

Product datasheet

Specifications



TeSys F contactor - 3P (3 NO) - AC-3 - <= 440 V 500 A - coil 48 V AC

Local distributor code: 402856522 LC1F500E7

To be discontinued on: 31 December 2022

To be discontinued

EAN Code : 3389110227024

Main

| | |
|--------------------------------|--|
| Range | TeSys |
| Range of product | TeSys F |
| Product or component type | Contactor |
| Device short name | LC1F |
| Contactor application | Resistive load Motor control |
| Utilisation category | AC-4 AC-1 AC-3 |
| Poles description | 3P |
| [Ue] rated operational voltage | <= 1000 V AC 50/60 Hz <= 460 V DC |
| [Uc] control circuit voltage | 48 V AC 40...400 Hz |
| [Ie] rated operational current | 700 A (at <40 °C) at <= 440 V AC AC-1 500 A (at <55 °C) at <= 440 V AC AC-3 |

Complementary

| | |
|---|---|
| [Uimp] rated impulse withstand voltage | 8 kV |
| [Ith] conventional free air thermal current | 700 A (at 40 °C) |
| Rated breaking capacity | 4000 A conforming to IEC 60947-4-1 |
| [Icw] rated short-time withstand current | 4200 A 40 °C - 10 s 3200 A 40 °C - 30 s 2400 A 40 °C - 1 min 1500 A 40 °C - 3 min 1200 A 40 °C - 10 min |
| Associated fuse rating | 500 A aM at <= 440 V 800 A gG at <= 440 V |
| Average impedance | 0.18 mOhm - Ith 700 A 50 Hz |
| [Ui] rated insulation voltage | 1000 V conforming to IEC 60947-4-1 1500 V conforming to VDE 0110 group C |
| Power dissipation per pole | 88 W AC-1 45 W AC-3 |
| Overvoltage category | III |
| Power pole contact composition | 3 NO |

| | |
|--|--|
| Motor power kW | 250 kW at 380...400 V AC 50/60 Hz (AC-3) 280 kW at 415 V AC 50/60 Hz (AC-3) 295 kW at 440 V AC 50/60 Hz (AC-3) 355 kW at 500 V AC 50/60 Hz (AC-3) 335 kW at 660...690 V AC 50/60 Hz (AC-3) 335 kW at 1000 V AC 50/60 Hz (AC-3) 147 kW at 220...230 V AC 50/60 Hz (AC-3) 80 kW at 400 V AC 50/60 Hz (AC-4) |
| Control circuit voltage limits | Operational: 0.85...1.1 Uc 40...400 Hz (at 55 °C) Drop-out: 0.3...0.5 Uc 40...400 Hz (at 55 °C) |
| Mechanical durability | 10 Mcycles |
| Inrush power in VA | 1100 VA, 40...400 Hz cos phi 0.9 (at 20 °C) |
| Hold-in power consumption in VA | 18 VA, 40...400 Hz cos phi 0.9 (at 20 °C) |
| Maximum operating rate | 2400 cyc/h 55 °C |
| Operating time | 40...65 ms closing 100...170 ms opening |
| Connections - terminals | Control circuit: screw clamp terminals 1 cable(s) 1...4 mm ² flexible without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm ² flexible without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm ² flexible with cable end Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm ² flexible with cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm ² solid without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm ² solid without cable end Power circuit: bar 2 cable(s) - busbar cross section: 40 x 5 mm Power circuit: lugs-ring terminals 2 cable(s) 240 mm ² Power circuit: bolted connection |
| Tightening torque | Control circuit: 1.2 N.m Power circuit: 35 N.m |
| Mounting support | Plate |
| Heat dissipation | 18 W |
| Motor power range | 250...500 kW at 380...440 V 3 phases 110...220 kW at 380...440 V 3 phases 110...220 kW at 200...240 V 3 phases 250...500 kW at 480...500 V 3 phases |
| Motor starter type | Direct on-line contactor |
| Contactors coil voltage | 48 V AC standard |
| Standards | EN 60947-4-1 EN 60947-1 IEC 60947-1 IEC 60947-4-1 JIS C8201-4-1 |
| Product certifications | CSA RINA RMRoS DNV CB BV ABS UL LROS (Lloyds register of shipping) UKCA |
| Compatibility code | LC1F |
| Control circuit type | AC at 40...400 Hz |
| Environment | |
| IP degree of protection | IP20 front face with shrouds conforming to IEC 60529 IP20 front face with shrouds conforming to VDE 0106 |
| Protective treatment | TH |
| Ambient air temperature for operation | -5...55 °C |
| Ambient air temperature for storage | -60...80 °C |
| Permissible ambient air temperature around the device | -40...70 °C |

| | |
|--------------------|-------------------------|
| Height | 238 mm |
| Width | 233 mm |
| Depth | 232 mm |
| Operating altitude | 3000 m without derating |
| Net weight | 11.35 kg |

