# Product data sheet

Specifications



## IEC contactor, TeSys Deca, nonreversing, 40A, 30HP at 480VAC, up to 100kA SCCR, 3 phase, 3 NO, 110VAC 50/60Hz coil, open

LC1D40AF7

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

## Main

| | |
|---|---|
| **Range** | TeSys<br>TeSys Deca |
| **Range of Product** | TeSys Deca Advanced |
| **Product or Component Type** | Contactor |
| **Device short name** | LC1D |
| **Contactor application** | Resistive load<br>Motor control |
| **Utilisation category** | AC-3<br>AC-3e<br>AC-1<br>AC-4 |
| **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** | 60 A (at <140 °F (60 °C)) at <= 440 V AC AC-1 for power circuit<br>40 A (at <140 °F (60 °C)) at <= 440 V AC AC-3 for power circuit<br>40 A (at <140 °F (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** | 11 kW at 220/230 V AC 50/60 Hz (AC-3)<br>18.5 kW at 380/400 V AC 50/60 Hz (AC-3)<br>22 kW at 415/440 V AC 50/60 Hz (AC-3)<br>22 kW at 500 V AC 50/60 Hz (AC-3)<br>30 kW at 660/690 V AC 50/60 Hz (AC-3)<br>11 kW at 220/230 V AC 50/60 Hz (AC-3e)<br>18.5 kW at 380/400 V AC 50/60 Hz (AC-3e)<br>22 kW at 415/440 V AC 50/60 Hz (AC-3e)<br>22 kW at 500 V AC 50/60 Hz (AC-3e)<br>30 kW at 660/690 V AC 50/60 Hz (AC-3e)<br>9 kW at 400 V AC 50/60 Hz (AC-4) |
| **Maximum Horse Power Rating** | 5 hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>10 hp at 230/240 V AC 50/60 Hz for 3 phase motors<br>30 hp at 575/600 V AC 50/60 Hz for 3 phase motors<br>10 hp at 200/208 V AC 50/60 Hz for 3 phase motors<br>3 hp at 115 V AC 50/60 Hz for 1 phase motors<br>30 hp at 460/480 V AC 50/60 Hz for 3 phase motors |
| **Compatibility code** | LC1D |
| **Pole contact composition** | 3 NO |
| **Protective cover** | With |

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

| | |
|---|---|
| **[Ith] conventional free air thermal current** | 10 A (at 140 °F (60 °C)) for signalling circuit<br>60 A (at 140 °F (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>800 A at 440 V for power circuit conforming to IEC 60947 |
| **Rated breaking capacity** | 800 A at 440 V for power circuit conforming to IEC 60947 |
| **[Icw] rated short-time withstand current** | 320 A 104 °F (40 °C) - 10 s for power circuit<br>720 A 104 °F (40 °C) - 1 s for power circuit<br>72 A 104 °F (40 °C) - 10 min for power circuit<br>165 A 104 °F (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>80 A gG at <= 690 V coordination type 1 for power circuit<br>80 A gG at <= 690 V coordination type 2 for power circuit |
| **Average impedance** | 1.5 mOhm - Ith 60 A 50 Hz for power circuit |
| **Power dissipation per pole** | 2.4 W AC-3<br>5.4 W AC-1<br>2.4 W AC-3e |
| **[Ui] rated insulation voltage** | Power circuit 600 V CSA<br>Power circuit 600 V UL<br>Signalling circuit 690 V IEC 60947-1<br>Signalling circuit 600 V CSA<br>Signalling circuit 600 V UL<br>Power circuit 690 V IEC 60947-4-1 |
| **Overvoltage category** | III |
| **Pollution degree** | 3 |
| **[Uimp] rated impulse withstand voltage** | 6 kV IEC 60947 |
| **Safety reliability level** | B10d = 1369863 cycles contactor with nominal load EN/ISO 13849-1<br>B10d = 20000000 cycles contactor with mechanical load EN/ISO 13849-1 |
| **Mechanical durability** | 6 Mcycles |
| **Electrical durability** | 1.4 Mcycles 60 A AC-1 <= 440 V<br>1.5 Mcycles 40 A AC-3 <= 440 V<br>1.5 Mcycles 40 A AC-3e <= 440 V |
| **Control circuit type** | AC 50/60 Hz standard |
| **Coil technology** | Without built-in suppressor module |
| **Control circuit voltage limits** | 0.3...0.6 Uc (-40…158 °F (-40…70 °C)):drop-out AC 50/60 Hz<br>0.8...1.1 Uc (-40…140 °F (-40…60 °C)):operational AC 50 Hz<br>0.85...1.1 Uc (-40…140 °F (-40…60 °C)):operational AC 60 Hz<br>1...1.1 Uc (140…158 °F (60…70 °C)):operational AC 50/60 Hz |
| **Inrush power in VA** | 140 VA 60 Hz cos phi 0.75 (at 68 °F (20 °C))<br>160 VA 50 Hz cos phi 0.75 (at 68 °F (20 °C)) |
| **Hold-in power consumption in VA** | 13 VA 60 Hz cos phi 0.3 (at 68 °F (20 °C))<br>15 VA 50 Hz cos phi 0.3 (at 68 °F (20 °C)) |
| **Heat dissipation** | 4…5 W at 50/60 Hz |
| **Operating time** | 4...19 ms opening<br>12...26 ms closing |
| **Maximum operating rate** | 3600 cyc/h at 60 °C |

