

# LC1D80D5

TeSys D contactor 3P 80A AC-3 ≤ 440V - aux  
1NO+1NC - coil 42V 50Hz



## Main

|                                             |                                                                                                                                                                                                                                   |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of product                            | TeSys D                                                                                                                                                                                                                           |
| Range                                       | TeSys                                                                                                                                                                                                                             |
| Product or component type                   | Contactor                                                                                                                                                                                                                         |
| Device short name                           | LC1D                                                                                                                                                                                                                              |
| Contactor application                       | Motor control<br>Resistive load                                                                                                                                                                                                   |
| Utilisation category                        | AC-1<br>AC-3<br>AC-4                                                                                                                                                                                                              |
| Control circuit type                        | AC at 50 Hz                                                                                                                                                                                                                       |
| Poles description                           | 3P                                                                                                                                                                                                                                |
| Pole contact composition                    | 3 NO                                                                                                                                                                                                                              |
| [I <sub>e</sub> ] rated operational current | 80 A (at <60 °C) at ≤ 440 V AC-3 for power circuit<br>125 A (at <60 °C) at ≤ 440 V AC-1 for power circuit                                                                                                                         |
| Motor power kW                              | 22 kW at 220...230 V AC 50 Hz (AC-3)<br>37 kW at 380...400 V AC 50 Hz (AC-3)<br>45 kW at 415...440 V AC 50 Hz (AC-3)<br>55 kW at 500 V AC 50 Hz (AC-3)<br>45 kW at 660...690 V AC 50 Hz (AC-3)<br>45 kW at 1000 V AC 50 Hz (AC-3) |

## Complementary

|                         |                                                                                                                                                                                                                                                                                                           |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Coil technology         | Without built-in bidirectional peak limiting diode suppressor                                                                                                                                                                                                                                             |
| Protective cover        | With                                                                                                                                                                                                                                                                                                      |
| Motor power hp          | 7.5 hp at 115 V AC 60 Hz for 1 phase motors<br>15 hp at 230/240 V AC 60 Hz for 1 phase motors<br>25 hp at 200/208 V AC 60 Hz for 3 phases motors<br>30 hp at 230/240 V AC 60 Hz for 3 phases motors<br>60 hp at 460/480 V AC 60 Hz for 3 phases motors<br>60 hp at 575/600 V AC 60 Hz for 3 phases motors |
| 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                                                                                                                                                                                  |

