



Main

| | |
|--------------------------------|---|
| Range | TeSys |
| Range of Product | TeSys F |
| Product or Component Type | Contactors |
| Device short name | LC1F |
| Contactors application | Motor control Resistive load |
| Utilisation category | AC-4 AC-3 AC-1 |
| Poles description | 3P |
| [Ue] rated operational voltage | <= 1000 V AC 50/60 Hz <= 460 V DC |
| [Uc] control circuit voltage | 220 V DC |
| [Ie] rated operational current | 1000 A (at <104 °F (40 °C)) at <= 440 V AC AC-1 630 A (at <131 °F (55 °C)) at <= 440 V AC AC-3 |

Complementary

| | |
|---|---|
| [Uimp] rated impulse withstand voltage | 8 kV |
| [Ith] conventional free air thermal current | 1000 A (at 104 °F (40 °C)) 1250 A |
| Rated breaking capacity | 5040 A conforming to IEC 60947-4-1 |
| [Icw] rated short-time withstand current | 5050 A 104 °F (40 °C) - 10 s 4400 A 104 °F (40 °C) - 30 s 3400 A 104 °F (40 °C) - 1 min 2200 A 104 °F (40 °C) - 3 min 1600 A 104 °F (40 °C) - 10 min |
| Associated fuse rating | 1000 A gG at <= 440 V 630 A aM at <= 440 V |
| Average impedance | 0.12 mOhm - Ith 1000 A 50 Hz |
| [Ui] rated insulation voltage | 1000 V IEC 60947-4-1 1500 V VDE 0110 group C |
| Power dissipation per pole | 120 W AC-1 48 W AC-3 |
| Overvoltage category | III |
| Power pole contact composition | 3 NO |
| Motor power kW | 335 kW at 380...400 V AC 50/60 Hz (AC-3) 375 kW at 415 V AC 50/60 Hz (AC-3) 400 kW at 440 V AC 50/60 Hz (AC-3) 400 kW at 500 V AC 50/60 Hz (AC-3) 450 kW at 660...690 V AC 50/60 Hz (AC-3) 450 kW at 1000 V AC 50/60 Hz (AC-3) 200 kW at 220...230 V AC 50/60 Hz (AC-3) 100 kW at 400 V AC 50/60 Hz (AC-4) |
| Control circuit voltage limits | Operational 0.85...1.1 Uc 131 °F (55 °C)) Drop-out 0.2...0.35 Uc 131 °F (55 °C)) |
| Mechanical durability | 5 Mcycles |
| Inrush power in W | 1600 W 68 °F (20 °C)) |
| Hold-in power consumption in W | 9 W 68 °F (20 °C)) |
| Maximum operating rate | 1200 cyc/h 131 °F (55 °C)) |
| Operating time | 60...70 ms closing 40...50 ms opening |

| | |
|-------------------------|--|
| Connections - terminals | Control circuit screw clamp terminals 1 0.00...0.01 in ² (1...4 mm ²)flexible without cable end Control circuit screw clamp terminals 2 0.00...0.01 in ² (1...4 mm ²)flexible without cable end Control circuit screw clamp terminals 1 0.00...0.01 in ² (1...4 mm ²)flexible with cable end Control circuit screw clamp terminals 2 0.00...0.00 in ² (1...2.5 mm ²)flexible with cable end Control circuit screw clamp terminals 1 0.00...0.01 in ² (1...4 mm ²)solid without cable end Control circuit screw clamp terminals 2 0.00...0.01 in ² (1...4 mm ²)solid without cable end Power circuit bar 2 60 x 5 mm Power circuit bolted connection |
| Tightening torque | Control circuit 10.62 lbf.in (1.2 N.m) Power circuit 513.34 lbf.in (58 N.m) |
| Mounting Support | Plate |
| Heat dissipation | 9 W |
| Motor power range | 250...500 KW 380...440 V 3 phase 110...220 KW 200...240 V 3 phase 250...500 kW 480...500 V 3 phase |
| Motor starter type | Direct on-line contactor |
| Contactor coil voltage | 220 V DC standard |
| Standards | IEC 60947-1 JIS C8201-4-1 EN 60947-1 EN 60947-4-1 IEC 60947-4-1 |
| Product Certifications | RINA[RETURN]CSA[RETURN]CB[RETURN]LRCS (Lloyds register of shipping) [RETURN]RMRoS[RETURN]DNV[RETURN]BV[RETURN]UL[RETURN]ABS[RETURN]UKCA |
| Compatibility code | LC1F |
| Control circuit type | DC standard |

