# Product data sheet

Specifications



Discontinued

## Contactor, TeSys F, 3P(3NO), AC-3 <=440V 185A, 220V AC coil

LC1F185M7

Discontinued on: Jun 15, 2023

**Product availability: Stock - Normally stocked in distribution facility**

## 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-3<br>AC-4<br>AC-1 |
| **Poles description** | 3P |
| **[Ue] rated operational voltage** | <= 460 V DC<br><= 690 V AC 50/60 Hz |
| **[Uc] control circuit voltage** | 220 V AC 40...400 Hz |
| **[Ie] rated operational current** | 275 A (at <104 °F (40 °C)) at <= 440 V AC-1<br>185 A (at <131 °F (55 °C)) at <= 440 V AC-3 |

## Complementary

| | |
|---|---|
| **[Uimp] rated impulse withstand voltage** | 8 kV |
| **[Ith] conventional free air thermal current** | 275 A (at 104 °F (40 °C)) |
| **Rated breaking capacity** | 1480 A conforming to IEC 60947-4-1 |
| **[Icw] rated short-time withstand current** | 1500 A 104 °F (40 °C) - 10 s<br>920 A 104 °F (40 °C) - 30 s<br>740 A 104 °F (40 °C) - 1 min<br>500 A 104 °F (40 °C) - 3 min<br>400 A 104 °F (40 °C) - 10 min |
| **Associated fuse rating** | 200 A aM at <= 440 V<br>315 A gG at <= 440 V |
| **Average impedance** | 0.33 mOhm - Ith 275 A 50 Hz |
| **[Ui] rated insulation voltage** | 1000 V IEC 60947-4-1<br>1500 V VDE 0110 group C |
| **Power dissipation per pole** | 12 W AC-3<br>25 W AC-1 |
| **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** | 90 kW at 380...400 V AC 50/60 Hz (AC-3)<br>100 kW at 415 V AC 50/60 Hz (AC-3)<br>100 kW at 440 V AC 50/60 Hz (AC-3)<br>110 kW at 500 V AC 50/60 Hz (AC-3)<br>110 kW at 660...690 V AC 50/60 Hz (AC-3)<br>55 kW at 220...230 V AC 50/60 Hz (AC-3)<br>33 kW at 400 V AC 50/60 Hz (AC-4) |
| **Control circuit voltage limits** | Operational 0.85...1.1 Uc 40...400 Hz 131 °F (55 °C))<br>Drop-out 0.2...0.55 Uc 40...400 Hz 131 °F (55 °C)) |
| **Mechanical durability** | 10 Mcycles |
| **Inrush power in VA** | 1070 VA, 40...400 Hz 0.9 68 °F (20 °C)) |
| **Hold-in power consumption in VA** | 9.9 VA, 40...400 Hz 0.9 68 °F (20 °C)) |
| **Maximum operating rate** | 2400 cyc/h 131 °F (55 °C) |
| **Operating time** | 35 ms closing at Uc)<br>130 ms opening at Uc) |
| **Connections - terminals** | Control circuit screw clamp terminals 1 0.002…0.006 in² (1…4 mm²)flexible without cable end<br>Control circuit screw clamp terminals 2 0.002…0.006 in² (1…4 mm²)flexible without cable end<br>Control circuit screw clamp terminals 1 0.002…0.006 in² (1…4 mm²)flexible with cable end<br>Control circuit screw clamp terminals 2 0.002…0.004 in² (1…2.5 mm²)flexible with cable end<br>Control circuit screw clamp terminals 1 0.002…0.006 in² (1…4 mm²)solid without cable end<br>Control circuit screw clamp terminals 2 0.002…0.006 in² (1…4 mm²)solid without cable end<br>Power circuit bar 2 25 x 3 mm<br>Power circuit lugs-ring terminals 1 0.2 in² (150 mm²)<br>Power circuit connector 1 0.2 in² (150 mm²)<br>Power circuit bolted connection |
| **Tightening torque** | Control circuit 10.6 lbf.in (1.2 N.m)<br>Power circuit 159.3 lbf.in (18 N.m) |
| **Mounting Support** | Plate |
| **Heat dissipation** | 8…9.8 W |
| **motor power range** | 30…50 kW 200…240 V 3 phase<br>55…100 kW 200…240 V 3 phase<br>55…100 kW 380…440 V 3 phase<br>55…100 kW 480…500 V 3 phase<br>110…220 kW 480…500 V 3 phase |
| **Motor starter type** | Direct on-line contactor |
| **Contactor coil voltage** | 220 V AC standard |
| **Standards** | IEC 60947-4-1<br>JIS C8201-4-1<br>EN 60947-4-1<br>IEC 60947-1<br>EN 60947-1 |
| **Product Certifications** | LROS (Lloyds register of shipping)<br>RMRoS<br>UL<br>BV<br>RINA<br>CSA<br>DNV<br>ABS<br>CB<br>UKCA |
| **Compatibility code** | LC1F |
| **Control circuit type** | AC 40...400 Hz |

