

LC1D50AF7

TeSys D contactor - 3P(3 NO) - AC-3 - ≤ 440 V 50 A - 110 V AC coil

Main

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	≤ 690 V AC 25...400 Hz for power circuit ≤ 690 V DC for power circuit
[Ie] rated operational current	50 A (≤ 60 °C) at ≤ 440 V AC AC-3 for power circuit 80 A (≤ 60 °C) at ≤ 440 V AC AC-1 for power circuit
Motor power kW	15 kW at 220...230 V AC 50/60 Hz 22 kW at 380...400 V AC 50/60 Hz 30 kW at 500 V AC 50/60 Hz 33 kW at 660...690 V AC 50/60 Hz 25 kW at 415 V AC 50/60 Hz 30 kW at 440 V AC 50/60 Hz
Motor power HP (according to UL / CSA)	3 hp at 115 V AC 50/60 Hz for 1 phase motors 7.5 hp at 230/240 V AC 50/60 Hz for 1 phase motors 15 hp at 200/208 V AC 50/60 Hz for 3 phases motors 15 hp at 230/240 V AC 50/60 Hz for 3 phases motors 40 hp at 460/480 V AC 50/60 Hz for 3 phases motors 40 hp at 575/600 V AC 50/60 Hz for 3 phases motors
Control circuit type	AC 50/60 Hz
Control circuit voltage	110 V AC 50/60 Hz
Auxiliary contact composition	1 NO + 1 NC
[Uimp] rated impulse withstand voltage	6 kV conforming to IEC 60947
Overtoltage category	III
[Ith] conventional free air thermal current	10 A at ≤ 60 °C for signalling circuit 80 A at ≤ 60 °C for power circuit
Irms rated making capacity	140 A AC for signalling circuit conforming to IEC 60947-5-1 250 A DC for signalling circuit conforming to IEC 60947-5-1 900 A at 440 V for power circuit conforming to IEC 60947
Rated breaking capacity	900 A at 440 V for power circuit conforming to IEC 60947
[Icw] rated short-time withstand current	100 A 1 s signalling circuit 120 A 500 ms signalling circuit 140 A 100 ms signalling circuit 400 A ≤ 40 °C 10 s power circuit 810 A ≤ 40 °C 1 s power circuit 84 A ≤ 40 °C 10 min power circuit 208 A ≤ 40 °C 1 min power circuit

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Associated fuse rating	10 A gG for signalling circuit conforming to IEC 60947-5-1 100 A gG at <= 690 V coordination type 1 for power circuit 100 A gG at <= 690 V coordination type 2 for power circuit
Average impedance	1.5 mOhm at 50 Hz - Ith 80 A for power circuit
[Ui] rated insulation voltage	690 V for power circuit conforming to IEC 60947-4-1 600 V for power circuit certifications CSA 600 V for power circuit certifications UL 690 V for signalling circuit conforming to IEC 60947-1 600 V for signalling circuit certifications CSA 600 V for signalling circuit certifications UL
Power dissipation per pole	3.7 W AC-3 9.6 W AC-1
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 n°14
Product certifications	BV CCC CSA DNV GL GOST RINA UL LROS
Connections - terminals	Power circuit: EverLink BTR screw connectors 1 cable(s) 1...35 mm ² - cable stiffness: flexible - without cable end Power circuit: EverLink BTR screw connectors 2 cable(s) 1...25 mm ² - cable stiffness: flexible - without cable end Power circuit: EverLink BTR screw connectors 1 cable(s) 1...35 mm ² - cable stiffness: flexible - with cable end Power circuit: EverLink BTR screw connectors 2 cable(s) 1...25 mm ² - cable stiffness: flexible - with cable end Power circuit: EverLink BTR screw connectors 1 cable(s) 1...35 mm ² - cable stiffness: solid - without cable end Power circuit: EverLink BTR screw connectors 2 cable(s) 1...25 mm ² - cable stiffness: solid - without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm ² - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm ² - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm ² - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm ² - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm ² - cable stiffness: solid - without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm ² - cable stiffness: solid - without cable end
Tightening torque	Power circuit: 5 N.m - on EverLink BTR screw connectors - cable <= 25 mm ² hexagonal 4 mm Power circuit: 8 N.m - on EverLink BTR screw connectors - cable 25...35 mm ² hexagonal 4 mm Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2
Operating time	4...19 ms opening 12...26 ms closing

Safety reliability level	B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1 B10d = 20000000 cycles contactor with mechanical load conforming to EN/ISO 13849-1
Mechanical durability (millions)	6 Mcycles
Operating rate	3600 cyc/h at $\leq 60\text{ }^{\circ}\text{C}$

Complementary

Coil technology	Without built-in suppressor module
Control circuit voltage limits	0.3...0.6 Uc at $60\text{ }^{\circ}\text{C}$ drop-out 50/60 Hz 0.8...1.1 Uc at $60\text{ }^{\circ}\text{C}$ operational 50 Hz 0.85...1.1 Uc at $60\text{ }^{\circ}\text{C}$ operational 60 Hz
Inrush power in VA	140 VA at $20\text{ }^{\circ}\text{C}$ ($\cos\phi$ 0.75) 60 Hz 160 VA at $20\text{ }^{\circ}\text{C}$ ($\cos\phi$ 0.75) 50 Hz
Hold-in power consumption in VA	13 VA at $20\text{ }^{\circ}\text{C}$ ($\cos\phi$ 0.3) 60 Hz 15 VA at $20\text{ }^{\circ}\text{C}$ ($\cos\phi$ 0.3) 50 Hz
Heat dissipation	4...5 W at 50/60 Hz
Auxiliary contacts type	Type mechanically linked (1 NO + 1 NC) conforming to IEC 60947-5-1 Type mirror contact (1 NC) conforming to IEC 60947-4-1
Signalling circuit frequency	25...400 Hz
Minimum switching current	5 mA for signalling circuit
Minimum switching voltage	17 V for signalling circuit
Non-overlap time	1.5 ms on de-energisation (between NC and NO contact) 1.5 ms on energisation (between NC and NO contact)
Insulation resistance	> 10 MOhm for signalling circuit

Environment

IP degree of protection	IP2x front face conforming to IEC 60529
Protective treatment	TH conforming to IEC 60068-2-30
Pollution degree	3
Ambient air temperature for operation	-5...60 $^{\circ}\text{C}$
Ambient air temperature for storage	-60...80 $^{\circ}\text{C}$
Permissible ambient air temperature around the device	-40...70 $^{\circ}\text{C}$ at Uc
Operating altitude	3000 m without derating in temperature
Fire resistance	850 $^{\circ}\text{C}$ conforming to IEC 60695-2-1
Flame retardance	V1 conforming to UL 94
Mechanical robustness	Vibrations contactor open 2 Gn, 5...300 Hz Vibrations contactor closed 4 Gn, 5...300 Hz Shocks contactor open 10 Gn for 11 ms Shocks contactor closed 15 Gn for 11 ms
Height	122 mm
Width	55 mm
Depth	120 mm
Product weight	0.855 kg