Packing Units

| | |
|------------------------------|-----------|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 26.0 cm |
| Package 1 Width | 30.0 cm |
| Package 1 Length | 29.0 cm |
| Package 1 Weight | 11.935 kg |

Offer Sustainability

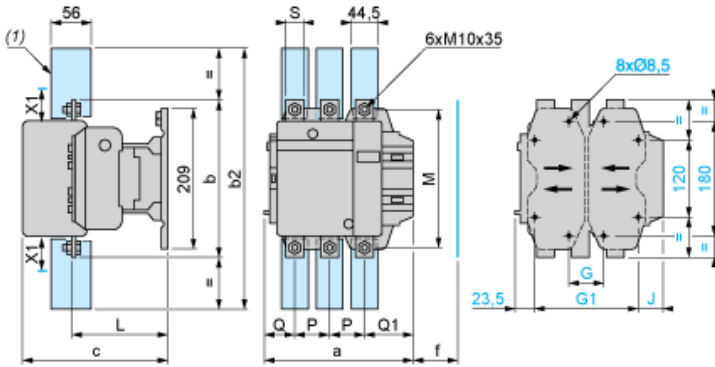
| | |
|----------------------------|---|
| Sustainable offer status | Green Premium product |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Compliant EU RoHS Declaration |
| Mercury free | Yes |
| RoHS exemption information | Yes |
| China RoHS Regulation | China RoHS declaration Product out of China RoHS scope. Substance declaration for your information |
| Environmental Disclosure | Product Environmental Profile |
| Circularity Profile | End of Life Information |
| WEEE | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |

Contractual warranty

| | |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Dimensions and Drawings

LC1 F400 and F500



(1) Power terminal protection shroud

NOTE: X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

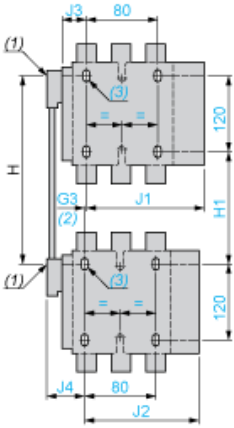
| | | |
|------|-------------|--------------|
| LC1 | 200...500 V | 600...1000 V |
| F400 | 15 | 20 |
| F500 | 15 | 20 |

| LC1 | | a | b | b2 | c | f | G suppl | G min. | G max | G1 sup | G1 mir | G1 ma | J | L | M | P | Q | Q1 | S |
|------|----|-----|-----|-----|-----|-----|---------|--------|-------|--------|--------|-------|------|-----|-----|----|----|-----|----|
| F400 | 2P | 213 | 206 | 375 | 219 | 146 | 80 | 66 | 102 | 170 | 156 | 192 | 19.5 | 145 | 181 | 48 | 69 | 96 | 25 |
| | 3P | 213 | 206 | 375 | 219 | 146 | 80 | 66 | 102 | 170 | 156 | 192 | 19.5 | 145 | 181 | 48 | 43 | 74 | 25 |
| | 4P | 261 | 206 | 375 | 219 | 146 | 80 | 66 | 150 | 170 | 156 | 240 | 67.5 | 145 | 181 | 48 | 43 | 74 | 25 |
| F500 | 2P | 233 | 238 | 400 | 232 | 150 | 80 | 66 | 120 | 170 | 156 | 210 | 39.5 | 146 | 208 | 55 | 76 | 102 | 30 |
| | 3P | 233 | 238 | 400 | 232 | 150 | 80 | 66 | 120 | 170 | 156 | 210 | 39.5 | 146 | 208 | 55 | 46 | 77 | 30 |
| | 4P | 288 | 238 | 400 | 232 | 150 | 140 | 66 | 175 | 230 | 156 | 265 | 34.5 | 146 | 208 | 55 | 46 | 77 | 30 |

TeSys F reversing contactors and changeover contactor pairs Vertically mounted

NOTE: For customer assembly, with mechanical interlock (MI) LA9 F, fixing recommended on AM1 EC uprights (please consult your Regional Sales Office). 2 x LC1 identical or different ratings (LC1 F115 to F630 and F800).