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| Auxiliary contact composition                            | 1 NO + 1 NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| [Uc] control circuit voltage                             | 42 V AC 50 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Control circuit voltage limits                           | Drop-out: 0.3...0.6 U <sub>c</sub> at 50 Hz (at <55 °C)<br>Operational: 0.85...1.1 U <sub>c</sub> at 50 Hz (at <55 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [Ui] rated insulation voltage                            | Power circuit: 1000 V conforming to IEC 60947-1<br>Power circuit: 600 V UL certified<br>Power circuit: 600 V CSA certified<br>Signalling circuit: 690 V conforming to IEC 60947-1<br>Signalling circuit: 600 V UL certified<br>Signalling circuit: 600 V CSA certified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [Uimp] rated impulse withstand voltage                   | 8 kV conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Overvoltage category                                     | III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Mounting support                                         | Plate<br>Rail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Flame retardance                                         | V1 conforming to UL 94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Connections - terminals                                  | Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> rigid<br>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> rigid<br>Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> flexible without cable end<br>Control circuit: screw clamp terminals 1 cable(s) 1...2.5 mm <sup>2</sup> flexible with cable end<br>Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> flexible with cable end<br>Power circuit: screw terminals 1 cable(s) 4...50 mm <sup>2</sup> rigid<br>Power circuit: screw terminals 2 cable(s) 4...25 mm <sup>2</sup> rigid<br>Power circuit: screw terminals 1 cable(s) 4...50 mm <sup>2</sup> flexible without cable end<br>Power circuit: screw terminals 2 cable(s) 4...25 mm <sup>2</sup> flexible without cable end<br>Power circuit: screw terminals 1 cable(s) 4...50 mm <sup>2</sup> flexible with cable end<br>Power circuit: screw terminals 2 cable(s) 4...16 mm <sup>2</sup> flexible with cable end |
| Tightening torque                                        | Control circuit: 1.2 N.m - on screw clamp terminal - with screwdriver flat Ø 6 mm<br>Control circuit: 1.2 N.m - on screw clamp terminal - with screwdriver Philips No 2<br>Power circuit: 9 N.m - on screw terminal - with screwdriver flat Ø 6 to Ø 8 mm<br>Power circuit: 9 N.m - on screw terminal - with screwdriver hex (Allen key)4 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| [Ue] rated operational voltage                           | Power circuit: <= 1000 V AC 25...400 Hz<br>Power circuit: <= 300 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| [I <sub>th</sub> ] conventional free air thermal current | 10 A (at 60 °C) for signalling circuit<br>125 A (at 60 °C) for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| I <sub>rms</sub> 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>1100 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Rated breaking capacity                                  | 1100 A at 440 V for power circuit conforming to IEC 60947                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Associated fuse rating                                   | 10 A gG for control circuit conforming to IEC 60947-5-1<br>200 A gG at <= 690 V coordination type 1 for power circuit<br>160 A gG at <= 690 V coordination type 2 for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Average impedance                                        | 0.8 mOhm - I <sub>th</sub> 125 A 50 Hz for power circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Power dissipation per pole                               | 5.1 W AC-3<br>12.5 W AC-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Inrush power in VA                                       | 200 VA 50 Hz cos phi 0.75 (at 20 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Hold-in power consumption in VA                          | 20 VA 50 Hz cos phi 0.3 (at 20 °C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Operating time                                           | 20...35 ms closing<br>6...20 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                                    | 10 Mcycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Maximum operating rate                                   | 3600 cyc/h 60 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Electrical durability                                    | 1.5 Mcycles 80 A AC-3 at U <sub>e</sub> <= 440 V<br>0.8 Mcycles 125 A AC-1 at U <sub>e</sub> <= 440 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Minimum switching current                                | 5 mA for signalling circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Minimum switching voltage                                | 17 V for signalling circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Non-overlap time                                         | 1.5 ms on de-energisation between NC and NO contacts<br>1.5 ms on energisation between NC and NO contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Insulation resistance                                    | > 10 MOhm for signalling circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Terminals description ISO n°1                            | (13-14)NO<br>(A1-A2)CO<br>(21-22)NC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|                |         |
|----------------|---------|
| Height         | 127 mm  |
| Width          | 85 mm   |
| Depth          | 130 mm  |
| Product weight | 1.59 kg |

## Environment

|                                                       |                                                                                       |
|-------------------------------------------------------|---------------------------------------------------------------------------------------|
| Standards                                             | EN/IEC 60947-4-1<br>EN/IEC 60947-5-1<br>UL 60947-4-1<br>CSA C22.2 No 60947-4-1        |
| Product certifications                                | UL<br>CSA<br>CCC<br>EAC<br>LROS (Lloyds register of shipping)<br>DNV-GL<br>RINA<br>BV |
| IP degree of protection                               | IP20 conforming to IEC 60529                                                          |
| Protective treatment                                  | TH (pollution degree 3) conforming to IEC 60068-2-30                                  |
| 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 U <sub>c</sub>                                                         |
| Operating altitude                                    | 3000 m without                                                                        |
| Fire resistance                                       | 850 °C conforming to IEC 60695-2-1                                                    |
| Shock resistance                                      | 8 gn contactor opened<br>10 gn contactor closed                                       |
| Vibration resistance                                  | 2 gn 5...300 Hz contactor opened<br>3 gn 5...300 Hz contactor closed                  |
| Heat dissipation                                      | 6...10 W at 50 Hz for control circuit                                                 |

## Offer Sustainability

|                            |                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                       |
| EU RoHS Directive          | Compliant<br><a href="#">EU RoHS Declaration</a>                                                                            |
| Toxic heavy metal free     | Yes                                                                                                                         |
| Mercury free               | Yes                                                                                                                         |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS declaration</a>                                                                                      |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                               |
| Circularity Profile        | No need of specific recycling operations                                                                                    |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins |

## Contractual warranty

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