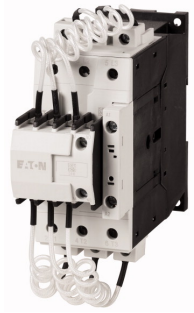
# DATASHEET - DILK50-10(230V50HZ,240V60HZ)

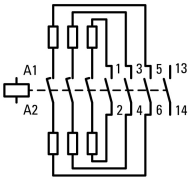


**Contactor for capacitors, with series resistors, 50 kVAr, 230 V 50 Hz, 240 V 60 Hz**

Powering Business Worldwide™

| | |
|---|---|
| **Part no.** | **DILK50-10(230V50HZ,240V60HZ)** |
| **Catalog No.** | **294076** |
| **Alternate Catalog No.** | **XTCC050D10F** |

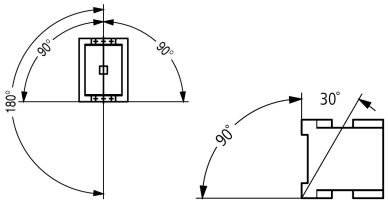
## Delivery program

| | | | |
|---|---|---|---|
| Product range | | | DILK Contactors for capacitors |
| Application | | | Contactors for power factor correction |
| Description | | | with series resistors |
| **Rated power of AC-6b three-phase capacitors, 50 - 60 Hz** | | | |
| Open | | | |
| 230 V | Q | kVAr | 25 |
| 400 V | Q | kVAr | 50 |
| 525 V | Q | kVAr | 65 |
| 690 V | Q | kVAr | 85 |
| Contact sequence | | |   |
| Actuating voltage | | | 230 V 50 Hz, 240 V 60 Hz |

**Instructions** In the case of group compensation multi-stage capacitor banks are connected to the mains, as required. Transient currents of up to 180 × Ie could flow between the capacitors. The capacitors are pre-charged via the early-make auxiliary contacts and the fitted wire resistors, thereby reducing the inrush current. The main contacts then close in a time-delayed manner and bring about the continuous current. Due to their special contacts, the contactors for the capacitors are weld-resistant for capacitors with inrush current peaks
Due to their special contacts, the contactors for capacitors are weld-resistant for capacitors with inrush current peaks up to 180 × $I_e$.

## Technical data

### General

| | | | |
|---|---|---|---|
| Standards | | | IEC/EN 60947 |
| Ambient temperature | | | |
| Open | | °C | -25 - +60 |
| Enclosed | | °C | - 25 - 40 |
| Mounting position | | |   |
| Degree of Protection | | | IP00 |
| Protection against direct contact when actuated from front (EN 50274) | | | Finger and back-of-hand proof |
| Altitude | | m | Max. 2000 |
| Weight basic unit | | | |
| AC operated | | kg | 1.171 |
| Terminal capacity main cable | | | |
| Solid | | $mm^2$ | 1 x (2.5 - 16) |
| Flexible with ferrule | | $mm^2$ | 1 x (2.5 - 35) |
| Stranded | | $mm^2$ | 1 x (16 - 50) |
| Solid or stranded | | AWG | 12 - 2 |
| Flat conductor | Lamellenzahl x Breite x Dicke | mm | 1 x (6 x 9 x 0.8) |

| | | | |
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| 230 V | Q | kVAr | 25 |
| 400 V | Q | kVAr | 50 |
| 525 V | Q | kVAr | 65 |
| 690 V | Q | kVAr | 85 |
| Rated operational current $I_e$ of three-phase capacitors | | | |
| Open | | | |
| 230 V | $I_e$ | A | 72 |
| 400 V | $I_e$ | A | 72 |
| 525 V | $I_e$ | A | 72 |
| 690 V | $I_e$ | A | 72 |
| of three-phase capacitors enclosed | $I_e$ | | |
| 230 V | $I_e$ | A | 65 |
| 400 V | $I_e$ | A | 65 |
| 525 V | $I_e$ | A | 65 |
| 690 V | $I_e$ | A | 65 |
| Making capacity (i-peak value) without damping | | x $I_e$ | 180 |
| Component lifespan | Operations | x $10^6$ | 0.15 |
| Maximum operating frequency | | Ops./h | |
| Max. operating frequency | | Ops/h | 120 |

## Magnet systems

| | | | |
|---|---|---|---|
| Voltage tolerance | | | |
| AC operated | Pick-up | x $U_c$ | 0.8 - 1.15 |
| Drop-out voltage AC operated | Drop-out | x $U_c$ | 0.3 - 0.6 |
| Power consumption of the coil in a cold state and 1.0 x $U_S$ | | | |
| 50 Hz | Pick-up | VA | 45 |
| 50 Hz | Sealing | VA | 1.5 |
| 50 Hz | Sealing | W | 4.1 |
| 60 Hz | Pick-up | VA | 45 |
| 60 Hz | Sealing | VA | 1.5 |
| 60 Hz | Sealing | W | 4.1 |
| Duty factor | | % DF | 100 |
| Changeover time at 100 % $U_S$ (recommended value) | | | |
| Main contacts | | | |
| AC operated | | | |
| Closing delay | | ms | |
| Switching times of main contacts AC operated Closing delay, min. | | ms | 50 |
| Opening delay | | ms | |
| Switching times of main contacts AC operated Opening delay, min. | | ms | 40 |
| Arcing time | | ms | 10 |

## Current heat losses (3- or 4-pole)

| | | | |
|---|---|---|---|
| Open | | | |
| at $I_e$ to AC-3/400 V | | W | 21.4 |
| at $I_e$ to AC-3/400 V | | W | 21.4 |
| Impedance per pole | | mΩ | 1.86 |

