



**Contactor, 3p+1N/O, 7.5kW/400V/AC3**

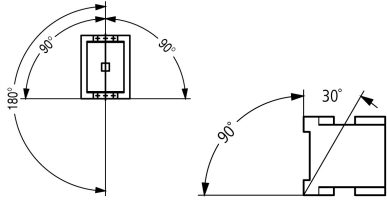
**Part no. DILM17-10(240V50HZ)**  
**Article no. 276993**  
**Catalog No. XTCE018C10H5**

## Delivery program

|   |                |    |  |
|---|----------------|----|--|
| Product range   |                |    | Contactors   |
| Application   |                |    | Contactors for Motors  |
| Subrange  |                |    | Contactors up to 170 A, 3 pole   |
| Utilization category                                      |                |    | AC-1: Non-inductive or slightly inductive loads, resistance furnaces<br>NAC-3: Normal AC induction motors: starting, switch off during running<br>AC-4: Normal AC induction motors: starting, plugging, reversing, inching |
|   |                |    |  |
| Notes   |                |    | Also suitable for motors with efficiency class IE3.<br>IE3-ready devices are identified by the logo on their packaging.  |
| Connection technique                                      |                |    | Screw terminals  |
| Number of poles   |                |    | 3 pole   |
| <b>Rated operational current</b>                          |                |    |  |
| AC-3  |                |    |  |
| 380 V 400 V   | $I_e$          | A  | 18   |
| AC-1  |                |    |  |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz |                |    |  |
| Open  |                |    |  |
| at 40 °C  | $I_{th} = I_e$ | A  | 40   |
| enclosed  | $I_{th}$       | A  | 32   |
| Conventional free air thermal current, 1 pole             |                |    |  |
| open  | $I_{th}$       | A  | 88   |
| enclosed  | $I_{th}$       | A  | 80   |
| <b>Max. rating for three-phase motors, 50 - 60 Hz</b>     |                |    |  |
| AC-3  |                |    |  |
| 220 V 230 V   | P              | kW | 5  |
| 380 V 400 V   | P              | kW | 7.5  |
| 660 V 690 V   | P              | kW | 11   |
| AC-4  |                |    |  |
| 220 V 230 V   | P              | kW | 2.5  |
| 380 V 400 V   | P              | kW | 4.5  |
| 660 V 690 V   | P              | kW | 6.5  |
| <b>Contacts</b>   |                |    |  |
| N/O = Normally open                                       |                |    | 1 N/O  |
| Contact sequence  |                |    |  |
| <b>Instructions</b>                                       |                |    |  |
| Can be combined with auxiliary contact                    |                |    | DILM32-XHI..<br>DILA-XHI(V)..  |
| Voltage AC/DC   |                |    | AC operation   |

## Technical data

|                      |            |                   |                                 |
|----------------------|------------|-------------------|---------------------------------|
| <b>General</b>       |            |                   |                                 |
| Standards            |            |                   | IEC/EN 60947, VDE 0660, UL, CSA |
| Lifespan, mechanical |            |                   |                                 |
| AC operated          | Operations | x 10 <sup>6</sup> | 10                              |

