

# Product datasheet

Specifications



## TeSys F contactor - 3P (3 NO) - AC-3 - <= 440 V 265 A - coil 220 V AC

LC1F265M7

**To be discontinued on:** 31 December 2023

**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-4<br>AC-1<br>AC-3                                                           |
| Poles description              | 3P                                                                             |
| [Ue] rated operational voltage | <= 1000 V AC-1<br><= 690 V AC-3<br><= 690 V AC-4<br><= 460 V DC                |
| [Uc] control circuit voltage   | 220 V AC 40...400 Hz                                                           |
| [Ie] rated operational current | 350 A (at <40 °C) at <= 440 V AC AC-1<br>265 A (at <55 °C) at <= 440 V AC AC-3 |

### Complementary

|                                             |                                                                                                                  |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| [Uimp] rated impulse withstand voltage      | 8 kV                                                                                                             |
| [Ith] conventional free air thermal current | 350 A (at 40 °C)                                                                                                 |
| Rated breaking capacity                     | 2120 A conforming to IEC 60947-4-1                                                                               |
| [Icw] rated short-time withstand current    | 2200 A 40 °C - 10 s<br>1230 A 40 °C - 30 s<br>950 A 40 °C - 1 min<br>620 A 40 °C - 3 min<br>480 A 40 °C - 10 min |
| Associated fuse rating                      | 315 A aM at <= 440 V<br>400 A gG at <= 440 V                                                                     |
| Average impedance                           | 0.3 mOhm - Ith 350 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                  | 37 W AC-1<br>21 W AC-3                                                                                           |
| Overvoltage category                        | III                                                                                                              |

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power pole contact composition  | 3 NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Motor power kW                  | 132 kW at 380...400 V AC 50/60 Hz (AC-3)<br>140 kW at 415 V AC 50/60 Hz (AC-3)<br>140 kW at 440 V AC 50/60 Hz (AC-3)<br>160 kW at 500 V AC 50/60 Hz (AC-3)<br>160 kW at 660...690 V AC 50/60 Hz (AC-3)<br>147 kW at 1000 V AC 50/60 Hz (AC-3)<br>75 kW at 220...230 V AC 50/60 Hz (AC-3)<br>51 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)<br>Drop-out: 0.15...0.2 Uc 40...400 Hz (at 55 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Mechanical durability           | 10 Mcycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Inrush power in VA              | 650 VA, 40...400 Hz cos phi 0.9 (at 20 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Hold-in power consumption in VA | 10 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: 32 x 4 mm<br>Power circuit: lugs-ring terminals 1 cable(s) 240 mm²<br>Power circuit: connector 1 cable(s) 240 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                | 8 W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Motor power range               | 55...100 kW at 200...240 V 3 phases<br>110...220 kW at 480...500 V 3 phases<br>110...220 kW at 380...440 V 3 phases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Motor starter type              | Direct on-line contactor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Contactor coil voltage          | 220 V AC standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Standards                       | JIS C8201-4-1<br>IEC 60947-4-1<br>EN 60947-1<br>IEC 60947-1<br>EN 60947-4-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Product certifications          | RINA<br>RMRoS<br>CSA<br>CB<br>UL<br>BV<br>ABS<br>LROS (Lloyds register of shipping)<br>DNV<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                                                | 203 mm                  |
| Width                                                 | 201.5 mm                |
| Depth                                                 | 213 mm                  |
| Operating altitude                                    | 3000 m without derating |
| Net weight                                            | 7.44 kg                 |

### Packing Units

|                              |            |
|------------------------------|------------|
| Unit Type of Package 1       | PCE        |
| Number of Units in Package 1 | 1          |
| Package 1 Height             | 25.0 cm    |
| Package 1 Width              | 25.0 cm    |
| Package 1 Length             | 25.5 cm    |
| Package 1 Weight             | 7.95 kg    |
| Unit Type of Package 2       | P06        |
| Number of Units in Package 2 | 12         |
| Package 2 Height             | 80.0 cm    |
| Package 2 Width              | 80.0 cm    |
| Package 2 Length             | 60.0 cm    |
| Package 2 Weight             | 104.116 kg |

