

# Product data sheet

Specifications



Contactor, TeSys Deca, 3P(3 NO), AC-3/AC-3e, 0 to 440V, 65A, 42VAC 50/60Hz coil

LC1D65AD7

## Main

|                                |                                                                                                                                                                             |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range                          | TeSys<br>TeSys Deca                                                                                                                                                         |
| Range of product               | TeSys Deca                                                                                                                                                                  |
| Product or component type      | Contactor                                                                                                                                                                   |
| Device short name              | LC1D                                                                                                                                                                        |
| Contactor application          | Motor control<br>Resistive load                                                                                                                                             |
| Utilisation category           | AC-4<br>AC-1<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 | 80 A (at <60 °C) at <= 440 V AC AC-1 for power circuit<br>65 A (at <60 °C) at <= 440 V AC AC-3 for power circuit<br>65 A (at <60 °C) at <= 440 V AC AC-3e for power circuit |
| [Uc] control circuit voltage   | 42 V AC 50/60 Hz                                                                                                                                                            |

## Complementary

|                                             |                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Motor power kW                              | 11 kW at 400 V AC 50/60 Hz (AC-4)<br>18.5 kW at 220...230 V AC 50/60 Hz (AC-3)<br>30 kW at 380...400 V AC 50/60 Hz (AC-3)<br>37 kW at 500 V AC 50/60 Hz (AC-3)<br>37 kW at 660...690 V AC 50/60 Hz (AC-3)<br>18.5 kW at 220...230 V AC 50/60 Hz (AC-3e)<br>30 kW at 380...400 V AC 50/60 Hz (AC-3e)<br>37 kW at 500 V AC 50/60 Hz (AC-3e)<br>37 kW at 660...690 V AC 50/60 Hz (AC-3e) |
| 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                                                             |
| Compatibility code                          | LC1D                                                                                                                                                                                                                                                                                                                                                                                  |
| Pole contact composition                    | 3 NO                                                                                                                                                                                                                                                                                                                                                                                  |
| Contact compatibility                       | M2                                                                                                                                                                                                                                                                                                                                                                                    |
| Protective cover                            | With                                                                                                                                                                                                                                                                                                                                                                                  |
| [Ith] conventional free air thermal current | 10 A (at 60 °C) for signalling circuit<br>80 A (at 60 °C) for power circuit                                                                                                                                                                                                                                                                                                           |

