



Contactor, 3p+1N/C, 11kW/400V/AC3

Part no. DILM25-01(230V50HZ,240V60HZ)
Article no. 277164
Catalog No. XTCE025C01F

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 NAC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching |
| | | | |
| Notes | | | Also suitable for motors with efficiency class IE3. IE3-ready devices are identified by the logo on their packaging. |
| Connection technique | | | Screw terminals |
| Number of poles | | | 3 pole |
| Rated operational current | | | |
| AC-3 | | | |
| 380 V 400 V | I_e | A | 25 |
| AC-1 | | | |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz | | | |
| Open | | | |
| at 40 °C | $I_{th} = I_e$ | A | 45 |
| enclosed | I_{th} | A | 36 |
| Conventional free air thermal current, 1 pole | | | |
| open | I_{th} | A | 100 |
| enclosed | I_{th} | A | 90 |
| Max. rating for three-phase motors, 50 - 60 Hz | | | |
| AC-3 | | | |
| 220 V 230 V | P | kW | 7.5 |
| 380 V 400 V | P | kW | 11 |
| 660 V 690 V | P | kW | 14 |
| AC-4 | | | |
| 220 V 230 V | P | kW | 3.5 |
| 380 V 400 V | P | kW | 6 |
| 660 V 690 V | P | kW | 8.5 |
| Contacts | | | |
| N/C = Normally closed | | | 1 NC |
| Contact sequence | | | |
| Instructions | | | Contacts to EN 50012. with mirror contact. |
| Can be combined with auxiliary contact | | | DILA-XHI(V).. DILM32-XHI11-S |
| Voltage AC/DC | | | AC operation |

Technical data

| | | | |
|----------------|--|--|---------------------------------|
| General | | | |
| Standards | | | IEC/EN 60947, VDE 0660, UL, CSA |

| | | | |
|--|--------------|-----------------|--------------------------------------|
| Lifespan, mechanical | | | |
| AC operated | Operations | $\times 10^6$ | 10 |
| DC operated | Operations | $\times 10^6$ | 10 |
| Operating frequency, mechanical | | | |
| AC operated | Operations/h | | 5000 |
| DC operated | Operations/h | | 5000 |
| Climatic proofing | | | |
| Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30 | | | |
| Ambient temperature | | | |
| Open | | °C | -25 - +60 |
| Enclosed | | °C | - 25 - 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 | 7 |
| N/C contact | | g | 5 |
| Mechanical shock resistance (IEC/EN 60068-2-27) when tabletop-mounted | | | |
| Half-sinusoidal shock, 10 ms | | | |
| Main contacts | | | |
| N/O contact | | g | 6.9 |
| Auxiliary contacts | | | |
| N/O contact | | g | 5.3 |
| N/C contact | | g | 3.5 |
| Degree of Protection | | | |
| IP00 | | | |
| Protection against direct contact when actuated from front (EN 50274) | | | |
| Finger and back-of-hand proof | | | |
| Weight | | | |
| AC operated | | kg | 0.42 |
| DC operated | | kg | 0.48 |
| Terminal capacity main cable | | | |
| Solid | | mm ² | 1 x (0.75 - 16) 2 x (0.75 - 10) |
| Flexible with ferrule | | mm ² | 1 x (0.75 - 16) 2 x (0.75 - 10) |
| Stranded | | mm ² | 1 x 16 |
| Solid or stranded | | AWG | 18 - 6 |
| Main cable connection screw/bolt | | | |
| M5 | | | |
| Tightening torque | | | |
| Nm 3.2 | | | |
| Terminal capacity control circuit cables | | | |
| Solid | | mm ² | 1 x (0.75 - 4) 2 x (0.75 - 4) |
| Flexible with ferrule | | mm ² | 1 x (0.75 - 2.5) 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 | | | |
| Pozidriv screwdriver | | Size | 2 |

