# TeSys Control

**TeSys** K, Deca, Giga S207 series
Contactors for railway applications
Catalogue 2022

se.com

Life Is On | Schneider Electric

Green Premium™

# **TeSys** K, **TeSys** Deca and **TeSys** Giga contactors:
## S207 series for **railway applications**

Green Premium™

Used in heating, lighting, door control, signaling, brake and air conditioning compressors, TeSys K, TeSys Deca and TeSys Giga* S207 series contactors are designed for railway power switching and controlling applications, while complying with the railway European standard EN 45545 R22 HL3.

*: HL2 for TeSys Giga.

## Schneider Electric load control solutions in the move


### TeSys Deca S207, possible association with other EN 45545 R22 HL2 compliant TeSys components



GV2P
thermal magnetic
circuit breaker



LRD thermal
overload
relay

# **TeSys** K, **TeSys** Deca and **TeSys** Giga contactors: S207 series compliant with railway standards

## Shocks, vibrations requirements, according to IEC/EN 61373 standard tests

- Category 1: body mounted
- Class B: cubicles, subassemblies, equipment and components mounted directly on or under the car body.

## Fire, smoke requirements, according to EN 45545-2 Part 2, DIN 5510-2

## European standard EN 45545-2

Newly published in 2020, specifies the reaction to fire performance requirements for materials and products used on railway vehicles as defined in EN 45545-1, and applies to all countries in Europe.

For each hazard level, this standard specifies the material and products test methods, test conditions and reaction to fire performance requirements.

# TeSys Control
## TeSys K, TeSys Deca and TeSys Giga contactors

Contents

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## **TeSys** K - S207 series

New range of EN 45545 R22 HL3 compliant mini contactors:
- Width: 45 mm
- Height: 58 mm
- Depth: 57 mm
- Weight: 0.235 kg.

Contactor types, covered applications:

- AC-3, up to 12 Amps
- AC-1, up to 20 Amps
- Control circuits, up to 10 Amps.

## Simple, robust, and compact, **TeSys** K is optimized for common applications

Range of 33 contactors for motors (AC-3), resistive loads (AC-1), control circuits:

**3P, 4P contactors:**

- AC-3 ratings / 3 poles: 6, 9, 12 A
- AC-1 rating / 4 poles: 20 A
- 1 NO or 1 NC embedded auxiliary contact

**Contactors for control circuits:**

- 4 NO or 2 NO + 2 NC or 3 NO + 1 NC
- 10 A

**Common features:**

- Connection by lugs
- 24, 72, 110 V DC low consumption coils,
- Coil supply range: up to 0.7 to 1.3 Uc from -40 °C to +70 °C.

> See TeSys K S207 contactor selection tables for available combinations of features.

PB123912.tif


## **TeSys** Deca - S207 series

Now made of new material,
EN 45545 R22 HL3 compliant,
with unchanged commercial reference.

Contactor types, covered applications:

- AC-3/AC-3e, up to 95 Amps
- AC-1, up to 125 Amps
- Control circuits, up to 10 Amps.

## **TeSys** Deca, the right choice for demanding or wide power range applications

Range of 139 contactors for motors (AC-3), resistive loads (AC-1), control circuits:

**3P, 4P contactors:**

- AC-3/AC-3e ratings / 3 poles: 9, 12, 18, 25, 32, 38, 40, 50, 65, 80, 95 A
- AC-1 ratings / 4 poles: 20, 25, 32, 40, 60,125 A
- 1 NO + 1 NC embedded auxiliary contact on all ratings (except on 60, 80, 125 A 4-pole contactors).

**Contactors for control circuits:**

- 5 NO or 3 NO + 2 NC
- 10 A

**Common features:**

- Connection by lugs
- 24, 72, 96, 110 V DC coils, standard, low consumption and wide range
- Coil supply range: up to 0.7 to 1.25 Uc.

PB123924.tif

*GV2P*

PB123925.tif

*LRD*

## EN 45545 R22 HL2 compliant motor starters

Up to 38 A AC-3/AC-3e, with TeSys Deca - S207 associated to:

> GV2P thermal magnetic circuit breakers

Please refer to catalogue 'TeSys - Innovative and connected solutions for motor starters' for details.

## Introduction

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## **TeSys** Giga - S207 series

Now made of new material,
EN 45545 R22 HL2 compliant.

Contactor types, covered applications:

- AC-3, 115 A to 800 A
- AC-1, 250 A to 1050 A.

## **TeSys** Giga, the right choice for a wide range of demanding applications

Range of 20 contactor references for motors (AC-3), resistive loads (AC-1):

**3P, 4P contactors:**

- AC-3 ratings / 3 poles: 115, 150, 185, 225, 265, 330, 400, 500, 630, 800 A
- AC-1 ratings / 4 poles: 250, 275, 305, 330, 385, 440, 550, 700, 1050 A
- Equipped with 1 NO + 1 NC auxiliary contact block
- Embedded contact wear diagnostic feature

**Common features:**

- Connection by lugs & bars
- 48…130 V AC/DC wide range coil control
- Modular design enables faster & easy maintenance.

## Product references

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*LC1K12016FLS207*

### 3-pole contactors for Motor control - connection by lugs

| Standard power ratings of 3-phase motors 50-60 Hz in category AC-3 | | | Rated operational current in AC-3 440 V up to | Instantaneous auxiliary contacts | | Commercial reference Replace dots by coil voltage code (see chart below) | Weight |
|---|---|---|---|---|---|---|---|
| 220 V 230 V | 380 V 415 V | 440/500 V 660/690 V | | | | | |
| kW | kW | kW | A | | | | kg |
| 1.5 | 2.2 | 3 | **6** | 1 | – | **LC1K06106●●S207** | 0.235 |
| | | | | – | 1 | **LC1K06016●●S207** | 0.235 |
| 2.2 | 4 | 4 | **9** | 1 | – | **LC1K09106●●S207** | 0.235 |
| | | | | – | 1 | **LC1K09016●●S207** | 0.235 |
| 3 | 5.5 | 5.5 (≤ 440 V) | **12** | 1 | – | **LC1K12106●●S207** | 0.235 |
| | | 4 (≥ 480 V) | | – | 1 | **LC1K12016●●S207** | 0.235 |

PB123905.eps

*LC1KT206FLS207*

### 4-pole contactors - connection by lugs

| Non inductive loads Category AC-1 Maximum current at (θ ≤ 50 °C) | Number of poles | | Instantaneous auxiliary contacts | | Commercial reference Replace dots by coil voltage code (see chart below) | Weight |
|---|---|---|---|---|---|---|
| A | | | | | | |
| 20 | 4 | – | – | – | **LC1KT206●●S207** | 0.235 |
| | 2 | 2 | – | – | **LC1K0986●●S207** | 0.235 |

PB123906.eps

*CAK226FLS207*

### 4-pole contactors for Control circuit - connection by lugs

| Control circuit consumption | Auxiliary contacts | | Commercial reference Replace dots by coil voltage code (see chart below) | Weight |
|---|---|---|---|---|
| Ith = 10 A | 4 | – | **CAK406●●S207** | 0.235 |
| | 3 | 1 | **CAK316●●S207** | 0.235 |
| | 2 | 2 | **CAK226●●S207** | 0.235 |

| Low consumption coil voltage code | | | |
|---|---|---|---|
| **Volts DC** | **24** | **72** | **110** |
| U 0.7 .....1.3 Uc | BL | SL | FL |

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*LA1KN11*

### Instantaneous auxiliary contact blocks (1)

**Recommended for standard applications, Clip-on front mounting, 1 block per contactor**

| Connection | Composition | | Reference |
|---|---|---|---|
| Screw clamp terminals | 2 | – | **LA1KN20** |
| | – | 2 | **LA1KN02** |
| | 1 | 1 | **LA1KN11** |
| Lug terminals | 2 | 2 | **LA1KN226** |
| | 4 | – | **LA1KN406** |

*(1) Add on auxiliary contacts compliancy level to EN 45545 is R22 HL3.*

Characteristics: pages 16 to 19
Dimensions, schemes: page 20

## Product references

PB123908.eps

*LC1D096FDS207*

PB123910.eps

*LC1D406FWS207*

PB123911.tif

*LC1D806FWS207*

PB123912.tif

*LC1DT206FDS207*

PB123913.eps

*LC1D400046FWS207*

PB123914.eps

*LC1D800086FWS207*

### 3-pole contactors for Motor control - connection by lugs

| Standard power ratings of 3-phase motors 50-60 Hz in category AC-3/AC-3e ($\theta \leq 60$ °C) | | | | | | | Rated operational current in AC-3/ AC-3e 440 V up to | Instantaneous auxiliary contacts | | Commercial reference Replace dots by coil voltage code (see chart below) | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 220 V 230 V | 380 V 415 V | 415 V | 440 V | 500 V | 660 V 690 V | 1000 V | | | | coil with surge suppressor (1) | Coil without surge suppressor | |
| kW | kW | kW | kW | kW | kW | kW | A | | | | | kg |
| 2.2 | 4 | 4 | 4 | 5.5 | 5.5 | – | 9 | 1 | 1 | **LC1D096●●S207** | | 0.320 |
| 3 | 5.5 | 5.5 | 5.5 | 7.5 | 7.5 | – | 12 | 1 | 1 | **LC1D126●●S207** | | 0.325 |
| 4 | 7.5 | 9 | 9 | 10 | 10 | – | 18 | 1 | 1 | **LC1D186●●S207** | | 0.330 |
| 5.5 | 11 | 11 | 11 | 15 | 15 | – | 25 | 1 | 1 | **LC1D256●●S207** | | 0.370 |
| 7.5 | 15 | 15 | 15 | 18.5 | 18.5 | – | 32 | 1 | 1 | **LC1D326●●S207** | | 0.375 |
| 9 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | – | 38 | 1 | 1 | **LC1D386●●S207** | | 0.380 |
| 11 | 18.5 | 22 | 22 | 22 | 30 | 22 | 40 | 1 | 1 | – | **LC1D406●●S207** | 2.185 |
| 15 | 22 | 25 | 30 | 30 | 33 | 30 | 50 | 1 | 1 | – | **LC1D506●●S207** | 2.185 |
| 18.5 | 30 | 37 | 37 | 37 | 37 | 37 | 65 | 1 | 1 | – | **LC1D656●●S207** | 2.185 |
| 22 | 37 | 45 | 45 | 55 | 45 | 45 | 80 | 1 | 1 | – | **LC1D806●●S207** | 2.59 |
| 25 | 45 | 45 | 45 | 55 | 45 | 45 | 95 | 1 | 1 | – | **LC1D956●●S207** | 2.61 |