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|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Irms rated making capacity</b>               | 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>1000 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Rated breaking capacity</b>                  | 1000 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>[Icw] rated short-time withstand current</b> | 520 A 40 °C - 10 s for power circuit<br>900 A 40 °C - 1 s for power circuit<br>110 A 40 °C - 10 min for power circuit<br>260 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Associated fuse rating</b>                   | 10 A gG for signalling circuit conforming to IEC 60947-5-1<br>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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Average impedance</b>                        | 1.5 mOhm - Ith 80 A 50 Hz for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Power dissipation per pole</b>               | 9.6 W AC-1<br>6.3 W AC-3<br>6.3 W AC-3e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>[Ui] rated insulation voltage</b>            | 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<br>Power circuit: 690 V conforming to IEC 60947-4-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Overvoltage category</b>                     | III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Pollution degree</b>                         | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>[Uimp] rated impulse withstand voltage</b>   | 6 kV conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Safety reliability level</b>                 | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Mechanical durability</b>                    | 6 Mcycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Electrical durability</b>                    | 1.4 Mcycles 80 A AC-1 at Ue <= 440 V<br>1.45 Mcycles 65 A AC-3 at Ue <= 440 V<br>1.45 Mcycles 65 A AC-3e at Ue <= 440 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Control circuit type</b>                     | AC at 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Coil technology</b>                          | Without built-in suppressor module                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Control circuit voltage limits</b>           | 0.3...0.6 Uc (-40...70 °C):drop-out AC 50/60 Hz<br>0.8...1.1 Uc (-40...60 °C):operational AC 50 Hz<br>0.85...1.1 Uc (-40...60 °C):operational AC 60 Hz<br>1...1.1 Uc (60...70 °C):operational AC 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Inrush power in VA</b>                       | 140 VA 60 Hz cos phi 0.75 (at 20 °C)<br>160 VA 50 Hz cos phi 0.75 (at 20 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Hold-in power consumption in VA</b>          | 13 VA 60 Hz cos phi 0.3 (at 20 °C)<br>15 VA 50 Hz cos phi 0.3 (at 20 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Heat dissipation</b>                         | 4...5 W at 50/60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Operating time</b>                           | 4...19 ms opening<br>12...26 ms closing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Maximum operating rate</b>                   | 3600 cyc/h 60 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Connections - terminals</b>                  | Control circuit: screw clamp terminals 2 1...2.5 mm² - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 1 1...4 mm² - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm² - cable stiffness: flexible without cable end<br>Control circuit: screw clamp terminals 1 1...4 mm² - cable stiffness: flexible with cable end<br>Control circuit: screw clamp terminals 1 1...4 mm² - cable stiffness: solid without cable end<br>Control circuit: screw clamp terminals 2 1...4 mm² - cable stiffness: solid without cable end<br>Power circuit: screw connection 1 1...35 mm² - cable stiffness: flexible without cable end<br>Power circuit: screw connection 2 1...25 mm² - cable stiffness: flexible without cable end<br>Power circuit: screw connection 1 1...35 mm² - cable stiffness: flexible with cable end<br>Power circuit: screw connection 2 1...25 mm² - cable stiffness: flexible with cable end<br>Power circuit: screw connection 1 1...35 mm² - cable stiffness: solid without cable end<br>Power circuit: screw connection 2 1...25 mm² - cable stiffness: solid without cable end |
| <b>Tightening torque</b>                        | Control circuit: 1.7 N.m - on EverLink BTR screw connectors - with screwdriver flat Ø 6 mm<br>Control circuit: 1.7 N.m - on EverLink BTR screw connectors - with screwdriver Philips No 2<br>Power circuit: 8 N.m - on EverLink BTR screw connectors - cable 25...35 mm² hexagonal screw head 4 mm<br>Power circuit: 5 N.m - on EverLink BTR screw connectors - cable 1...25 mm² hexagonal screw head 4 mm<br>Control circuit: 1.7 N.m - on EverLink BTR screw connectors - with screwdriver pozidriv No 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|-------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| 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              | Rail<br>Plate                                                                                                            |

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                                | CCC<br>CSA<br>UL<br>GOST                                                                                                                                                               |
| 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 closed (15 Gn for 11 ms)<br>Shocks contactor open (10 Gn for 11 ms) |
| Height                                                | 122 mm                                                                                                                                                                                 |
| Width                                                 | 55 mm                                                                                                                                                                                  |
| Depth                                                 | 120 mm                                                                                                                                                                                 |
| Net weight                                            | 0.86 kg                                                                                                                                                                                |

Packing Units

|                              |         |
|------------------------------|---------|
| Unit Type of Package 1       | PCE     |
| Number of Units in Package 1 | 1       |
| Package 1 Height             | 6.2 cm  |
| Package 1 Width              | 13.7 cm |
| Package 1 Length             | 15.2 cm |
| Package 1 Weight             | 927.0 g |
| Unit Type of Package 2       | S02     |
| Number of Units in Package 2 | 10      |
| Package 2 Height             | 15.0 cm |

|                  |          |
|------------------|----------|
| Package 2 Width  | 30.0 cm  |
| Package 2 Length | 40.0 cm  |
| Package 2 Weight | 9.637 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<br><a href="#">EU RoHS Declaration</a>                                                                                                                                                                                                          |
| Toxic heavy metal free     | Yes                                                                                                                                                                                                                                                       |
| Mercury free               | Yes                                                                                                                                                                                                                                                       |
| China RoHS Regulation      | <a href="#">China RoHS declaration</a><br>Pro-active China RoHS declaration (out of China RoHS legal scope)                                                                                                                                               |
| 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                                                                                                                                                                                                                                                       |
| 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. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |

Contractual warranty

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

Recommended replacement(s)