# Product datasheet

Specifications



## TeSys F contactor - 3P (3 NO) - AC-3 - <= 440 V 400 A - coil 220 V AC

LC1F400M7

Discontinued on: May 1, 2024

To be discontinued

## Main

| | |
|---|---|
| **Range** | TeSys |
| **Range of product** | TeSys F |
| **Product or component type** | Contactor |
| **Device short name** | LC1F |
| **Contactor application** | Motor control<br>Resistive load |
| **Utilisation category** | AC-1<br>AC-4<br>AC-3 |
| **Poles description** | 3P |
| **[Ue] rated operational voltage** | <= 1000 V AC 50/60 Hz<br><= 460 V DC |
| **[Uc] control circuit voltage** | 220 V AC 40...400 Hz |
| **[Ie] rated operational current** | 500 A (at <40 °C) at <= 440 V AC AC-1<br>400 A (at <55 °C) at <= 440 V AC AC-3 |

## Complementary

| | |
|---|---|
| **[Uimp] rated impulse withstand voltage** | 8 kV |
| **[Ith] conventional free air thermal current** | 500 A (at 40 °C) |
| **Rated breaking capacity** | 3200 A conforming to IEC 60947-4-1 |
| **[Icw] rated short-time withstand current** | 3600 A 40 °C - 10 s<br>2400 A 40 °C - 30 s<br>1700 A 40 °C - 1 min<br>1200 A 40 °C - 3 min<br>1000 A 40 °C - 10 min |
| **Associated fuse rating** | 400 A aM at <= 440 V<br>500 A gG at <= 440 V |
| **Average impedance** | 0.26 mOhm - Ith 500 A 50 Hz |
| **[Ui] rated insulation voltage** | 1000 V conforming to IEC 60947-4-1<br>1500 V conforming to VDE 0110 group C |
| **Power dissipation per pole** | 65 W AC-1<br>42 W AC-3 |
| **Overvoltage category** | III |
| **power pole contact composition** | 3 NO |

Price is “List Price” and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

| | |
|---|---|
| **Motor power kW** | 75 kW at 400 V AC 50/60 Hz (AC-4)<br>200 kW at 380...400 V AC 50/60 Hz (AC-3)<br>220 kW at 415 V AC 50/60 Hz (AC-3)<br>250 kW at 440 V AC 50/60 Hz (AC-3)<br>257 kW at 500 V AC 50/60 Hz (AC-3)<br>280 kW at 660...690 V AC 50/60 Hz (AC-3)<br>185 kW at 1000 V AC 50/60 Hz (AC-3)<br>110 kW at 220...230 V AC 50/60 Hz (AC-3) |
| **Control circuit voltage limits** | Operational: 0.85...1.1 Uc 40...400 Hz (at 55 °C)<br>Drop-out: 0.3...0.5 Uc 40...400 Hz (at 55 °C) |
| **Mechanical durability** | 10 Mcycles |
| **Inrush power in VA** | 1075 VA, 40...400 Hz cos phi 0.9 (at 20 °C) |
| **Hold-in power consumption in VA** | 15 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<br>100...170 ms opening |
| **Connections - terminals** | Control circuit: screw clamp terminals 1 cable(s) 1…4 mm²flexible without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1…4 mm²flexible without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1…4 mm²flexible with cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1…2.5 mm²flexible with cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1…4 mm²solid without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1…4 mm²solid without cable end<br>Power circuit: bar 2 cable(s) - busbar cross section: 30 x 5 mm<br>Power circuit: lugs-ring terminals 2 cable(s) 150 mm²<br>Power circuit: bolted connection |
| **Tightening torque** | Control circuit: 1.2 N.m<br>Power circuit: 35 N.m |
| **Mounting support** | Plate |
| **Heat dissipation** | 14 W |
| **motor power range** | 110…220 kW at 480…500 V 3 phases<br>110…220 kW at 380…440 V 3 phases<br>110…220 kW at 200…240 V 3 phases<br>250…500 kW at 480…500 V 3 phases |
| **Motor starter type** | Direct on-line contactor |
| **Contactor coil voltage** | 220 V AC standard |
| **Standards** | IEC 60947-1<br>EN 60947-4-1<br>EN 60947-1<br>IEC 60947-4-1<br>JIS C8201-4-1 |
| **Product certifications** | RMRoS<br>CB<br>RINA<br>DNV<br>LROS (Lloyds register of shipping)<br>CSA<br>UL<br>ABS<br>BV<br>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<br>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** | 206 mm |
| **Width** | 213 mm |
| **Depth** | 219 mm |
| **Operating altitude** | 3000 m without derating |
| **Net weight** | 9.1 kg |