### 4-pole contactors for Resistive load control - connection by lugs

| Non inductive loads maximum current ($\theta \leq 60$ °C) utilisation category AC-1 | Number of poles | | Instantaneous auxiliary contacts | | Commercial reference Replace dots by coil voltage code (see chart below) | | Weight |
|---|---|---|---|---|---|---|---|
| | | | | | coil with surge suppressor (1) | Coil without surge suppressor | |
| A | | | | | | | kg |
| 20 | 4 | – | 1 | 1 | **LC1DT206●●S207** | | 0.365 |
| | 2 | 2 | 1 | 1 | **LC1D0986●●S207** | | 0.365 |
| 25 | 4 | – | 1 | 1 | **LC1DT256●●S207** | | 0.365 |
| | 2 | 2 | 1 | 1 | **LC1D1286●●S207** | | 0.365 |
| 32 | 4 | – | 1 | 1 | **LC1DT326●●S207** | | 0.425 |
| | 2 | 2 | 1 | 1 | **LC1D1886●●S207** | | 0.425 |
| 40 | 4 | – | 1 | 1 | **LC1DT406●●S207** | | 0.425 |
| | 2 | 2 | 1 | 1 | **LC1D2586●●S207** | | 0.425 |
| 60 | 4 | – | – | – | – | **LC1D400046●●S207** | 2.210 |
| | 2 | 2 | – | – | – | **LC1D400086●●S207** | 2.210 |
| 125 | 4 | – | – | – | – | **LC1D800046●●S207** | 2.685 |
| | 2 | 2 | – | – | – | **LC1D800086●●S207** | 2.910 |

*(1) A suppressor diode (Transil TM) in parallel with the coil helps to prevent upstream sensitive components from damage by high transient voltage during the coil switching.*

### Coil voltage codes

| DC Volts | 24 | 72 | 96 | 110 |
|---|---|---|---|---|
| **Standard coils for LC1D096 ... D386, LC1DT206...DT406, LC1D2586** | | | | |
| U 0.7…1.25 Uc | BD | SD | - | FD |
| **Low consumption coils for LC1D096 ... D386, LC1DT206...DT406, LC1D2586** | | | | |
| U 0.7…1.25 Uc | BL | SL | DL | FL |
| **Wide voltage range coils for LC1D406 ...956, LC1D400046 .... 800086** | | | | |
| U 0.7…1.25 Uc | BW | SW | - | FW |

Characteristics: pages 21 to 24
Dimensions, schemes: page 25

## Product references

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*CAD326FDS207*

### Contactors for control circuit - connection by lugs

| Rated max operating current (Ie) | Composition | | Commercial reference Replace dots by coil voltage code (see chart below) coil with surge suppressor |
|---|---|---|---|
| **A** | | | |
| **5-pole contactors for control circuits** | | | |
| 10 | 3 | 2 | **CAD326●●S207** |
| | 5 | – | **CAD506●●S207** |

### Coil voltage codes

| DC Volts | 24 | 72 | 96 | 110 |
|---|---|---|---|---|
| **Standard coils for CAD326, CAD506** | | | | |
| U 0.7…1.25 Uc | BD | SD | | FD |
| **Low consumption coils for CAD326, CAD506** | | | | |
| U 0.7…1.25 Uc | BL | SL | DL | FL |

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*LADN116*

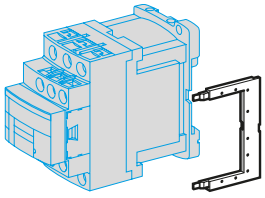
### Instantaneous auxiliary contact blocks for connection by lugs (1)

| Clip-on mounting (2) | Number of contacts per block | Composition | | Reference |
|---|---|---|---|---|
| Front | 2 | 1 | 1 | **LADN116** |
| | | 2 | – | **LADN206** |
| | | – | 2 | **LADN026** |
| | 4 | 2 | 2 | **LADN226** |
| | | 1 | 3 | **LADN136** |
| | | 4 | – | **LADN406** |
| | | – | 4 | **LADN046** |
| | | 3 | 1 | **LADN316** |

### Maximum number of auxiliary contacts that can be fitted

| Contactors | | | Instantaneous auxiliary contact blocks | | |
|---|---|---|---|---|---|
| Type | Number of poles and size | | Side mounted | Front mounted | |
| | | | | 2 contacts | 4 contacts |
| ⎓ | 3P | LC1 D09…D38 | – | 1 | or 1 |
| | | LC1 D80 | – | or 1 | or 1 |
| | 4P | LC1 DT20…DT40 | – | 1 | or 1 |
| | | LC1 D80 | – | and 1 | or 1 |
| LC (3) | 3P | LC1 D09…D38 | – | 1 | – |
| | 4P | LC1 DT20…DT40 | – | 1 | – |

DF537790.eps



*LAD4T●●*

### Bidirectional peak limiting diodes (1)

Protection provided by limiting the transient voltage to 2 Uc max.
Maximum reduction of transient voltage peaks.

| Mounting | For use with contactor | | Reference |
|---|---|---|---|
| | Rating | Type V ⎓ | |
| Clip-on side mounting (2) | D09…D38 (3P) DT20…DT40 (4P) | 24 | **LAD4TBDL** |
| | | 72 | **LAD4TSDL** |
| | | 125 | **LAD4TGDL** |

*(1) Add on auxiliary contacts and bidirectional peak limiting diodes compliancy level to EN 45545 is R22 HL3.*
*(2) In order to install these accessories, the existing suppression device must first be removed. Clipping-on makes the electrical connection. The overrall size of the contactor remains unchanged.*
*(3) LC: low comsumption.*

Characteristics: pages 21 to 24
Dimensions, schemes: page 25

## Product references

PB123917.tif

*LC1G115EHES207N*

PB123918.eps

*LC1G265EHES207N*

PB123919.eps

*LC1G630EHES207N*

PB123920.eps

*LC1G1154EHES207N*

PB123921.eps

*LC1G2654EHES207N*

### 3-pole contactors for Motor control - connection by lugs / bars

| Standard power ratings of 3-phase motors 50-60 Hz in category AC-3 ($\theta \leq 60$ °C) | | | | | | | Rated operational current in AC-3 440 V up to | Instantaneous auxiliary contacts | | Commercial reference | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 230 V | 400 V | 415 V | 440 V | 500 V | 690 V | 1000 V | | | | 48…130 V AC/DC coil | |
| kW | kW | kW | kW | kW | kW | kW | A | | | | kg |
| 30 | 55 | 55 | 75 | 75 | 75 | - | 115 | 1 | 1 | **LC1G115EHES207N** | 3.600 |
| 37 | 75 | 75 | 90 | 90 | 90 | 75 | 150 | 1 | 1 | **LC1G150EHES207N** | 3.600 |
| 55 | 90 | 90 | 110 | 110 | 110 | 75 | 185 | 1 | 1 | **LC1G185EHES207N** | 3.600 |
| 55 | 110 | 110 | 132 | 132 | 160 | 132 | 225 | 1 | 1 | **LC1G225EHES207N** | 3.600 |
| 75 | 132 | 132 | 160 | 160 | 200 | 160 | 265 | 1 | 1 | **LC1G265EHES207N** | 7.500 |
| 90 | 160 | 160 | 200 | 200 | 220 | 185 | 330 | 1 | 1 | **LC1G330EHES207N** | 7.500 |
| 110 | 200 | 200 | 250 | 250 | 315 | 220 | 400 | 1 | 1 | **LC1G400EHES207N** | 7.500 |
| 160 | 250 | 250 | 315 | 355 | 355 | 335 | 500 | 1 | 1 | **LC1G500EHES207N** | 7.500 |
| 200 | 335 | 375 | 400 | 400 | 500 | 450 | 630 | 1 | 1 | **LC1G630EHES207N** | 14.200 |
| 250 | 450 | 450 | 450 | 500 | 560 | 450 | 800 | 1 | 1 | **LC1G800EHES207N** | 14.200 |

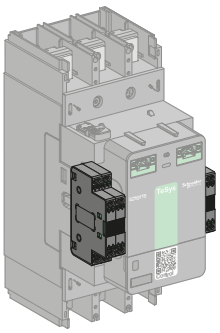
### 4-pole contactors for Resistive load control - connection by lugs / bars

| Non inductive loads maximum current ($\theta \leq 40$ °C) utilisation category AC-1 | Number of poles | | Instantaneous auxiliary contacts | | Commercial reference | Weight |
|---|---|---|---|---|---|---|
| | | | | | 48…130 V AC/DC coil | |
| A | | | | | | kg |
| 250 | 4 | - | 1 | 1 | **LC1G1154EHES207N** | 4.400 |
| 275 | 4 | - | 1 | 1 | **LC1G1504EHES207N** | 4.400 |
| 305 | 4 | - | 1 | 1 | **LC1G1854EHES207N** | 4.400 |
| 330 | 4 | - | 1 | 1 | **LC1G2254EHES207N** | 4.400 |
| 385 | 4 | - | 1 | 1 | **LC1G2654EHES207N** | 8.200 |
| 440 | 4 | - | 1 | 1 | **LC1G3304EHES207N** | 8.200 |
| 550 | 4 | - | 1 | 1 | **LC1G4004EHES207N** | 8.200 |
| 700 | 4 | - | 1 | 1 | **LC1G5004EHES207N** | 8.200 |
| 1050 | 4 | - | 1 | 1 | **LC1G6304EHES207N** | 18.000 |
| 1050 | 4 | - | 1 | 1 | **LC1G8004EHES207N** | 18.000 |

PB121650.eps

*LAG8N113*

DB438480.ai



*Side mounting – maximum 2 per side*

### Auxiliary contact modules

| Description | Terminal type | Position | Type of contacts | Sold in lots of | Reference |
|---|---|---|---|---|---|
| **Auxiliary contact module** | Push-in | 1st left or right | 1 NO + 1 NC | 1 | **LAG8N113P** (1) |
| | | | 2 NO | 1 | **LAG8N203P** |
| | | 2nd left or right | 1 NO + 1 NC | 1 | **LAG8N113** |
| | | | 2 NO | 1 | **LAG8N203** |

*(1) Always supplied with* TeSys Giga *LC1G contactors, fitted to the right side lateral face.*

