  | 6.5                                                                                                                              |
| Heat dissipation capacity                                                                                              | P <sub>diss</sub> | W  | 0                                                                                                                                |
| Operating ambient temperature min.                                                                                     |                   | °C | -40                                                                                                                              |
| 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

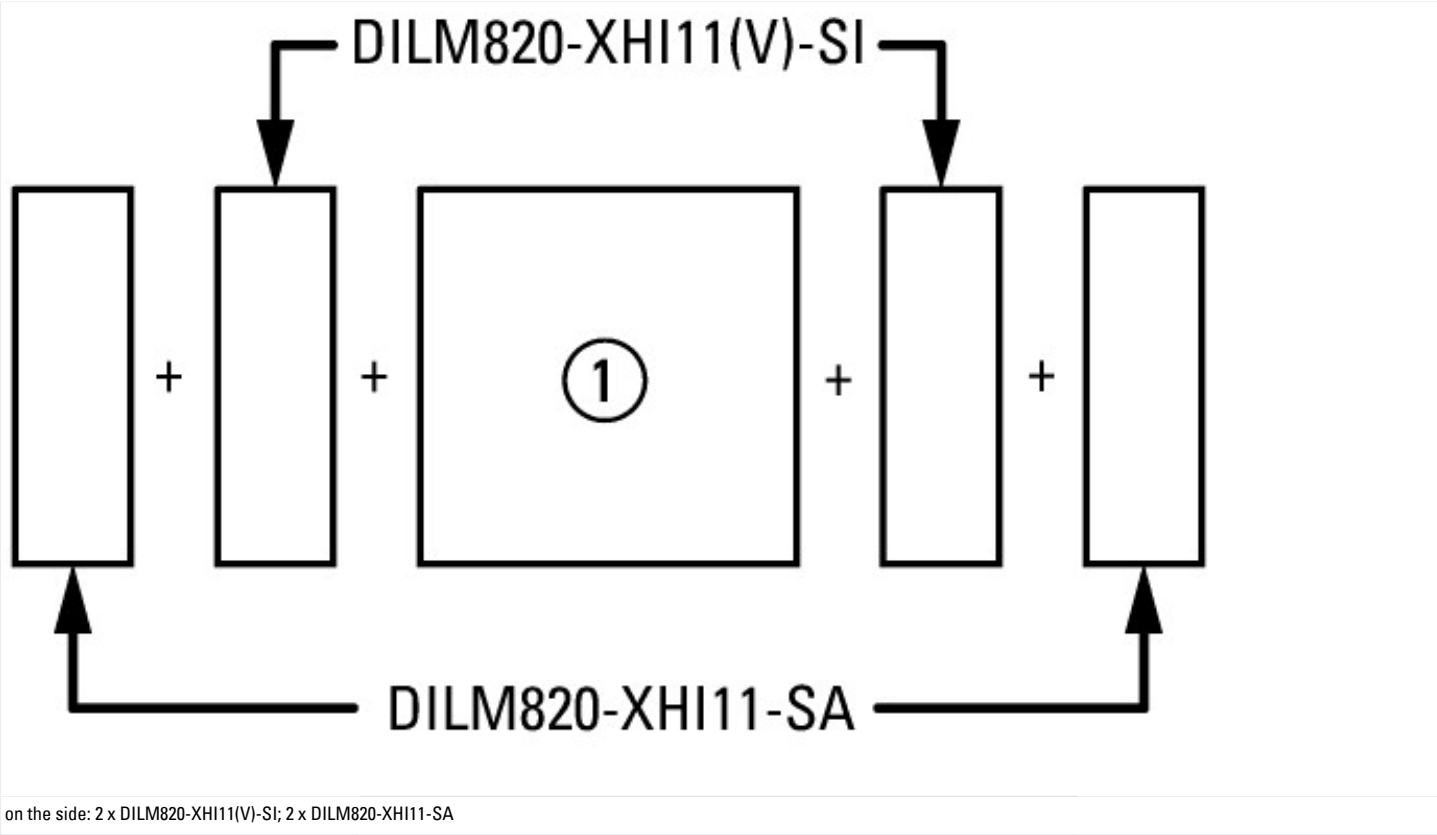
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low-voltage industrial components (EG000017) / Power contactor, 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]) |