| | | | |
|------------------------|--|------|--------------------|
| Standard screwdriver | | mm | 0.8 x 5.5 1 x 6 |
| Control circuit cables | | | |
| Pozidriv screwdriver | | Size | 2 |
| Standard screwdriver | | mm | 0.8 x 5.5 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_p to 690 V | A | 350 |
| Breaking capacity | | | |
| 220 V 230 V | | A | 250 |
| 380 V 400 V | | A | 250 |
| 500 V | | A | 250 |
| 660 V 690 V | | A | 150 |
| 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 | 100 |
| 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 | 45 |
| at 50 °C | $I_{th} = I_e$ | A | 43 |
| at 55 °C | $I_{th} = I_e$ | A | 42 |
| at 60 °C | $I_{th} = I_e$ | A | 40 |
| enclosed | I_{th} | A | 36 |
| Conventional free air thermal current, 1 pole | | | |
| open | I_{th} | A | 100 |
| enclosed | I_{th} | A | 90 |
| AC-3 | | | |
| Rated operational current | | | |
| Open, 3-pole: 50 – 60 Hz | | | |
| 220 V 230 V | I_e | A | 25 |
| 240 V | I_e | A | 25 |
| 380 V 400 V | I_e | A | 25 |
| 415 V | I_e | A | 25 |
| 440V | I_e | A | 25 |
| 500 V | I_e | A | 25 |
| 660 V 690 V | I_e | A | 15 |
| 380 V 400 V | I_e | A | 25 |
| Motor rating | P | kWh | |
| 220 V 230 V | P | kW | 7.5 |

| | | | |
|--------------------------|-------|----|------|
| 240 V | P | kW | 8.5 |
| 380 V 400 V | P | kW | 11 |
| 415 V | P | kW | 14.5 |
| 440 V | P | kW | 15.5 |
| 500 V | P | kW | 17.5 |
| 660 V 690 V | P | kW | 14 |
| AC-4 | | | |
| Open, 3-pole: 50 – 60 Hz | | | |
| 220 V 230 V | I_e | A | 13 |
| 240 V | I_e | A | 13 |
| 380 V 400 V | I_e | A | 13 |
| 415 V | I_e | A | 13 |
| 440 V | I_e | A | 13 |
| 500 V | I_e | A | 13 |
| 660 V 690 V | I_e | A | 10 |
| Motor rating | | | |
| 220 V 230 V | P | kW | 3.5 |
| 240 V | P | kW | 4 |
| 380 V 400 V | P | kW | 6 |
| 415 V | P | kW | 6.5 |
| 440 V | P | kW | 7 |
| 500 V | P | kW | 8 |
| 660 V 690 V | P | kW | 8.5 |

DC

| | | | |
|---------------------------------|-------|---|-----|
| Rated operational current, open | | | |
| DC-1 | | | |
| 60 V | I_e | A | 40 |
| 110 V | I_e | A | 40 |
| 220 V | I_e | A | 40 |
| 440 V | I_e | A | 2.9 |
| DC-3 | | | |
| 60 V | I_e | A | 35 |
| 110 V | I_e | A | 35 |
| 220 V | I_e | A | 10 |
| 440 V | I_e | A | 0.6 |
| DC-5 | | | |
| 60 V | I_e | A | 35 |
| 110 V | I_e | A | 35 |
| 220 V | I_e | A | 10 |
| 440 V | I_e | A | 0.6 |

Current heat loss

| | | | |
|--|--|------------|------|
| 3-pole at I_{th} | | W | 11.4 |
| Current heat loss at I_e to AC-3/400 V | | W | 4.2 |
| Impedance per pole | | m Ω | 2.7 |

Magnet systems

| | | | |
|--|----------|---------|---|
| Voltage tolerance | | | |
| AC operated | Pick-up | x U_c | 0.8 - 1.1 |
| Drop-out voltage AC operated | Drop-out | x U_c | 0.3 - 0.6 |
| DC operated | Pick-up | x U_c | 0.7 - 1.2 |
| DC operated | Drop-out | x U_c | 0.15 - 0.6 |
| Notes | | | at least smoothed two-phase bridge rectifier or three-phase rectifier |
| Power consumption of the coil in a cold state and $1.0 \times U_c$ | | | |
| 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 58 |
| 50/60 Hz | Sealing | VA | 9.1 6.5 |
| 50/60 Hz | Sealing | W | 2.5 2 |
| DC operated | Pick-up | W | 12 |
| DC operated | Sealing | W | 0.5 |
| Duty factor | | % DF | 100 |
| Changeover time at 100 % U _C (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 ⁶ | 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 _n | A | 25 |
| Heat dissipation per pole, current-dependent | P _{vid} | W | 1.4 |
| Equipment heat dissipation, current-dependent | P _{vid} | W | 4.2 |
| Static heat dissipation, non-current-dependent | P _{vs} | W | 2.1 |
| 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 | | | |
| 10.2.2.1 Verification of thermal stability of enclosures | | | Meets the product standard's requirements. |
| 10.2.2.2 Verification of resistance of insulating materials to normal heat | | | Meets the product standard's requirements. |
| 10.2.2.3 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 | 230 - 230 |
| Rated control supply voltage Us at AC 60HZ | V | 240 - 240 |
| 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 | 45 |
| Rated operation current Ie at AC-3, 400 V | A | 25 |
| Rated operation power at AC-3, 400 V | kW | 11 |
| Rated operation current Ie at AC-4, 400 V | A | 13 |
| Rated operation power Ie at AC-4, 400 V | kW | 6 |
| Modular version | | No |
| Number of auxiliary contacts as normally open contact | | 0 |
| Number of auxiliary contacts as normally closed contact | | 1 |
| Type of electrical connection of main circuit | | Screw connection |
| Number of normally closed contacts as main contact | | 0 |
| Number of main contacts as normally open contact | | 3 |