Characteristics: pages 27 to 31
Dimensions, schemes: pages 32 and 33

## Product references

| | | | |
|---|---|---|---|
| CAD326BDS207 | LC1D126BDS207 | LC1D400046FWS207 | LC1G150EHES207N |
| CAD326BLS207 | LC1D126BLS207 | LC1D400046SWS207 | LC1G1854EHES207N |
| CAD326FDS207 | LC1D126FDS207 | LC1D400086BWS207 | LC1G185EHES207N |
| CAD326FLS207 | LC1D126FLS207 | LC1D400086FWS207 | LC1G2254EHES207N |
| CAD326SDS207 | LC1D126FLXS207 | LC1D400086SWS207 | LC1G225EHES207N |
| CAD326SLS207 | LC1D126SDS207 | LC1D406BWS207 | LC1G2654EHES207N |
| CAD506BDS207 | LC1D126SLS207 | LC1D406FWS207 | LC1G265EHES207N |
| CAD506FDS207 | LC1D1286BDS207 | LC1D406SWS207 | LC1G3304EHES207N |
| CAD506FLS207 | LC1D1286BLS207 | LC1D506BWS207 | LC1G330EHES207N |
| CAD506SDS207 | LC1D1286FDS207 | LC1D506FWS207 | LC1G4004EHES207N |
| CAK226BLS207 | LC1D1286FLS207 | LC1D506SWS207 | LC1G400EHES207N |
| CAK226FLS207 | LC1D1286SLS207 | LC1D656BWS207 | LC1G5004EHES207N |
| CAK226SLS207 | LC1D186BDS207 | LC1D656FWS207 | LC1G500EHES207N |
| CAK316BLS207 | LC1D186BLS207 | LC1D656SWS207 | LC1G6304EHES207N |
| CAK316FLS207 | LC1D186FDS207 | LC1D800046BWS207 | LC1G630EHES207N |
| CAK316SLS207 | LC1D186FLS207 | LC1D800046FWS207 | LC1G8004EHES207N |
| CAK406BLS207 | LC1D186SDS207 | LC1D800046SWS207 | LC1G800EHES207N |
| CAK406FLS207 | LC1D186SLS207 | LC1D800086BWS207 | LC1K06016BLS207 |
| CAK406SLS207 | LC1D1886BLS207 | LC1D800086FWS207 | LC1K06016FLS207 |
| LA1KN02 | LC1D1886FDS207 | LC1D800086SWS207 | LC1K06016SLS207 |
| LA1KN11 | LC1D1886FLS207 | LC1D806BWS207 | LC1K06106BLS207 |
| LA1KN20 | LC1D256BDS207 | LC1D806FWS207 | LC1K06106FLS207 |
| LA1KN226 | LC1D256BLS207 | LC1D806SWS207 | LC1K06106SLS207 |
| LA1KN406 | LC1D256FDS207 | LC1D956BWS207 | LC1K09016BLS207 |
| LAD4TBDL | LC1D256FLS207 | LC1D956FWS207 | LC1K09016FLS207 |
| LAD4TGDL | LC1D256SDS207 | LC1D956SWS207 | LC1K09016SLS207 |
| LAD4TSDL | LC1D256SLS207 | LC1DT206BDS207 | LC1K09106BLS207 |
| LADN026 | LC1D256SLXS207 | LC1DT206BLS207 | LC1K09106FLS207 |
| LADN046 | LC1D2586BDS207 | LC1DT206FLS207 | LC1K09106SLS207 |
| LADN116 | LC1D2586BLS207 | LC1DT206SLS207 | LC1K0986BLS207 |
| LADN136 | LC1D2586FDS207 | LC1DT256BDS207 | LC1K0986FLS207 |
| LADN206 | LC1D2586FLS207 | LC1DT256BLS207 | LC1K12016BLS207 |
| LADN226 | LC1D2586SLS207 | LC1DT256FDS207 | LC1K12016FLS207 |
| LADN316 | LC1D326BDS207 | LC1DT256FLS207 | LC1K12016SLS207 |
| LADN406 | LC1D326BLS207 | LC1DT256SDS207 | LC1K12106BLS207 |
| LC1D096BDS207 | LC1D326FDS207 | LC1DT326BDS207 | LC1K12106FLS207 |
| LC1D096BLS207 | LC1D326FLS207 | LC1DT326FLS207 | LC1K12106SLS207 |
| LC1D096FDS207 | LC1D326SDS207 | LC1DT406BDS207 | LC1KT206BLS207 |
| LC1D096FLS207 | LC1D326SLS207 | LC1DT406BLS207 | LC1KT206FLS207 |
| LC1D096SDS207 | LC1D386BDS207 | LC1DT406FDS207 | LC1KT206SLS207 |
| LC1D096SLS207 | LC1D386BLS207 | LC1DT406FLS207 | LC2D096SLS207 |
| LC1D0986BDS207 | LC1D386FDS207 | LC1DT406SDS207 | LRD08S207 |
| LC1D0986BLS207 | LC1D386FLS207 | LC1DT406SLS207 | LRD10S207 |
| LC1D0986FDS207 | LC1D386SDS207 | LC1G1154EHES207N | LRD12S207 |
| LC1D0986FLS207 | LC1D386SLS207 | LC1G115EHES207N | LRD16S207 |
| LC1D0986SLS207 | LC1D400046BWS207 | LC1G1504EHES207N | |

This document is current. Click on the product reference to get the most recent availability status (hyperlink to **se.com** product datasheet). If your product variant is no longer available, please consult your distributor or regional sales office.

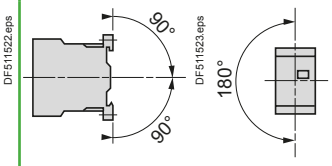
# Technical Data for Designers

Contents

## Characteristics

### Environment characteristics

**Contactor type LC1K**

| | | | |
|---|---|---|---|
| Conforming to standards | | | IEC/EN 60947-4-1, IEC/EN 60947-5-1, GB/T 14048.4, GB/T 14048.5, EN 45545 R22 HL3, EN 45545 R26 HL3, IEC/EN 61373 |
| Authorized operating positions | | | Vertical axis / Horizontal axis<br>  <br><br>*Without derating* *Without derating* |
| Rated insulation voltage (Ui) | Conforming to IEC 60947 | **V** | 690 |
| | Conforming to VDE 0110 gr C | **V** | 750 |
| | Conforming to BS 5424, NF C 20-040 | **V** | 690 |
| Rated impulse withstand voltage (Uimp) | | **kV** | 8 |
| Protective treatment | Conforming to IEC 60068 (DIN 50016) | | "TC" (Klimafest, Climateproof) |
| Degree of protection | Conforming to VDE 0106 | | Protection against direct finger contact |
| Ambient air temperature around the device | Storage | **°C** | -50…+80 |
| | Operation | **°C** | -25…+50 |
| | Permissible | **°C** | -40…+70, for operation at Uc |
| Maximum operating altitude | Without derating | **m** | 2000 |
| Vibration resistance 5 ... 300 Hz | Contactor open | | 2 gn |
| | Contactor closed | | 4 gn |
| Flame resistance | Conforming to UL 94 | | V0 |
| Shock resistance (1/2 sine wave, 11 ms) | Contactor open | | On X axis: 6 gn<br>On Y and Z axes: 10 gn |
| | Contactor closed | | On X axis: 10 gn<br>On Y and Z axes: 15 gn |

### Connection by lugs

| | | | |
|---|---|---|---|
| Lug external Ø | | **mm** | 7 |
| Ø of screw | | **mm** | 3.2 |
| Screwdriver | Philips / Pozidriv | | N° 2 |
| | Flat screwdriver Ø | **mm** | Ø6 |
| Tightening torque | | **N.m** | 1.1 recommended, 1.3 max |

## Characteristics

### Pole characteristics

| Type | | | | LC1K06 | LC1K09, LC1KT09, LC1KT20 | LC1K12 |
|---|---|---|---|---|---|---|
| Conventional thermal current (Ith) | For ambient temperature ≤ 50 °C | | **A** | 20 | | |
| Rated operational frequency | | | **Hz** | 50/60 | | |
| Frequency limits of the operational current | | | **Hz** | Up to 400 | | |
| Rated operational voltage (Ue) | | | **V** | 690 | | |
| Rated making capacity | I rms conforming to NF C 63 110 and IEC 60947 | | **A** | 110 | 110 | 144 |
| Rated breaking capacity | I rms conforming to NF C 63 110 and IEC 60947 | 220/230 V | **A** | 110 | 110 | – |
| | | 380/400 V | **A** | 110 | 110 | – |
| | | 415 V | **A** | 110 | 110 | – |
| | | 440 V | **A** | 110 | 110 | 110 |
| | | 500 V | **A** | 80 | 80 | 80 |
| | | 660/690 V | **A** | 70 | 70 | 70 |
| Permissible short time rating | In free air for a time “t” from cold state (θ ≤ 50 °C) | 1 s | **A** | 90 | 90 | 115 |
| | | 5 s | **A** | 85 | 85 | 105 |
| | | 10 s | **A** | 80 | 80 | 100 |
| | | 30 s | **A** | 60 | 60 | 75 |
| | | 1 min | **A** | 45 | 45 | 55 |
| | | 3 min | **A** | 40 | 40 | 50 |
| | | ≥ 15 min | **A** | 20 | 20 | 25 |
| Short-circuit protection | gG fuse U ≤ 440 V | | **A** | 25 | | |
| Average impedance per pole | At Ith and 50 Hz | | **mΩ** | 3 | | |
| Use in category AC-1 resistive circuits, heating, lighting (Ue ≤ 440 V) | Maximum rated operational current for a temperature ≤ 50 °C | | **A** | 20 | | |
| | Maximum rated operational current for a temperature ≤ 70 °C | | **A** | 16 for Ue only | | |
| | Rated operational current limits in relation to the on-load factor and operating frequency | | | On-load factor | | 90 % |
| | | | **A** | 300 operating cycles/hour | | 13 |
| | | | **A** | 120 operating cycles/hour | | 15 |
| | | | **A** | 30 operating cycles/hour | | 19 |
| | Increase in rated operational current by paralleling of poles | | | Apply the following coefficients to the above currents; these coefficients take into account an often unbalanced distribution of current between the poles | | |
| | | | | 2 poles in parallel: K = 1.60 | | |
| | | | | 3 poles in parallel: K = 2.25 | | |
| | | | | 4 poles in parallel: K = 2.80 | | |
| Use in category AC-3 squirrel cage motors | Operational power according to the voltage. Voltage 50 or 60 Hz | 115 V single-ph. | **kW** | 0.37 | 0.55 | – |
| | | 220 V single-ph. | **kW** | 0.75 | 1.1 | – |
| | | 220/230 V 3-ph. | **kW** | 1.5 | 2.2 | 3 |
| | | 380/415 V 3-ph. | **kW** | 2.2 | 4 | 5.5 |
| | | 440/480 V 3-ph. | **kW** | 3 | 4 | 5.5/4 (480) |
| | | 500/600 V 3-ph. | **kW** | 3 | 4 | 4 |
| | | 660/690 V 3-ph. | **kW** | 3 | 4 | 4 |
| | Maximum operating rate (in operating cycles/hour in relation to % of rated power) | | | Op. cycles/h | | 600 |
| | | | | Power | | 100 % |