| | |
|---|---|
| **Connections - terminals** | Control circuit: screw clamp terminals 2 0.002…0.004 in² (1…2.5 mm²) - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 1 0.002…0.006 in² (1…4 mm²) - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 2 0.002…0.006 in² (1…4 mm²) - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 1 0.002…0.006 in² (1…4 mm²) - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 1 0.002…0.006 in² (1…4 mm²) - cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 2 0.002…0.006 in² (1…4 mm²) - cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 1 0.002…0.05 in² (1…35 mm²) - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 2 0.002…0.04 in² (1…25 mm²) - cable stiffness: flexible without cable end<br>Power circuit: screw clamp terminals 1 0.002…0.05 in² (1…35 mm²) - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 2 0.002…0.04 in² (1…25 mm²) - cable stiffness: flexible with cable end<br>Power circuit: screw clamp terminals 1 0.002…0.05 in² (1…35 mm²) - cable stiffness: solid without cable end<br>Power circuit: screw clamp terminals 2 0.002…0.04 in² (1…25 mm²) - cable stiffness: solid without cable end |
| **Tightening torque** | Control circuit 15.05 lbf.in (1.7 N.m) screw clamp terminals flat Ø 6 mm<br>Control circuit 15.05 lbf.in (1.7 N.m) screw clamp terminals Philips No 2<br>Power circuit 70.8 lbf.in (8 N.m) EverLink BTR screw connectors 0.04…0.05 in² (25…35 mm²) hexagonal 0.2 in (4 mm)<br>Power circuit 44.3 lbf.in (5 N.m) EverLink BTR screw connectors 0.002…0.04 in² (1…25 mm²) hexagonal 0.2 in (4 mm)<br>Control circuit 15.05 lbf.in (1.7 N.m) screw clamp terminals pozidriv No 2<br>Power circuit 22.1 lbf.in (2.5 N.m) screw clamp terminals pozidriv No 2 |
| **Auxiliary contact composition** | 1 NO + 1 NC |
| **Auxiliary contacts type** | Mechanically linked 1 NO + 1 NC IEC 60947-5-1<br>Mirror contact 1 NC 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** | Rail<br>Plate |

# Environment

| | |
|---|---|
| **Standards** | EN 60947-4-1<br>EN 60947-5-1<br>IEC 60947-4-1<br>IEC 60947-5-1<br>CSA C22.2 No 14<br>UL 60947-4-1<br>IEC 60335-2-40:Annex JJ<br>UL 60335-2-40:Annex JJ<br>IEC 60335-1:Clause 30.2 |
| **Product Certifications** | CCC<br>UL<br>CB Scheme<br>CSA<br>CE<br>UKCA<br>Marine<br>EAC |
| **IP degree of protection** | IP20 front face IEC 60529 |
| **Protective treatment** | THIEC 60068-2-30 |

| | |
|---|---|
| **Climatic withstand** | IACS E10 exposure to damp heat<br>IEC 60947-1 Annex Q category D exposure to damp heat |
| **Permissible ambient air temperature around the device** | -40…140 °F (-40…60 °C)<br>140…158 °F (60…70 °C) with derating |
| **Operating altitude** | 0...9842.52 ft (0...3000 m) |
| **Fire resistance** | 1562 °F (850 °C) IEC 60695-2-1 |
| **Mechanical robustness** | Vibrations contactor open 2 Gn, 5...300 Hz)<br>Vibrations contactor closed 4 Gn, 5...300 Hz)<br>Shocks contactor closed 15 Gn for 11 ms)<br>Shocks contactor open 10 Gn for 11 ms) |
| **Height** | 4.8 in (122 mm) |
| **Width** | 2.2 in (55 mm) |
| **Depth** | 4.7 in (120 mm) |
| **Net Weight** | 1.87 lb(US) (0.85 kg) |