|  |              |                   |  |
|--|--------------|-------------------|--|
| DC operated  | Operations   | x 10 <sup>6</sup> | 10   |
| <b>Operating frequency, mechanical</b>                                       |              |                   |  |
| AC operated  | Operations/h |                   | 5000   |
| DC operated  | Operations/h |                   | 5000   |
| <b>Climatic proofing</b>   |              |                   |  |
|  |              |                   | Damp heat, constant, to IEC 60068-2-78<br>Damp heat, cyclic, to IEC 60068-2-30     |
| <b>Ambient temperature</b>   |              |                   |  |
| Open   |              | °C                | -25 - +60  |
| Enclosed   |              | °C                | - 25 - 40  |
| Storage  |              | °C                | - 40 - 80  |
| <b>Mounting position</b>   |              |                   |  |
|  |              |                   |  |
| <b>Mechanical shock resistance (IEC/EN 60068-2-27)</b>                       |              |                   |  |
| Half-sinusoidal shock, 10 ms   |              |                   |  |
| <b>Main contacts</b>   |              |                   |  |
| N/O contact  |              | g                 | 10   |
| <b>Auxiliary contacts</b>  |              |                   |  |
| N/O contact  |              | g                 | 7  |
| N/C contact  |              | g                 | 5  |
| <b>Mechanical shock resistance (IEC/EN 60068-2-27) when tabletop-mounted</b> |              |                   |  |
| Half-sinusoidal shock, 10 ms   |              |                   |  |
| <b>Main contacts</b>   |              |                   |  |
| N/O contact  |              | g                 | 6.9  |
| <b>Auxiliary contacts</b>  |              |                   |  |
| N/O contact  |              | g                 | 5.3  |
| N/C contact  |              | g                 | 3.5  |
| <b>Degree of Protection</b>  |              |                   | IP00   |
| <b>Protection against direct contact when actuated from front (EN 50274)</b> |              |                   | Finger and back-of-hand proof  |
| <b>Weight</b>  |              |                   |  |
| AC operated  |              | kg                | 0.42   |
| DC operated  |              | kg                | 0.48   |
| <b>Terminal capacity main cable</b>  |              |                   |  |
| Solid  |              | mm <sup>2</sup>   | 1 x (0.75 - 16)<br>2 x (0.75 - 10)   |
| Flexible with ferrule  |              | mm <sup>2</sup>   | 1 x (0.75 - 16)<br>2 x (0.75 - 10)   |
| Stranded   |              | mm <sup>2</sup>   | 1 x 16   |
| Solid or stranded  |              | AWG               | 18 - 6   |
| <b>Main cable connection screw/bolt</b>                                      |              |                   | M5   |
| <b>Tightening torque</b>   |              |                   | Nm 3.2   |
| <b>Terminal capacity control circuit cables</b>                              |              |                   |  |
| 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 - 1.5)<br>2 x (0.75 - 1.5)   |
| Solid or stranded  |              | AWG               | 18 - 14  |
| <b>Control circuit cable connection screw/bolt</b>                           |              |                   | M3.5   |
| <b>Tightening torque</b>   |              |                   | Nm 1.2   |
| <b>Tool</b>  |              |                   |  |
| <b>Main cable</b>  |              |                   |  |
| Pozidriv screwdriver   |              | Size              | 2  |
| Standard screwdriver   |              | mm                | 0.8 x 5.5<br>1 x 6   |
| <b>Control circuit cables</b>  |              |                   |  |

|                      |      |                    |
|----------------------|------|--------------------|
| Pozidriv screwdriver | Size | 2                  |
| Standard screwdriver | mm   | 0.8 x 5.5<br>1 x 6 |

### Main conducting paths

|  |                |      |       |
|--|----------------|------|-------|
| Rated impulse withstand voltage        | $U_{imp}$      | V AC | 8000  |
| Overvoltage category/pollution degree  |                |      | III/3 |
| Rated insulation voltage               | $U_i$          | V AC | 690   |
| Rated operational voltage              | $U_e$          | V AC | 690   |
| Safe isolation to EN 61140             |                |      |       |
| between coil and contacts              |                | V AC | 440   |
| between the contacts                   |                | V AC | 440   |
| Making capacity (p.f. to IEC/EN 60947) |                |      |       |
|  | $U_D$ to 690 V | A    | 238   |
| Breaking capacity                      |                |      |       |
| 220 V 230 V                            |                | A    | 170   |
| 380 V 400 V                            |                | A    | 170   |
| 500 V                                  |                | A    | 170   |
| 660 V 690 V                            |                | A    | 120   |
| Short-circuit rating                   |                |      |       |
| Short-circuit protection maximum fuse  |                |      |       |
| Type "2" coordination                  |                |      |       |
| 400 V                                  | gG/gL 500 V    | A    | 35    |
| 690 V                                  | gG/gL 690 V    | A    | 35    |
| Type "1" coordination                  |                |      |       |
| 400 V                                  | gG/gL 500 V    | A    | 63    |
| 690 V                                  | gG/gL 690 V    | A    | 50    |

### AC

|   |                |     |     |
|---|----------------|-----|-----|
| AC-1  |                |     |     |
| Rated operational current                                 |                |     |     |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz |                |     |     |
| Open  |                |     |     |
| at 40 °C  | $I_{th} = I_e$ | A   | 40  |
| at 50 °C  | $I_{th} = I_e$ | A   | 38  |
| at 55 °C  | $I_{th} = I_e$ | A   | 37  |
| at 60 °C  | $I_{th} = I_e$ | A   | 35  |
| enclosed  | $I_{th}$       | A   | 32  |
| Conventional free air thermal current, 1 pole             |                |     |     |
| open  | $I_{th}$       | A   | 88  |
| enclosed  | $I_{th}$       | A   | 80  |
| AC-3  |                |     |     |
| Rated operational current                                 |                |     |     |
| Open, 3-pole: 50 – 60 Hz                                  |                |     |     |
| 220 V 230 V   | $I_e$          | A   | 18  |
| 240 V   | $I_e$          | A   | 18  |
| 380 V 400 V   | $I_e$          | A   | 18  |
| 415 V   | $I_e$          | A   | 18  |
| 440V  | $I_e$          | A   | 18  |
| 500 V   | $I_e$          | A   | 18  |
| 660 V 690 V   | $I_e$          | A   | 12  |
| 380 V 400 V   | $I_e$          | A   | 18  |
| Motor rating  | P              | kWh |     |
| 220 V 230 V   | P              | kW  | 5   |
| 240V  | P              | kW  | 5.5 |
| 380 V 400 V   | P              | kW  | 7.5 |
| 415 V   | P              | kW  | 10  |