## Characteristics

### Control circuit characteristics

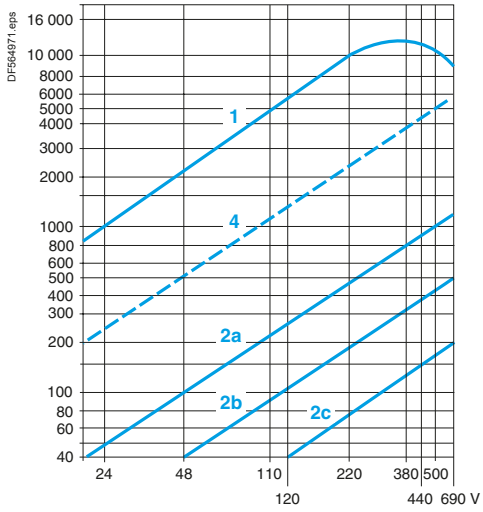
| Type | | | LC1K, LC1KT | CAK |
|---|---|---|---|---|
| Rated control circuit voltage (Uc) | | **V DC** | 24...110 | 24...110 |
| Control voltage limits (≤ 50 °C) single voltage coil | Operation | | 0.7…1.30 Uc | 0.7...1.3 Uc |
| | Drop-out | | ≥ 0.10 Uc | ≤ 0.1 Uc |
| Average consumption at 20 °C and at Uc | Inrush | | 1.8 W | 1.8 W |
| | Sealed | | 1.8 W | 1.8 W |
| Heat dissipation | | **W** | 1.8 | 1.8 |
| Operating time at 20 °C and at Uc | | | | |
| Between coil energisation and: | opening of the N/C contacts | **ms** | 25…35 | 25...35 |
| | closing of the N/O contacts | **ms** | 30…40 | 30...40 |
| Between coil de-energisation and: | opening of the N/O contacts | **ms** | 10…20 | 10...20 |
| | closing of the N/C contacts | **ms** | 15…25 | 15...25 |
| Maximum immunity to microbreaks | | **ms** | 2 | 2 |
| Maximum operating rate | In operating cycles per hour | | 3600 | 6000 |
| Mechanical durability at Uc In millions of operating cycles | | | 30 | 30 |

## Characteristics

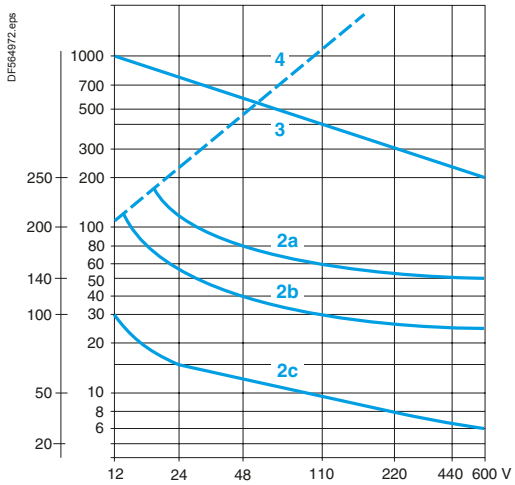
### LC1K auxiliary contacts, CAK

| | | | | |
|---|---|---|---|---|
| Number of auxiliary contacts | On LP● K 3-pole | | | 1 |
| Rated operational voltage (Ue) | Up to | | **V** | 690 |
| Rated insulation voltage (Ui) | Conforming to BS 5424 | | **V** | 690 |
| | Conforming to IEC 60947 | | **V** | 690 |
| | Conforming to VDE 0110 group C | | **V** | 750 |
| | Conforming to CSA C 22-2 n° 14 | | **V** | 600 |
| Conventional thermal current (Ith) | For ambient temperature ≤ 50 °C | | **A** | 10 |
| Frequency of the operational current | | | **Hz** | Up to 400 |
| Minimum switching capacity | U min (DIN 19 240) | | **V** | 17 |
| | I min | | **mA** | 5 |
| Short-circuit protection | Conforming to IEC 60947 and VDE 0660, gG fuse | | **A** | 10 |
| Rated making capacity | Conforming to IEC 60947 | I rms | **A** | 110 |
| Short-time rating | Permissible for | 1 s | **A** | 80 |
| | | 500 ms | **A** | 90 |
| | | 100 ms | **A** | 110 |

Power broken in VA




Power broken in W




### Operational power of contacts conforming to IEC 60947

**a.c. supply, category AC-15**

Electrical durability (valid for up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making current (cos φ 0.7) = 10 times the power broken (cos φ 0.4).

| Operating cycles | V | 24 | 48 | 110/ 127 | 220/ 230 | 380/ 400 | 440 | 600/ 690 |
|---|---|---|---|---|---|---|---|---|
| 1 million operating cycles | **VA** | 48 | 96 | 240 | 440 | 800 | 880 | 1200 |
| 3 million operating cycles | **VA** | 17 | 34 | 86 | 158 | 288 | 317 | 500 |
| 10 million operating cycles | **VA** | 7 | 14 | 36 | 66 | 120 | 132 | 200 |
| Occasional making capacity | **VA** | 1000 | 2050 | 5000 | 10000 | 14000 | 13000 | 9000 |

**d.c. supply, category DC-13**

Electrical durability (valid for up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the load.

| Operating cycles | V | 24 | 48 | 110 | 220 | 440 | 600 |
|---|---|---|---|---|---|---|---|
| 1 million operating cycles | **W** | 120 | 80 | 60 | 52 | 51 | 50 |
| 3 million operating cycles | **W** | 55 | 38 | 30 | 28 | 26 | 25 |
| 10 million operating cycles | **W** | 15 | 11 | 9 | 8 | 7 | 6 |
| Occasional making capacity | **W** | 720 | 600 | 400 | 300 | 230 | 200 |

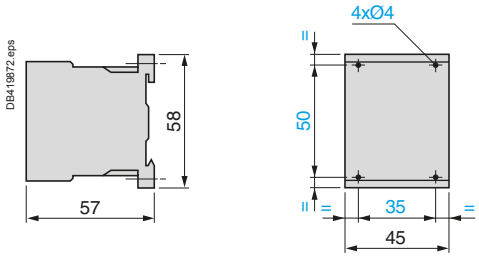
1. Breaking limit of contacts valid for:
   - maximum of 50 operating cycles at 10 s intervals (power broken = making current x cos φ 0.7).
2. Electrical durability of contacts for:
   - 1 million operating cycles (2a)
   - 3 million operating cycles (2b)
   - 10 million operating cycles (2c).
3. Breaking limit of contacts valid for:
   - maximum of 20 operating cycles at 10 s intervals with current passing for 0.5 s per operating cycle.
4. Thermal limit.

## Dimensions and schemes

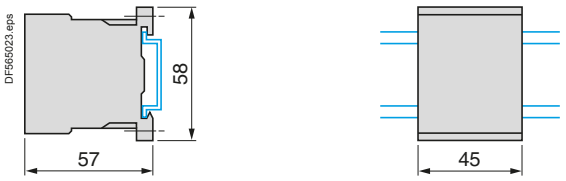
### Contactors

**LC1K, LC1KT, CAK**

**On panel**

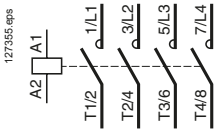



**On mounting rail AM1 DP200 or AM1 DE200 (7 35 mm)**

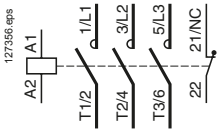



### 3-pole contactors

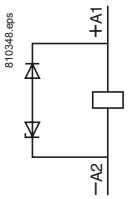
**3 P + N/O**




**3 P + N/C**

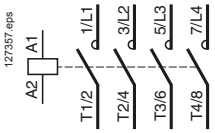



### Coil diagram with integral suppression device LC1K, LC1KT

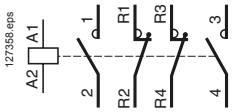



### 4-pole contactors

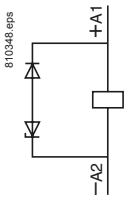
**4 P**




**2 P N/O + 2 P N/C**

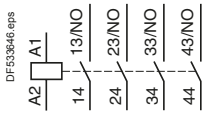



### Coil diagram with integral suppression device LC1K, LC1KT

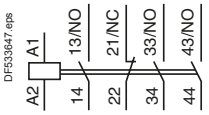



### CAK - 4 poles contactors for control circuits

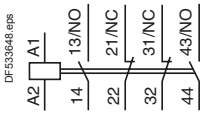
**4 N/O**



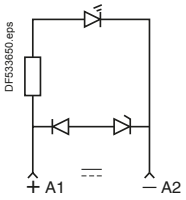

**3 N/O + 1 N/C**




**2 N/O + 2 N/C**




### Coil diagram - with suppression device CAK



## Characteristics

### 3-pole contactor characteristics

| Contactor type | | | LC1D096 | LC1D126 | LC1D186 | LC1D256 | LC1D326 | LC1D386 | LC1D406 | LC1D506 | LC1D656 | LC1D806 | LC1D956 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rated operational current (Ie) (Ue ≤ 440 V) | In AC-3 / AC-3e, θ ≤ 60 °C | **A** | 9 | 12 | 18 | 25 | 32 | 38 | 40 | 50 | 65 | 80 | 95 |
| | In AC-1, θ ≤ 60 °C | **A** | 25 | 25 | 32 | 40 | 50 | 50 | 60 | 80 | 80 | 125 | 125 |
| Rated operational voltage (Ue) | Up to | **V** | 690 | 690 | 690 | 690 | 690 | 690 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Frequency limits | Of the operational current | **Hz** | 25…400 | 25…400 | 25…400 | 25…400 | 25…400 | 25…400 | 25…400 | 25…400 | 25…400 | 25…400 | 25…400 |
| Conventional thermal current (Ith) | θ ≤ 60 °C | **A** | 25 | 25 | 32 | 40 | 50 | 50 | 60 | 80 | 80 | 125 | 125 |
| Rated making capacity (440 V) | Conforming to IEC 60947 | **A** | 250 | 250 | 300 | 450 | 550 | 550 | 800 | 900 | 1000 | 1100 | 1100 |
| Rated breaking capacity (440 V) | Conforming to IEC 60947 | **A** | 250 | 250 | 300 | 450 | 550 | 550 | 800 | 900 | 1000 | 1100 | 1100 |
| Permissible short time rating No current flowing for preceding 15 minutes with θ ≤ 40 °C | For 1 s | **A** | 210 | 210 | 240 | 380 | 430 | 430 | 720 | 810 | 900 | 990 | 1100 |
| | For 10 s | **A** | 105 | 105 | 145 | 240 | 260 | 310 | 320 | 400 | 520 | 640 | 800 |
| | For 1 min | **A** | 61 | 61 | 84 | 120 | 138 | 150 | 165 | 208 | 260 | 320 | 400 |
| | For 10 min | **A** | 30 | 30 | 40 | 50 | 60 | 60 | 72 | 84 | 110 | 135 | 135 |
| Fuse protection against short-circuits (U ≤ 690 V) | Without thermal overload relay, gG fuse type 1 | **A** | 25 | 40 | 50 | 63 | 63 | 63 | 80 | 100 | 160 | 200 | 200 |
| | type 2 | **A** | 20 | 25 | 35 | 40 | 63 | 63 | 80 | 100 | 125 | 160 | 160 |
| Average impedance per pole | At Ith and 50 Hz | **mΩ** | 2.5 | 2.5 | 2.5 | 2 | 2 | 2 | 1.5 | 1.5 | 1 | 0,8 | 0.8 |
| Power dissipation per pole for the above operational currents | AC-3 / AC-3e | **W** | 0.20 | 0.36 | 0.8 | 1.25 | 2 | 3 | 2.4 | 3.7 | 4.2 | 5.1 | 7.2 |
| | AC-1 | **W** | 1.56 | 1.56 | 2.5 | 3.2 | 5 | 5 | 5.4 | 9.6 | 6.4 | 12.5 | 12.5 |