Assembly A



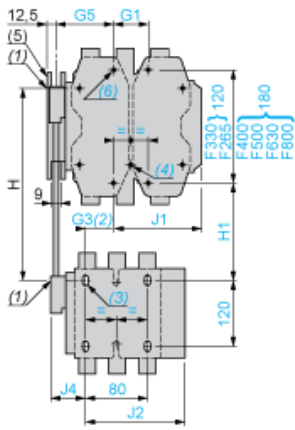
- (1) Mechanical interlock shaft.
- (2) For assembly of contactors of different ratings only.
- (3) 4 x Ø6.5 for LC1 F115 to F225.

Assembly A⁽⁷⁾ - Mechanical interlock reference

| | G3 3P | G3 4P | H min. | H max. | H1 min. | H1 max. | J1 3P | J1 4P |
|----------|-------|-------|--------|--------|---------|---------|-------|-------|
| LA9 FF4F | 0 | 0 | 200 | 310 | 80 | 190 | 137 | 155.5 |
| LA9 FG4F | 3 | 4 | 210 | 300 | 90 | 180 | 139.5 | 159.5 |
| LA9 FG4G | 0 | 0 | 220 | 310 | 100 | 190 | 139.5 | 159.5 |

| | J2 3P | J2 4P | J3 3P | J3 4P | J4 3P | J4 4P |
|----------|-------|-------|-------|-------|-------|-------|
| LA9 FF4F | 137 | 155.5 | 48.5 | 67 | 48.5 | 67 |
| LA9 FG4F | 137 | 155.5 | 53 | 73 | 54 | 69 |
| LA9 FG4G | 139.5 | 159.5 | 53 | 73 | 53 | 73 |

Assembly B

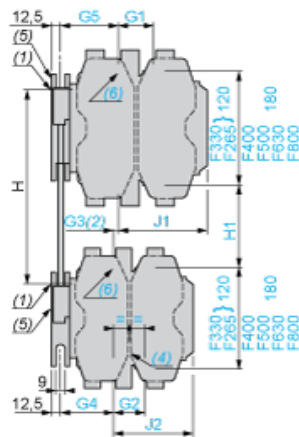


- (4) 4 x Ø6.5 for LC1 F265.
- (5) Mechanical interlock guide bracket.

Assembly B⁽⁷⁾ - Mechanical interlock reference

| | G1 3P | G1 4P | G3 3P | G3 4P | G5 3P | G5 4P | H min. | H max. |
|----------|---------|---------|-------|-------|-------|-------|--------|--------|
| LA9 FH4F | 96 | 96 | 21 | 27 | 60 | 83 | 240 | 380 |
| LA9 FJ4F | 80 | 80 | 45 | 26 | 83 | 83 | 250 | 380 |
| LA9 FK4F | 80 | 140 | 45 | 26 | 83 | 83 | 270 | 380 |
| LA9 FL4F | 180 | 240 | 35 | 17 | 74 | 74 | 310 | 380 |
| LA9 FH4G | 96 | 96 | 19 | 23 | 60 | 83 | 250 | 380 |
| LA9 FJ4G | 80 | 80 | 42 | 22 | 83 | 83 | 250 | 380 |
| LA9 FK4G | 80 | 140 | 42 | 22 | 83 | 83 | 270 | 380 |
| LA9 FL4G | 180 | 240 | 33 | 13 | 74 | 74 | 310 | 380 |
| | H1 min. | H1 max. | J1 3P | J1 4P | J2 3P | J2 4P | J4 3P | J4 4P |
| LA9 FH4F | 110 | 250 | 157.5 | 181.5 | 137 | 155.5 | 48.5 | 67 |
| LA9 FJ4F | 80 | 210 | 144.5 | 192.5 | 137 | 155.5 | 48.5 | 67 |
| LA9 FK4F | 100 | 210 | 164.5 | 219.5 | 137 | 155.5 | 48.5 | 67 |
| LA9 FL4F | 140 | 210 | 248.5 | 328.5 | 137 | 155.5 | 48.5 | 67 |
| LA9 FH4G | 120 | 250 | 157.5 | 181.5 | 139.5 | 159.5 | 53 | 73 |
| LA9 FJ4G | 90 | 220 | 144.5 | 192.5 | 139.5 | 159.5 | 53 | 73 |
| LA9 FK4G | 110 | 220 | 164.5 | 219.5 | 139.5 | 159.5 | 53 | 73 |
| LA9 FL4G | 150 | 220 | 248.5 | 328.5 | 139.5 | 159.5 | 53 | 73 |

Assembly C



- (6) 4 x Ø8.5 for LC1 F400, F500 or 4 x Ø10.5 for LC1 F630 and F800.



