



## Main

Range	TeSys
Product name	TeSys D
Product or component type	Contacteur
Device short name	LC1D
Contacteur application	Motor control Resistive load
Utilisation category	AC-1 AC-3 AC-4
Poles description	3P
Pole contact composition	3 NO
System Voltage	<= 1000 V AC power circuit <= 300 V DC 25...400 Hz power circuit
[Ie] rated operational current	125 A (<= 140 °F (60 °C)) at <= 440 V AC AC-1 power circuit 95 A (<= 140 °F (60 °C)) at <= 440 V AC AC-3 power circuit
Motor power kW	45 kW at 660...690 V AC 50/60 Hz AC-3 45 kW at 415...440 V AC 50/60 Hz AC-3 55 kW at 500 V AC 50/60 Hz AC-3 45 kW at 1000 V AC 50/60 Hz AC-3 15 kW at 400 V AC 50/60 Hz AC-4 25 kW at 220...230 V AC 50/60 Hz AC-3 45 kW at 380...400 V AC 50/60 Hz AC-3
Motor power hp	20 hp at 200/208 V AC 50/60 Hz 3 phases motors 7.5 hp at 115 V AC 50/60 Hz 1 phase motors 15 hp at 230/240 V AC 50/60 Hz 1 phase motors 25 hp at 230/240 V AC 50/60 Hz 3 phases motors 60 hp at 460/480 V AC 50/60 Hz 3 phases motors 60 hp at 575/600 V AC 50/60 Hz 3 phases motors
Control circuit type	AC 50/60 Hz
[Uc] control circuit voltage	240 V AC 50/60 Hz
Auxiliary contact composition	1 NO + 1 NC
[Uimp] rated impulse withstand voltage	Conforming to IEC 60947
Overvoltage category	III
[Ith] conventional free air thermal current	125 A at <= 140 °F (60 °C) power circuit 10 A at <= 140 °F (60 °C) signalling circuit
Irms rated making capacity	1100 A at 440 V power circuit conforming to IEC 60947 140 A AC signalling circuit conforming to IEC 60947-5-1 250 A DC signalling circuit conforming to IEC 60947-5-1
Rated breaking capacity	1100 A at 440 V power circuit conforming to IEC 60947
[Icw] rated short-time withstand current	1100 A <= 104 °F (40 °C) 1 s power circuit 135 A <= 104 °F (40 °C) 10 min power circuit 400 A <= 104 °F (40 °C) 1 min power circuit 800 A <= 104 °F (40 °C) 10 s power circuit 100 A 1 s signalling circuit 120 A 500 ms signalling circuit 140 A 100 ms signalling circuit
Associated fuse rating	160 A gG at <= 690 V coordination type 2 power circuit 200 A gG at <= 690 V coordination type 1 power circuit 10 A gG signalling circuit conforming to IEC 60947-5-1
Average impedance	0.8 mOhm at 50 Hz - Ith 125 A power circuit

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[Ui] rated insulation voltage	1000 V power circuit conforming to IEC 60947-4-1 600 V power circuit certifications CSA 600 V power circuit certifications UL 690 V signalling circuit conforming to IEC 60947-1 600 V signalling circuit certifications CSA 600 V signalling circuit certifications UL
Electrical durability	1.2 Mcycles 95 A AC-3 at $U_e \leq 440$ V 1.3 Mcycles 125 A AC-1 at $U_e \leq 440$ V
Power dissipation per pole	7.2 W AC-3 12.5 W AC-1
Protective cover	With
Mounting support	Plate Rail
Standards	UL 508 CSA C22.2 No 14 EN 60947-4-1 EN 60947-5-1 IEC 60947-4-1 IEC 60947-5-1
Product certifications	BV CCC DNV GL GOST LROS (Lloyds register of shipping) RINA
Connections - terminals	Control circuit: screw clamp terminals 2 cable(s) 0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 1 cable(s) 0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable(s) 0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 1 cable(s) 0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: solid - without cable end Control circuit: screw clamp terminals 2 cable(s) 0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: solid - without cable end Control circuit: screw clamp terminals 1 cable(s) 0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end Power circuit: connector 1 cable(s) 0.01...0.08 in <sup>2</sup> (4...50 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end Power circuit: connector 2 cable(s) 0.01...0.04 in <sup>2</sup> (4...25 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end Power circuit: connector 1 cable(s) 0.01...0.08 in <sup>2</sup> (4...50 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end Power circuit: connector 2 cable(s) 0.01...0.02 in <sup>2</sup> (4...16 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end Power circuit: connector 1 cable(s) 0.01...0.08 in <sup>2</sup> (4...50 mm <sup>2</sup> ) - cable stiffness: solid - without cable end Power circuit: connector 2 cable(s) 0.01...0.04 in <sup>2</sup> (4...25 mm <sup>2</sup> ) - cable stiffness: solid - without cable end
Tightening torque	Power circuit: 79.65 lbf.in (9 N.m) - on connector - with screwdriver flat $\varnothing$ 6 to $\varnothing$ 8 mm Power circuit: 79.65 lbf.in (9 N.m) - on connector hexagonal 0.16 in (4 mm) Control circuit: 10.62 lbf.in (1.2 N.m) - on screw clamp terminals - with screwdriver flat $\varnothing$ 6 mm Control circuit: 10.62 lbf.in (1.2 N.m) - on screw clamp terminals - with screwdriver Philips No 2
Operating time	20...35 ms closing 6...20 ms opening
Safety reliability level	B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1 B10d = 2000000 cycles contactor with

Mechanical durability	4 Mcycles
Operating rate	3600 cyc/h at $\leq 140$ °F (60 °C)

## Complementary

Coil technology	Without built-in suppressor module
Control circuit voltage limits	0.85...1.1 Uc operational at 131 °F (55 °C), AC 60 Hz 0.3...0.6 Uc drop-out at 131 °F (55 °C), AC 50/60 Hz 0.8...1.1 Uc operational at 55 °C, AC 50 Hz
Inrush power in VA	245 VA at 68 °F (20 °C) ( $\cos \phi$ 0.75) 60 Hz 245 VA at 68 °F (20 °C) ( $\cos \phi$ 0.75) 50 Hz
Hold-in power consumption in VA	26 VA at 68 °F (20 °C) ( $\cos \phi$ 0.3) 60 Hz 26 VA at 68 °F (20 °C) ( $\cos \phi$ 0.3) 50 Hz
Heat dissipation	6...10 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 signalling circuit
Minimum switching voltage	17 V 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 signalling circuit

## Environment

IP degree of protection	IP20 front face conforming to IEC 60529
protective treatment	TH conforming to IEC 60068-2-30
pollution degree	3
ambient air temperature for operation	23...140 °F (-5...60 °C)
ambient air temperature for storage	-76...176 °F (-60...80 °C)
permissible ambient air temperature around the device	-40...158 °F (-40...70 °C) at Uc
operating altitude	9842.52 ft (3000 m) without derating in temperature
fire resistance	1562 °F (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 Shocks contactor open 8 Gn for 11 ms Vibrations contactor closed 3 Gn, 5...300 Hz Shocks contactor closed 10 Gn for 11 ms
height	5 in (127 mm)
width	3.35 in (85 mm)
depth	5.12 in (130 mm)
product weight	3.55 lb(US) (1.61 kg)