### Offer Sustainability

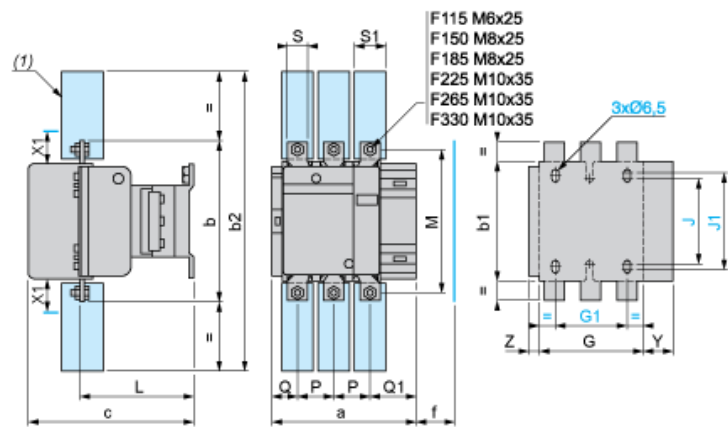
|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|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

### Contractual warranty

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

Dimensions and Drawings

LC1 F115 to F330



(1) Power terminal protection shroud  
X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

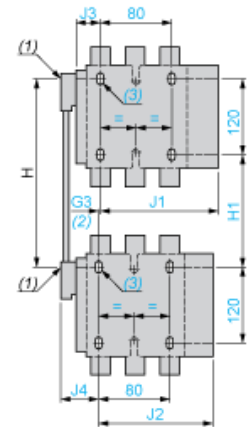
| LC1        | 200...500 V | 600...1000 V |
|------------|-------------|--------------|
| F115, F150 | 10          | 15           |
| F185       | 10          | 15           |
| F225, F265 | 10          | 15           |
| F330       | 10          | 15           |

| LC1  |    | a     | b   | b1  | b2  | c   | f   | G     | G1 | J   | J1  | L     | M   | P  | Q    | Q1   | S  | S1   | Y  | Z    |
|------|----|-------|-----|-----|-----|-----|-----|-------|----|-----|-----|-------|-----|----|------|------|----|------|----|------|
| F115 | 3P | 163.5 | 162 | 137 | 265 | 171 | 131 | 106   | 80 | 106 | 120 | 107   | 147 | 37 | 29.5 | 60   | 20 | 26   | 44 | 13.5 |
|      | 4P | 200.5 | 162 | 137 | 265 | 171 | 131 | 143   | 80 | 106 | 120 | 107   | 147 | 37 | 29.5 | 60   | 20 | 26   | 44 | 13.5 |
| F150 | 3P | 163.5 | 170 | 137 | 301 | 171 | 131 | 106   | 80 | 106 | 120 | 107   | 150 | 40 | 26   | 57.5 | 20 | 34   | 44 | 13.5 |
|      | 4P | 200.5 | 170 | 137 | 301 | 171 | 131 | 143   | 80 | 106 | 120 | 107   | 150 | 40 | 26   | 55.5 | 20 | 34   | 44 | 13.5 |
| F185 | 3P | 168.5 | 174 | 137 | 305 | 181 | 130 | 111   | 80 | 106 | 120 | 113.5 | 154 | 40 | 29   | 59.5 | 20 | 34   | 44 | 13.5 |
|      | 4P | 208.5 | 174 | 137 | 305 | 181 | 130 | 151   | 80 | 106 | 120 | 113.5 | 154 | 40 | 29   | 59.5 | 20 | 34   | 44 | 13.5 |
| F225 | 3P | 168.5 | 197 | 137 | 364 | 181 | 130 | 111   | 80 | 106 | 120 | 113.5 | 172 | 48 | 21   | 51.5 | 25 | 44.5 | 44 | 13.5 |
|      | 4P | 208.5 | 197 | 137 | 364 | 181 | 130 | 151   | 80 | 106 | 120 | 113.5 | 172 | 48 | 17   | 47.5 | 25 | 44.5 | 44 | 13.5 |
| F265 | 3P | 201.5 | 203 | 145 | 375 | 213 | 147 | 142   | 96 | 106 | 120 | 141   | 178 | 48 | 39   | 66.5 | 25 | 44.5 | 38 | 21.5 |
|      | 4P | 244.5 | 203 | 145 | 375 | 213 | 147 | 190   | 96 | 106 | 120 | 141   | 178 | 48 | 34   | 66.5 | 25 | 44.5 | 38 | 16.5 |
| F330 | 3P | 213   | 206 | 145 | 375 | 219 | 147 | 154.5 | 96 | 106 | 120 | 145   | 181 | 48 | 43   | 74   | 25 | 44.5 | 38 | 20.5 |
|      | 4P | 261   | 206 | 145 | 375 | 219 | 147 | 202.5 | 96 | 106 | 120 | 145   | 181 | 48 | 43   | 74   | 25 | 44.5 | 38 | 20.5 |