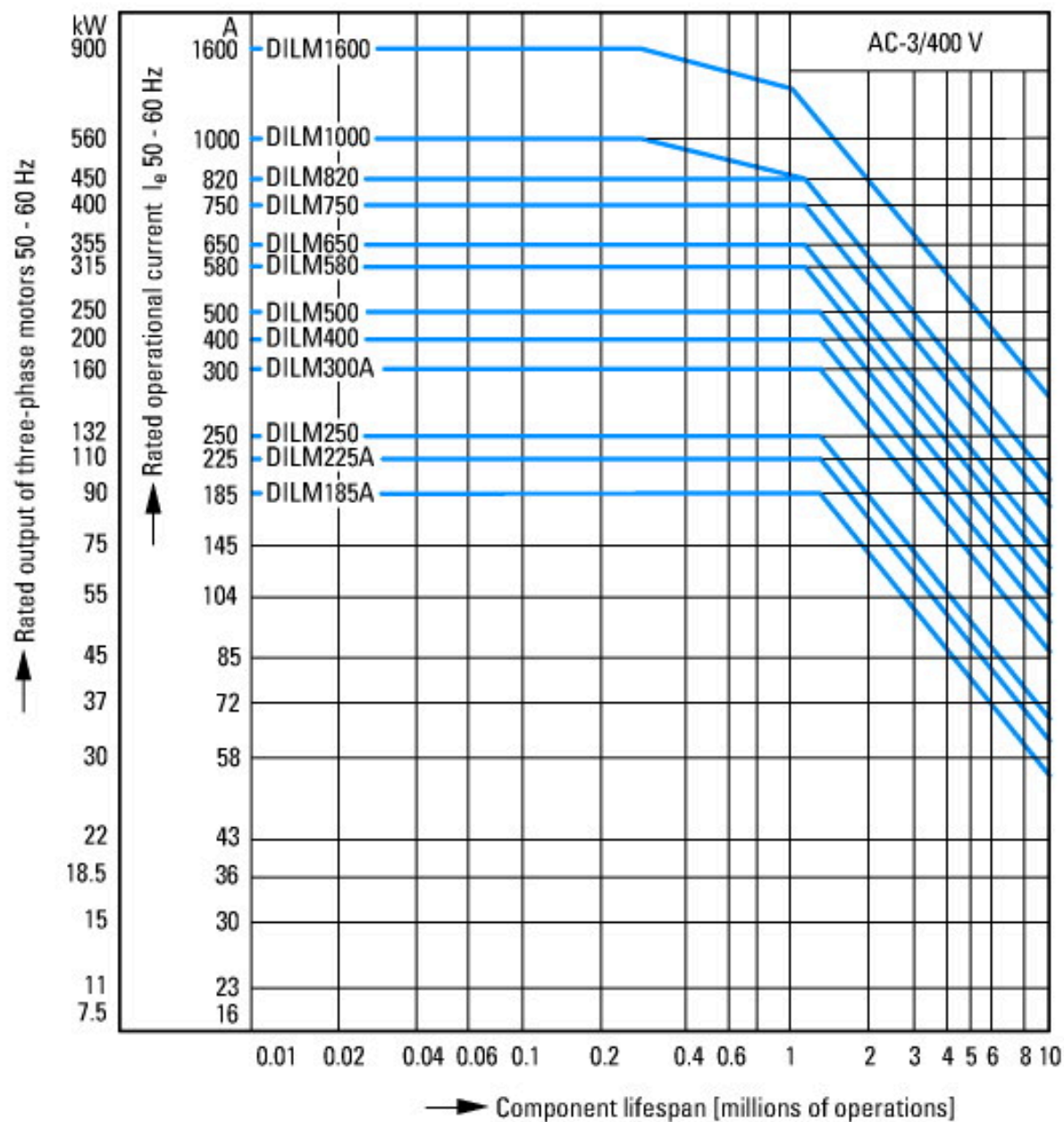
|                                                         |    |                 |
|---------------------------------------------------------|----|-----------------|
| Rated control supply voltage Us at AC 50HZ              | V  | 110 - 250       |
| Rated control supply voltage Us at AC 60HZ              | V  | 110 - 250       |
| Rated control supply voltage Us at DC                   | V  | 110 - 250       |
| Voltage type for actuating                              |    | AC/DC           |
| Rated operation current Ie at AC-1, 400 V               | A  | 1225            |
| Rated operation current Ie at AC-3, 400 V               | A  | 820             |
| Rated operation power at AC-3, 400 V                    | kW | 450             |
| Rated operation current Ie at AC-4, 400 V               | A  | 656             |
| Rated operation power at AC-4, 400 V                    | kW | 355             |
| Rated operation power NEMA                              | kW | 522             |
| Modular version                                         |    | No              |
| Number of auxiliary contacts as normally open contact   |    | 2               |
| Number of auxiliary contacts as normally closed contact |    | 2               |
| Type of electrical connection of main circuit           |    | Rail connection |
| Number of normally closed contacts as main contact      |    | 0               |
| Number of main contacts as normally open contact        |    | 3               |