Approvals

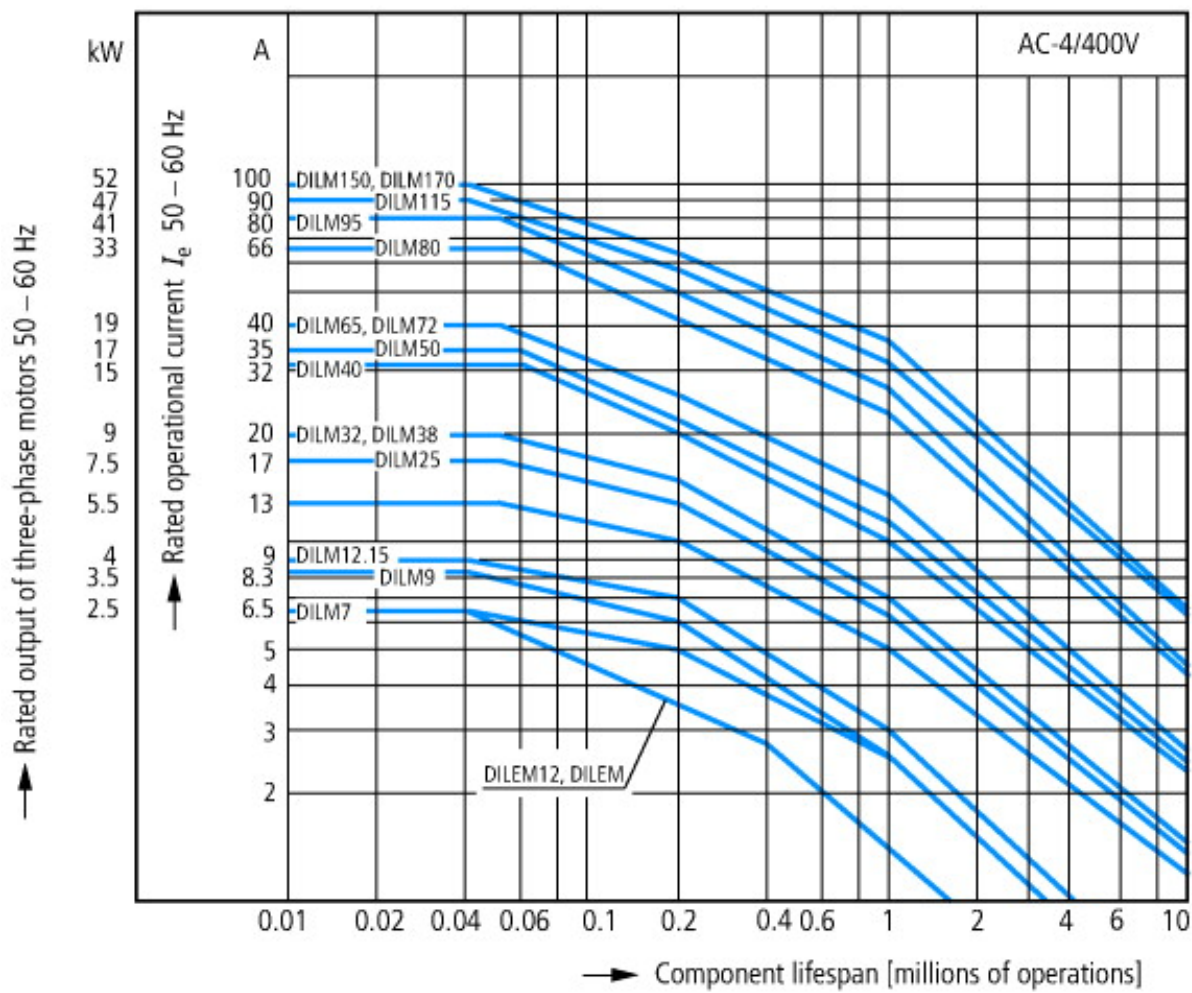
| | | |
|--------------------------------------|--|---|
| Product Standards | | IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking |
| UL File No. | | E29096 |
| UL Category Control No. | | NLDX |
| CSA File No. | | 012528 |
| CSA Class No. | | 2411-03, 3211-04 |
| North America Certification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