|                          |                |    |      |
|--------------------------|----------------|----|------|
| 440 V                    | P              | kW | 10.5 |
| 500 V                    | P              | kW | 12   |
| 660 V 690 V              | P              | kW | 11   |
| <b>AC-4</b>              |                |    |      |
| Open, 3-pole: 50 – 60 Hz |                |    |      |
| 220 V 230 V              | I <sub>e</sub> | A  | 10   |
| 240 V                    | I <sub>e</sub> | A  | 10   |
| 380 V 400 V              | I <sub>e</sub> | A  | 10   |
| 415 V                    | I <sub>e</sub> | A  | 10   |
| 440 V                    | I <sub>e</sub> | A  | 10   |
| 500 V                    | I <sub>e</sub> | A  | 10   |
| 660 V 690 V              | I <sub>e</sub> | A  | 8    |
| <b>Motor rating</b>      |                |    |      |
| 220 V 230 V              | P              | kW | 2.5  |
| 240 V                    | P              | kW | 3    |
| 380 V 400 V              | P              | kW | 4.5  |
| 415 V                    | P              | kW | 5    |
| 440 V                    | P              | kW | 5.5  |
| 500 V                    | P              | kW | 6    |
| 660 V 690 V              | P              | kW | 6.5  |

## DC

|  |                |   |     |
|--|----------------|---|-----|
| <b>Rated operational current, open</b> |                |   |     |
| <b>DC-1</b>                            |                |   |     |
| 60 V                                   | I <sub>e</sub> | A | 35  |
| 110 V                                  | I <sub>e</sub> | A | 35  |
| 220 V                                  | I <sub>e</sub> | A | 35  |
| 440 V                                  | I <sub>e</sub> | A | 2.9 |
| <b>DC-3</b>                            |                |   |     |
| 60 V                                   | I <sub>e</sub> | A | 35  |
| 110 V                                  | I <sub>e</sub> | A | 35  |
| 220 V                                  | I <sub>e</sub> | A | 10  |
| 440 V                                  | I <sub>e</sub> | A | 0.6 |
| <b>DC-5</b>                            |                |   |     |
| 60 V                                   | I <sub>e</sub> | A | 35  |
| 110 V                                  | I <sub>e</sub> | A | 35  |
| 220 V                                  | I <sub>e</sub> | A | 10  |
| 440 V                                  | I <sub>e</sub> | A | 0.6 |

## Current heat loss

|   |  |    |     |
|---|--|----|-----|
| 3-pole at I <sub>th</sub>                         |  | W  | 8.7 |
| Current heat loss at I <sub>e</sub> to AC-3/400 V |  | W  | 2.1 |
| Impedance per pole                                |  | mΩ | 2.7 |

## Magnet systems

|  |   |                  |            |
|--|---|------------------|------------|
| <b>Voltage tolerance</b>   |   |                  |            |
| AC operated  | Pick-up   | x U <sub>c</sub> | 0.8 - 1.1  |
| Drop-out voltage AC operated   | Drop-out  | x U <sub>c</sub> | 0.3 - 0.6  |
| DC operated  | Pick-up   | x U <sub>c</sub> | 0.7 - 1.2  |
| DC operated  | Drop-out  | x U <sub>c</sub> | 0.15 - 0.6 |
| Notes  | at least smoothed two-phase bridge rectifier or three-phase rectifier |                  |            |
| <b>Power consumption of the coil in a cold state and 1.0 x U<sub>c</sub></b> |   |                  |            |
| 50 Hz  | Pick-up   | VA               | 52         |
| 50 Hz  | Sealing   | VA               | 7.1        |
| 50 Hz  | Sealing   | W                | 2.1        |
| 60 Hz  | Pick-up   | VA               | 67         |
| 60 Hz  | Sealing   | VA               | 8.7        |