### 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.                        |  | 3211-04                                                                  |
| North America Certification          |  | UL listed, CSA certified                                                 |
| Specially designed for North America |  | No                                                                       |

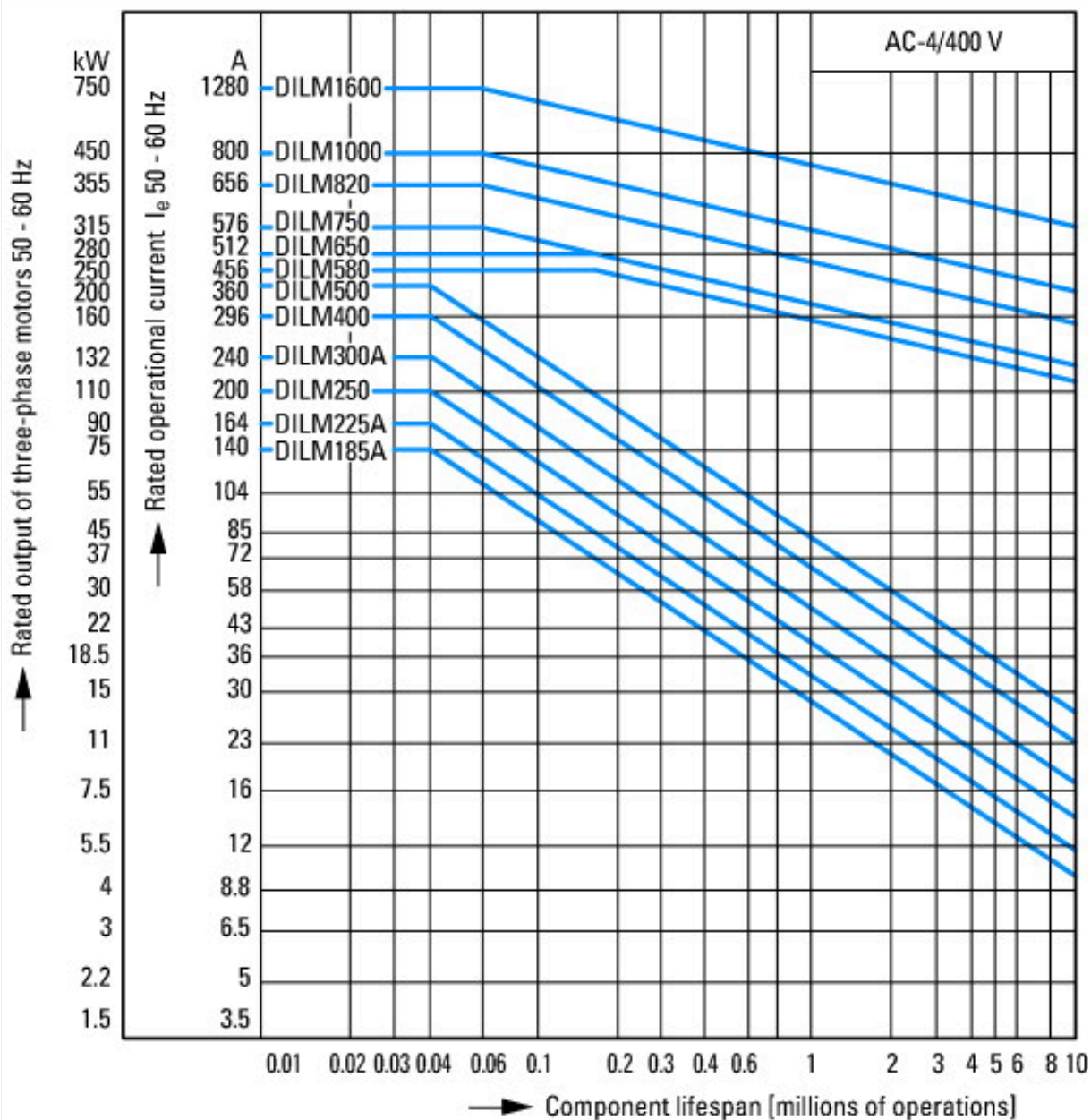