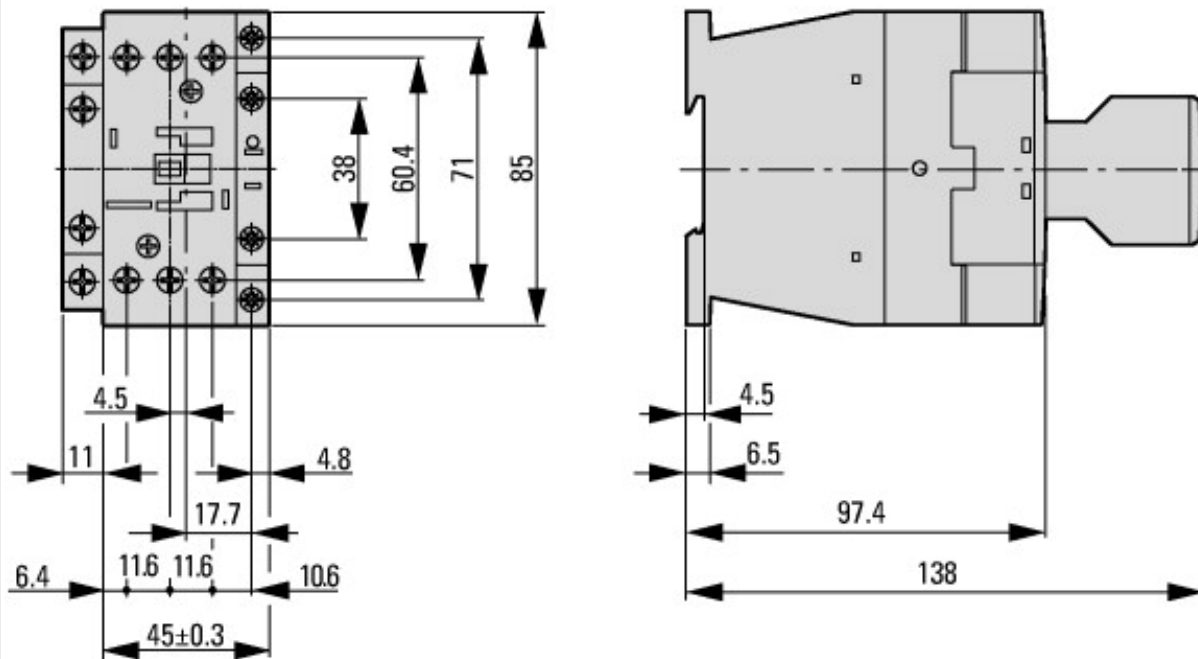


Extreme switching duty
 Squirrel-cage motor
 Operating characteristics
 Inching, plugging, reversing
 Electrical characteristics
 Make: up to 6 x rated motor current
 Break: up to 6 x rated motor current
 Utilization category
 100 % AC-4
 Typical applications
 Printing presses
 Wire-drawing machines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

