

Type: **DILM80(230V50HZ,240V60HZ)**
 Article No.: **239402**
 Sales text **Contactor,37kW/400V,AC operated**



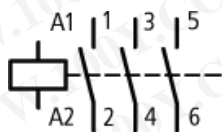
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| Ordering information | | | |
|---|----------------|----|---|
| Connection technique | | | Screw terminals |
| Description | | | 3 pole |
| Description | | | Springloaded terminals on the auxiliary and control circuit terminals |
| Rated operational current | | | |
| AC-3 380 V 400 V | I_e | A | 80 |
| Max. rating for three-phase motors, 50 – 60 Hz | | | |
| AC-3 220 V 230 V | P | kW | 25 |
| AC-3 380 V 400 V | P | kW | 37 |
| AC-3 660 V 690 V | P | kW | 63 |
| AC-4 220 V 230 V | P | kW | 12 |
| AC-4 380 V 400 V | P | kW | 20 |
| AC-4 660 V 690 V | P | kW | 26 |
| Conventional free air thermal current I_{th} = I_e AC-1 at 60 °C | | | |
| Open | $I_{th} = I_e$ | A | 90 |
| Contacts | | | |
| Can be combined with auxiliary contact | | | DILM150-XHI(V).. DILM1000-XHI(V).. |

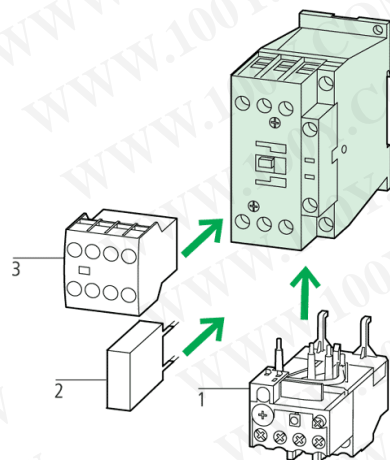
Actuating voltage

230 V 50 Hz, 240 V 60 Hz

Contact sequence



Notes concerning the product group



Accessories

1 Overload relay → [278442](#)

2 Suppressor → [281199](#)

3 Auxiliary contact module → [277376](#)

Further actuating voltages → [277379](#)

Accessories → [281227](#)

The DC operated contactors have integral suppressor circuits (DILM7 – DILM15: Varistor).

Contactors DILM115, DILM150 and DILM170 have a built-in suppressor circuit.

Mirror contact for DILM7–01 to DILM32–01

Contactors contact according to EN 50012

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 | | 3600 |
| DC operated | Operations/h | | 3600 |
| Climatic proofing | | | Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclical, to IEC 60068-2-30 |
| Ambient temperature | | | |
| Open | | °C | -25...60 |
| Enclosed | | °C | -25...40 |
| Storage | | °C | ... 40...+80 |
| 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 | | | |
| Thickness of material for busbar max. | | g | 10 |
| Auxiliary contacts | | | |
| Min. rated current = rated uninterrupted current | | g | 7 |
| N/C contact | | g | 5 |
| Protection type | | | IP00 |
| Protection against direct contact when actuated from front (IEC 536) | | | Finger- and back-of-hand proof |
| Weight | | | |
| AC operated | | kg | 2 |
| DC operated | | kg | 2,1 |
| Terminal capacity main cable | | | |
| Flexible with ferrule | | mm ² | 1 × (10 – 95) 2 × (10 – 70) |

| | | | |
|---|--|-----------------|--------------------------------------|
| Stranded | | mm ² | 1 × (16 – 95) 2 × (16 – 70) |
| Solid or stranded | | AWG | 8...3/0 |
| Flat conductor | Number of segments × width × thickness | mm | 2 × (6 × 16 × 0.8) |
| Main cable connection screw/bolt | | | M10 |
| Tightening torque | | Nm | 14 |
| Terminal capacity control circuit cables | | | |
| Solid | | mm ² | 1 × (0.75 – 4) 2 × (0.75 – 4) |
| Flexible with ferrule | | mm ² | 1 × (0.75 – 2.5) 2 × (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 | | | |
| Hexagon socket-head spanner | SW | mm | 5 |
| Control circuit cables | | | |
| Pozidriv screwdriver | | Size | 2 |
| Standard screwdriver | | mm | 0.8 × 5.5 1 × 6 |
| Terminal capacity control circuit cables | | | |
| Solid | | mm ² | 1 × (0.75 – 2.5) 2 × (0.75 – 2.5) |
| Flexible | | mm ² | 1 × (0.75 – 2.5) 2 × (0.75 – 2.5) |
| Flexible with ferrule | | mm ² | 1 × (0.75 – 1.5) 2 × (0.75 – 1.5) |
| Solid or stranded | | AWG | 18 – 14 |
| Tool | | | |
| Stripping length | | mm | 10 |
| Screwdriver blade width | | mm | 3,5 |
| Main conducting paths | | | |
| Rated impulse withstand voltage | U_{imp} | V AC | 8000 |
| Overtoltage category/pollution degree | | | III/3 |

