

Contactor, 4p+2N/O+2N/C, 250A/AC1



Powering Business Worldwide™

Part no. DILP250/22(240V60HZ)
Article no. 112713
Catalog No. XTCFA250L22B

Delivery program

| | | | |
|---|----------------|---|--|
| Product range | | | Contactors |
| Application | | | Contactors for 4 pole electric consumers |
| Subrange | | | Contactors larger than 200 A, 4 pole |
| Utilization category | | | AC-1: Non-inductive or slightly inductive loads, resistance furnaces |
| Connection technique | | | Screw terminals |
| Number of poles | | | 4 pole |
| Rated operational current | | | |
| AC-1 | | | |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz | | | |
| Open | | | |
| at 40 °C | $I_{th} = I_e$ | A | 250 |
| at 55 °C | $I_{th} = I_e$ | A | 230 |
| at 60 °C | $I_{th} = I_e$ | A | 200 |
| Conventional free air thermal current, 1 pole | | | |
| open | I_{th} | A | 700 |
| Contacts | | | |
| N/O = Normally open | | | 2 N/O |
| N/C = Normally closed | | | 2 NC |
| Contact sequence | | | |
| For use with | | | DILP800-XHI... |
| Voltage AC/DC | | | AC operation |

Technical data

| | | | |
|---|--------------|-----------------|--|
| General | | | |
| Standards | | | IEC/EN 60947, VDE 0660 |
| Lifespan, mechanical | | | |
| AC operated | Operations | $\times 10^6$ | 10 |
| Operating frequency, mechanical | | | |
| AC operated | Operations/h | | 3600 |
| Climatic proofing | | | Damp heat, cyclic, to IEC 60068-2-30 |
| Ambient temperature | | | |
| Open | | °C | -40 - +70 |
| Mounting position | | | |
| Mounting position | | | |
| Mechanical shock resistance (IEC/EN 60068-2-27) | | | |
| Half-sinusoidal shock, 15 ms | | | |
| Main contacts | | | |
| N/O contact | | g | 10 |
| Degree of Protection | | | IP00 |
| Protection against direct contact when actuated from front (EN 50274) | | | Finger and back-of-hand proof with terminal shroud |
| Terminal capacity main cable | | | |
| Solid | | mm ² | 35 - 120 |
| Stranded | | mm ² | 35 - 120 |
| Terminal capacity control circuit cables | | | |

| | | |
|---|-----------------|-----------------|
| Solid | mm ² | 2 x (0.5 - 2.5) |
| Main cable connection screw/bolt | | M10 |
| Tightening torque | Nm | 12 - 16 |
| Control circuit cable connection screw/bolt | | M3.5 |
| Tightening torque | Nm | 1.2 |
| Tool | | |
| Control circuit cables | | |
| Pozidriv screwdriver | Size | 2 |

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 | 1000 |
| Rated operational voltage | U_e | V AC | 1000 |
| Safe isolation to EN 61140 | | | |
| between coil and contacts | | V AC | 1000 |
| between the contacts | | V AC | 690 |
| Making capacity (cos ϕ) | U_p to 690 V | A | 1800 According to IEC/EN 60947 |
| Breaking capacity | | | |
| 220 V 230 V | | A | 1500 |
| 380 V 400 V | | A | 1500 |
| 500 V | | A | 1200 |
| 660 V 690 V | | A | 1200 |
| Short-circuit rating | | | |
| Short-circuit protection maximum fuse | | | |
| Type "2" coordination | | | |
| 400 V | gG/gL 500 V | A | 200 |
| Type "1" coordination | | | |
| 400 V | gG/gL 500 V | A | 250 |

