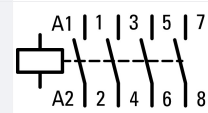




**Contactor, 4 pole, 80 A, 230 V 50/60 Hz, AC operation**

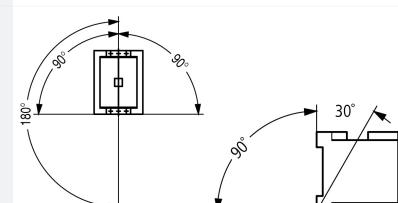
**Part no.** DILMP80(230V50/60HZ)  
**Catalog No.** 109883  
**Alternate Catalog No.** XTCF080D00G2

**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>AC-3/AC-3e: Normal AC induction motors: Starting, switching off while 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 | 80  |
| at 50 °C  | $I_{th} = I_e$ | A | 76  |
| at 55 °C  | $I_{th} = I_e$ | A | 73  |
| at 60 °C  | $I_{th} = I_e$ | A | 69  |
| Contact sequence  |                |   |    |
| For use with  |                |   | DILM150-XHI(A)(V)...<br>or<br>DILM1000-XHI11-SA<br>or<br>DILM1000-XHI(V)11-SI   |
| Actuating voltage   |                |   | 230 V 50/60 Hz  |
| Voltage AC/DC   |                |   | AC operation  |
| Connection to SmartWire-DT                                |                |   | no  |
| <b>Instructions</b>                                       |                |   | Contacts to EN 50 012.  |

**Technical data**

**General**

|                                 |              |               |  |
|---------------------------------|--------------|---------------|--|
| Standards                       |              |               | IEC/EN 60947, VDE 0660, UL, CSA  |
| Lifespan, mechanical            |              |               |  |
| AC 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 (2.5 - 16)<br>2 x (2.5 - 16)     |
| Flexible with ferrule   |                                     | mm <sup>2</sup> | 1 x (2.5 - 35)<br>2 x (2.5 - 25)     |
| Stranded  |                                     | mm <sup>2</sup> | 1 x (16 - 50)<br>2 x (16 - 35)       |
| Solid or stranded   |                                     | AWG             | 12 - 2                               |
| Flat conductor  | Lamellenzahl<br>x Breite x<br>Dicke | mm              | 2 x (6 x 9 x 0.8)                    |
| Terminal screw  |                                     |                 | M6                                   |
| Tightening torque   |                                     |                 | Nm 3.3                               |
| Stripping length  |                                     |                 | mm 10                                |
| Push-in terminals   |                                     |                 |                                      |
| Solid   |                                     | mm <sup>2</sup> | 1 x (0.75 - 2.5)<br>2 x (0.75 - 2.5) |
| flexible  |                                     | mm <sup>2</sup> | 1 x (0.75 - 2.5)<br>2 x (0.75 - 2.5) |
| flexible with ferrules  |                                     | mm <sup>2</sup> | 1 x (0.75 - 1.5)<br>2 x (0.75 - 1.5) |
| Solid or stranded   |                                     | AWG             | 18 - 14                              |
| Terminal capacity control circuit cables                              |                                     |                 |                                      |
| Solid   |                                     | mm <sup>2</sup> | 1 x (0.75 - 4)<br>2 x (0.75 - 4)     |
| 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                               |
| Push-in terminals   |                                     |                 |                                      |
| Solid   |                                     | mm <sup>2</sup> | 1 x (0.75 - 2.5)<br>2 x (0.75 - 2.5) |
| Flexible  |                                     | 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                              |
| 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                   |
| <b>Main conducting paths</b>  |                                     |                 |                                      |
| Rated impulse withstand voltage                                       | U <sub>imp</sub>                    | 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    | 700<br>According to IEC/EN 60947 |
| Breaking capacity                     |             |      |                                  |
| 220 V 230 V                           |             | A    | 500                              |
| 380 V 400 V                           |             | A    | 500                              |
| 500 V                                 |             | A    | 500                              |
| 660 V 690 V                           |             | A    | 296                              |
| Short-circuit rating                  |             |      |                                  |
| Short-circuit protection maximum fuse |             |      |                                  |
| Type "2" coordination                 |             |      |                                  |
| 400 V                                 | gG/gL 500 V | A    | 80                               |
| 690 V                                 | gG/gL 690 V | A    | 63                               |
| Type "1" coordination                 |             |      |                                  |
| 400 V                                 | gG/gL 500 V | A    | 160                              |
| 690 V                                 | gG/gL 690 V | A    | 80                               |