## Characteristics

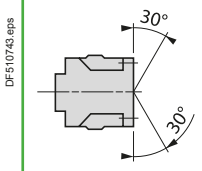
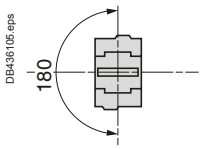
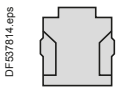
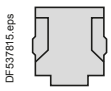
### 4-pole contactor characteristics

| Contactor type | | | LC1D0986 LC1DT206 | LC1D1286 LC1DT256 | LC1D1886 LC1DT326 | LC1D2586 LC1DT406 | LC1D400046 LC1D400086 | LC1D800046 LC1D800086 |
|---|---|---|---|---|---|---|---|---|
| Rated operational current (Ie) (Ue ≤ 440 V) | In AC-3 / AC-3e, θ ≤ 60 °C | **A** | 9 | 12 | 18 | 25 | 40 (1) | 80 (2) |
| | In AC-1, θ ≤ 60 °C | **A** | 20 | 25 | 32 | 40 | 60 | 125 |
| Rated operational voltage (Ue) | Up to | **V** | 690 | 690 | 690 | 690 | 690 | 1000 |
| Frequency limits | Of the operational current | **Hz** | 25…400 | 25…400 | 25…400 | 25…400 | 25…400 | 25…400 |
| Conventional thermal current (Ith) | θ ≤ 60 °C | **A** | 20 | 25 | 32 | 40 | 60 | 125 |
| Rated making capacity (440 V) | Conforming to IEC 60947 | **A** | 250 | 250 | 300 | 450 | 800 | 1100 |
| Rated breaking capacity (440 V) | Conforming to IEC 60947 | **A** | 250 | 250 | 300 | 450 | 800 | 1100 |
| Permissible short time rating No current flowing for preceding 15 minutes with θ ≤ 40 °C | For 1 s | **A** | 210 | 210 | 240 | 380 | 720 | 990 |
| | For 10 s | **A** | 105 | 105 | 145 | 240 | 320 | 640 |
| | For 1 min | **A** | 61 | 61 | 84 | 120 | 165 | 320 |
| | For 10 min | **A** | 30 | 30 | 40 | 50 | 72 | 135 |
| Fuse protection against short-circuits (U ≤ 690 V) | Without thermal overload relay, gG fuse type 1 | **A** | 25 | 40 | 50 | 63 | 80 | 200 |
| | type 2 | **A** | 20 | 25 | 35 | 40 | 80 | 160 |
| Average impedance per pole | At Ith and 50 Hz | **mΩ** | 2.5 | 2.5 | 2.5 | 2 | 1.5 | 0,8 |
| Power dissipation per pole for the above operational currents | AC-3 / AC-3e | **W** | 0.20 | 0.36 | 0.8 | 1.25 | 2.4 | 5.1 |
| | AC-1 | **W** | 1.56 | 1.56 | 2.5 | 3.2 | 5.4 | 12.5 |

*(1) For LC1D400046 only, no AC-3 for LC1D400086.*
*(2) For LC1D800046 only, no AC-3 for LC1D800086.*

## Characteristics

### Environment

| Contactor type | | | LC1D096…D186, LC1DT206 and LC1DT256 | LC1D256…D386, LC1DT326 and LC1DT406 | LC1D406..D956, LC1D400046, LC1D400086, LC1D650046, LC1D650086, LC1D800046, LC1D800086 |
|---|---|---|---|---|---|
| Rated insulation voltage (Ui) | Conforming to IEC 60947-4-1, overvoltage category III, degree of pollution: 3 | **V** | 690 | | 1000 |
| Rated impulse withstand voltage (Uimp) | Conforming to IEC 60947 | **kV** | 6 | | 8 |
| Conforming to standards | | | IEC/EN 60947-4-1, IEC/EN 60947-5-1, GB/T 14048.4, GB/T 14048.5, EN 45545 R22 HL3, EN 45545 R26 HL3, IEC/EN 61373 | | |
| Product certifications | | | IEC, CCC, EAC, UA, TR | | IEC, CCC |
| Degree of protection (front face) | Conforming to IEC 60529<br>Power circuit connections | | Protection against direct finger contact IP20 | | |
| | Coil connection | | Protection against direct finger contact IP20 | | |
| Climatic withstand | | | According to IACS E10 | | |
| Ambient air temperature around the device | Storage | **°C** | -60…+70 | | |
| | Operation | **°C** | -40…+70 | | -25...+70 |
| Maximum operating altitude | Without derating | **m** | 3000 | | |
| Operating positions (1) | Without derating in the following positions (other positions: please contact us). | | ⎓     | | |
| | Positions that are not permissible | | For ⎓ contactors LC1D09 to LC1D95.     | | |
| Flame resistance | Conforming to UL 94 | | V0 | | |
| | Conforming to IEC 60695-2-1 | **°C** | 850 | | |
| Shock resistance (2) 1/2 sine wave = 11 ms | Contactor open | | 10 gn | 8 gn | 8 gn |
| | Contactor closed | | 15 gn | 15 gn | 10 gn |
| Vibration resistance (2) 5…300 Hz | Contactor open | | 2 gn | | |
| | Contactor closed | | 4 gn | 4 gn | 3 gn |

*(1) When mounting on a vertical rail, use a stop.*
*(2) Without modification of power contact states, in the most unfavourable direction (coil energised at Ue).*

## Characteristics

### Power circuit connections

| Contactor type | | | LC1D096, LC1D126, LC1D186, LC1DT206, LC1DT256 | LC1D1886 LC1DT326 | LC1D256 LC1D326 LC1D386 | LC1D2586 LC1DT406 | LC1D406, LC1D4000 | LC1D506 LC1D656 LC1D6500 | LC1D806 LC1D956 LC1D800046 LC1D800086 |
|---|---|---|---|---|---|---|---|---|---|
| **Connection by bars or lugs** | | | | | | | | | |
| Lug external Ø | | **mm** | 8 | 9 | 12 | 9 | 13 | 16 | 17 |
| Ø of screw | | **mm** | M3.5 | | M4 | M3.5 | M5 | M6 | M6 |
| Screwdriver | Philips / Pozidriv | | N° 2 | | N° 2 | N° 2 | N° 2 | N° 3 | – |
| | Flat screwdriver Ø | | Ø6 | | Ø6 | Ø6 | Ø8 | Ø8 | Ø8 |
| Key for hexagonal headed screw | | | – | | – | – | – | – | 10 |
| Tightening torque | | **N.m** | 1.7 | | 2.5 | 1.8 | 2.5 | 2.5 | 5 |

### Control circuit connections

| | | | |
|---|---|---|---|
| **Connection by bars or lugs** | | | |
| Lug external Ø | | **mm** | 8 |
| Ø of screw | | **mm** | M3.5 |
| Screwdriver | Philips / Pozidriv | | N° 2 |
| | Flat screwdriver Ø | | Ø6 |
| Tightening torque | | **N.m** | 1.7 |

### d.c. control circuit characteristics

| Compatible contactor types | | | Standard coil LC1D096...D386 LC1DT206...DT406 LC1D2586 | Low consumption coil LC1D096...D386 LC1DT206...DT406 LC1D2586 | Wide range coil LC1D406...956 LC1D400046....LC1D800086 |
|---|---|---|---|---|---|
| Rated insulation voltage | Conforming to IEC 60947-1 | **V** | 690 | | |
| Operating ranges from -40 to +70°C | Side by side mounting | | 0.7...1.1 Uc | 0.7...1.25 Uc | Uc |
| | With 8 mm spacing | | 0.7...1.25 Uc | - | - |
| Operating ranges from -25 to +50°C | Side by side mounting | | 0.7...1.25 Uc | - | 0.7 ... 1.25 Uc |
| Average consumption at 20 °C and at Uc | ⎓ | **W** | 5.4 | 4 | 22 |
| Operating time [(1)] average at Uc | Closing of NO contacts "C" | **ms** | 55 to 75 | 55 to 75 | 95 to 130 |
| | Opening of NC contacts | **ms** | 45 to 65 | 45 to 65 | - |
| | Opening of NO contacts "O" | **ms** | 16 to 32 (12 to 22 ms without diode) | 16 to 32 (12 to 22 ms without diode) | 20 to 35 |
| | Closing of NC contacts | **ms** | 27 to 42 (18 to 28 ms without diode) | 27 to 42 (18 to 28 ms without diode) | - |
| | | | ***Note:*** *The arcing time depends on the circuit switched by the poles. For all normal 3-phase applications, the arcing time is less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.* | | |
| Time constant (L/R) | | **ms** | 28 | 37 | 75 |
| Mechanical durability at Uc | In millions of operating cycles | | 30 | 30 | 10 |
| Maximum operating rate at ambient temperature ≤ 60 °C | In operating cycles per hour | | 3600 | 3600 | 3600 |

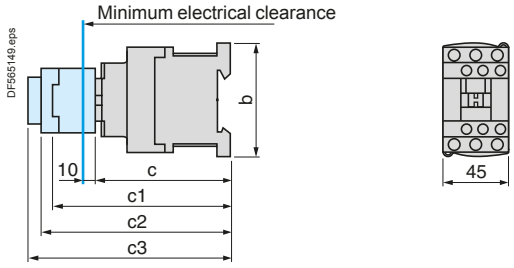
*(1) The operating times depend on the type of contactor electromagnet and its control mode.*
*The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles.*
*The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.*

### Characteristics of auxiliary contacts incorporated in the contactor

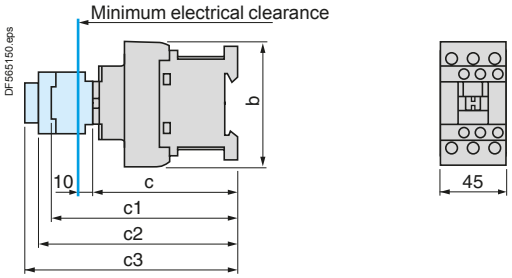
| | | | |
|---|---|---|---|
| Mechanically linked contacts | Conforming to IEC 60947-5-1 | | Each TeSys Deca NO/NC embedded auxilliary contacts are certified 'mechanicaly linked'. |
| Mirror contact | Conforming to IEC 60947-4-1 | | All TeSys Deca NC auxilliary contacts are 'miror' certified and can be connected to a safety module. |
| Rated operational voltage (Ue) | Up to | **V** | 690 |
| Rated insulation voltage (Ui) | Conforming to IEC 60947-1 | **V** | 690 |
| Conventional thermal current (Ith) | For ambient temperature ≤ 60 °C | **A** | 10 |