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 | 250 |
| at 55 °C | $I_{th} = I_e$ | A | 230 |
| at 60 °C | $I_{th} = I_e$ | A | 200 |
| Conventional free air thermal current, 1 pole | | | |
| open | I_{th} | A | 700 |
| AC-3 | | | |
| Rated operational current | | | |
| Open, 3-pole: 50 – 60 Hz | | | |
| 220 V 230 V | I_e | A | 145 |
| 240 V | I_e | A | 145 |
| 415 V | I_e | A | 145 |
| 440V | I_e | A | 145 |
| 500 V | I_e | A | 120 |
| 660 V 690 V | I_e | A | 120 |
| 1000 V | I_e | A | 80 |
| Motor rating | P | kWh | |
| 220 V 230 V | P | kW | 45 |
| 240V | P | kW | 45 |
| 380 V 400 V | P | kW | 75 |
| 415 V | P | kW | 75 |
| 440 V | P | kW | 75 |

| | | | |
|-------------|---|----|-----|
| 660 V 690 V | P | kW | 110 |
| 1000 V | P | kW | 110 |

DC

| | | | |
|---------------------------------|-------|---|-----|
| Rated operational current, open | | | |
| DC-1 | | | |
| 60 V | I_e | A | 200 |
| 110 V | I_e | A | 200 |
| 220 V | I_e | A | 200 |
| 440 V | I_e | A | 200 |
| DC-3 | | | |
| 60 V | I_e | A | 145 |
| 110 V | I_e | A | 135 |
| 220 V | I_e | A | 135 |
| 440 V | I_e | A | 135 |
| DC-5 | | | |
| 60 V | I_e | A | 135 |
| 110 V | I_e | A | 135 |
| 220 V | I_e | A | 135 |
| 440 V | I_e | A | 135 |

Current heat loss

| | | | |
|---------------------|--|---|----|
| 4 pole, at I_{th} | | W | 52 |
|---------------------|--|---|----|

Magnet systems

| | | | |
|--|---------|---------|------------|
| Voltage tolerance | | | |
| AC operated 50 Hz | Pick-up | $x U_c$ | 0.85 - 1.1 |
| Power consumption of the coil in a cold state and $1.0 \times U_c$ | | | |
| AC operated 50/60 Hz | Pick-up | VA | 800 |
| AC operated 50/60 Hz | Sealing | VA | 52 |
| AC operated 50/60 Hz | Sealing | W | 18 |
| Duty factor | | % DF | 100 |
| Changeover time at 100 % U_c (recommended value) | | | |
| Main contacts | | | |
| AC operated | | | |
| Closing delay | | ms | 20 - 40 |
| Opening delay | | ms | 7 - 15 |