(7) Only 3P for F800.

(8) In this case, G4 is greater than G5.

Assembly C⁽⁷⁾

| | G1 3P | G1 4P | G2 3P | G2 4P | G3 3P | G3 4P | G4 3P | G4 4P | G5 3P | G5 4P |
|----------|-------|-------|-------|-------|------------------|------------------|-------|-------|-------|-------|
| LA9 FH4H | 96 | 96 | 96 | 96 | 0 | 0 | 60 | 83 | 60 | 83 |
| LA9 FJ4H | 80 | 80 | 96 | 96 | 23 | 0 | 60 | 83 | 83 | 83 |
| LA9 FK4H | 80 | 140 | 96 | 96 | 23 | 0 | 60 | 83 | 83 | 83 |
| LA9 FL4H | 180 | 240 | 96 | 96 | 14 | g ⁽⁸⁾ | 60 | 83 | 74 | 74 |
| LA9 FJ4J | 80 | 80 | 80 | 80 | 0 | 0 | 83 | 83 | 83 | 83 |
| LA9 FK4J | 80 | 140 | 80 | 80 | 0 | 0 | 83 | 83 | 83 | 83 |
| LA9 FL4J | 180 | 240 | 80 | 80 | g ⁽⁸⁾ | g ⁽⁸⁾ | 83 | 83 | 74 | 74 |
| LA9 FK4K | 80 | 140 | 80 | 140 | 0 | 0 | 83 | 83 | 83 | 83 |
| LA9 FL4K | 180 | 240 | 80 | 140 | g ⁽⁸⁾ | g ⁽⁸⁾ | 83 | 83 | 74 | 74 |
| LA9 FL4L | 180 | 240 | 180 | 240 | 0 | 0 | 74 | 74 | 74 | 74 |

| | H min. | H max. | H1 min. | H1 max. | J1 3P | J1 4P | J2 3P | J2 4P |
|----------|--------|--------|---------|---------|-------|-------|-------|-------|
| LA9 FH4H | 250 | 380 | 130 | 260 | 157.5 | 181.5 | 157.5 | 181.5 |
| LA9 FJ4H | 260 | 380 | 110 | 230 | 144.5 | 192.5 | 157.5 | 181.5 |
| LA9 FK4H | 280 | 380 | 130 | 230 | 164.5 | 219.5 | 157.5 | 181.5 |
| LA9 FL4H | 330 | 380 | 170 | 220 | 248.5 | 328.5 | 157.5 | 181.5 |
| LA9 FJ4J | 260 | 380 | 60 | 200 | 144.5 | 192.5 | 144.5 | 192.5 |
| LA9 FK4J | 280 | 380 | 100 | 200 | 164.5 | 219.5 | 144.5 | 192.5 |
| LA9 FL4J | 325 | 380 | 140 | 195 | 248.5 | 329.5 | 144.5 | 192.5 |
| LA9 FK4K | 300 | 380 | 120 | 200 | 164.5 | 329.5 | 164.5 | 219.5 |
| LA9 FL4K | 345 | 380 | 160 | 195 | 248.5 | 328.5 | 164.5 | 219.5 |
| LA9 FL4L | 380 | 380 | 200 | 200 | 248.5 | 328.5 | 248.5 | 328.5 |

Connections and Schema

2, 3, and 4-pole Contactors



LC1 F115 to F630, F1250(coil LX1 F ~)



LC1 F115 to F630 , F1250 (coil LX4 F ≡)

LC1 F115 to F265 (coil LX9 F ~)

LC1 F800 (coil LX8 F ~ / ≡)

Recommended replacement(s)

LC1F500E7 is replaced by:

1x



High power contactor, TeSys Giga, 3 pole (3NO), AC-3 <=440V 500A, standard version, 48...130V wide band AC/DC coil

LC1G500EHEN