## 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   | 80  |
| at 50 °C  | $I_{th} = I_e$ | A   | 76  |
| at 55 °C  | $I_{th} = I_e$ | A   | 73  |
| at 60 °C  | $I_{th} = I_e$ | A   | 69  |
| enclosed  | $I_{th}$       | A   | 64  |
| Conventional free air thermal current, 1 pole             |                |     |   |
| open  | $I_{th}$       | A   | 207   |
| enclosed  | $I_{th}$       | A   | 186   |
| Motor rating  | P              | kWh |   |
| 220/230 V   | P              | kW  | 29  |
| 240 V   | P              | kW  | 32  |
| 380/400 V   | P              | kW  | 50  |
| 415 V   | P              | kW  | 55  |
| 440 V   | P              | kW  | 58  |
| 500 V   | P              | kW  | 66  |
| 690 V   | P              | kW  | 87  |
| AC-3  |                |     |   |
| Rated operational current                                 |                |     |   |
| Open, 3-pole: 50 – 60 Hz                                  |                |     |   |
| Notes   |                |     | At maximum permissible ambient temperature (open.)<br>Also tested according to AC-3e. |
| 220 V 230 V   | $I_e$          | A   | 50  |
| 240 V   | $I_e$          | A   | 50  |
| 380 V 400 V   | $I_e$          | A   | 50  |
| 415 V   | $I_e$          | A   | 50  |
| 440V  | $I_e$          | A   | 50  |
| 500 V   | $I_e$          | A   | 50  |
| 660 V 690 V   | $I_e$          | A   | 32  |
| Motor rating  | P              | kWh |   |
| 220 V 230 V   | P              | kW  | 15.5  |

|             |   |    |    |
|-------------|---|----|----|
| 240V        | P | kW | 17 |
| 380 V 400 V | P | kW | 22 |
| 415 V       | P | kW | 30 |
| 440 V       | P | kW | 32 |
| 500 V       | P | kW | 36 |
| 660 V 690 V | P | kW | 30 |

## DC

|                                 |                |   |    |
|---------------------------------|----------------|---|----|
| Rated operational current, open |                |   |    |
| DC-1                            |                |   |    |
| 60 V                            | I <sub>e</sub> | A | 80 |
| 110 V                           | I <sub>e</sub> | A | 80 |
| 220 V                           | I <sub>e</sub> | A | 80 |

## Current heat loss

|                                  |  |    |      |
|----------------------------------|--|----|------|
| 3 pole, at I <sub>th</sub> (60°) |  | W  | 25.8 |
| Impedance per pole               |  | mΩ | 1.9  |

## Magnet systems

|  |          |                  |            |
|--|----------|------------------|------------|
| Voltage tolerance  |          |                  |            |
| AC operated 50 Hz  | Pick-up  | x U <sub>c</sub> | 0.8 - 1.1  |
| AC operated 50/60 Hz   |          | x U <sub>c</sub> | 0.85 - 1.1 |
| Drop-out voltage AC operated   | Drop-out | x U <sub>c</sub> | 0.4 - 0.6  |
| Power consumption of the coil in a cold state and 1.0 x U <sub>S</sub>                     |          |                  |            |
| AC operated 50/60 Hz   | Pick-up  | VA               | 150        |
| AC operated 50/60 Hz   | Pick-up  | W                | 95         |
| AC operated 50/60 Hz   | Sealing  | VA               | 16         |
| AC operated 50/60 Hz   | Sealing  | W                | 4.1        |
| Duty factor  |          | % DF             | 100        |
| Changeover time at 100 % U <sub>S</sub> (recommended value)                                |          |                  |            |
| Main contacts  |          |                  |            |
| AC operated  |          |                  |            |
| Closing delay  |          | ms               | 12 - 18    |
| Opening delay  |          | ms               | 8 - 13     |
| Permissible residual current with actuation of A1 - A2 by the electronics (with 0 signal). |          | mA               | ≤ 1        |