Design verification as per IEC/EN 61439

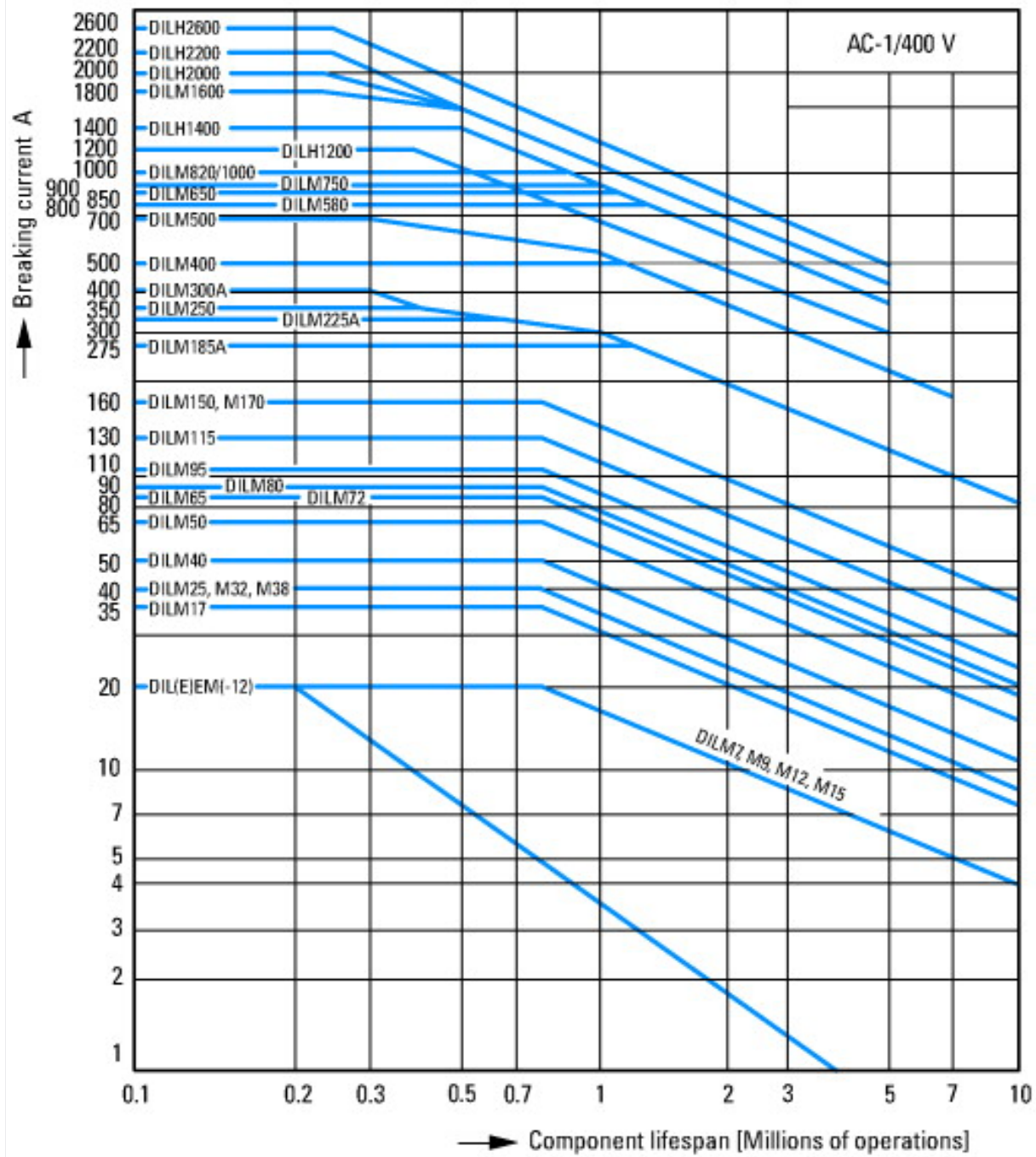
| | | | |
|--|------------|----|--|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I_n | A | 250 |
| Heat dissipation per pole, current-dependent | P_{vid} | W | 13 |
| Equipment heat dissipation, current-dependent | P_{vid} | W | 0 |
| Static heat dissipation, non-current-dependent | P_{vs} | W | 18 |
| Heat dissipation capacity | P_{diss} | W | 0 |
| Operating ambient temperature min. | | °C | -40 |
| Operating ambient temperature max. | | °C | 70 |
| IEC/EN 61439 design verification | | | |
| 10.2 Strength of materials and parts | | | |
| 10.2.2 Corrosion resistance | | | |
| 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 6.0