## Packing Units

| | |
|---|---|
| **Unit Type of Package 1** | PCE |
| **Number of Units in Package 1** | 1 |
| **Package 1 Height** | 26.000 cm |
| **Package 1 Width** | 24.500 cm |
| **Package 1 Length** | 32.000 cm |
| **Package 1 Weight** | 9.114 kg |
| **Unit Type of Package 2** | P06 |
| **Number of Units in Package 2** | 10 |
| **Package 2 Height** | 75.000 cm |
| **Package 2 Width** | 60.000 cm |
| **Package 2 Length** | 80.000 cm |
| **Package 2 Weight** | 100.490 kg |

## Contractual warranty

| | |
|---|---|
| **Warranty (in months)** | 18 |

## Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

Environmental Data explained >

How we assess product sustainability >

### Environmental footprint

| | |
|---|---|
| Total lifecycle Carbon footprint | 3555 |
| Environmental Disclosure | Product Environmental Profile |

## Use Better

### Materials and Substances

| | |
|---|---|
| Packaging made with recycled cardboard | Yes |
| Packaging without single use plastic | No |
| EU RoHS Directive | Compliant with Exemptions |
| SCIP Number | 975ba4d0-bc82-40e2-8faa-6f6819f63b0c |
| REACh Regulation | REACh Declaration |

## Use Longer

### Lifetime extension

| | |
|---|---|
| Repair | No |

## Use Again

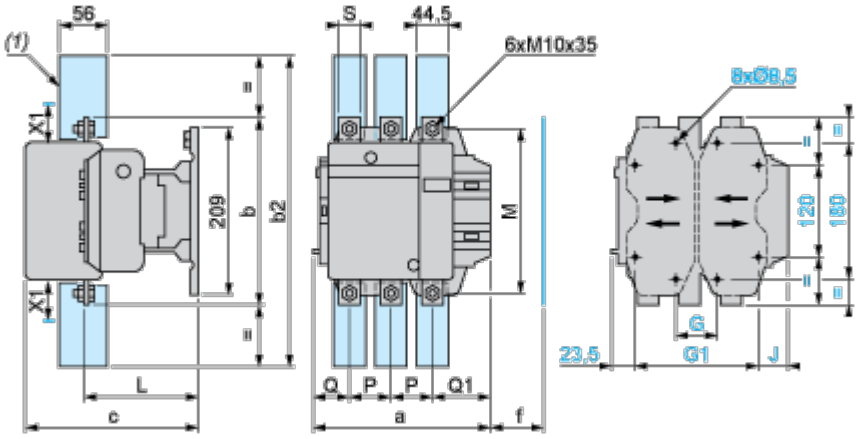
### Repack and remanufacture

| | |
|---|---|
| End of life manual availability | End of Life Information |
| Take-back | No |
| WEEE Label | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |

Dimensions Drawings

## 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.

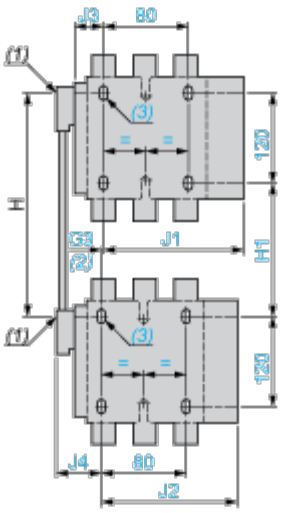
| LC1 | 200...500 V | 600...1000 V |
|---|---|---|
| F400 | 15 | 20 |
| F500 | 15 | 20 |

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

### 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.

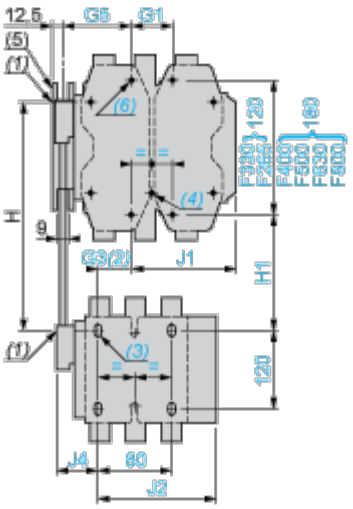
(3) 4 x Ø6.5 for LC1 F115 to F225.

