

## Product data sheet

### Characteristics

# LC1D18F7

TeSys D, Contactor, 3P(3 NO), AC-3/AC-3e, 0 to 440V, 18A, 110VAC 50/60Hz coil



### Main

|                                |                                                                                                                                                                          |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of product               | TeSys Deca                                                                                                                                                               |
| Product or component type      | Contacteur                                                                                                                                                               |
| Device short name              | LC1D                                                                                                                                                                     |
| Contactor application          | Motor control<br>Resistive load                                                                                                                                          |
| Utilisation category           | AC-1<br>AC-4<br>AC-3<br>AC-3e                                                                                                                                            |
| Poles description              | 3P                                                                                                                                                                       |
| [Ue] rated operational voltage | Power circuit: ≤ 690 V AC 25...400 Hz<br>Power circuit: ≤ 300 V DC                                                                                                       |
| [Ie] rated operational current | 18 A (at <60 °C) at ≤ 440 V AC AC-3 for power circuit<br>32 A (at <60 °C) at ≤ 440 V AC AC-1 for power circuit<br>18 A (at <60 °C) at ≤ 440 V AC AC-3e for power circuit |
| [Uc] control circuit voltage   | 110 V AC 50/60 Hz                                                                                                                                                        |

### Complementary

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Motor power kW                              | 4 kW at 220...230 V AC 50/60 Hz (AC-3)<br>7.5 kW at 380...400 V AC 50/60 Hz (AC-3)<br>9 kW at 415...440 V AC 50/60 Hz (AC-3)<br>10 kW at 500 V AC 50/60 Hz (AC-3)<br>10 kW at 660...690 V AC 50/60 Hz (AC-3)<br>4 kW at 400 V AC 50/60 Hz (AC-4)<br>4 kW at 220...230 V AC 50/60 Hz (AC-3e)<br>7.5 kW at 380...400 V AC 50/60 Hz (AC-3e)<br>9 kW at 415...440 V AC 50/60 Hz (AC-3e)<br>10 kW at 500 V AC 50/60 Hz (AC-3e)<br>10 kW at 660...690 V AC 50/60 Hz (AC-3e) |
| Motor power hp                              | 1 Hp at 115 V AC 50/60 Hz for 1 phase motors<br>3 Hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>5 Hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>5 Hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>10 Hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>15 hp at 575/600 V AC 50/60 Hz for 3 phases motors                                                                                                                                                |
| Compatibility code                          | LC1D                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Pole contact composition                    | 3 NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Protective cover                            | With                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| [Ith] conventional free air thermal current | 10 A (at 60 °C) for signalling circuit<br>32 A (at 60 °C) for power circuit                                                                                                                                                                                                                                                                                                                                                                                           |
| Irms rated making capacity                  | 140 A AC for signalling circuit conforming to IEC 60947-5-1<br>250 A DC for signalling circuit conforming to IEC 60947-5-1<br>300 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                                                |
| Rated breaking capacity                     | 300 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                              |