## Dimensions

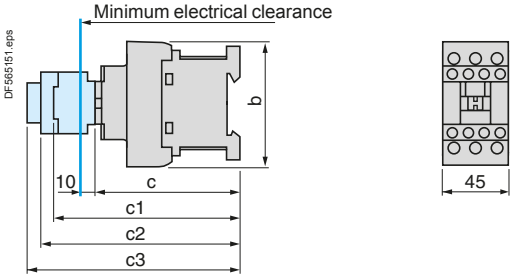
### **LC1D09…D18** (3-pole)




### **LC1D25…D38** (3-pole)

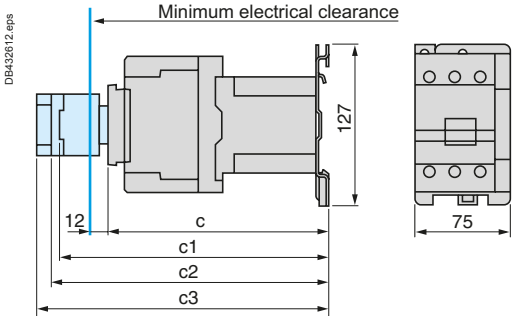



### **LC1DT20....DT40, LC1D098, D128, D188, D258** (4-poles)

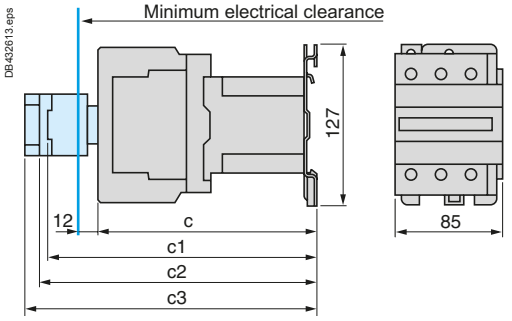



| **LC1** | | **D09…D18** | **D25…D38** | **DT20** and **DT25**<br>**D098** and **D128** | **DT32** and **DT40**<br>**D188** and **D258** |
|---|---|---|---|---|---|
| b | without add-on blocks | 77 | 85 | 85 | 91 |
| c | without cover or add-on blocks | 93 | 99 | – | – |
| | with cover, without add-on blocks | 95 | 101 | 99 | 107 |
| c1 | with LAD N or C (2 or 4 contacts) | 126 | 132 | 123 | 131 |
| c2 | with LA6 DK10, LAD 6K10 | 138 | 144 | 135 | 143 |
| c3 | with LAD T, R, S | 146 | 152 | 143 | 151 |
| | with LAD T, R, S and sealing cover | 150 | 156 | 147 | 155 |

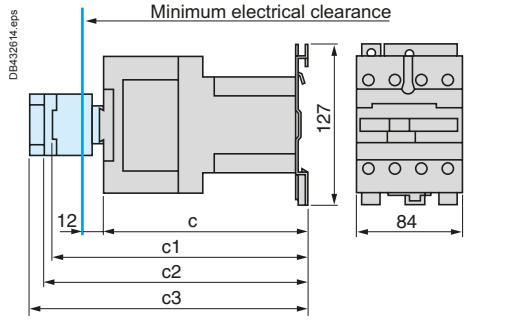
### **LC1D406..S207, LC1D506..S207, LC1D656..S207** (3-pole)



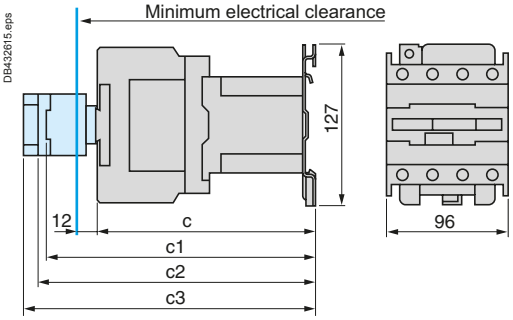

### **LC1D806..S207, LC1D956..S207** (3-pole)




### **LC1D400046..S207** (3-pole), **LC1D400086..S207** (4-pole)




### **LC1D8000046..S207, LC1D800086..S207** (4-pole)



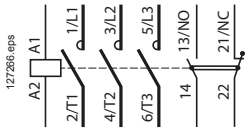

| | | **LC1D406..S207, LC1D506..S207, LC1D656..S207** | **LC1D806..S207, LC1D956..S207** | **LC1D400046..S207** | **LC1D400086..S207** | **LC1D800046** | **LC1D800086** |
|---|---|---|---|---|---|---|---|
| c | without cover or add-on blocks | 171 | 181 | 171 | 182 | 181 | 196 |
| | with cover, without add-on blocks | 176 | 186 | – | – | – | – |
| c1 | with LAD N (1 contact) | 196 | 204 | 196 | 196 | 204 | 204 |
| | with LAD N or C (2 or 4 contacts) | 202 | 210 | 202 | 202 | 210 | 210 |
| c2 | with LA6 DK10 | 213 | 221 | 213 | 213 | 221 | 221 |
| c3 | with LAD T, R, S | 221 | 229 | 221 | 221 | 229 | 229 |
| | with LAD T, R, S and sealing cover | 225 | 233 | 225 | 225 | 233 | 233 |

## Schemes

### Contactors

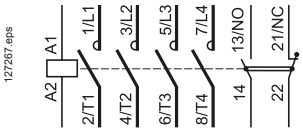
#### 3-pole contactors

**LC1D096 ... LC1D956**

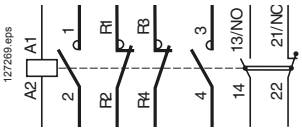



#### 4-pole contactors

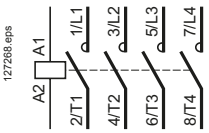
**LC1DT206... DT406**



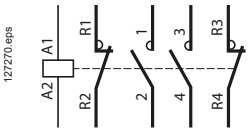

**LC1D0986....D2586**




**LC1D400046, LC1D800046**

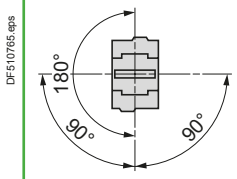
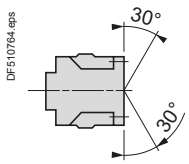
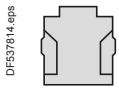
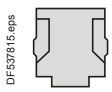



**LC1D400086, LC1D800086**



## Characteristics

### Environment

| Contactor type | | | LC1G115… 225 | LC1G265… 500 | LC1G630… 800 |
|---|---|---|---|---|---|
| Rated insulation voltage (Ui) | Conforming to IEC 60947-4-1, overvoltage category III, degree of pollution: 3 | **V** | 1000 | 1000 | 1000 |
| Rated impulse withstand voltage (Uimp) | Coil not connected to the power circuit | **kV** | 8 | 8 | 8 |
| Conforming to standards | | | IEC/EN 60947-4-1, UL 60947-4-1, CSA C22.2 n° 60947-4-1, JIS C 8201-4-1, GB/T 14048.4, IEC 60721-3-3 3C3, EN 45545 R22 HL2, IEC 61373, IEC 60077, EN 50155, TB/T 3526-2018, GB 21413-1/2, GB/T 25119, GB/T 21563-2018 | | |
| Product certifications | | | CB scheme, CCC Mark, cULus, EAC, UKCA Marking | | |
| Electromagnetic compatibility | | | IEC 60947-4-1 | | |
| Immunity | | | Following IEC 60947-4-1 Table 14 | | |
| Emission | | | Environment A according to IEC 60947-4-1 | | |
| Immunity to radiated electromagnetic interference | | | 20 V/m according to IEC/EN 61000-4-3 | | |
| Voltage sag immunity (in complete product as well) | | | Conforming to SEMI-F47 | | |
| Degree of protection | Conforming to IEC 60529 / VDE 0106 | | IP2x with terminal shrouds LA9G37●●/ LA9G47●● | | |
| Climatic withstand | | | According to IACS E10 | | |
| Ambient air temperature around the device | Storage | **°C** | -60…+80 | | |
| | Operation | **°C** | -25…+60 | | |
| | Permissible at Uc | **°C** | -40…+70 | | |
| Net weight | 3P | **kg** | 3.6 | 7.5 | 14.2 |
| | 4P | **kg** | 4.4 | 8.2 | 18 |
| Maximum operating altitude | Without derating | **m** | 3000 | | |
| Operating positions | Without derating | |     | | |
| | With derating [1] | |     | | |
| Shock resistance 1/2 sine wave = 11 ms Conforming to IEC 60068-2-7 | Contactor open | | 10 gn | 10 gn | 10 gn |
| | Contactor closed | | 15 gn | 15 gn | 15 gn |
| Vibration resistance 5…300 Hz Conforming to IEC 60068-2-6 | Contactor open | | 2 gn | 2 gn | 2 gn |
| | Contactor closed | | 4 gn | 4 gn | 4 gn |

*(1) For derating details, please contact your Technical Support.*

## Characteristics

### 3 Pole & 4 Pole characteristics

| Contactor type | | | | | LC1G115 | LC1G150 | LC1G185 | LC1G225 |
|---|---|---|---|---|---|---|---|---|
| Number of poles | | | | | 3 or 4 | 3 or 4 | 3 or 4 | 3 or 4 |
| Rated operational current (Ie) | Ue ≤ 400 V | 3P | In AC-3 / AC-3e, θ ≤ 60 °C | A | 115 / 115 | 150 / 145 | 185 / 177 | 225 / 209 |
| | Ue ≤ 1000 V | 3P & 4P | In AC-1, θ ≤ 40 °C | A | 250 | 275 | 305 | 330 |
| Rated operational voltage (Ue) | | Up to | | V | 1000 (1) | 1000 | 1000 | 1000 |
| Rated frequency (f) (2) | | | | Hz | 50 / 60 | 50 / 60 | 50 / 60 | 50 / 60 |
| Frequency operating limits | | With derating (3) | | Hz | $16^{2/3}$…400 | $16^{2/3}$…400 | $16^{2/3}$…400 | $16^{2/3}$…400 |
| Conventional thermal current | | θ ≤ 40 °C | | A | 250 | 275 | 305 | 330 |
| Rated making capacity | | I rms conforming to IEC 60947-4-1 | | A | Making current: 10 x I in AC-3 or 12 x I in AC-4<br>Making current: 13 x I in AC-3e | | | |
| Rated breaking capacity | | I rms conforming to IEC 60947-4-1 | | A | Making and breaking current: 8 x I in AC-3 or 10 x I in AC-4<br>Making and breaking current: 8.5 x I in AC-3e | | | |
| Maximum permissible current No current flowing for previous 60 minutes, at θ ≤ 40 °C | | For 10 s | | A | 1100 | 1200 | 1500 | 1800 |
| | | For 30 s | | A | 640 | 700 | 920 | 1000 |
| | | For 1 min | | A | 520 | 600 | 740 | 850 |
| | | For 3 min | | A | 400 | 450 | 500 | 560 |
| | | For 10 min | | A | 320 | 350 | 400 | 440 |
| Short-circuit protection by fuses | | Fuses for motor: type aM - Ue ≤ 440 V | | A | 125 | 160 | 200 | 250 |
| | | Fuses for motor: type aM - Ue ≤ 690 V | | A | 125 | 160 | 160 | 200 |
| | | Fuses for general application: type gG - Ue ≤ 690 V | | A | 315 | 315 | 315 | 400 |
| Average impedance per pole | | At Ith and 50 Hz | | mΩ | 0.18 | 0.18 | 0.17 | 0.15 |
| Power dissipation per pole for the above operational currents | | AC-3 / AC-3e | | W | 3 | 5 | 6 | 8 |
| | | AC-1 | | W | 10 | 10 | 20 | 20 |