## Ordering and shipping details

| | |
|---|---|
| **Category** | US1CTR121252 |
| **Discount Schedule** | CTR1 |
| **GTIN** | 3389119408356 |
| **Returnability** | Yes |
| **Country of origin** | ID |

## Packing Units

| | |
|---|---|
| **Unit Type of Package 1** | PCE |
| **Nbr. of units in pkg.** | 1 |
| **Package 1 Height** | 2.480 in (6.300 cm) |
| **Package 1 Width** | 5.315 in (13.500 cm) |
| **Package 1 Length** | 5.984 in (15.200 cm) |
| **Package weight(Lbs)** | 33.182 oz (940.700 g) |
| **Unit Type of Package 2** | S02 |
| **Number of Units in Package 2** | 10 |
| **Package 2 Height** | 5.906 in (15.000 cm) |
| **Package 2 Width** | 11.811 in (30.000 cm) |
| **Package 2 Length** | 15.748 in (40.000 cm) |
| **Package 2 Weight** | 22.708 lb(US) (10.300 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 | **59 kg CO2 eq.** |
| Carbon footprint of the manufacturing phase [A1 to A3] | **4 kg CO2 eq.** |
| Carbon footprint of the distribution phase [A4] | **0.4 kg CO2 eq.** |
| Carbon footprint of the installation phase [A5] | **0.1 kg CO2 eq.** |
| Carbon footprint of the use phase [B2, B3, B4, B6] | **54 kg CO2 eq.** |
| Carbon footprint of the end-of-life phase [C1 to C4] | **1 kg CO2 eq.** |
| Environmental Disclosure | **Product Environmental Profile** |

## Use Better

### Materials and Substances

| | |
|---|---|
| Packaging made with recycled cardboard | **Yes** |
| Packaging without single use plastic | **Yes** |
| SCIP Number | **3d0a4f45-d28c-4c3d-bee1-c14ec8c34bee** |
| EU RoHS Directive | **Compliant** |
| REACh Regulation | **Reference contains Substances of Very High Concern above the threshold** |
| California proposition 65 | **WARNING: This product can expose you to chemicals including: Antimony oxide & Antimony trioxide, which is known to the State of California to cause cancer and/or birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.** |
| PVC free | **Yes** |

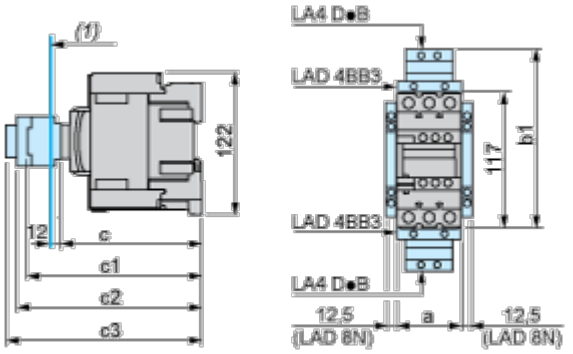
## Use Again

### Repack and remanufacture

| | |
|---|---|
| Recyclability potential, in % | **62** |
| 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




(1) Minimum electrical clearance

| LC1 | | D40A…D65A |
|---|---|---|
| **a** | | 55 |
| **b1** | with LA4 D•2 | – |
| | with LA4 DB3 or LAD 4BB3 | 136 |
| | with LA4 DF, DT | 157 |
| | with LA4 DM, DW, DL | 166 |
| **c** | without cover or add-on blocks | 118 |
| | with cover, without add-on blocks | 120 |
| **c1** | with LAD N (1 contact) | – |
| | with LAD N or C (2 or 4 contacts) | 150 |
| **c2** | with LA6 DK10, LAD 6DK | 163 |
| **c3** | with LAD T, R, S | 171 |
| | with LAD T, R, S and sealing cover | 175 |

Connections and Schema

**Wiring**