|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [I <sub>cw</sub> ] rated short-time withstand current | 145 A 40 °C - 10 s for power circuit<br>240 A 40 °C - 1 s for power circuit<br>40 A 40 °C - 10 min for power circuit<br>84 A 40 °C - 1 min for power circuit<br>100 A - 1 s for signalling circuit<br>120 A - 500 ms for signalling circuit<br>140 A - 100 ms for signalling circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Associated fuse rating                                | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>50 A gG at ≤ 690 V coordination type 1 for power circuit<br>35 A gG at ≤ 690 V coordination type 2 for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Average impedance                                     | 2.5 mOhm - I <sub>th</sub> 32 A 50 Hz for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Power dissipation per pole                            | 2.5 W AC-1<br>0.8 W AC-3<br>0.8 W AC-3e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| [U <sub>i</sub> ] rated insulation voltage            | Power circuit: 690 V conforming to IEC 60947-4-1<br>Power circuit: 600 V CSA certified<br>Power circuit: 600 V UL certified<br>Signalling circuit: 690 V conforming to IEC 60947-1<br>Signalling circuit: 600 V CSA certified<br>Signalling circuit: 600 V UL certified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Overvoltage category                                  | III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Pollution degree                                      | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| [U <sub>imp</sub> ] rated impulse withstand voltage   | 6 kV conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Safety reliability level                              | B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1<br>B10d = 20000000 cycles contactor with mechanical load conforming to EN/ISO 13849-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Mechanical durability                                 | 15 Mcycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Electrical durability                                 | 1.65 Mcycles 18 A AC-3 at U <sub>e</sub> ≤ 440 V<br>1 Mcycles 32 A AC-1 at U <sub>e</sub> ≤ 440 V<br>1.65 Mcycles 18 A AC-3e at U <sub>e</sub> ≤ 440 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Control circuit type                                  | AC at 50/60 Hz standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Coil technology                                       | Without built-in suppressor module                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Control circuit voltage limits                        | 0.3...0.6 U <sub>c</sub> (-40...70 °C): drop-out AC 50/60 Hz<br>0.8...1.1 U <sub>c</sub> (-40...60 °C): operational AC 50 Hz<br>0.85...1.1 U <sub>c</sub> (-40...60 °C): operational AC 60 Hz<br>1...1.1 U <sub>c</sub> (60...70 °C): operational AC 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Inrush power in VA                                    | 70 VA 60 Hz cos phi 0.75 (at 20 °C)<br>70 VA 50 Hz cos phi 0.75 (at 20 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Hold-in power consumption in VA                       | 7.5 VA 60 Hz cos phi 0.3 (at 20 °C)<br>7 VA 50 Hz cos phi 0.3 (at 20 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Heat dissipation                                      | 2...3 W at 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Operating time                                        | 12...22 ms closing<br>4...19 ms opening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Maximum operating rate                                | 3600 cyc/h 60 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Connections - terminals                               | Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 2 1...2.5 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm <sup>2</sup> - cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 1 1.5...6 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 2 1.5...6 mm <sup>2</sup> - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 1 1...6 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 2 1...4 mm <sup>2</sup> - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 1 1.5...6 mm <sup>2</sup> - cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 2 1.5...6 mm <sup>2</sup> - cable stiffness: solid without cable end |

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tightening torque             | Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2<br>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2<br>Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver pozidriv No 2 |
| Auxiliary contact composition | 1 NO + 1 NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Auxiliary contacts type       | Type mechanically linked 1 NO + 1 NC conforming to IEC 60947-5-1<br>Type mirror contact 1 NC conforming to IEC 60947-4-1                                                                                                                                                                                                                                                                                                                                                                                                         |
| Signalling circuit frequency  | 25...400 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Minimum switching voltage     | 17 V for signalling circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Minimum switching current     | 5 mA for signalling circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Insulation resistance         | > 10 MOhm for signalling circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Non-overlap time              | 1.5 Ms on de-energisation between NC and NO contact<br>1.5 ms on energisation between NC and NO contact                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Mounting support              | Plate<br>Rail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Environment