|   |         |                   |   |
|---|---------|-------------------|---|
| 60 Hz   | Sealing | W                 | 2.6   |
| 50/60 Hz  | Pick-up | VA                | 62<br>58  |
| 50/60 Hz  | Sealing | VA                | 9.1<br>6.5  |
| 50/60 Hz  | Sealing | W                 | 2.5<br>2  |
| DC operated   | Pick-up | W                 | 12  |
| DC operated   | Sealing | W                 | 0.5   |
| Duty factor   |         | % DF              | 100   |
| Changeover time at 100 % U <sub>C</sub> (recommended value) |         |                   |   |
| Main contacts   |         |                   |   |
| AC operated   |         |                   |   |
| Closing delay   |         | ms                | 16 - 22   |
| Opening delay   |         | ms                | 8 - 14  |
| DC operated   |         |                   |   |
| Closing delay   |         | ms                | 47  |
| Opening delay   |         | ms                | 30  |
| Arcing time   |         | ms                | 10  |
| Lifespan, mechanical; Coil 50/60 Hz                         |         | x 10 <sup>6</sup> | Mechanical lifespan at 50 Hz approx. 30% lower than under "Technical data, general" |

### Electromagnetic compatibility (EMC)

|                       |  |  |               |
|-----------------------|--|--|---------------|
| Emitted interference  |  |  | to EN 60947-1 |
| Interference immunity |  |  | to EN 60947-1 |

### Design verification as per IEC/EN 61439

|  |                   |    |  |
|--|-------------------|----|--|
| Technical data for design verification   |                   |    |  |
| Rated operational current for specified heat dissipation   | I <sub>n</sub>    | A  | 18   |
| Heat dissipation per pole, current-dependent   | P <sub>vid</sub>  | W  | 0.7  |
| Equipment heat dissipation, current-dependent  | P <sub>vid</sub>  | W  | 2.1  |
| Static heat dissipation, non-current-dependent   | P <sub>vs</sub>   | W  | 2.1  |
| Heat dissipation capacity  | P <sub>diss</sub> | 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   |                   |    |  |
| 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 6.0

|  |    |                  |
|--|----|------------------|
| 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@ss8.1-27-37-10-03 [AAB718012]) |    |                  |
| Rated control supply voltage Us at AC 50HZ   | V  | 240 - 240        |
| Rated control supply voltage Us at AC 60HZ   | V  | 0 - 0            |
| 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  | 40               |
| Rated operation current Ie at AC-3, 400 V  | A  | 18               |
| Rated operation power at AC-3, 400 V   | kW | 7.5              |
| Rated operation current Ie at AC-4, 400 V  | A  | 10               |
| Rated operation power Ie at AC-4, 400 V  | kW | 4.5              |
| Modular version  |    | No               |
| Number of auxiliary contacts as normally open contact  |    | 1                |
| Number of auxiliary contacts as normally closed contact  |    | 0                |
| Type of electrical connection of main circuit  |    | Screw connection |
| Number of normally closed contacts as main contact   |    | 0                |
| Number of main contacts as normally open contact   |    | 3                |

## Approvals

|                                      |  |   |
|--------------------------------------|--|---|
| Product Standards                    |  | IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking |
| UL File No.                          |  | E29096  |
| UL Category Control No.              |  | NLDX  |
| CSA File No.                         |  | 012528  |
| CSA Class No.                        |  | 2411-03, 3211-04  |
| North America Certification          |  | UL listed, CSA certified                                  |
| Specially designed for North America |  | No  |