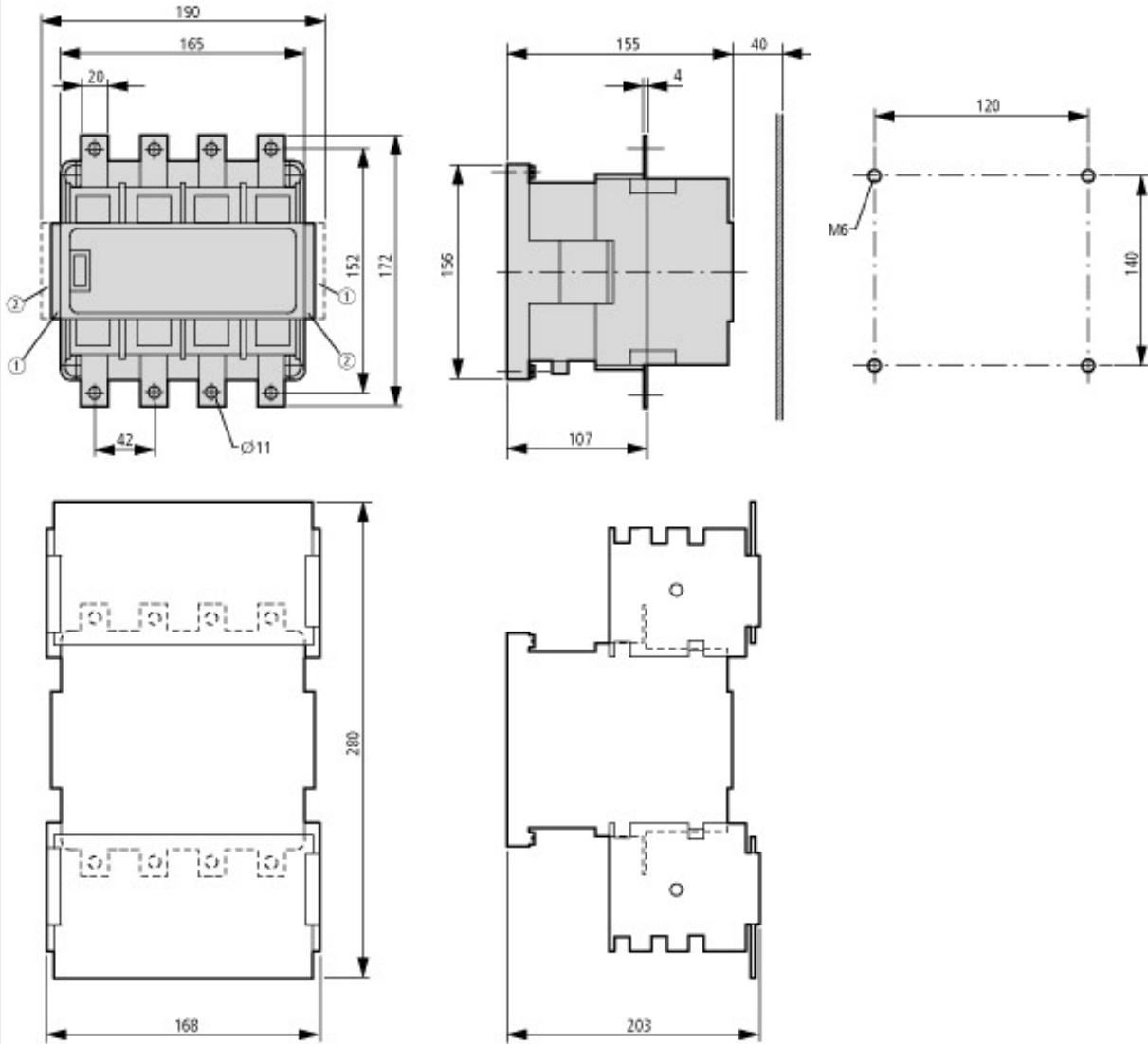
| | | |
|--|----|-----------------|
| Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066) | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss8.1-27-37-10-03 [AAB718012]) | | |
| Rated control supply voltage U_s at AC 50HZ | V | 0 - 0 |
| Rated control supply voltage U_s at AC 60HZ | V | 240 - 240 |
| Rated control supply voltage U_s at DC | V | 0 - 0 |
| Voltage type for actuating | | AC |
| Rated operation current I_e at AC-1, 400 V | A | 250 |
| Rated operation current I_e at AC-3, 400 V | A | 145 |
| Rated operation power at AC-3, 400 V | kW | 75 |
| Rated operation current I_e at AC-4, 400 V | A | 0 |
| Rated operation power I_e at AC-4, 400 V | kW | 0 |
| Modular version | | No |
| Number of auxiliary contacts as normally open contact | | 2 |
| Number of auxiliary contacts as normally closed contact | | 2 |
| Type of electrical connection of main circuit | | Rail connection |
| Number of normally closed contacts as main contact | | 0 |
| Number of main contacts as normally open contact | | 4 |

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



① DILP800-XHI-SI

② DILP800-XHI11-SA

DILP250 + DILP250-XHB

Additional product information (links)

IL03407021Z (AWA2100-1679) 4 pole contactors > 160 A

IL03407021Z (AWA2100-1679) 4 pole contactors > 160 A ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407021Z2015_04.pdf

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