| | | | |
|---|-------------|------|------|
| Rated insulation voltage | U_i | V AC | 1000 |
| Rated operational voltage | U_e | V AC | 1000 |
| Safe isolation to VDE 0106 Part 101 and Part 101/A1 | | | |
| between coil and contacts | | V AC | 690 |
| between the contacts | | V AC | 690 |
| Making capacity (p.f. to IEC/EN 60947) | | | |
| | Up to 690 V | A | 1120 |
| Breaking capacity | | | |
| 220/230 V | | A | 800 |
| 380/400 V | | A | 800 |
| 500 V | | A | 800 |
| 660/690 V | | A | 650 |
| Short-circuit rating | | | |
| Short-circuit protection maximum fuse | | | |
| Type "2" coordination | | | |
| 400 V | gG/gL 500 V | A | 160 |
| 690 V | gG/gL 690 V | A | 160 |
| Type "1" coordination | | | |
| 400 V | gG/gL 500 V | A | 250 |
| 690 V | gG/gL 690 V | A | 200 |
| AC | | | |
| AC-1 duty | | | |
| conv. therm. current 3 pole 50 – 60 Hz | | | |
| open | | | |
| at 40 °C | I_{th} | A | 110 |
| at 50 °C | I_{th} | A | 98 |
| at 55 °C | I_{th} | A | 94 |
| at 60 °C | I_{th} | A | 90 |
| enclosed | I_{th} | A | 80 |
| Conventional free air thermal current, 1 pole | | | |
| open | I_{th} | A | 225 |
| enclosed | I_{th} | A | 200 |
| AC-3 duty | | | |
| Rated operational current AC-3 open, 50 – 60 Hz, 3 pole | | | |

| | | | |
|--|-------|----|------|
| 220/230 V | I_e | A | 80 |
| 240 V | I_e | A | 80 |
| 380/400 V | I_e | A | 80 |
| 415 V | I_e | A | 80 |
| 440V | I_e | A | 80 |
| 500 V | I_e | A | 80 |
| 660/690 V | I_e | A | 65 |
| Motor rating | | | |
| 220/230 V | P | kW | 25 |
| 240V | P | kW | 27,5 |
| 380/400 V | P | kW | 37 |
| 415 V | P | kW | 48 |
| 440 V | P | kW | 51 |
| 500 V | P | kW | 58 |
| 660/690 V | P | kW | 63 |
| AC-4 duty | | | |
| Rated operational current AC-4 open, 50 – 60 Hz, 3 pole | | | |
| 220/230 V | I_e | A | 40 |
| 240 V | I_e | A | 40 |
| 380/400 V | I_e | A | 40 |
| 415 V | I_e | A | 40 |
| 440 V | I_e | A | 40 |
| 500 V | I_e | A | 40 |
| 660/690 V | I_e | A | 27 |
| Motor rating | | | |
| 220/230 V | P | kW | 12 |
| 240 V | P | kW | 13 |
| 380/400 V | P | kW | 20 |
| 415 V | P | kW | 24 |
| 440 V | P | kW | 25 |
| 500 V | P | kW | 29 |
| 660/690 V | P | kW | 26 |
| DC | | | |
| of three-phase capacitors open | | | |
| DC-1 operation | | | |
| 60 V | I_e | A | 110 |
| 110 V | I_e | A | 110 |
| 220 V | I_e | A | 70 |

