

Type: **DILM12-10(24V50HZ)**
 Article No.: **276817**



Ordering information

| | | | |
|---|-------|----|-----|
| Rated operational current AC-3 400 V | I_e | A | 12 |
| Max. rating for three-phase motors, 50 – 60 Hz AC-3 230 V | P | kW | 3.5 |
| Max. rating for three-phase motors, 50 – 60 Hz AC-3 400 V | P | kW | 5.5 |
| Max. rating for three-phase motors, 50 – 60 Hz AC-3 690 V | P | kW | 6.5 |
| Max. rating for three-phase motors, 50 – 60 Hz AC-4 230 V | P | kW | 2 |
| Max. rating for three-phase motors, 50 – 60 Hz AC-4 400 V | P | kW | 3 |
| Max. rating for three-phase motors, 50 – 60 Hz AC-4 690 V | P | kW | 4.4 |

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 | | 9000 |
| DC operated | Operations/h | | 9000 |
| 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, 20 ms | | | |
| Main contacts | | | |
| Make contact | | g | 10 |
| Auxiliary contacts | | | |
| Make contact | | g | 7 |
| Break contact | | g | 5 |
| Protection type | | | IP20 |
| Protection against direct contact when actuated from front (IEC 536) | | | Finger- and back-of-hand proof |
| Weight | | | |
| AC operated | | kg | 0,23 |
| DC operated | | kg | 0,28 |
| Terminal capacity Main cable | | | |
| Solid | | mm ² | 1 × (0.75 – 4) 2 × (0.75 – 2.5) |
| Flexible with ferrule | | mm ² | 1 × (0.75 – 2.5) 2 × (0.75 – 2,5) |
| Solid or stranded | | AWG | 18 – 14 |
| Anschlusschraube Hauptleiter | | | M3.5 |
| Tightening torque | | Nm | 1.2 |
| Terminal capacity Control circuit cables | | | |
| Solid | | mm ² | 1 × (0.75 – 4) 2 × (0.75 – 2.5) |
| Flexible with ferrule | | mm ² | 1 × (0.75 – 2.5) 2 × (0.75 – 2.5) |
| Solid or stranded | | AWG | 18 – 14 |
| Anschlusschraube Hilfsleiter | | | M3.5 |
| Tightening torque | | Nm | 1.2 |
| Tool | | | |
| Main cable | | | |
| Pozidriv screwdriver | | Size | 2 |
| Standard screwdriver | | mm | 0.8 × 5.5 1 × 6 |
| Control circuit cables | | | |
| Pozidriv screwdriver | | Size | 2 |
| Standard screwdriver | | mm | 0.8 × 5.5 1 × 6 |
| Terminal capacity Main cable | | | |
| Solid | | mm ² | 0.75 – 2.5 |
| flexible | | mm ² | 0.75 – 2.5 |
| flexible with ferrules | | mm ² | 0.75 – 2.5 |
| Solid or stranded | | AWG | 18 – 14 |
| Terminal capacity Control circuit cables | | | |
| Solid | | mm ² | 0.75 – 2.5 |
| Flexible | | mm ² | 0.75 – 2.5 |
| Flexible with ferrule | | mm ² | 0.75 – 2.5 |