### Characteristics



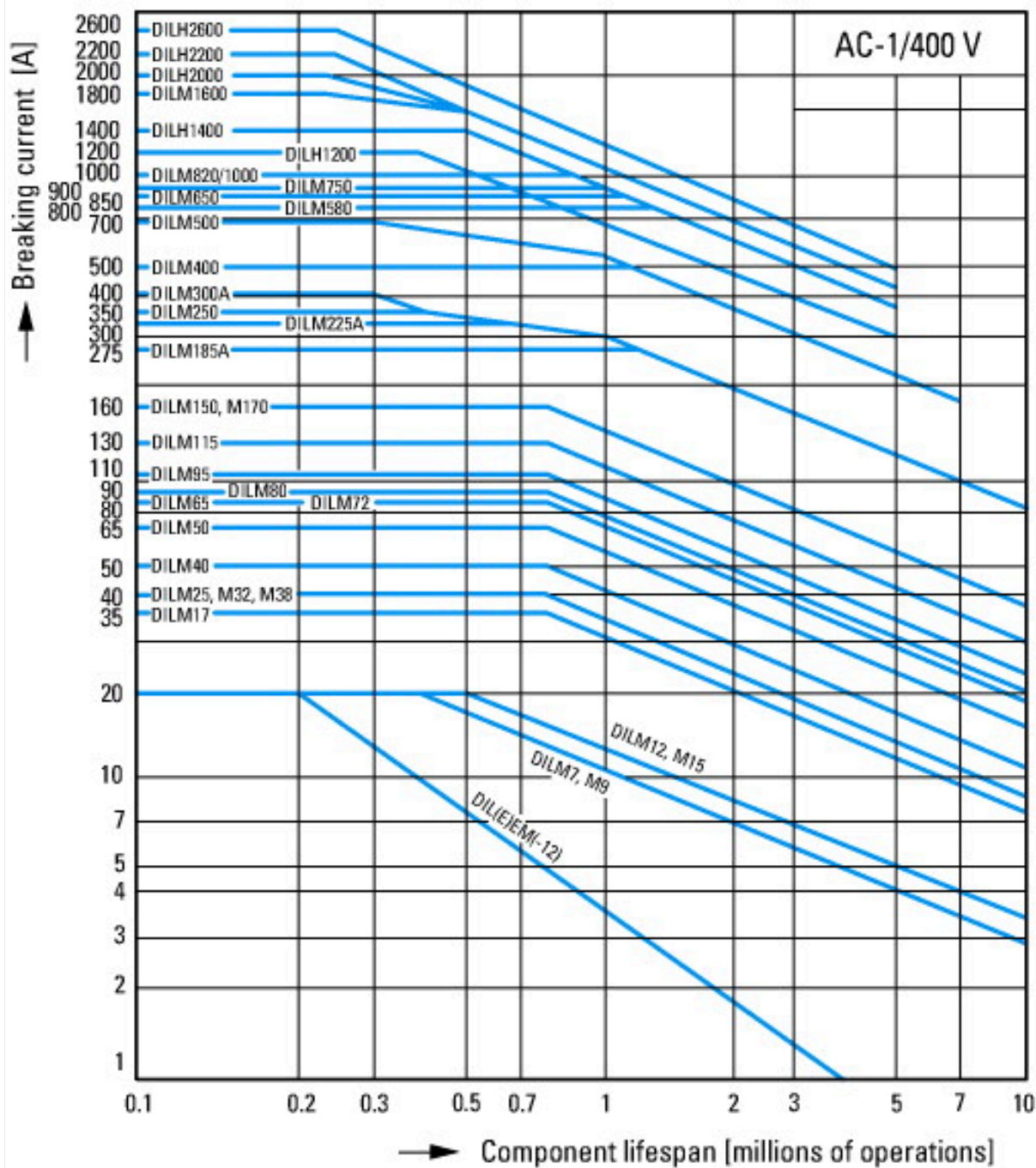


Normal switching duty  
 Normal AC induction motor  
 Operating characteristics  
 Switch on: from stop  
 Switch off: during run  
 Electrical characteristics:  
 Switch on: up to 6 x Rated motor current  
 Switch off: up to 1 x Rated motor current  
 Utility category  
 100 % AC-3  
 Typical Applications  
 Compressors  
 Lifts  
 Mixers  
 Pumps  
 Escalators  
 Agitators  