| | | | |
|--|----------|--------------|--------------|
| 440 V | I_e | A | 4,5 |
| DC-3 operation | | | |
| 60 V | I_e | A | 110 |
| 110 V | I_e | A | 110 |
| 220 V | I_e | A | 35 |
| 440 V | I_e | A | 1 |
| DC-5 operation | | | |
| 60 V | I_e | A | 110 |
| 110 V | I_e | A | 110 |
| 220 V | I_e | A | 35 |
| 440 V | I_e | A | 1 |
| Current heat loss (3 pole) | | | |
| Current heat loss at I_{th} | | W | 12,2 |
| Current heat loss at I_e to AC-3/400 V | | W | 9,6 |
| Impedance per pole | | m | 0,5 |
| Magnet systems | | | |
| Voltage tolerance | | | |
| AC operated | Pick-up | $\times U_c$ | 0,8...1,1 |
| Drop-out voltage AC operated | Drop-out | $\times U_c$ | 0,3...0,6 |
| DC operated | Pick-up | $\times U_c$ | 0,7...1,2 |
| DC operated | Drop-out | $\times U_c$ | 0,15...0,6 |
| Power consumption of the coil in a cold state and $1.0 \times U_c$ | | | |
| 50 Hz | Pick-up | VA | 310 |
| 50 Hz | Sealing | VA | 26 |
| 50 Hz | Sealing | W | 5,8 |
| 60 Hz | Pick-up | VA | 345 |
| 60 Hz | Sealing | VA | 30 |
| 60 Hz | Sealing | W | 7,1 |
| 50/60 Hz | Pick-up | VA | 372 328 |
| 50/60 Hz | Sealing | VA | 37,1 22,6 |
| 50/60 Hz | Sealing | W | 7,5 6,1 |
| DC operated | Pick-up | W | 90 |
| DC operated | Sealing | W | 1.3 |
| Duty factor | | % DF | 100 |
| Switching times at 100 % U_c (approximate values) | | | |

| | | | |
|--|----------|----|---|
| Main contacts | | | |
| AC operated | | | |
| Closing delay | | ms | 14...20 |
| Opening delay | | ms | 9...14 |
| DC operated | | | |
| Closing delay | | ms | 45 |
| Opening delay | | ms | 34 |
| Arcing time | | ms | 15 |
| Permissible residual current with actuation of A1 – A2 by the electronics (with 0 signal). | | mA | 1 |
| Lifespan, mechanical; Coil 50/60 Hz | at 50 Hz | | Mechanical lifespan at 50 Hz approx. 30% lower than under “General” |

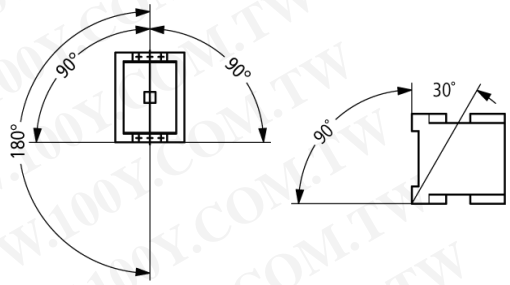
Electromagnetic compatibility (EMC)