## Electromagnetic compatibility (EMC)

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

## Rating data for approved types

| | | | |
|---|---|---|---|
| Auxiliary contacts | | | |
| Pilot Duty | | | |
| AC operated | | | A600 |
| DC operated | | | P300 |

| | | | |
|---|---|---|---|
| General Use | | | |
| AC | | V | 600 |
| AC | | A | 10 |
| DC | | V | 250 |
| DC | | A | 1 |
| Special Purpose Ratings | | | |
| Capacitor Switching | | | |
| 240V 60Hz 3phase | | A | 72.1 |
| 240V 60Hz 3phase | | kVar | 30 |
| 480V 60Hz 3phase | | A | 72.1 |
| 480V 60Hz 3phase | | kVar | 60 |
| 600V 60Hz 3phase | | A | 72.1 |
| 600V 60Hz 3phase | | kVar | 75 |

## Design verification as per IEC/EN 61439

| | | | |
|---|---|---|---|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | $I_n$ | A | 72 |
| Heat dissipation per pole, current-dependent | $P_{vid}$ | W | 7.1 |
| Equipment heat dissipation, current-dependent | $P_{vid}$ | W | 21.3 |
| Static heat dissipation, non-current-dependent | $P_{vs}$ | W | 4.1 |
| 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 | | | Meets the product standard's requirements. |
| 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

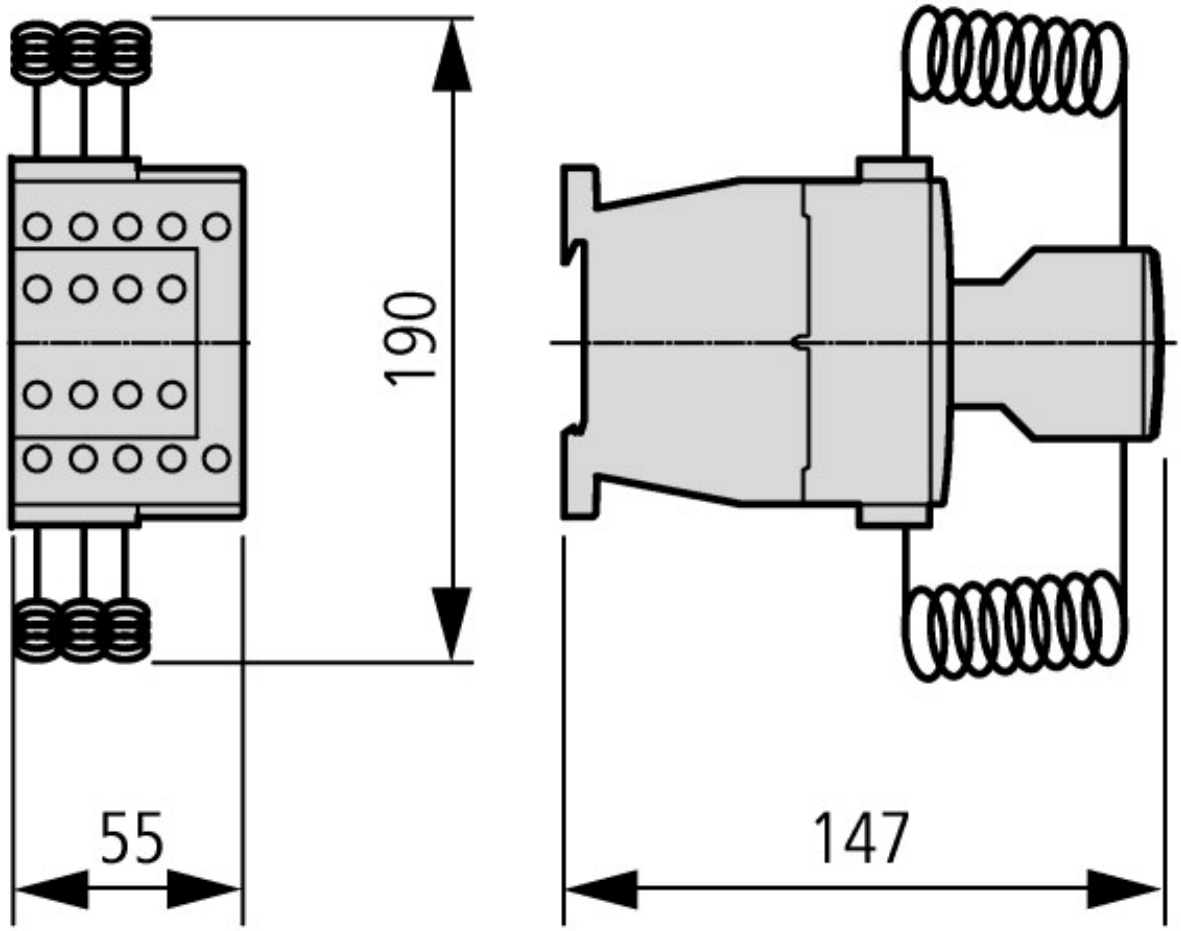
| | | | |
|---|---|---|---|
| Low-voltage industrial components (EG000017) / Capacitor contactor (EC001079) | | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Capacitor contactor (ecl@ss8.1-27-37-10-06 [AGZ569012]) | | | |
| Rated 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 |
| 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 main contacts as normally open contact | | 3 |
| Number of normally closed contacts as main contact | | 0 |
| Rated blind power at 400 V, 50 Hz | kvar | 50 |

## Approvals

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

## Dimensions

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