*Product datasheet*
*Characteristics*

# LC2D40AS7

TeSys D reversing contactor - 3P(3 NO) - AC-3 - <= 440 V 40 A - 500 V AC coil

## Main

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|---|---|
| Range | TeSys |
| Product name | TeSys D |
| Product or component type | Reversing contactor |
| Device short name | LC2D |
| Contactor application | Motor control<br>Resistive load |
| Utilisation category | AC-1<br>AC-3 |
| Device presentation | Preassembled with reversing power busbar |
| Poles description | 3P |
| Pole contact composition | 3 NO |
| [Ue] rated operational voltage | <= 690 V AC 25...400 Hz for power circuit<br><= 300 V DC for power circuit |
| [Ie] rated operational current | 40 A (<= 60 °C) at <= 440 V AC AC-3 for power circuit<br>60 A (<= 60 °C) at <= 440 V AC AC-1 for power circuit |
| Motor power kW | 11 kW at 220...230 V AC 50/60 Hz<br>22 kW at 500 V AC 50/60 Hz<br>30 kW at 660...690 V AC 50/60 Hz<br>18.5 kW at 380...400 V AC 50/60 Hz<br>22 kW at 415...440 V AC 50/60 Hz |
| Motor power hp | 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 phases motors<br>30 hp at 575/600 V AC 50/60 Hz for 3 phases motors<br>3 hp at 115 V AC 50/60 Hz for 1 phase motors<br>10 hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>30 hp at 460/480 V AC 50/60 Hz for 3 phases motors |
| Control circuit type | AC 50/60 Hz |
| Control circuit voltage | 500 V AC 50/60 Hz |
| Auxiliary contact composition | 1 NO + 1 NC |
| [Uimp] rated impulse withstand voltage | 6 kV conforming to IEC 60947 |
| Overvoltage category | III |
| [Ith] conventional free air thermal current | 60 A at <= 60 °C for power circuit<br>10 A at <= 60 °C for signalling circuit |
| Irms rated making capacity | 800 A at 440 V for power circuit conforming to IEC 60947<br>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 |
| Rated breaking capacity | 800 A at 440 V for power circuit conforming to IEC 60947 |
| [Icw] rated short-time withstand current | 100 A 1 s signalling circuit<br>120 A 500 ms signalling circuit<br>140 A 100 ms signalling circuit<br>320 A <= 40 °C 10 s power circuit<br>720 A <= 40 °C 1 s power circuit<br>72 A <= 40 °C 10 min power circuit<br>165 A <= 40 °C 1 min power circuit |
| Associated fuse rating | 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 |

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| | 10 A gG for signalling circuit conforming to IEC 60947-5-1 |
| Average impedance | At 50 Hz - Ith 60 A for power circuit |
| [Ui] rated insulation voltage | 600 V for power circuit certifications CSA<br>600 V for power circuit certifications UL<br>690 V for power circuit conforming to IEC 60947-4-1<br>690 V for signalling circuit conforming to IEC 60947-1<br>600 V for signalling circuit certifications CSA<br>600 V for signalling circuit certifications UL |
| Electrical durability | 1.5 Mcycles 40 A AC-3 at Ue <= 440 V<br>1.4 Mcycles 60 A AC-1 at Ue <= 440 V |
| Power dissipation per pole | 5.4 W AC-1<br>2.4 W AC-3 |
| Protective cover | With |
| Interlocking type | Mechanical |
| Mounting support | Plate<br>Rail |
| Standards | EN 60947-4-1<br>EN 60947-5-1<br>IEC 60947-4-1<br>IEC 60947-5-1<br>UL 508<br>CSA C22.2 No 14 |
| Product certifications | CCC<br>CSA<br>GOST<br>UL |
| Connections - terminals | Control circuit : screw clamp terminals 2 cable(s) 1...2.5 mm² - cable stiffness: flexible - with cable end<br>Power circuit : EverLink BTR screw connectors 1 cable(s) 1...35 mm² - cable stiffness: flexible - without cable end<br>Power circuit : EverLink BTR screw connectors 1 cable(s) 1...35 mm² - cable stiffness: flexible - with cable end<br>Power circuit : EverLink BTR screw connectors 1 cable(s) 1...35 mm² - cable stiffness: solid - without cable end<br>Power circuit : EverLink BTR screw connectors 2 cable(s) 1...25 mm² - cable stiffness: flexible - without cable end<br>Power circuit : EverLink BTR screw connectors 2 cable(s) 1...25 mm² - cable stiffness: flexible - with cable end<br>Power circuit : EverLink BTR screw connectors 2 cable(s) 1...25 mm² - cable stiffness: solid - without cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm² - cable stiffness: flexible - without cable end<br>Control circuit : screw clamp terminals 2 cable(s) 1...4 mm² - cable stiffness: flexible - without cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm² - cable stiffness: flexible - with cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm² - cable stiffness: solid - without cable end<br>Control circuit : screw clamp terminals 2 cable(s) 1...4 mm² - cable stiffness: solid - without cable end |
| Tightening torque | 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>Power circuit : 5 N.m - on EverLink BTR screw connectors - cable <= 25 mm² hexagonal 4 mm<br>Power circuit : 8 N.m - on EverLink BTR screw connectors - cable 25...35 mm² hexagonal 4 mm |
| Operating time | 12...26 ms closing<br>4...19 ms opening |

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| 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 | 6 Mcycles |
| Operating rate | 3600 cyc/h at <= 60 °C |

## Complementary

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| Coil technology | Without built-in suppressor module |
| Control circuit voltage limits | 0.3...0.6 Uc at 60 °C drop-out 50/60 Hz<br>0.8...1.1 Uc at 60 °C operational 50 Hz<br>0.85...1.1 Uc at 60 °C operational 60 Hz |
| Inrush power in VA | 140 VA at 20 °C (cos ϕ 0.75) 60 Hz<br>160 VA at 20 °C (cos ϕ 0.75) 50 Hz |
| Hold-in power consumption in VA | 13 VA at 20 °C (cos ϕ 0.3) 60 Hz<br>15 VA at 20 °C (cos ϕ 0.3) 50 Hz |
| Heat dissipation | 4...5 W at 50/60 Hz |
| 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 current | 5 mA for signalling circuit |
| Minimum switching voltage | |
| 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) |
| Insulation resistance | > 10 MOhm for signalling circuit |

## Environment

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| IP degree of protection | IP2x front face conforming to IEC 60529 |
| Protective treatment | TH conforming to IEC 60068-2-30 |
| Pollution degree | 3 |
| Ambient air temperature for operation | -5...60 °C |
| Ambient air temperature for storage | -60...80 °C |
| Permissible ambient air temperature around the device | -40...70 °C at Uc |
| Operating altitude | 3000 m without derating in temperature |
| 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 | 122 mm |
| Width | 119 mm |
| Depth | 120 mm |
| Product weight | 1.87 kg |