

## LC2D65AK7

TeSys D reversing contactor - 3P(3 NO) - AC-3 - <= 440 V 65 A - 100 V AC coil



### Main

|   |   |
|---|---|
| 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              | 80 A (<= 60 °C) at <= 440 V AC AC-1 for power circuit<br>65 A (<= 60 °C) at <= 440 V AC AC-3 for power circuit  |
| Motor power kW                              | 30 kW at 380...400 V AC 50/60 Hz<br>37 kW at 500 V AC 50/60 Hz<br>37 kW at 660...690 V AC 50/60 Hz<br>18.5 kW at 220...230 V AC 50/60 Hz<br>37 kW at 415...440 V AC 50/60 Hz  |
| Motor power hp                              | 40 hp at 460/480 V AC 50/60 Hz for 3 phases motors<br>5 hp at 115 V AC 50/60 Hz for 1 phase motors<br>10 hp at 230/240 V AC 50/60 Hz for 1 phase motors<br>20 hp at 200/208 V AC 50/60 Hz for 3 phases motors<br>20 hp at 230/240 V AC 50/60 Hz for 3 phases motors<br>50 hp at 575/600 V AC 50/60 Hz for 3 phases motors |
| Control circuit type                        | AC 50/60 Hz   |
| Control circuit voltage                     | 100 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 | 80 A at <= 60 °C for power circuit<br>10 A at <= 60 °C for signalling circuit   |
| Irms rated making capacity                  | 1000 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                     | 1000 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>520 A <= 40 °C 10 s power circuit<br>900 A <= 40 °C 1 s power circuit<br>110 A <= 40 °C 10 min power circuit<br>260 A <= 40 °C 1 min power circuit  |
| Associated fuse rating                      | 125 A gG at <= 690 V coordination type 1 for power circuit<br>125 A gG at <= 690 V coordination type 2 for power circuit  |

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|                               |   |
|-------------------------------|---|
|                               | circuit<br>10 A gG for signalling circuit conforming to IEC 60947-5-1   |
| Average impedance             | At 50 Hz - Ith 80 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         | 1.45 Mcycles 65 A AC-3 at Ue ≤ 440 V<br>1.4 Mcycles 80 A AC-1 at Ue ≤ 440 V   |
| Power dissipation per pole    | 6.3 W AC-3<br>9.6 W AC-1  |
| 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)<br>1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit : EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit : EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit : EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Power circuit : EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Power circuit : EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Power circuit : EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit : screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - with cable end<br>Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end<br>Control circuit : screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - 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 mm <sup>2</sup> hexagonal 4 mm<br>Power circuit : 8 N.m - on EverLink BTR screw connectors - cable 25...35 mm <sup>2</sup> hexagonal 4 mm  |
| Operating time                | 12...26 ms closing  |

|                          |  |
|--------------------------|--|
|                          | 4...19 ms opening  |
| 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 $\leq 60\text{ }^{\circ}\text{C}$  |

## Complementary

|                                 |  |
|---------------------------------|--|
| Coil technology                 | Without built-in suppressor module   |
| Control circuit voltage limits  | 0.3...0.6 $U_c$ at $60\text{ }^{\circ}\text{C}$ drop-out 50/60 Hz<br>0.8...1.1 $U_c$ at $60\text{ }^{\circ}\text{C}$ operational 50 Hz<br>0.85...1.1 $U_c$ at $60\text{ }^{\circ}\text{C}$ operational 60 Hz |
| Inrush power in VA              | 140 VA at $20\text{ }^{\circ}\text{C}$ ( $\cos\phi\ 0.75$ ) 60 Hz<br>160 VA at $20\text{ }^{\circ}\text{C}$ ( $\cos\phi\ 0.75$ ) 50 Hz   |
| Hold-in power consumption in VA | 13 VA at $20\text{ }^{\circ}\text{C}$ ( $\cos\phi\ 0.3$ ) 60 Hz<br>15 VA at $20\text{ }^{\circ}\text{C}$ ( $\cos\phi\ 0.3$ ) 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

|   |  |
|---|--|
| 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 $^{\circ}\text{C}$   |
| Ambient air temperature for storage                   | -60...80 $^{\circ}\text{C}$  |
| Permissible ambient air temperature around the device | -40...70 $^{\circ}\text{C}$ at $U_c$   |
| Operating altitude                                    | 3000 m without derating in temperature   |
| Fire resistance                                       | 850 $^{\circ}\text{C}$ 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  | 1.89 kg  |