*(1) Ue ≤ 1000 V for AC-1 / Ue ≤ 690 V for AC-3 / AC-3e / AC-4.*
*(2) Please consult your technical support team for application with frequencies other than 50/60 Hz.*
*(3) For derating details, please contact technical support.*

## Characteristics

| 3 Pole & 4 Pole characteristics | | | | | |
|---|---|---|---|---|---|
| **LC1G265** | **LC1G330** | **LC1G400** | **LC1G500** | **LC1G630** | **LC1G800** |
| 3 or 4 | 3 or 4 | 3 or 4 | 3 or 4 | 3 or 4 | 3 or 4 |
| 265 / 255 | 330 / 294 | 400 / 391 | 500 / 437 | 630 / 555 | 800 / 587 |
| 385 | 440 | 550 | 700 | 1050 | 1050 |
| 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| 50 / 60 | 50 / 60 | 50 / 60 | 50 / 60 | 50 / 60 | 50 / 60 |
| $16^{2/3}$…400 | $16^{2/3}$…400 | $16^{2/3}$…400 | $16^{2/3}$…400 | $16^{2/3}$…400 | $16^{2/3}$…400 |
| 385 | 440 | 550 | 700 | 1050 | 1050 |
| Making current: 10 x I in AC-3 or 12 x I in AC-4<br>Making current: 13 x I in AC-3e | | | | | |
| Making and breaking current: 8 x I in AC-3 or 10 x I in AC-4<br>Making and breaking current: 8.5 x I in AC-3e | | | | | |
| 2200 | 2650 | 3600 | 4000 | 5050 | 5500 |
| 1230 | 1800 | 2400 | 2800 | 4400 | 4600 |
| 950 | 1300 | 1700 | 2200 | 3400 | 3600 |
| 620 | 900 | 1200 | 1500 | 2200 | 2600 |
| 480 | 750 | 1000 | 1200 | 1600 | 1700 |
| 315 | 400 | 500 | 500 | 630 | 800 |
| 250 | 250 | 315 | 400 | 500 | 630 |
| 400 | 500 | 630 | 800 | 1250 | 1250 |
| 0.144 | 0.144 | 0.1 | 0.08 | 0.065 | 0.065 |
| 11 | 16 | 16 | 20 | 26 | 42 |
| 20 | 30 | 30 | 40 | 70 | 70 |

## Characteristics

### Power circuit connections

| Contactor type | | | LC1 | G115 | G150 | G185 | G225 | G265 | G330 | G400 | G500 | G630 | G800 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Connection | | | | Maximum c.s.a. | | | | | | | | | |
| | Bar | Number of bars | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | | Bar | **mm** | 25 x 6 | 25 x 6 | 25 x 6 | 25 x 6 | 32 x 10 | 32 x 10 | 32 x 10 | 32 x 10 | 52 x 20 | 52 x 20 |
| | Cable with lug | | **mm²** | 185 | 185 | 185 | 185 | 240 | 2 x 150 | 2 x 185 | 2 x 240 | - | - |
| | Cable with connector | | **mm²** | 185 | 185 | 185 | 185 | 240 | - | - | - | - | - |
| | Bolt diameter | | **mm** | Ø8.5 | Ø8.5 | Ø8.5 | Ø8.5 | Ø10.6 | Ø10.6 | Ø10.6 | Ø10.6 | Ø13 | Ø13 |
| Tightening torque | Power circuit connections | | **N.m** | 18 | 18 | 18 | 18 | 35 | 35 | 35 | 35 | 58 | 58 |

### Control circuit connections

| Contactor type | | | | LC1G115…225 | LC1G265…330 | LC1G400…500 | LC1G630…800 |
|---|---|---|---|---|---|---|---|
| Coil control connection (Push-in type) | | | | Min/max c.s.a. | | | |
| Flexible cable | 1 conductor with cable end | **mm²** |  | 0.25...2.5 | 0.25...2.5 | 0.25...2.5 | 0.25...2.5 |
| | 2 conductors with Dual Sleeve | **mm²** |  | 0.5...1 | 0.5...1 | 0.5...1 | 0.5...1 |
| Solid cable | 1 conductor | **mm²** |  | 0.2...2.5 | 0.2...2.5 | 0.2...2.5 | 0.2...2.5 |
| | Stripping length | **mm** |  | 12 | 12 | 12 | 12 |
| Screw driver | Flat screwdriver Ø | **mm** | | 3.5 | 3.5 | 3.5 | 3.5 |

### Control circuit characteristics with AC/DC coils

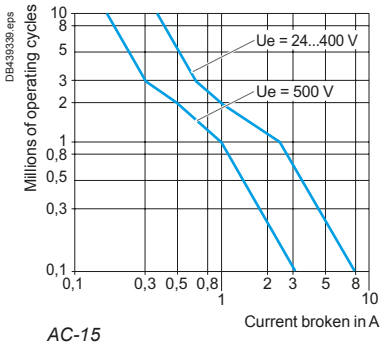
| Contactor type | | | | | LC1G115…225 | LC1G265…330 | LC1G400…500 | LC1G630…800 |
|---|---|---|---|---|---|---|---|---|
| Rated control circuit voltage (Uc) | | | | **V** | 48...130 AC/DC | | | |
| Control voltage limits (θ ≤ 60 °C) | AC input (50/60 Hz) /DC input | Operation | | | 0.8 Uc Min...1.1 Uc Max | | | |
| | | Drop-out | | | 0.1 Uc Max...0.45 Uc Min | | | |
| Average consumption at 20 °C and at Uc (3 and 4-pole contactors) | 48...130 V AC/DC coil (EHE) | Inrush | 50/60 Hz coil | **VA** | 640 | 780 | 965 | 990 |
| | | | DC | **W** | 445 | 695 | 760 | 790 |
| | | Sealed | 50/60 Hz coil | **VA** | 18.7 | 17.6 | 17.6 | 18.7 |
| | | | DC | **W** | 7.8 | 7.8 | 7.8 | 9.5 |
| Heat dissipation | | | | **W** | 5…6 | 6…7 | 6…7 | 6…7 |
| Operating time | Closing "C" | | | **ms** | 40...70 | 40...70 | 40...70 | 40...70 |
| | Opening "O" | | | **ms** | 15...50 | 15...50 | 15...50 | 15...50 |
| Mechanical durability at Uc | In millions of operating cycles (max) | | | | 8 | 8 | 8 | 5 |
| Maximum operating rate at ambient temperature ≤ 60 °C | In operating cycles per hour | | AC-1 | | 300 | 300 | 300 | 300 |
| | | | AC-3 | | 500 | 500 | 500 | 500 |
| | | | AC-4 | | 150 | 150 | 60 | 60 |

### Characteristics of auxiliary contact modules

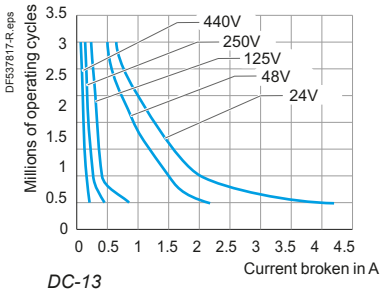
| | | | | |
|---|---|---|---|---|
| Mechanically linked contacts | Conforming to IEC 60947-5-1 | | | Each contactor is equipped with 1 NO + 1 NC auxiliary contact block and they are mechanically linked mirror contacts |
| Mirror contact | Conforming to IEC 60947-4-1 | | | The NC contact of the auxiliary contact block is mirror contact |
| Rated operational voltage (Ue) | AC-15 | Up to | **V** | 500 |
| Rated operational voltage (Ue) | DC-13 | Up to | **V** | 440 |
| Conventional thermal current (Ith) | For ambient temperature ≤ 60 °C | | **A** | 10 |

## Characteristics

| Characteristics of auxiliary contact modules | | | | |
|---|---|---|---|---|
| Number of auxiliary contact modules | | Up to | | 4 |
| Rated operational voltage (Ue) | AC-15 | Up to | **V** | 500 |
| Rated operational voltage (Ue) | DC-13 | Up to | **V** | 440 |
| Rated thermal current (Ith) | For ambient temperature ≤ 60 °C | | **A** | 10 |
| Minimum load | | | | 1 mA at 17 V DC |




*AC-15*




*DC-13*

### Operational power of contacts conforming to IEC 60947-5-1 - Electrical durability

**category AC-15**

| Operating cycles | V | 24 | 48 | 115 | 230 | 400 | 500 |
|---|---|---|---|---|---|---|---|
| 1 million | **VA** | 60 | 120 | 280 | 560 | 800 | 500 |
| 2 million | **VA** | 24 | 48 | 115 | 230 | 400 | 250 |
| 3 million | **VA** | 16 | 32 | 80 | 160 | 280 | 150 |

**category DC-13**

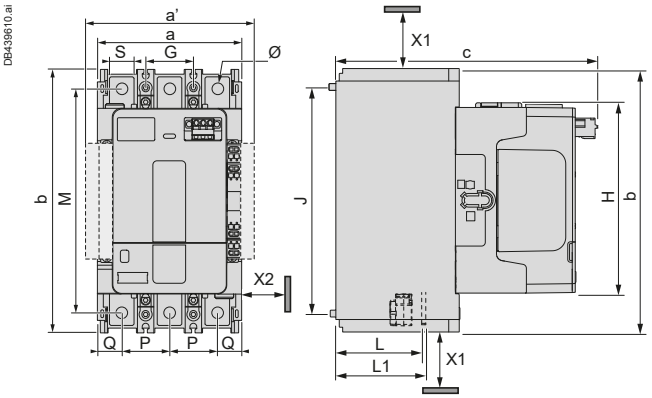
| Operating cycles | V | 24 | 48 | 125 | 250 | 440 |
|---|---|---|---|---|---|---|
| 0.5 million | **W** | 100 | 100 | 105 | 110 | 88 |
| 1 million | **W** | 48 | 72 | 54 | 54 | 55 |
| 2 million | **W** | 24 | 36 | 38 | 38 | 39 |
| 3 million | **W** | 16 | 24 | 25 | 25 | 33 |

| Connector characteristics | | | | |
|---|---|---|---|---|
| Push-in connection - Dual input | | | | Min/max c.s.a. |
| Flexible cable per input | 1 conductor with cable end | **mm²** |  | 0.75...2.5 |
| | 2 conductors with Dual Sleeve | **mm²** |  | 0.75...2.5 |
| | Stripping length | **mm²** |  | 10 |
| Solid cable per input | 1 conductor | **mm²** |  | 0.75...2.5 |
| | Stripping length | **mm** |  | 12 |