 fan  
 Conveyor belts  
 Centrifuges  
 Hinged flaps  
 Bucket-elevator  
 Air-conditioning systems  
 General drives for 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 conditions for 3 pole, non-motor loads

Operating characteristics

Non inductive and slightly inductive loads

Electrical characteristics

Switch on: 1 x rated operational current

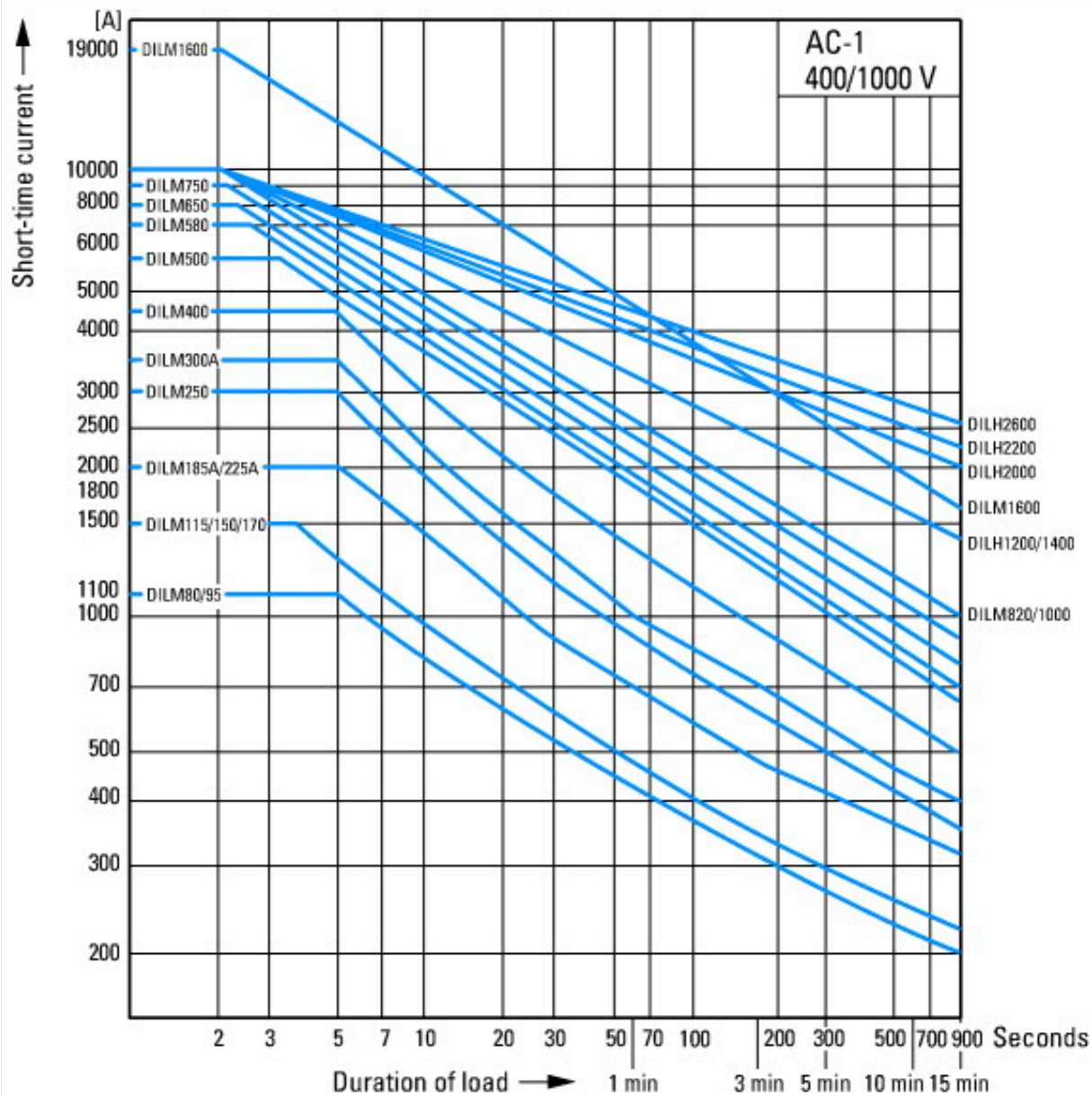
Switch off: 1 x rated operational current