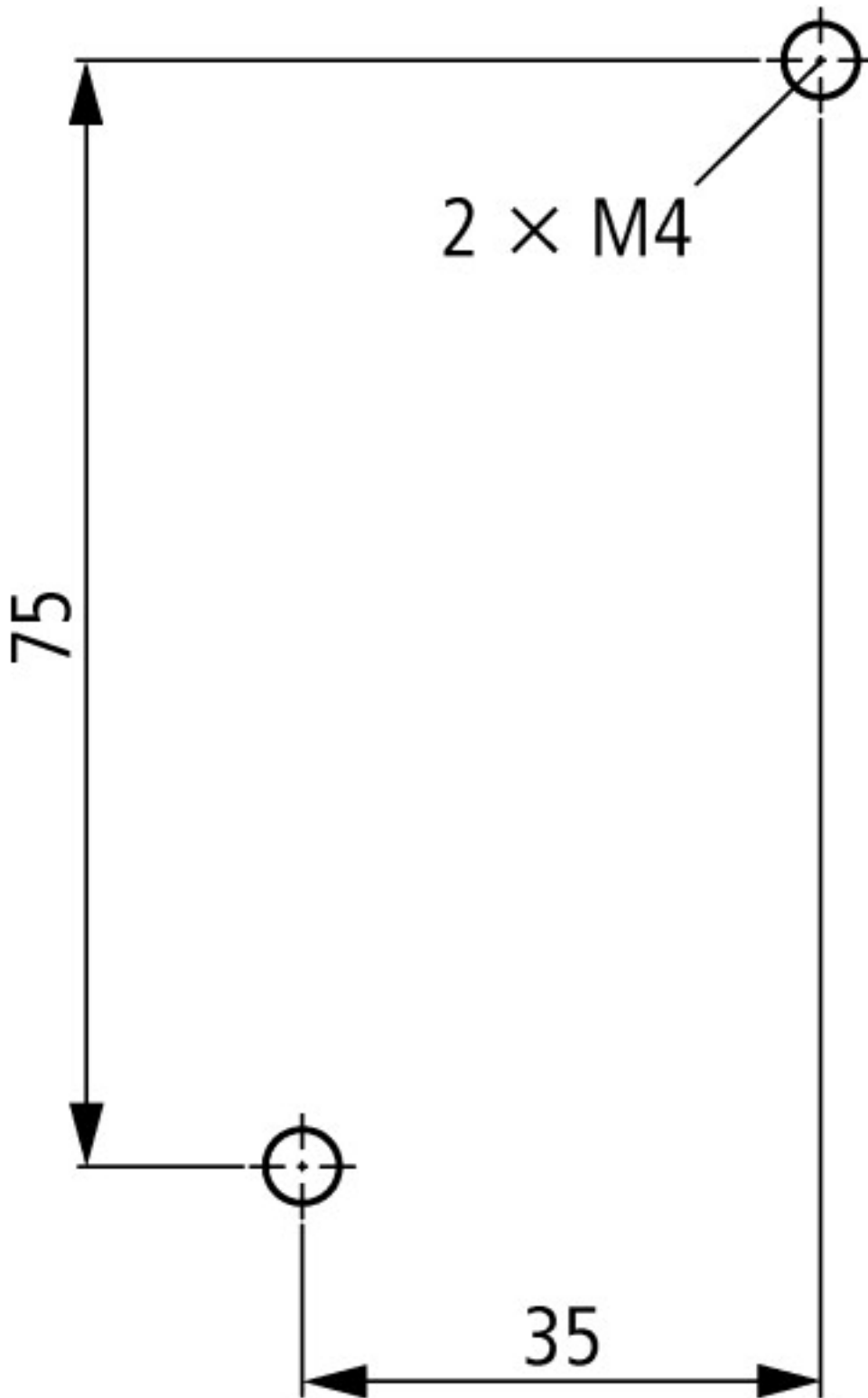


Switching conditions for non-motor consumers, 3 pole, 4 pole
 Operating characteristics
 Non inductive and slightly inductive loads
 Electrical characteristics
 Switch on: 1 x rated operational current
 Switch off: 1 x rated operational current
 Utilization category
 100 % AC-1
 Typical examples of application
 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 | ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407014Z2012_03.pdf |
| UL/CSA: Approved rating data | http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&startpage=5.84 |
| UL/CSA: UL/CSA: Special Purpose Rating | http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&startpage=5.85 |
| UL/CSA: UL/CSA: Short Circuit Current Rating (SCCR) | http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&startpage=5.86 |
| Switchgear of Power Factor Correction Systems | http://www.moeller.net/binary/ver_techpapers/ver934en.pdf |
| X-Start - Modern Switching Installations Efficiently Fitted and Wired Securely | http://www.moeller.net/binary/ver_techpapers/ver938en.pdf |
| Mirror Contacts for Highly-Reliable Information Relating to Safety-Related Control Functions | http://www.moeller.net/binary/ver_techpapers/ver944en.pdf |

| | |
|--|---|
| Effect of the Cable Capacitance of Long Control Cables on the Actuation of Contactors | http://www.moeller.net/binary/ver_techpapers/ver949en.pdf |
| Motor starters and "Special Purpose Ratings" for the North American market | http://www.moeller.net/binary/ver_techpapers/ver953en.pdf |
| Switchgear for Luminaires | http://www.moeller.net/binary/ver_techpapers/ver955en.pdf |
| Standard Compliant and Functionally Safe Engineering Design with Mechanical Auxiliary Contacts | http://www.moeller.net/binary/ver_techpapers/ver956en.pdf |
| The Interaction of Contactors with PLCs | http://www.moeller.net/binary/ver_techpapers/ver957en.pdf |
| Busbar Component Adapters for modern Industrial control panels | http://www.moeller.net/binary/ver_techpapers/ver960en.pdf |