

# LC1D50AFD

TeSys D contactor - 3P(3 NO) - AC-3 -  $\leq 440$  V 50 A - 110 V DC coil



## Main

Commercial Status	Commercialised
Range of product	TeSys D
Product or component type	Contacteur
Device short name	LC1D
Contacteur application	Motor control Resistive load
Utilisation category	AC-1 AC-3
Poles description	3P
Power pole contact composition	3 NO
[Ue] rated operational voltage	$\leq 300$ V DC for power circuit $\leq 690$ V AC 25...400 Hz for power circuit
[Ie] rated operational current	80 A ( $\leq 60$ °C) at $\leq 440$ V AC AC-1 for power circuit 50 A ( $\leq 60$ °C) at $\leq 440$ V AC AC-3 for power circuit
Motor power kW	30 kW at 440 V AC 50/60 Hz 25 kW at 415 V AC 50/60 Hz 33 kW at 660...690 V AC 50/60 Hz 30 kW at 500 V AC 50/60 Hz 22 kW at 380...400 V AC 50/60 Hz 15 kW at 220...230 V AC 50/60 Hz
Motor power HP (UL / CSA)	40 hp at 575/600 V AC 50/60 Hz for 3 phases motors 40 hp at 460/480 V AC 50/60 Hz for 3 phases motors 15 hp at 230/240 V AC 50/60 Hz for 3 phases motors 15 hp at 200/208 V AC 50/60 Hz for 3 phases motors 7.5 hp at 230/240 V AC 50/60 Hz for 1 phase motors 3 hp at 115 V AC 50/60 Hz for 1 phase motors
Control circuit type	DC standard
Control circuit voltage	110 V DC
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 $\leq 60$ °C for power circuit 10 A at $\leq 60$ °C for signalling circuit
Irms rated making capacity	900 A at 440 V for power circuit conforming to IEC 60947 250 A DC for signalling circuit conforming to IEC 60947-5-1 140 A AC for signalling circuit conforming to IEC 60947-5-1
Rated breaking capacity	900 A at 440 V for power circuit conforming to IEC 60947
[Icw] rated short-time withstand current	208 A $\leq 40$ °C 1 min power circuit 84 A $\leq 40$ °C 10 min power circuit 810 A $\leq 40$ °C 1 s power circuit 400 A $\leq 40$ °C 10 s power circuit 140 A 100 ms signalling circuit 120 A 500 ms signalling circuit 100 A 1 s signalling circuit

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

Associated fuse rating	100 A gG at <= 690 V coordination type 2 for power circuit 100 A gG at <= 690 V coordination type 1 for power circuit 10 A gG for signalling circuit conforming to IEC 60947-5-1
Average impedance	1.50 mOhm at 50 Hz - lth 80 A for power circuit
[Ui] rated insulation voltage	600 V for signalling circuit certifications UL 600 V for signalling circuit certifications CSA 690 V for signalling circuit conforming to IEC 60947-1 600 V for power circuit certifications UL 600 V for power circuit certifications CSA 690 V for power circuit conforming to IEC 60947-4-1
Electrical durability	1.1 Mcycles 80 A AC-1 at Ue <= 440 V 1.45 Mcycles 50 A AC-3 at Ue <= 440 V
Power dissipation per pole	9.6 W AC-1 3.7 W AC-3
Safety cover	With
Mounting support	Plate Rail
Standards	EN 60947-4-1 EN 60947-5-1 IEC 60947-4-1 IEC 60947-5-1 UL 508 CSA C22.2 No 14
Product certifications	BV CCC CSA DNV GL GOST RINA UL LROS
Connections - terminals	Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end Power circuit: EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> - cable stiffness: solid - without cable end Power circuit: EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> - cable stiffness: solid - without cable end Power circuit: EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> - cable stiffness: flexible - with cable end Power circuit: EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> - cable stiffness: flexible - with cable end Power circuit: EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> - cable stiffness: flexible - without cable end Power circuit: EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> - cable stiffness: flexible - without cable end
Tightening torque	Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2 Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm Power circuit: 8 N.m - on EverLink BTR screw connectors - cable 25...35 mm <sup>2</sup> hexagonal 4 mm Power circuit: 5 N.m - on EverLink BTR screw connectors - cable <= 25 mm <sup>2</sup> hexagonal 4 mm

Operating time	16...24 ms opening 42.5...57.5 ms closing
Safety reliability level	B10d = 2000000 cycles contactor with mechanical load conforming to EN/ISO 13849-1 B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1
Mechanical durability	10 Mcycles
Operating rate	3600 cyc/h at ≤ 60 °C

## Complementary

Coil technology	Built-in bidirectional peak limiting diode suppressor
Control circuit voltage limits	0.75...1.25 Uc at 60 °C operational 0.1...0.3 Uc at 60 °C drop-out
Time constant	34 ms
Inrush power in W	19 W at 20 °C
Hold-in power consumption in W	7.4 W at 20 °C
Auxiliary contacts type	Type mirror contact (1 NC) conforming to IEC 60947-4-1 Type mechanically linked (1 NO + 1 NC) conforming to IEC 60947-5-1
Signalling circuit frequency	25...400 Hz
Minimum switching current	5 mA for signalling circuit
Minimum switching voltage	17 V for signalling circuit
Non-overlap time	1.5 ms on energisation (between NC and NO contact) 1.5 ms on de-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 °C
Ambient air temperature for storage	-60...80 °C
Permissible ambient air temperature around the device	-40...70 °C at Uc
Operating altitude	3000 m without derating in temperature
Fire resistance	850 °C conforming to IEC 60695-2-1
Flame retardance	V1 conforming to UL 94
Mechanical robustness	Shocks contactor closed 15 Gn for 11 ms Shocks contactor open 10 Gn for 11 ms Vibrations contactor closed 4 Gn, 5...300 Hz Vibrations contactor open 2 Gn, 5...300 Hz
Height	122 mm
Width	55 mm
Depth	120 mm
Product weight	0.93 kg

## RoHS compliance

RoHS EUR status	Compliant
RoHS EUR conformity date(Y Y W W)	0001

## Contractual warranty

Period	18 months
--------	-----------