## Rating data for approved types

|                              |  |    |        |
|------------------------------|--|----|--------|
| Switching capacity           |  |    |        |
| Maximum motor rating         |  |    |        |
| Three-phase                  |  |    |        |
| 200 V<br>208 V               |  | HP | 15     |
| 230 V<br>240 V               |  | HP | 20     |
| 460 V<br>480 V               |  | HP | 40     |
| 575 V<br>600 V               |  | HP | 50     |
| Single-phase                 |  |    |        |
| 115 V<br>120 V               |  | HP | 3      |
| 230 V<br>240 V               |  | HP | 10     |
| General use                  |  | A  | 80     |
| Short Circuit Current Rating |  |    |        |
| Basic Rating                 |  |    |        |
| SCCR                         |  | kA | 10     |
| max. Fuse                    |  | A  | 250    |
| max. CB                      |  | A  | 250    |
| 480 V High Fault             |  |    |        |
| SCCR (fuse)                  |  | kA | 30/100 |

|                                      |    |                 |
|--------------------------------------|----|-----------------|
| max. Fuse                            | A  | 250/150 Class J |
| SCCR (CB)                            | kA | 65              |
| max. CB                              | A  | 100             |
| 600 V High Fault                     |    |                 |
| SCCR (fuse)                          | kA | 30/100          |
| max. Fuse                            | A  | 250/150 Class J |
| SCCR (CB)                            | kA | 30              |
| max. CB                              | A  | 250             |
| Special Purpose Ratings              |    |                 |
| Electrical Discharge Lamps (Ballast) |    |                 |
| 480V 60Hz 3phase, 277V 60Hz 1phase   | A  | 79              |
| 600V 60Hz 3phase, 347V 60Hz 1phase   | A  | 79              |
| Incandescent Lamps (Tungsten)        |    |                 |
| 480V 60Hz 3phase, 277V 60Hz 1phase   | A  | 74              |
| 600V 60Hz 3phase, 347V 60Hz 1phase   | A  | 74              |
| Resistance Air Heating               |    |                 |
| 480V 60Hz 3phase, 277V 60Hz 1phase   | A  | 79              |
| 600V 60Hz 3phase, 347V 60Hz 1phase   | A  | 79              |
| Elevator Control                     |    |                 |
| 200V 60Hz 3phase                     | HP | 10              |
| 200V 60Hz 3phase                     | A  | 32.2            |
| 240V 60Hz 3phase                     | HP | 15              |
| 240V 60Hz 3phase                     | A  | 42              |
| 480V 60Hz 3phase                     | HP | 30              |
| 480V 60Hz 3phase                     | A  | 40              |
| 600V 60Hz 3phase                     | HP | 40              |
| 600V 60Hz 3phase                     | A  | 41              |

## Design verification as per IEC/EN 61439

|  |            |    |  |
|--|------------|----|--|
| Technical data for design verification   |            |    |  |
| Rated operational current for specified heat dissipation   | $I_n$      | A  | 80   |
| Heat dissipation per pole, current-dependent   | $P_{vid}$  | W  | 8.6  |
| Equipment heat dissipation, current-dependent  | $P_{vid}$  | W  | 25.8   |
| Static heat dissipation, non-current-dependent   | $P_{vs}$   | W  | 4.1  |
| 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.                         |