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.

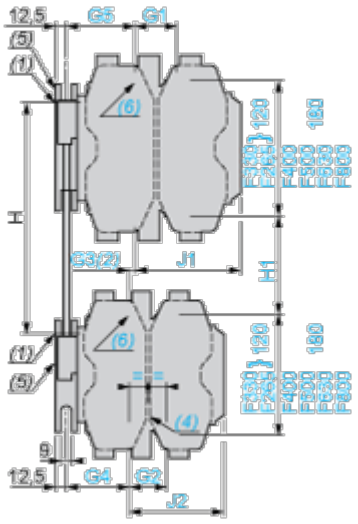
Assembly B(7) - Mechanical interlock reference

| | 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 |

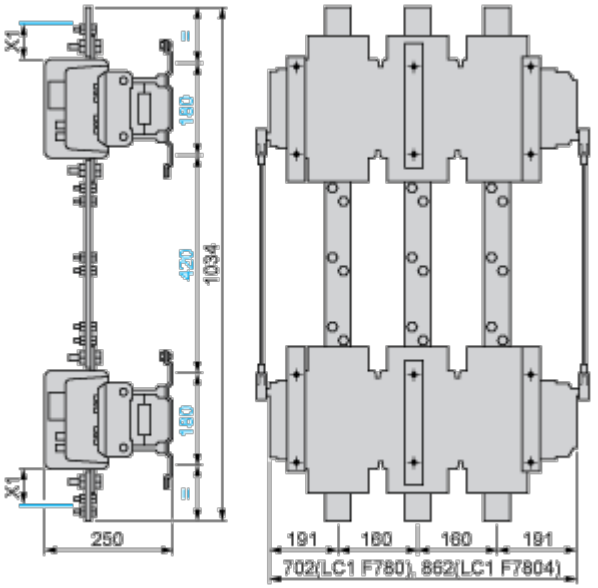
| | H1 min. | H1 max. | J1 3P | J1 4P | J2 3P | J2 4P | J4 3P | J4 4P |
|---|---|---|---|---|---|---|---|---|
| **LA9 FH4F** | 110 | 250 | 157.5 | 181.5 | 137 | 155.5 | 48.5 | 67 |
| **LA9 FJ4F** | 80 | 210 | 144.5 | 192.5 | 137 | 155.5 | 48.5 | 67 |
| **LA9 FK4F** | 100 | 210 | 164.5 | 219.5 | 137 | 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 |

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

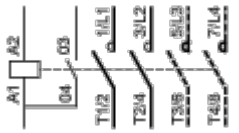
| | G1 3P | G1 4P | G2 3P | G2 4P | G3 3P | G3 4P | G4 3P | G4 4P | G5 3P | G5 4P |
|---|---|---|---|---|---|---|---|---|---|---|
| **LA9 FL4H** | 180 | 240 | 96 | 96 | 14 | 9(8) | 60 | 83 | 74 | 74 |
| **LA9 FJ4J** | 80 | 80 | 80 | 80 | 0 | 0 | 83 | 83 | 83 | 83 |
| **LA9 FK4J** | 80 | 140 | 80 | 80 | 0 | 0 | 83 | 83 | 83 | 83 |
| **LA9 FL4J** | 180 | 240 | 80 | 80 | 9(8) | 9(8) | 83 | 83 | 74 | 74 |
| **LA9 FK4K** | 80 | 140 | 80 | 140 | 0 | 0 | 83 | 83 | 83 | 83 |
| **LA9 FL4K** | 180 | 240 | 80 | 140 | 9(8) | 9(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 |

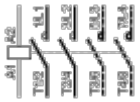
Connections and Schema

## 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 ~ / ⎓ )