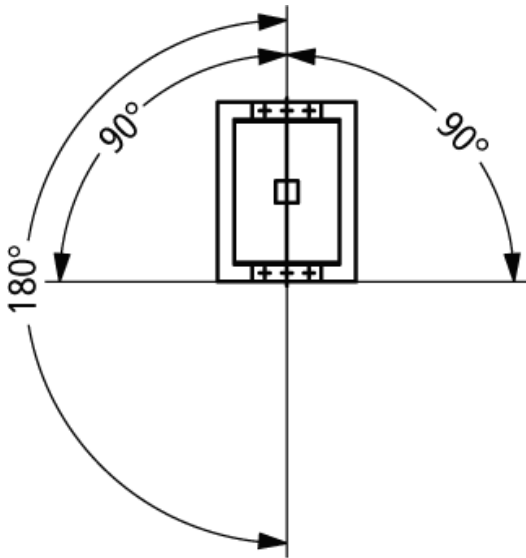
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|--|-------------|-------|--------------------------|
| Solid or stranded | | AWG | 18 – 14 |
| Tool | | | |
| Stripping length | | mm | 10 |
| Screwdriver blade width | | mm | 3,5 |
| Main conducting paths | | | |
| Rated impulse withstand voltage | U_{imp} | V AC | 8000 |
| Overtoltage category/pollution degree | | | III/3 |
| Rated insulation voltage | | | |
| AC | U_i | V AC | 690 |
| Rated operational voltage | U_e | V AC | 690 |
| Safe isolation to VDE 0106 Part 101 and Part 101/A1 | | | |
| between coil and contacts | | V AC | 400 |
| between the contacts | | V AC | 400 |
| Making capacity (cos ϕ to IEC/EN 60947) up to 690 V | | A | 144 |
| Breaking capacity | | | |
| 220/230 V | | A | 120 |
| 380/400 V | | A | 120 |
| 500 V | | A | 100 |
| 660/690 V | | A | 70 |
| Component lifespan | | | |
| AC-3/AC-4 | | | Tripping characteristics |
| Maximum operating frequency | | | |
| AC-1; 400 V | I_e | Ops/h | 800 |
| AC-3; 400 V | I_e | Ops/h | 1000 |
| AC-4; 400 V | I_e | Ops/h | 300 |
| Short-circuit rating | | | |
| Short-circuit protection Maximum fuse | | | |
| Type "2" coordination | | | |
| 400 V | gG/gL 500 V | A | 20 |
| 690 V | gG/gL 690 V | A | 20 |
| Type "1" coordination | | | |
| 400 V | gG/gL 500 V | A | 35 |
| 690 V | gG/gL 690 V | A | 25 |
| AC | | | |
| AC-1 duty | | | |
| conv. therm. current 3-pole 50 – 60 Hz | | | |
| open | | | |
| at 40 °C | I_{th} | A | 22 |
| at 50 °C | I_{th} | A | 21 |
| at 55 °C | I_{th} | A | 21 |
| at 60 °C | I_{th} | A | 20 |
| Enclosed | I_{th} | A | 18 |
| Conventional free air thermal current, 1-pole | | | |

| | | | |
|---|----------|----|-----|
| open | I_{th} | A | 50 |
| Enclosed | I_{th} | A | 45 |
| AC-3 duty | | | |
| Rated operational current AC-3 open, 50 – 60 Hz, 3-pole | | | |
| 220/230 V | I_e | A | 12 |
| 240 V | I_e | A | 12 |
| 380/400 V | I_e | A | 12 |
| 415 V | I_e | A | 12 |
| 440V | I_e | A | 12 |
| 500 V | I_e | A | 10 |
| 660/690 V | I_e | A | 7 |
| Motor rating | | | |
| 220/230 V | P | kW | 3,5 |
| 240V | P | kW | 4 |
| 380/400 V | P | kW | 5,5 |
| 415 V | P | kW | 7 |
| 440 V | P | kW | 7,5 |
| 500 V | P | kW | 7 |
| 660/690 V | P | kW | 6,5 |
| AC-4 duty | | | |
| Rated operational current AC-4 open, 50 – 60 Hz, 3-pole | | | |
| 220/230 V | I_e | A | 7 |
| 240 V | I_e | A | 7 |
| 380/400 V | I_e | A | 7 |
| 415 V | I_e | A | 7 |
| 440 V | I_e | A | 7 |
| 500 V | I_e | A | 6 |
| 660/690 V | I_e | A | 5 |
| Motor rating | | | |
| 220/230 V | P | kW | 2 |
| 240 V | P | kW | 2,2 |
| 380/400 V | P | kW | 3 |
| 415 V | P | kW | 3,4 |
| 440 V | P | kW | 3,6 |
| 500 V | P | kW | 3,5 |
| 660/690 V | P | kW | 4,4 |
| DC | | | |
| of three-phase capacitors open | | | |
| DC-1 operation | | | |
| 60 V | I_e | A | 20 |
| 110 V | I_e | A | 20 |
| 220 V | I_e | A | 15 |
| 440 V | I_e | A | 1,3 |
| DC-3 operation | | | |
| 60 V | I_e | A | 20 |