# Environment

| | |
|---|---|
| **IP degree of protection** | IP2X front face with shrouds IEC 60529<br>IP2X 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** | 6.9 in (174 mm) |
| **Width** | 6.6 in (168.5 mm) |
| **Depth** | 7.1 in (181 mm) |
| **Operating altitude** | 9842.52 ft (3000 m) without derating |
| **Net Weight** | 10.25 lb(US) (4.65 kg) |

## Ordering and shipping details

| | |
|---|---|
| **Category** | US1CTR521259 |
| **Discount Schedule** | CTR5 |
| **GTIN** | 3389110351514 |
| **Returnability** | Yes |
| **Country of origin** | CZ |

## Packing Units

| | |
|---|---|
| **Unit Type of Package 1** | PCE |
| **Nbr. of units in pkg.** | 1 |
| **Package 1 Height** | 8.268 in (21.000 cm) |
| **Package 1 Width** | 8.858 in (22.500 cm) |
| **Package 1 Length** | 9.252 in (23.500 cm) |
| **Package weight(Lbs)** | 10.893 lb(US) (4.941 kg) |
| **Unit Type of Package 2** | P06 |
| **Number of Units in Package 2** | 12 |
| **Package 2 Height** | 22.441 in (57.000 cm) |
| **Package 2 Width** | 23.622 in (60.000 cm) |
| **Package 2 Length** | 31.496 in (80.000 cm) |
| **Package 2 Weight** | 148.354 lb(US) (67.292 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 | **778 kg CO2 eq.** |
| Carbon footprint of the manufacturing phase [A1 to A3] | **94 kg CO2 eq.** |
| Carbon footprint of the distribution phase [A4] | **0.9 kg CO2 eq.** |
| Carbon footprint of the installation phase [A5] | **0.4 kg CO2 eq.** |
| Carbon footprint of the use phase [B2, B3, B4, B6] | **675 kg CO2 eq.** |
| Carbon footprint of the end-of-life phase [C1 to C4] | **9 kg CO2 eq.** |
| Environmental Disclosure | **Product Environmental Profile** |

## Use Better

### Materials and Substances

| | |
|---|---|
| Packaging made with recycled cardboard | **Yes** |
| Packaging without single use plastic | **No** |
| SCIP Number | **B2d4179a-eb65-40a3-a1ef-d9a33060486f** |
| EU RoHS Directive | **Compliant By Exemption** |
| REACh Regulation | **Reference contains Substances of Very High Concern above the threshold** |
| 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** |
| PVC free | **Yes** |