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

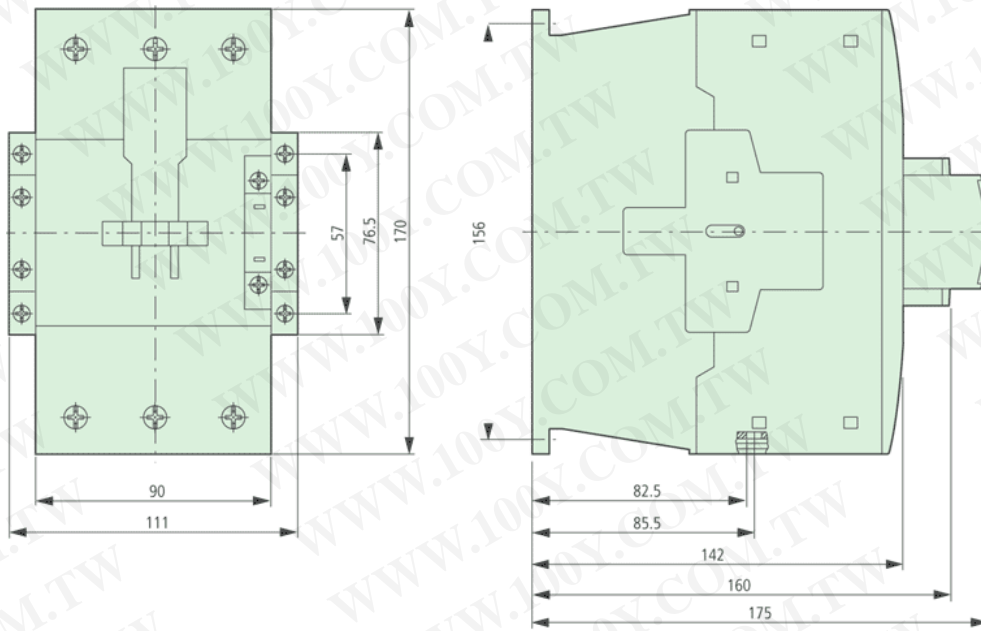
Notes

| | | | |
|--------------|--|--|--|
| | | | <p>The following applies to magnet systems, voltage tolerance, pickup voltage DC–operated DILM17 – DILM32:</p> <p>RDC 24 (Umin 24 V DC/Umax 27 V DC) RDC 60 (Umin 48 V DC/Umax 60 V DC) RDC 130 (Umin 110 V DC/Umax 130 V DC) RDC 240 (Umin 200 V DC/Umax 240 V DC)</p> <p>Example: $U_c = 0.7 \times U_{min} - 1.2 \times U_{max}$ $U_c = 0.7 \times 24 \text{ V} - 1.2 \times 27 \text{ V DC}$</p> <p>With voltage tolerance and DC operated power consumption the following applies: At least smoothed double–pulse bridge rectification or a three–phase current rectifier is necessary</p> |
| Notes | | | |