Utilization category

100 % AC-1

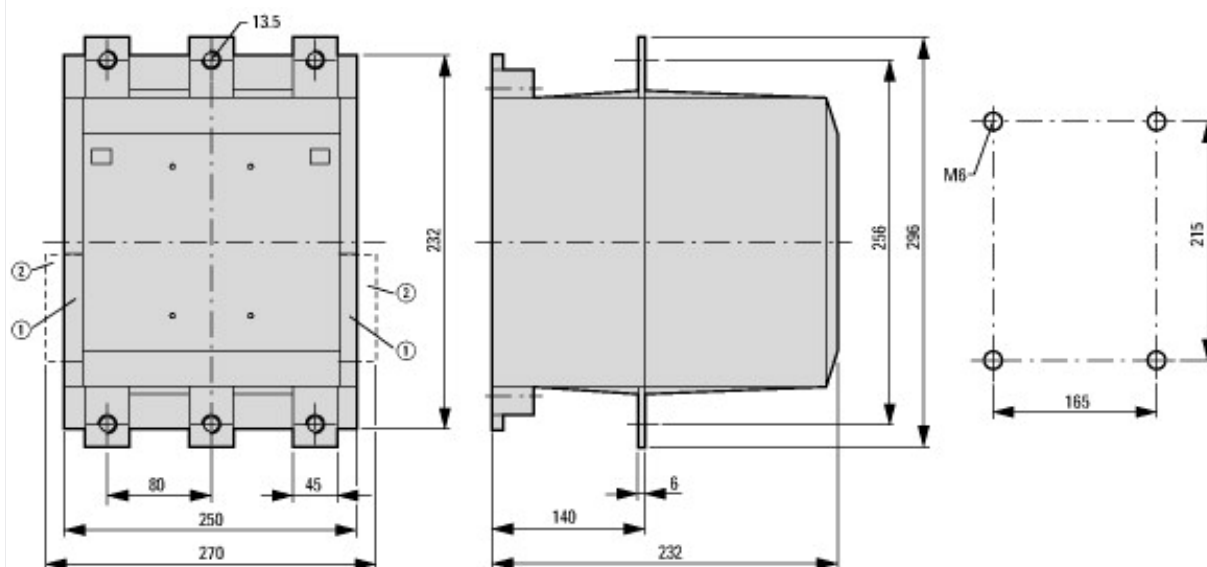
Typical examples of application

Electric heat



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

## Dimensions



- ① DILM820-XHI11(V)-SI  
② DILM820-XHI11-SA

## Additional product information (links)

### IL03407023Z (AWA2100-1697) Contactors >170 A

|                                                                                                |                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IL03407023Z (AWA2100-1697) Contactors >170 A                                                   | <a href="https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407023Z2020_04.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407023Z2020_04.pdf</a>                               |
| Motor starters and "Special Purpose Ratings" for the North American market                     | <a href="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</a> |
| 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 Cable 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>                                                                               |