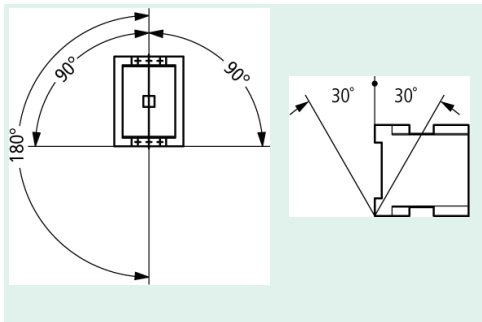
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|--|---------|--------------|------------|
| 110 V | I_e | A | 20 |
| 220 V | I_e | A | 1,5 |
| 440 V | I_e | A | 0,2 |
| DC-5 operation | | | |
| 60 V | I_e | A | 20 |
| 110 V | I_e | A | 20 |
| 220 V | I_e | A | 1,5 |
| 440 V | I_e | A | 0,2 |
| Current heat loss (3-pole) | | | |
| Current heat loss at I_{th} | | W | 4,7 |
| Current heat loss at I_e to AC-3/400 V | | W | 1,1 |
| Impedance per pole | | mΩ | 2,5 |
| Magnet systems | | | |
| Voltage tolerance | | | |
| AC operated | | | |
| AC operated | Pick-up | $\times U_c$ | 0,8 – 1,1 |
| Drop-out voltage AC operated | | | |
| Drop-out voltage AC operated | Abfall | $\times U_c$ | 0,3 – 0,6 |
| DC operated | | | |
| DC operated | Pick-up | $\times U_c$ | 0,8 – 1,1 |
| DC operated | | | |
| DC operated | Abfall | $\times U_c$ | 0,15–0,6 |
| Power consumption of the coil in a cold state and $1.0 \times U_c$ | | | |
| 50 Hz | Pick-up | VA | 24 |
| 50 Hz | Pick-up | W | 19 |
| 50 Hz | Sealing | VA | 4 |
| 50 Hz | Sealing | W | 1,2 |
| 60 Hz | Pick-up | VA | 29 |
| 60 Hz | Pick-up | W | 23 |
| 60 Hz | Sealing | | 4,4 |
| 60 Hz | Sealing | VA | 1,3 |
| 50/60 Hz | Pick-up | VA | 28 26 |
| 50/60 Hz | Pick-up | W | 22 21 |
| 50/60 Hz | Sealing | VA | 4,6 3,9 |
| 50/60 Hz | Sealing | W | 1,4 1,2 |
| DC operated | Pick-up | W | 4.5 |
| DC operated | Sealing | W | 4.5 |
| Duty factor | | % DF | 100 |
| Switching times at 100 % U_c (approximate values) | | | |
| Main contacts | | | |
| AC operated | | | |
| Closing delay | | ms | 20 |

| | | | |
|--|--|----|---------------|
| Opening delay | | ms | 15 |
| DC operated | | | |
| Closing delay | | ms | 35 |
| Opening delay | | ms | 15 |
| Arcing time | | ms | 10 |
| Electromagnetic compatibility (EMC) | | | |
| Emitted interference | | | to EN 60947-1 |
| Interference immunity | | | to EN 60947-1 |

Mounting position



Mounting position, AC- and DC operated



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