Environment

| | |
|---|---|
| IP degree of protection | IP20 front face with shrouds IEC 60529 IP20 front face with shrouds VDE 0106 |
| Protective treatment | TH |
| Ambient Air Temperature for Operation | 23...131 °F (-5...55 °C) |
| Ambient Air Temperature for Storage | -76...176 °F (-60...80 °C) |
| Permissible ambient air temperature around the device | -40...158 °F (-40...70 °C) |
| Height | 11.97 in (304 mm) |
| Width | 12.17 in (309 mm) |
| Depth | 10.04 in (255 mm) |
| Operating altitude | 9842.52 ft (3000 m) without derating |
| Net Weight | 41.01 lb(US) (18.6 kg) |

Ordering and shipping details

| | |
|-------------------|---------------------------------|
| Category | 22331-CTR,F-LINE,DC,OPEN,NONREV |
| Discount Schedule | I12 |
| GTIN | 3389118094680 |
| Returnability | No |
| Country of origin | CZ |

Packing Units

| | |
|------------------------------|------------------------|
| Unit Type of Package 1 | PCE |
| Number of Units in Package 1 | 1 |
| Package 1 Height | 11.42 in (29.0 cm) |
| Package 1 Width | 13.78 in (35.0 cm) |
| Package 1 Length | 14.17 in (36.0 cm) |
| Package 1 Weight | 40.57 lb(US) (18.4 kg) |

Offer Sustainability

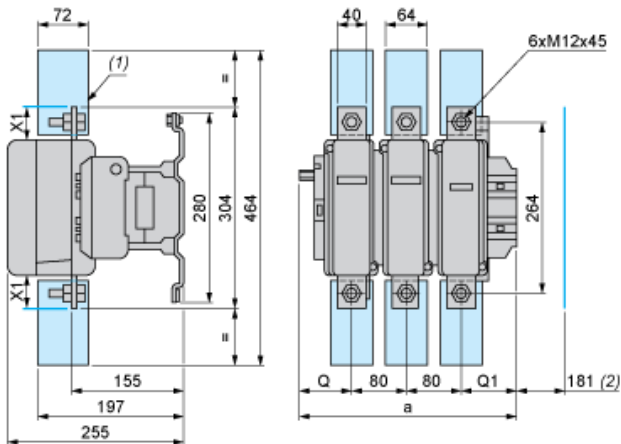
| | |
|----------------------------|---|
| Sustainable offer status | Green Premium product |
| California proposition 65 | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov |
| REACH Regulation | REACH Declaration |
| EU RoHS Directive | Compliant with Exemptions |
| Mercury free | Yes |
| China RoHS Regulation | China RoHS Declaration |
| RoHS exemption information | Yes |
| 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

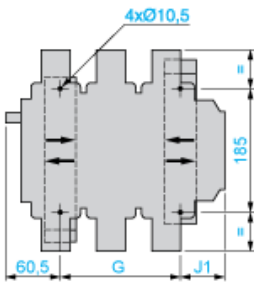
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|----------|-----------|
| Warranty | 18 months |
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Dimensions and Drawings

LC1 F630 and F800



- (1) Power terminal protection shroud.
- (2) Minimum distance required for coil removal.



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

| LC1 | | a | G supplied | G min. | G max. | J1 | Q | Q1 |
|------------|-------------|-----|--------------|--------|-------------|------|--------|-----|
| F630 | 2P | 309 | 180 | 100 | 195 | 68.5 | 102 | 127 |
| F630, F800 | 3P | 309 | 180 | 100 | 195 | 68.5 | 60 | 89 |
| F630 | 4P | 389 | 240 | 150 | 275 | 88.5 | 60 | 89 |
| Voltage | 200...500 V | | 690...1000 V | | 200...690 V | | 1000 V | |
| LC1 F630 | 20 | | 30 | | - | | - | |
| LC1 F800 | - | | - | | 10 | | 20 | |

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 |

| | H1 min. | H1 max. | J1 3P | J1 4P | J2 3P | J2 4P | J4 3P | J4 4P |
|----------|---------|---------|-------|-------|-------|-------|-------|-------|
| 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⁾

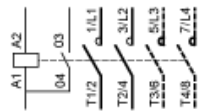
| | G1 3P | G1 4P | G2 3P | G2 4P | G3 3P | G3 4P | G4 3P | G4 4P | G5 3P | G5 4P |
|----------|-------|-------|-------|-------|------------------|------------------|-------|-------|-------|-------|
| LA9 FH4H | 96 | 96 | 96 | 96 | 0 | 0 | 60 | 83 | 60 | 83 |
| LA9 FJ4H | 80 | 80 | 96 | 96 | 23 | 0 | 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 |

| | H min. | H max. | H1 min. | H1 max. | J1 3P | J1 4P | J2 3P | J2 4P |
|----------|--------|--------|---------|---------|-------|-------|-------|-------|
| 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 ~ / ≡)