## Dimensions

### LC1G115...225

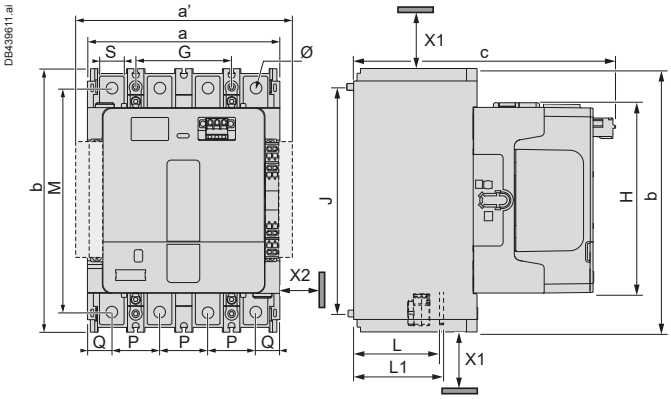
#### 3-pole




All dimensions are in mm.

| a | b | c | G | J | M | H | L | L1 | P | Q | S | Ø |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 107.7 | 193 | 192.9 | 35 | 166 | 164.1 | 139.4 | 66.9 | 69.9 | 35 | 18.9 | 18 | 8.5 |

#### 4-pole




All dimensions are in mm.

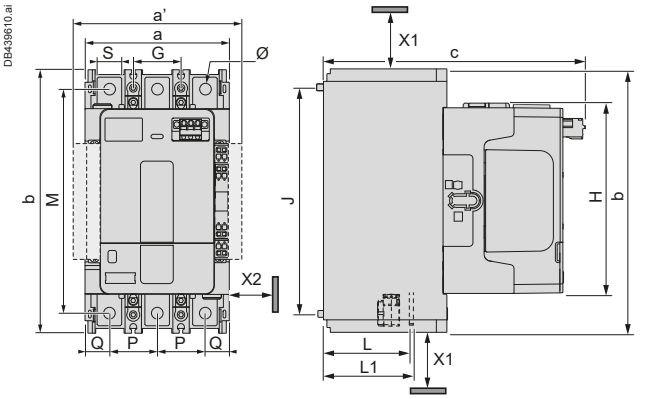
| a | b | c | G | J | M | H | L | L1 | P | Q | S | Ø |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 142.7 | 193 | 192.9 | 35 | 166 | 164.1 | 139.4 | 66.9 | 69.9 | 35 | 18.9 | 18 | 8.5 |

X1 (mm) = Minimum electrical clearance.
LC1G115…800, up to 1000 V: 40 mm
X2 (mm) = Minimum electrical clearance according to operating voltage inside metallic cabinets / adjacent installation of contactors.
LC1G115…800: 5 mm.

a' = a + 20 mm with additional auxiliary contact blocks on both sides (externally).

### LC1G265...500

#### 3-pole

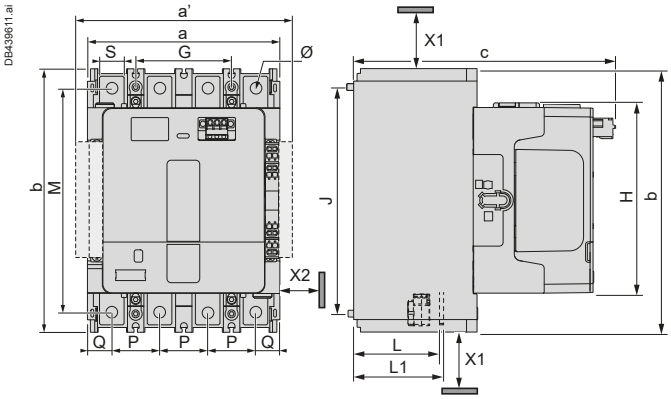



All dimensions are in mm.

| a | b | c | G | J | M | H | L | L1 |
|---|---|---|---|---|---|---|---|---|
| 140 | 225 | 225.5 | 45 | 187 | 197 | 161.8 | 78.8 | LC1G265-330: 81.8<br>LC1G400: 82.8<br>LC1G500: 83.8 |

| P | Q | S | Ø |
|---|---|---|---|
| 45 | 25 | 30 | 10.6 |

#### 4-pole




All dimensions are in mm.

| a | b | c | G | J | M | H | L | L1 |
|---|---|---|---|---|---|---|---|---|
| 185 | 225 | 225.5 | 45 | 187 | 197 | 161.8 | 78.8 | LC1G265-330: 81.8<br>LC1G400: 82.8<br>LC1G500: 83.8 |

| P | Q | S | Ø |
|---|---|---|---|
| 45 | 25 | 30 | 10.6 |

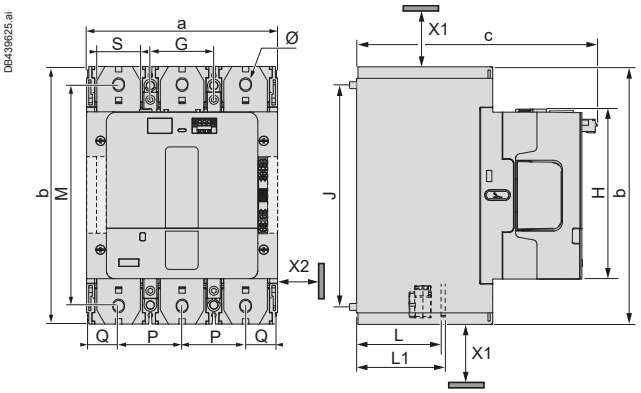
X1 (mm) = Minimum electrical clearance.
LC1G115…800, up to 1000 V: 40 mm.
X2 (mm) = Minimum electrical clearance according to operating voltage inside metallic cabinets / adjacent installation of contactors.
LC1G115…800: 5 mm.

a' = a + 20 mm with additional auxiliary contact blocks on both sides (externally).

## Dimensions and schemes

### LC1G630...800

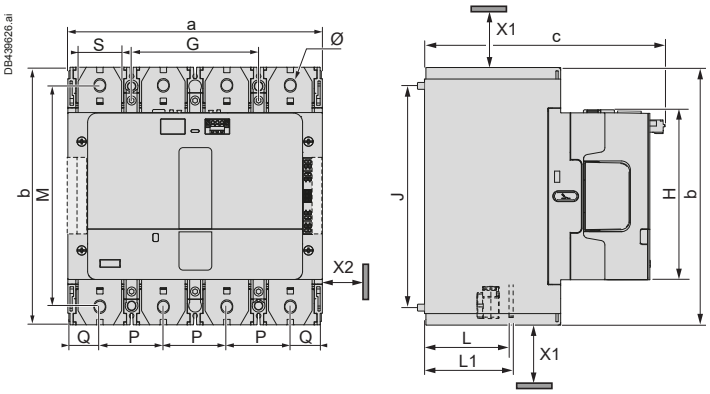
#### 3-pole




All dimensions are in mm.

| a | b | c | G | J | M | H | L | L1 | P | Q | S | Ø |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 210.6 | 284 | 265.6 | 70 | 242 | 244 | 187.4 | 107 | 113 | 70 | 35.3 | 48 | 13 |

#### 4-pole




All dimensions are in mm.

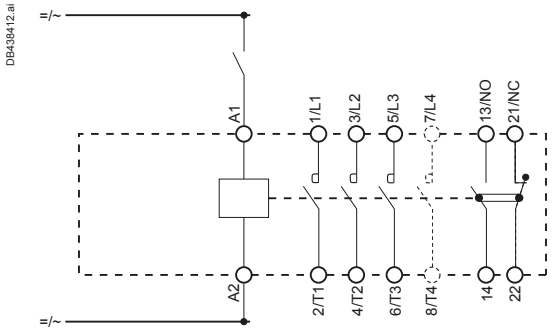
| a | b | c | G | J | M | H | L | L1 | P | Q | S | Ø |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 280.6 | 284 | 265.6 | 70 | 242 | 244 | 187.4 | 107 | 113 | 70 | 35.3 | 48 | 13 |

X1 (mm) = Minimum electrical clearance.
LC1G115…800, up to 1000 V: 40 mm.
X2 (mm) = Minimum electrical clearance according to operating voltage inside metallic cabinets / adjacent installation of contactors.
LC1G115…800: 5 mm.

## Contactors

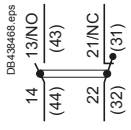
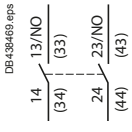
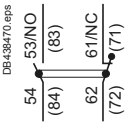
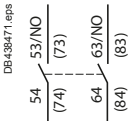
### 3-pole or 4-pole contactors

#### LC1G115...G800




### Add-on blocks

#### Instantaneous auxiliary contacts

| 1 N/O + 1 N/C | 2 N/O | 1 N/O + 1 N/C | 2 N/O |
|---|---|---|---|
| **LAG8N113P mirror contacts** | **LAG8N203P** | **LAG8N113 mirror contacts** | **LAG8N203** |
|  |  |  |  |









***Note:*** *Terminal numbers in brackets refer to blocks when mounted upside down, on left-hand side of contactor.*

# Green Premium™

## An industry leading portfolio of offers delivering sustainable value

More than 75% of our product sales offer superior transparency on the material content, regulatory information and environmental impact of our products:

- RoHS compliance
- REACh substance information
- Industry leading # of PEP's*
- Circularity instructions
- Sustainable packaging

The Green Premium program stands for our commitment to deliver customer valued sustainable performance. It has been upgraded with recognized environmental claims and extended to cover all offers including Products, Services and Solutions.

### $CO_2$ and P&L impact through… Resource Performance

Green Premium brings improved resource efficiency throughout an asset's lifecycle. This includes efficient use of energy and natural resources, along with the minimization of $CO_2$ emissions.

### Cost of ownership optimization through… Circular Performance

We're helping our customers optimize the total cost of ownership of their assets. To do this, we provide IoT-enabled solutions, as well as upgrade, repair, retrofit, and remanufacture services.

### Peace of mind through… Well-being Performance

Green Premium products are RoHS and REACh compliant. We're going beyond regulatory compliance with step-by-step substitution of certain materials and substances from our products.

### Improved sales through… Differentiation

Green Premium delivers strong value propositions through third-party labels and services. By collaborating with third-party organizations we can support our customers in meeting their sustainability goals such as green building certifications.

Discover what we mean by green
Check your products!

*PEP: Product Environmental Profile (i.e. Environmental Product Declaration)

Life Is On | Schneider Electric

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