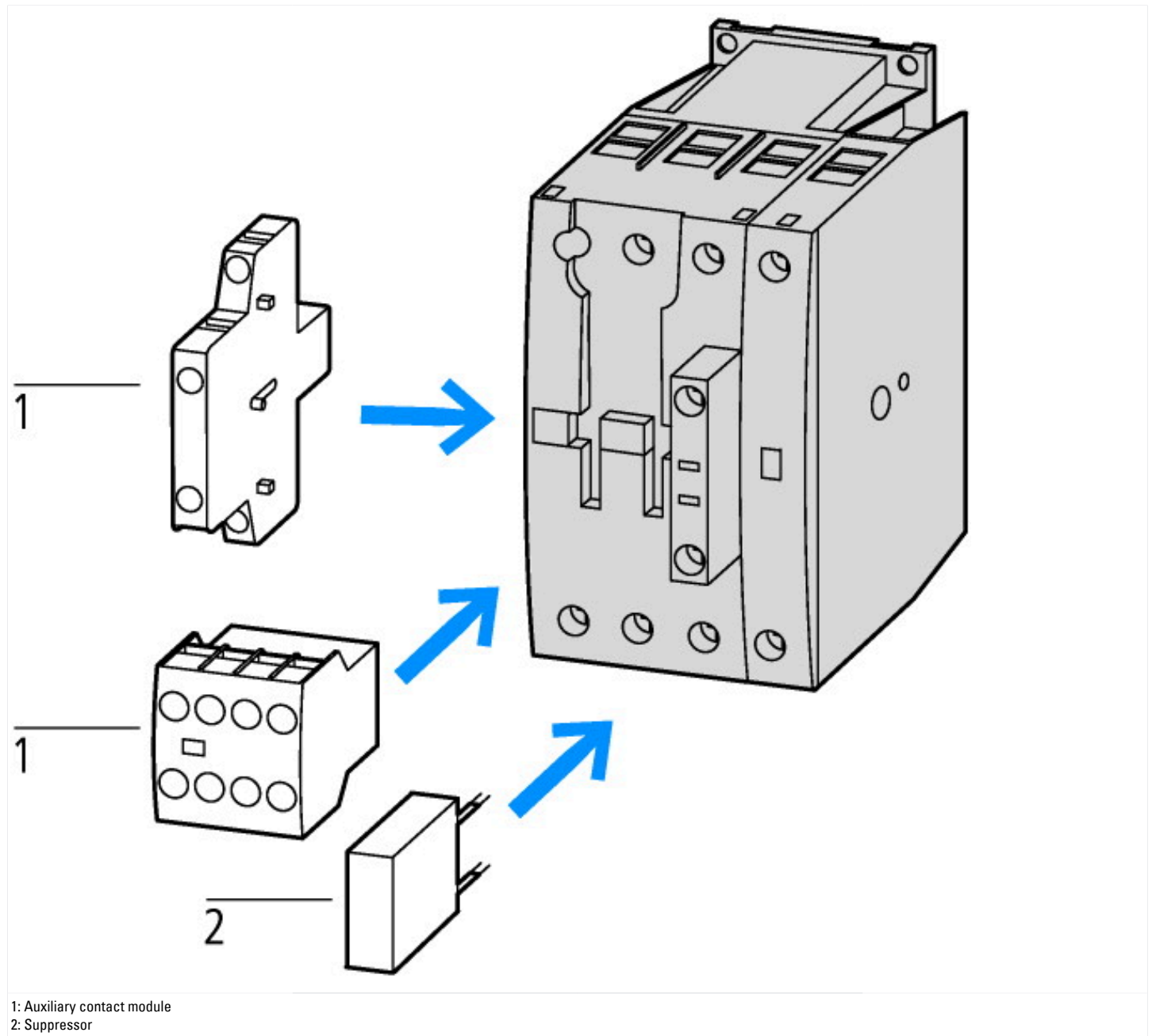
## Technical data ETIM 7.0

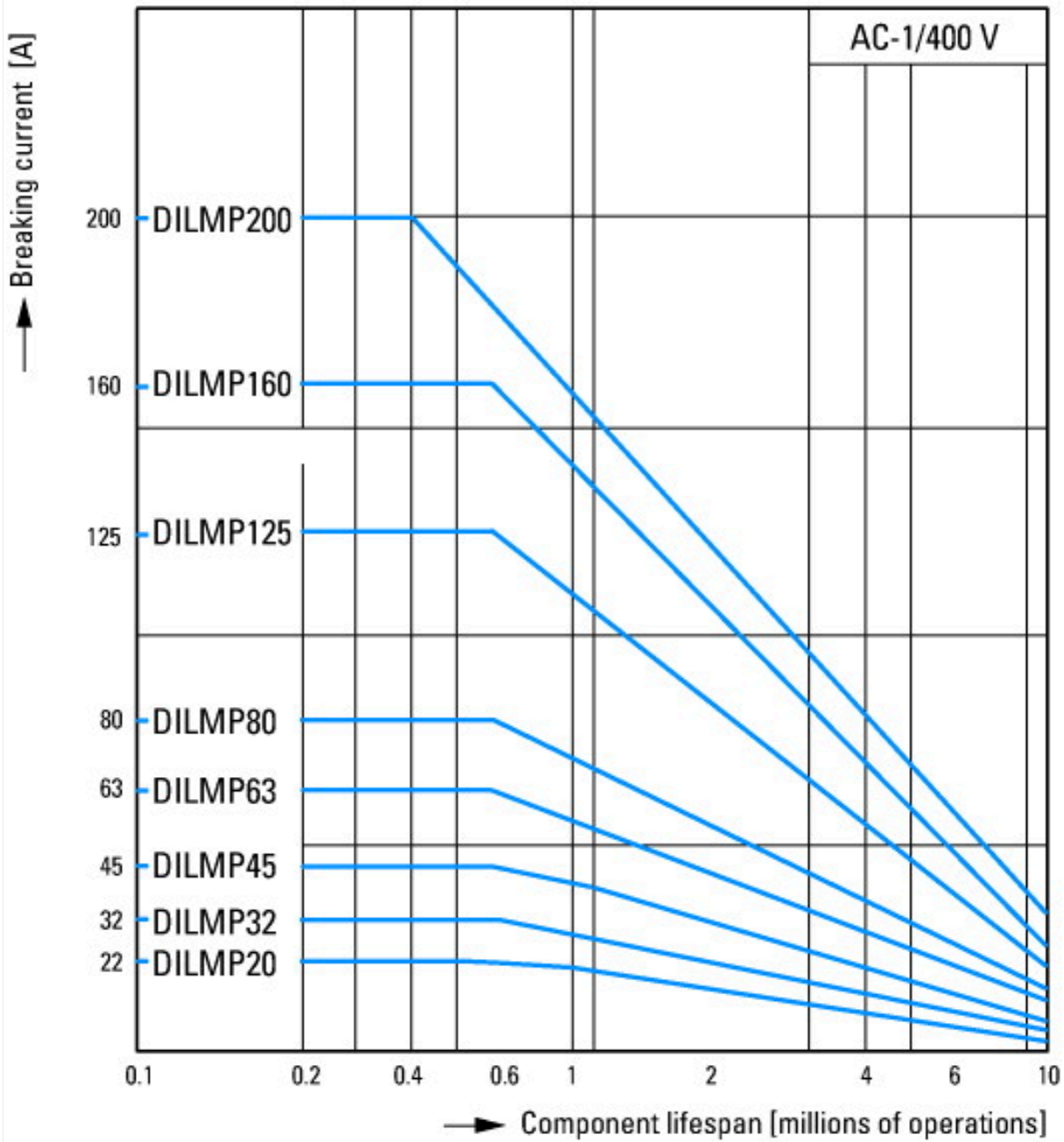
|   |    |                  |
|---|----|------------------|
| Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066)   |    |                  |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss10.0.1-27-37-10-03 [AAB718015]) |    |                  |
| Rated control supply voltage Us at AC 50HZ  | V  | 230 - 230        |
| Rated control supply voltage Us at AC 60HZ  | V  | 230 - 230        |
| Rated control supply voltage Us at DC   | V  | 0 - 0            |
| Voltage type for actuating  |    | AC               |
| Rated operation current Ie at AC-1, 400 V   | A  | 80               |
| Rated operation current Ie at AC-3, 400 V   | A  | 50               |
| Rated operation power at AC-3, 400 V  | kW | 22               |
| Rated operation current Ie at AC-4, 400 V   | A  | 40               |
| Rated operation power at AC-4, 400 V  | kW | 20               |
| Rated operation power NEMA  | kW | 29.8             |
| Modular version   |    | No               |
| Number of auxiliary contacts as normally open contact   |    | 0                |
| 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                |
| 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