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



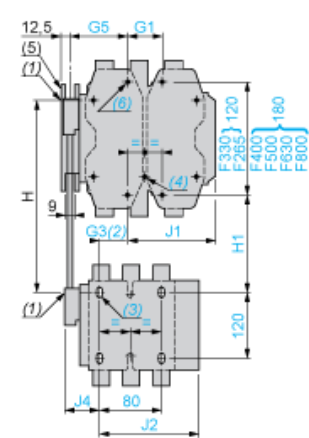
- (1) Mechanical interlock shaft.
- (2) For assembly of contactors of different ratings only.
- (3) 4 x Ø6.5 for LC1 F115 to F225.

Assembly A<sup>(7)</sup> - 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



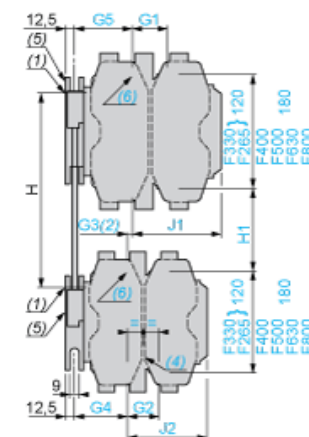
- (4)4 x Ø6.5 for LC1 F265.
- (5)Mechanical interlock guide bracket.

Assembly B<sup>(7)</sup> - Mechanical interlock reference

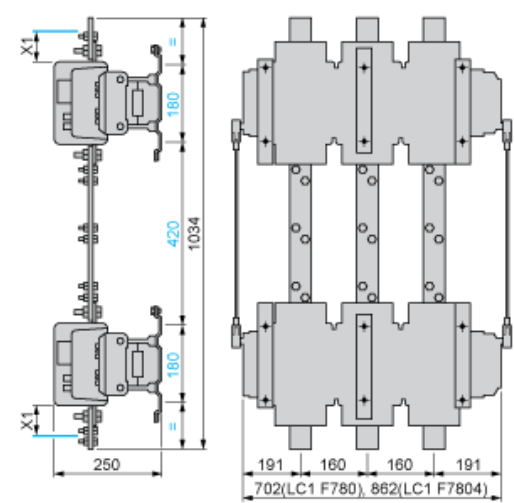
|          | G1 3P | G1 4P | G3 3P | G3 4P | G5 3P | G5 4P | H min. | H max. |
|----------|-------|-------|-------|-------|-------|-------|--------|--------|
| LA9 FH4F | 96    | 96    | 21    | 27    | 60    | 83    | 240    | 380    |
| LA9 FJ4F | 80    | 80    | 45    | 26    | 83    | 83    | 250    | 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.

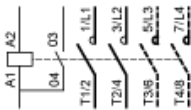
Assembly C<sup>(7)</sup>

|          | 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 <sup>(8)</sup> | 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 <sup>(8)</sup> | g <sup>(8)</sup> | 83    | 83    | 74    | 74    |
| LA9 FK4K | 80    | 140   | 80    | 140   | 0                | 0                | 83    | 83    | 83    | 83    |
| LA9 FL4K | 180   | 240   | 80    | 140   | g <sup>(8)</sup> | g <sup>(8)</sup> | 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 ~ / --- )