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

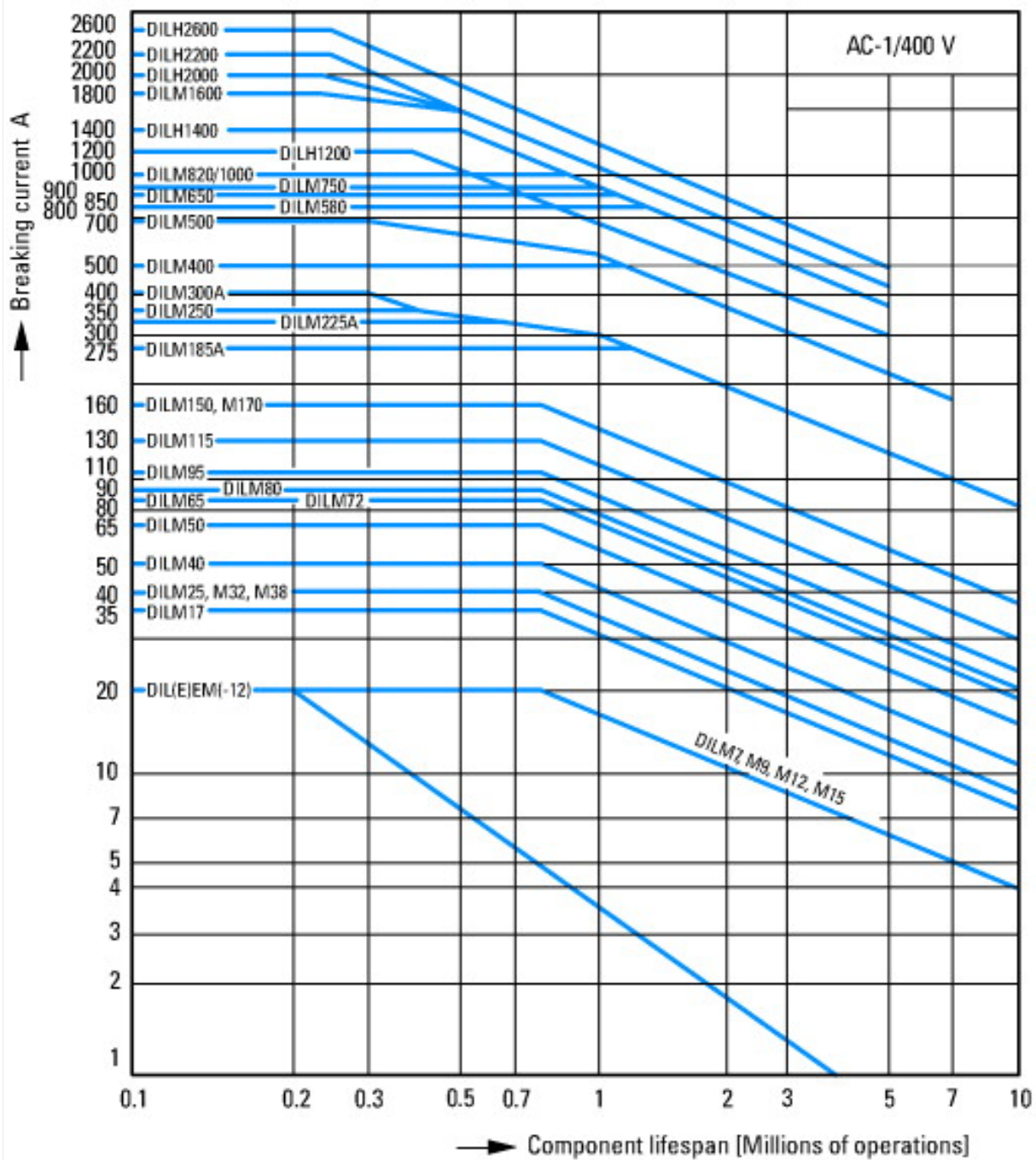


- Squirrel-cage motor
- Operating characteristics
- Starting: from rest
- Stopping: after attaining full running speed
- Electrical characteristics
- Make: up to 6 x rated motor current
- Break: up to 1 x rated motor current
- Utilization category
- 100 % AC-3
- Typical applications
- Compressors
- Lifts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





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



Switching conditions for non-motor consumers, 3 pole, 4 pole  
 Operating characteristics  
 Non inductive and slightly inductive loads  
 Electrical characteristics  
 Switch on: 1 x rated operational current  
 Switch off: 1 x rated operational current  
 Utilization category  
 100 % AC-1  
 Typical examples of application  
 Electric heat

## Dimensions



Contacteur with auxiliary contact module



Lateral clearance to earthed parts: 6 mm

### Additional product information (links)

#### IL03407014Z (AWA2100-2127) Contactor

|  |   |
|--|---|
| IL03407014Z (AWA2100-2127) Contactor   | <a href="ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407014Z2012_03.pdf">ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407014Z2012_03.pdf</a> |
| UL/CSA: Approved rating data   | <a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&amp;startpage=5.84">http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&amp;startpage=5.84</a>             |
| UL/CSA: UL/CSA: Special Purpose Rating   | <a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&amp;startpage=5.85">http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&amp;startpage=5.85</a>             |
| UL/CSA: UL/CSA: Short Circuit Current Rating (SCCR)  | <a href="http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&amp;startpage=5.86">http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&amp;startpage=5.86</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> |
| Motor starters and "Special Purpose Ratings" for the North American market                     | <a href="http://www.moeller.net/binary/ver_techpapers/ver953en.pdf">http://www.moeller.net/binary/ver_techpapers/ver953en.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> |