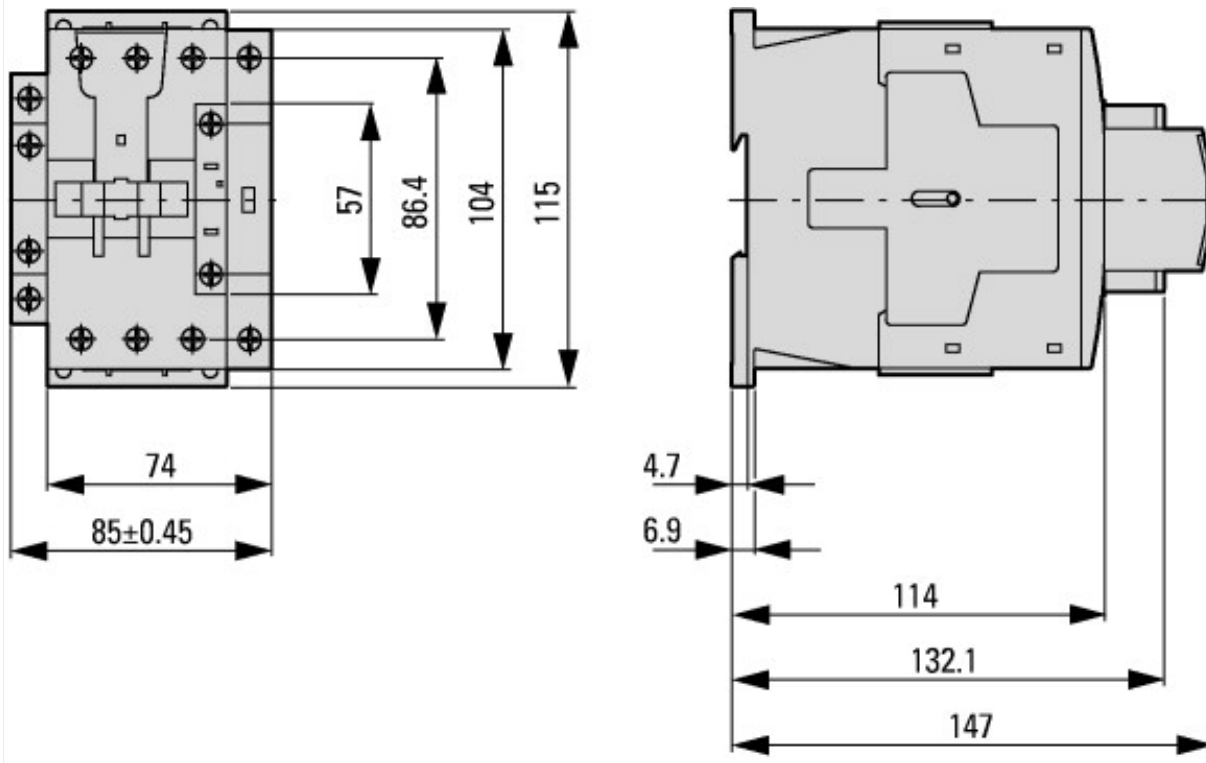




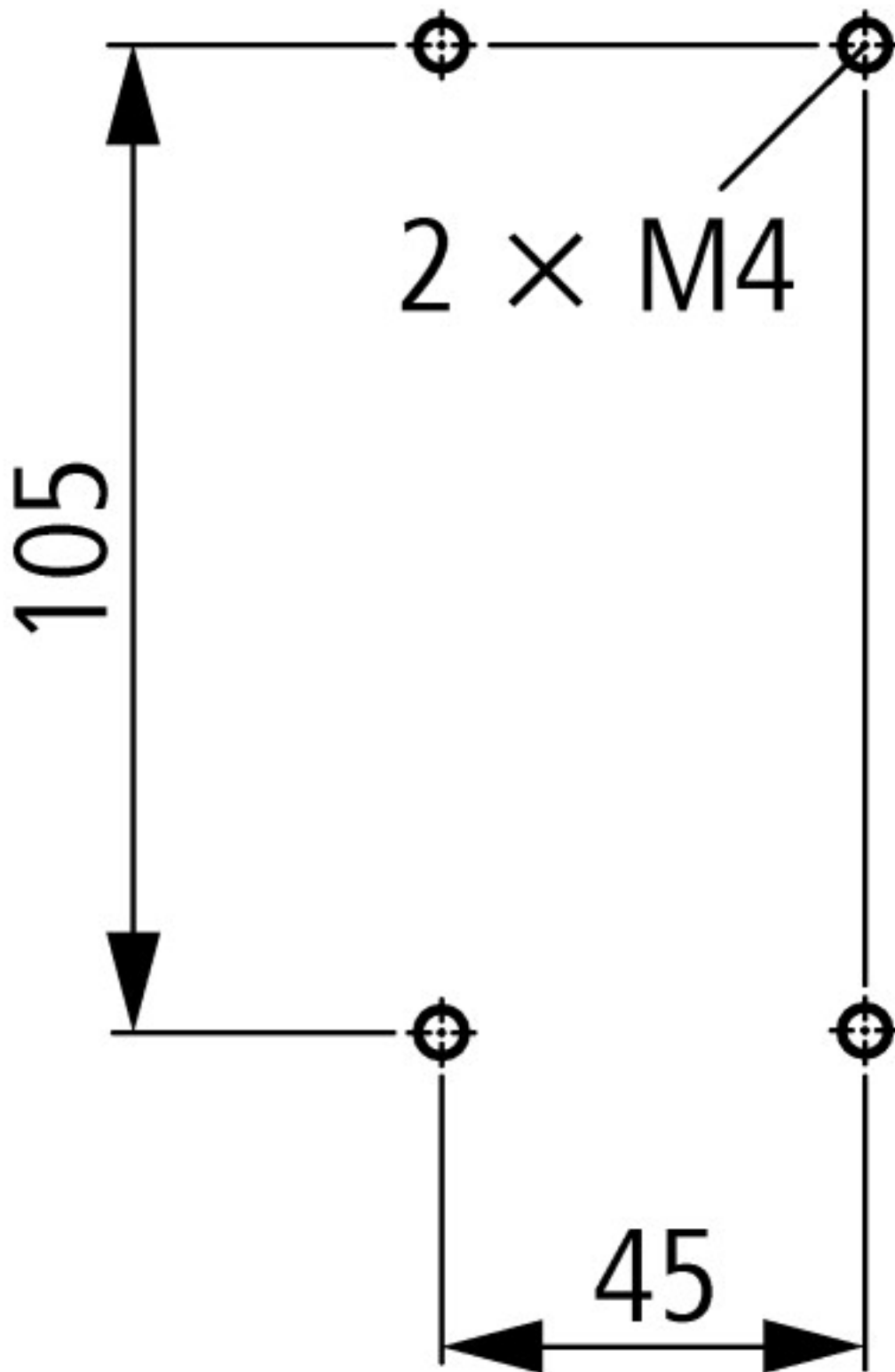
Switching conditions for 4 pole, non-motor loads  
 Operating characteristics  
 Non inductive and slightly inductive loads  
 Electrical characteristics  
 Switch on: 1 x rated operational current  
 Switch off: 1 x rated operational current  
 Utilization category  
 100 % AC-1  
 Typical examples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



## Dimensions



Contactors



distance at side to earthed parts: 6 mm

DILMP63  
DILMP80

### Additional product information (links)

|  |   |
|--|---|
| 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 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>   |