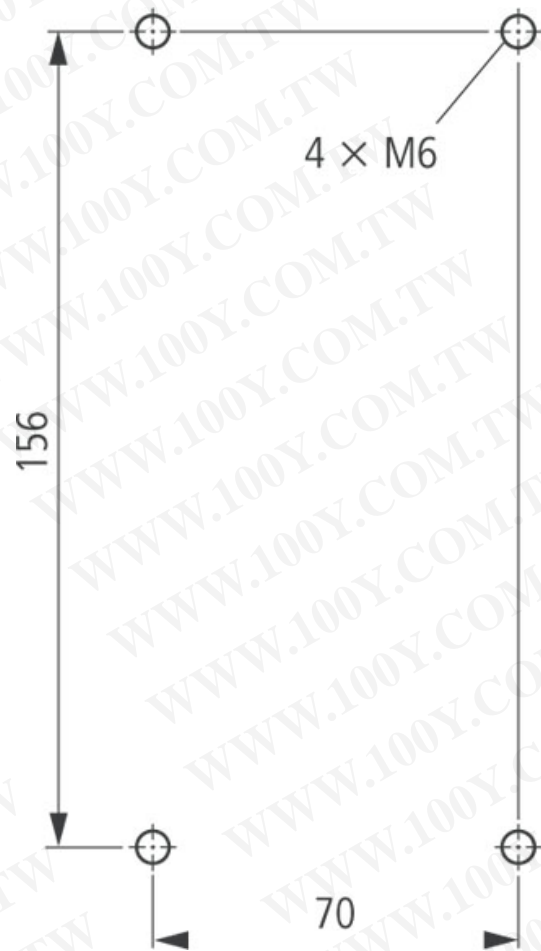
Mounting position, AC– and DC operated



Dimensions



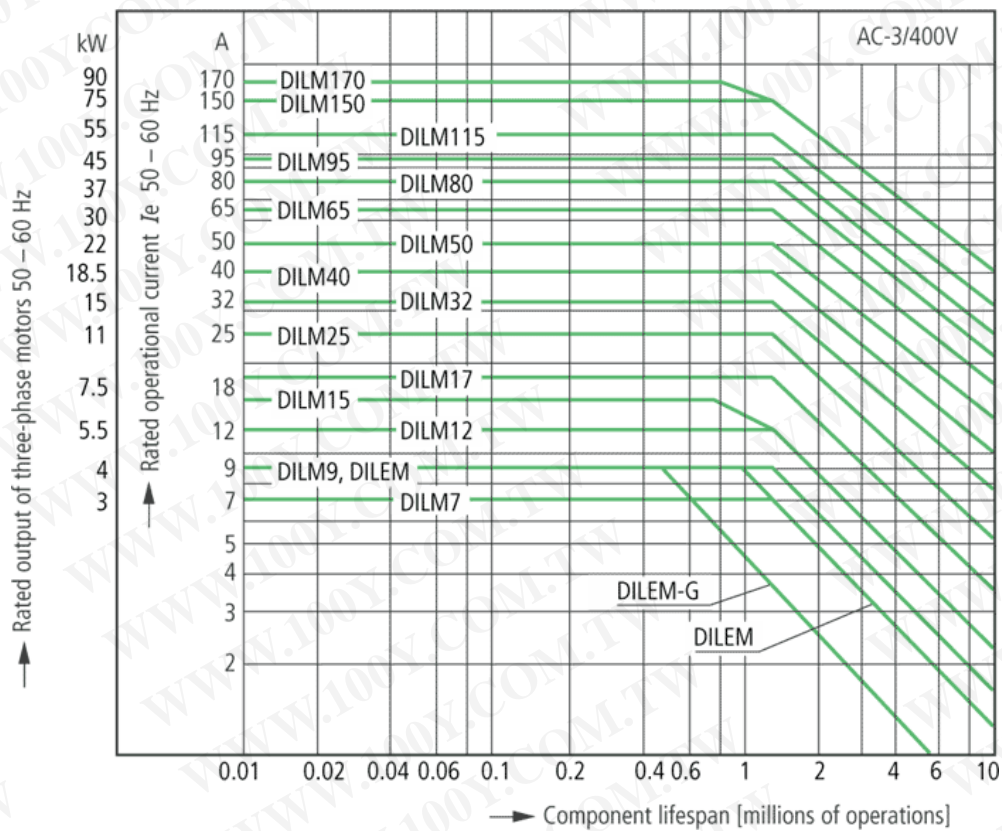
Dimensions



distance at side to earthed parts: 10 mm

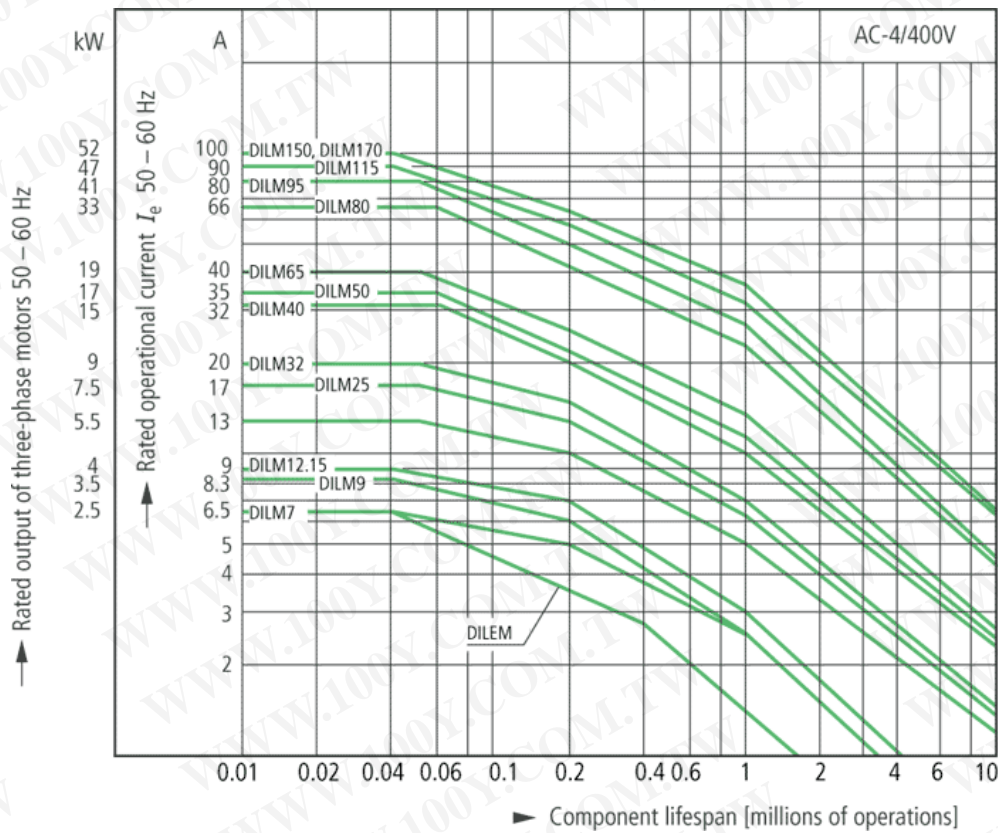
Contactor with auxiliary contact module

Characteristic curve



- Squirrel-cage motor
- Operating characteristics
- Starting: from rest
- Stopping: after attaining full running speed
- Electrical characteristics
- Make: up to $6 \times$ rated motor current
- Break: up to $1 \times$ 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

Characteristic curve



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

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