|                                                       |                                                                                                                                                                                        |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                                             | CSA C22.2 No 14<br>EN 60947-4-1<br>EN 60947-5-1<br>IEC 60947-4-1<br>IEC 60947-5-1<br>UL 508<br>IEC 60335-1                                                                             |
| Product certifications                                | GL[RETURN]RINA[RETURN]UL[RETURN]CCC[RETURN]DNV[RETURN]LROS<br>(Lloyds register of shipping)<br>[RETURN]CSA[RETURN]GOST[RETURN]BV[RETURN]UKCA                                           |
| IP degree of protection                               | IP20 front face conforming to IEC 60529                                                                                                                                                |
| Protective treatment                                  | TH conforming to IEC 60068-2-30                                                                                                                                                        |
| Climatic withstand                                    | Conforming to IACS E10 exposure to damp heat<br>Conforming to IEC 60947-1 Annex Q category D exposure to damp heat                                                                     |
| Permissible ambient air temperature around the device | -40...60 °C<br>60...70 °C with derating                                                                                                                                                |
| Operating altitude                                    | 0...3000 m                                                                                                                                                                             |
| Fire resistance                                       | 850 °C conforming to IEC 60695-2-1                                                                                                                                                     |
| Flame retardance                                      | V1 conforming to UL 94                                                                                                                                                                 |
| Mechanical robustness                                 | Vibrations contactor open (2 Gn, 5...300 Hz)<br>Vibrations contactor closed (4 Gn, 5...300 Hz)<br>Shocks contactor open (10 Gn for 11 ms)<br>Shocks contactor closed (15 Gn for 11 ms) |
| Height                                                | 77 mm                                                                                                                                                                                  |
| Width                                                 | 45 mm                                                                                                                                                                                  |
| Depth                                                 | 86 mm                                                                                                                                                                                  |
| Net weight                                            | 0.33 kg                                                                                                                                                                                |

## Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 5.2 cm  |
| Package 1 Width              | 9.2 cm  |
| Package 1 Length             | 11.2 cm |
| Package 1 Weight             | 356.0 g |
| Unit Type of Package 2       | S02     |
| Number of Units in Package 2 | 20      |
| Package 2 Height             | 15.0 cm |
| Package 2 Width              | 30.0 cm |
| Package 2 Length             | 40.0 cm |
| Package 2 Weight             | 7.52 kg |
| Unit Type of Package 3       | P06     |

|                              |          |
|------------------------------|----------|
| Number of Units in Package 3 | 320      |
| Package 3 Height             | 80.0 cm  |
| Package 3 Width              | 80.0 cm  |
| Package 3 Length             | 60.0 cm  |
| Package 3 Weight             | 129.3 kg |

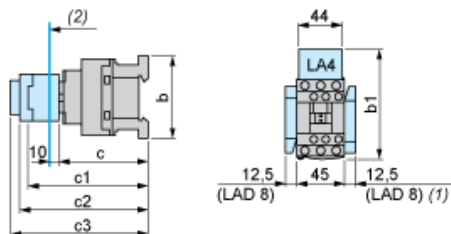
### Offer Sustainability

|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                       |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                           |
| REACH free of SVHC         | Yes                                                                                                                         |
| EU RoHS Directive          | Compliant <a href="#">EU RoHS Declaration</a>                                                                               |
| Toxic heavy metal free     | Yes                                                                                                                         |
| Mercury free               | Yes                                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>                                                                                      |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                         |
| 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



- (1) Including LAD 4BB  
(2) Minimum electrical clearance

| LC1                                |                                   | D09...D18          | D093...D123          | D099...D129 |
|------------------------------------|-----------------------------------|--------------------|----------------------|-------------|
| b                                  | without add-on blocks             | 77                 | 99                   | 80          |
| b1                                 | with LAD 4BB                      | 94                 | 107                  | 95.5        |
| with LA4 D•2                       | 110 <sup>(1)</sup>                | 123 <sup>(1)</sup> | 111.5 <sup>(1)</sup> |             |
| with LA4 DF, DT                    | 119 <sup>(1)</sup>                | 132 <sup>(1)</sup> | 120.5 <sup>(1)</sup> |             |
| with LA4 DW, DL                    | 126 <sup>(1)</sup>                | 139 <sup>(1)</sup> | 127.5 <sup>(1)</sup> |             |
| c                                  | without cover or add-on blocks    | 84                 | 84                   | 84          |
| with cover, without add-on blocks  | 86                                | 86                 | 86                   |             |
| c1                                 | with LAD N or C (2 or 4 contacts) | 117                | 117                  | 117         |
| c2                                 | with LA6 DK10, LAD 6K10           | 129                | 129                  | 129         |
| c3                                 | with LAD T, R, S                  | 137                | 137                  | 137         |
| with LAD T, R, S and sealing cover | 141                               | 141                | 141                  |             |
| (1)                                | Including LAD 4BB.                |                    |                      |             |