## Use Again

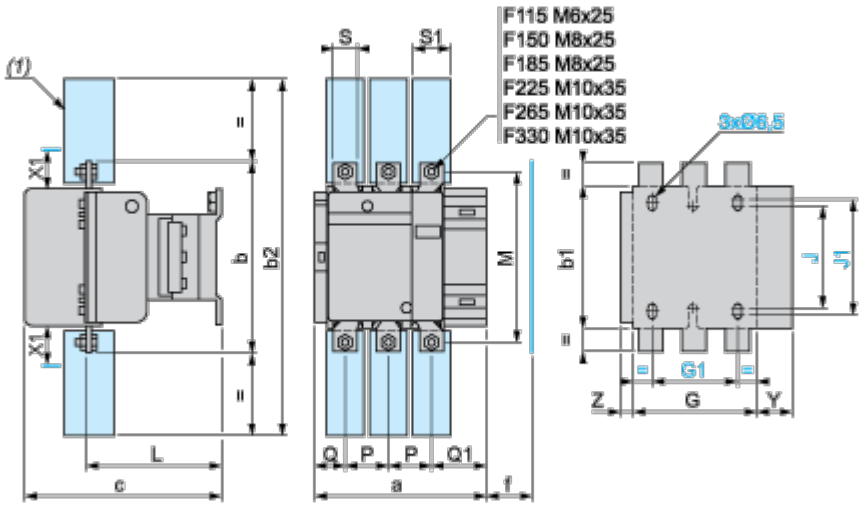
### Repack and remanufacture

| | |
|---|---|
| Recyclability potential, in % | **91** |
| Circularity Profile | **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 F115 to F330




(1) Power terminal protection shroud

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

| LC1 | 200...500 V | 600...1000 V |
|---|---|---|
| F115, F150 | 10 | 15 |
| F185 | 10 | 15 |
| F225, F265 | 10 | 15 |
| F330 | 10 | 15 |

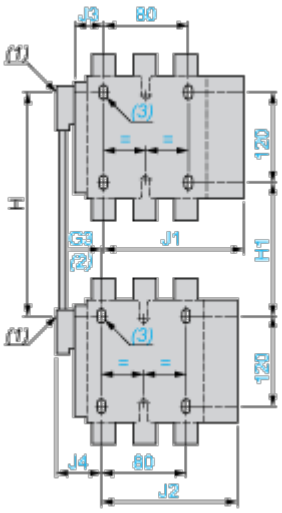
| LC1 | | a | b | b1 | b2 | c | f | G | G1 | J | J1 | L | M | P | Q | Q1 | S | S1 | Y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F115 | 3P | 163.5 | 162 | 137 | 265 | 171 | 131 | 106 | 80 | 106 | 120 | 107 | 147 | 37 | 29.5 | 60 | 20 | 26 | 44 |
| | 4P | 200.5 | 162 | 137 | 265 | 171 | 131 | 143 | 80 | 106 | 120 | 107 | 147 | 37 | 29.5 | 60 | 20 | 26 | 44 |
| F150 | 3P | 163.5 | 170 | 137 | 301 | 171 | 131 | 106 | 80 | 106 | 120 | 107 | 150 | 40 | 26 | 57.5 | 20 | 34 | 44 |
| | 4P | 200.5 | 170 | 137 | 301 | 171 | 131 | 143 | 80 | 106 | 120 | 107 | 150 | 40 | 26 | 55.5 | 20 | 34 | 44 |
| F185 | 3P | 168.5 | 174 | 137 | 305 | 181 | 130 | 111 | 80 | 106 | 120 | 113.5 | 154 | 40 | 29 | 59.5 | 20 | 34 | 44 |
| | 4P | 208.5 | 174 | 137 | 305 | 181 | 130 | 151 | 80 | 106 | 120 | 113.5 | 154 | 40 | 29 | 59.5 | 20 | 34 | 44 |
| F225 | 3P | 168.5 | 197 | 137 | 364 | 181 | 130 | 111 | 80 | 106 | 120 | 113.5 | 172 | 48 | 21 | 51.5 | 25 | 44.5 | 44 |
| | 4P | 208.5 | 197 | 137 | 364 | 181 | 130 | 151 | 80 | 106 | 120 | 113.5 | 172 | 48 | 17 | 47.5 | 25 | 44.5 | 44 |
| F265 | 3P | 201.5 | 203 | 145 | 375 | 213 | 147 | 142 | 96 | 106 | 120 | 141 | 178 | 48 | 39 | 66.5 | 25 | 44.5 | 38 |

| LC1 | | a | b | b1 | b2 | c | f | G | G1 | J | J1 | L | M | P | Q | Q1 | S | S1 | Y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4P | 244.5 | 203 | 145 | 375 | 213 | 147 | 190 | 96 | 106 | 120 | 141 | 178 | 48 | 34 | 66.5 | 25 | 44.5 | 38 |
| F330 | 3P | 213 | 206 | 145 | 375 | 219 | 147 | 154.5 | 96 | 106 | 120 | 145 | 181 | 48 | 43 | 74 | 25 | 44.5 | 38 |
| | 4P | 261 | 206 | 145 | 375 | 219 | 147 | 202.5 | 96 | 106 | 120 | 145 | 181 | 48 | 43 | 74 | 25 | 44.5 | 38 |

**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.

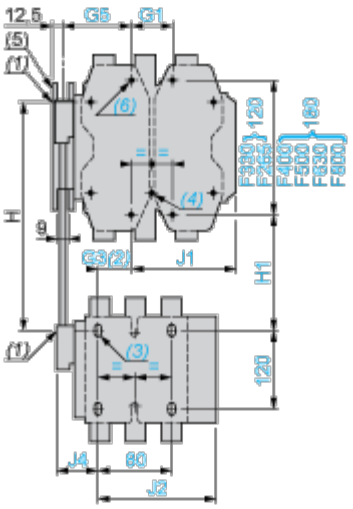
(3) 4 x Ø6.5 for LC1 F115 to F225.

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.

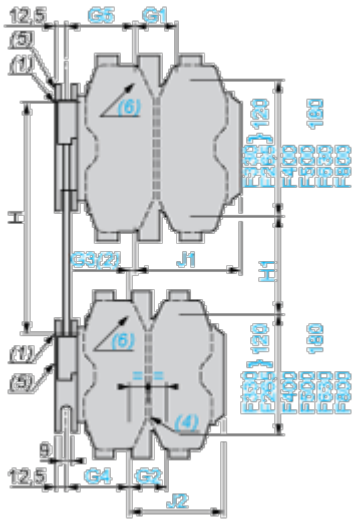
Assembly B(7) - Mechanical interlock reference

| | 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 |

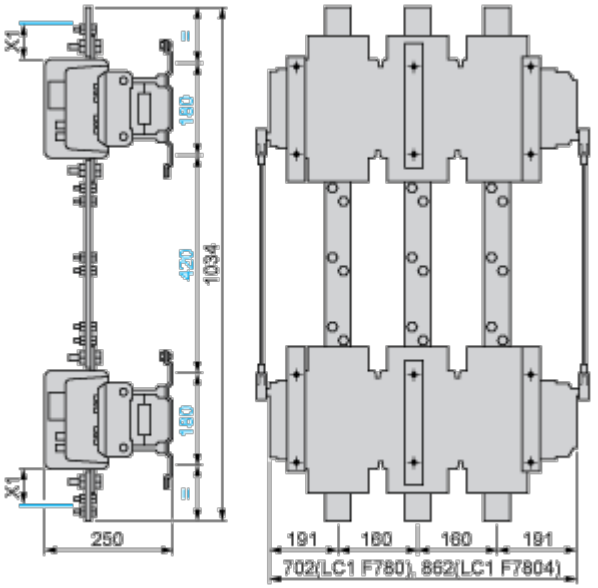
| | H1 min. | H1 max. | J1 3P | J1 4P | J2 3P | J2 4P | J4 3P | J4 4P |
|---|---|---|---|---|---|---|---|---|
| **LA9 FH4F** | 110 | 250 | 157.5 | 181.5 | 137 | 155.5 | 48.5 | 67 |
| **LA9 FJ4F** | 80 | 210 | 144.5 | 192.5 | 137 | 155.5 | 48.5 | 67 |
| **LA9 FK4F** | 100 | 210 | 164.5 | 219.5 | 137 |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

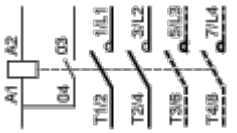
| | G1 3P | G1 4P | G2 3P | G2 4P | G3 3P | G3 4P | G4 3P | G4 4P | G5 3P | G5 4P |
|---|---|---|---|---|---|---|---|---|---|---|
| **LA9 FL4H** | 180 | 240 | 96 | 96 | 14 | 9(8) | 60 | 83 | 74 | 74 |
| **LA9 FJ4J** | 80 | 80 | 80 | 80 | 0 | 0 | 83 | 83 | 83 | 83 |
| **LA9 FK4J** | 80 | 140 | 80 | 80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