



Main

Range	TeSys
Product name	TeSys D
Product or component type	Contactor
Device short name	LC1D
Contactor application	Motor control Resistive load
Utilisation category	AC-1 AC-3
Poles description	3P
Power pole contact composition	3 NO
[Ue] rated operational voltage	Power circuit: <= 1000 V AC 25...400 Hz
[Ie] rated operational current	60 A (at <60 °C) at <= 440 V AC AC-1 for power circuit 40 A (at <60 °C) at <= 440 V AC AC-3 for power circuit
Motor power kW	11 kW at 220/230 V AC 50 Hz (AC-3) 18.5 kW at 380/400 V AC 50 Hz (AC-3) 22 kW at 415 V AC 50 Hz (AC-3) 22 kW at 440 V AC 50 Hz (AC-3) 22 kW at 500 V AC 50 Hz (AC-3) 30 kW at 660/690 V AC 50 Hz (AC-3) 22 kW at 1000 V AC 50 Hz (AC-3)
Motor power HP (UL / CSA)	5 hp at 230/240 V AC 60 Hz for 1 phase motors 10 hp at 230/240 V AC 60 Hz for 3 phases motors 3 hp at 115 V AC 60 Hz for 1 phase motors 10 hp at 200/208 V AC 60 Hz for 3 phases motors 30 hp at 460/480 V AC 60 Hz for 3 phases motors 30 hp at 575/600 V AC 60 Hz for 3 phases motors
[Uc] control circuit voltage	230 V AC 50/60 Hz
Auxiliary contact composition	1 NO + 1 NC
[Uimp] rated impulse withstand voltage	8 kV conforming to IEC 60947
Overvoltage category	III
[Ith] conventional free air thermal current	60 A (at 60 °C) for power circuit 10 A (at 60 °C) for signalling 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 60947-5-1 800 A at 440 V AC for power circuit conforming to IEC 60947
Rated breaking capacity	800 A at 440 V for power circuit conforming to IEC 60947
[Icw] rated short-time withstand current	72 A 40 °C - 10 min for power circuit

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	<p>165 A 40 °C - 1 min for power circuit 320 A 40 °C - 10 s for power circuit 720 A 40 °C - 1 s for power circuit 100 A - 1 s for signalling circuit 120 A - 500 ms for signalling circuit 140 A - 100 ms for signalling circuit</p>
Associated fuse rating	<p>80 A gG at <= 690 V coordination type 1 for power circuit 80 A gG at <= 690 V coordination type 2 for power circuit 10 A gG for signalling circuit conforming to IEC 60947-5-1</p>
Average impedance	1.5 mOhm - lth 60 A 50 Hz for power circuit
[Ui] rated insulation voltage	<p>Power circuit: 1000 V conforming to IEC 60947-4-1 Power circuit: 600 V CSA certified Power circuit: 600 V UL certified Signalling circuit: 690 V conforming to IEC 60947-1 Signalling circuit: 600 V CSA certified Signalling circuit: 600 V UL certified</p>
Electrical durability	<p>1.4 Mcycles 60 A AC-1 at Ue <= 440 V 1.5 Mcycles 40 A AC-3 at Ue <= 440 V</p>
Power dissipation per pole	<p>5.4 W AC-1 2.4 W AC-3</p>
Safety cover	With
Mounting support	<p>Rail Plate</p>
Standards	<p>EN/IEC 60947-4-1 EN/IEC 60947-5-1 UL 60947-4-1 CSA C22.2 No 60947-4-1 EN 60335-1</p>
Product certifications	<p>IEC UL CSA CCC</p>
Connections - terminals	<p>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm²flexible without cable end Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm²flexible with cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm²solid Power circuit: screw clamp terminals 1 cable(s) 2.5...25 mm²solid Power circuit: screw clamp terminals 2 cable(s) 2.5...16 mm²solid Power circuit: screw clamp terminals 1 cable(s) 2.5...25 mm²flexible with cable end Power circuit: screw clamp terminals 2 cable(s) 2.5...10 mm²flexible with cable end Power circuit: screw clamp terminals 1 cable(s) 2.5...25 mm²flexible without cable end Power circuit: screw clamp terminals 2 cable(s) 2.5...16 mm²flexible without cable end</p>
Tightening torque	<p>Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver Philips No 2 Power circuit: 5 N.m - on screw clamp terminals - with screwdriver flat Ø 6 to Ø 8 mm</p>
Operating time	<p>4...19 ms opening 12...26 ms closing</p>
Safety reliability level	<p>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</p>
Mechanical durability	6 Mcycles
Maximum operating rate	3600 cyc/h 60 °C

Complementary

Coil technology	Without built-in suppressor module
Control circuit voltage limits	<p>0.85...1.1 Uc 55 °C operational AC 60 Hz 0.3...0.6 Uc 55 °C drop-out AC 50/60 Hz 0.8...1.1 Uc 55 °C operational AC 50 Hz</p>
Inrush power in VA	245 VA 50/60 Hz cos phi 0.75 (at 20 °C)
Hold-in power consumption in VA	26 VA (at 20 °C) cos phi 0.3 50/60 Hz
Heat dissipation	6...10 W at 50/60 Hz
Auxiliary contacts type	<p>type mechanically linked 1 NO + 1 NC conforming to IEC 60947-5-1 type mirror contact 1 NC conforming to IEC 60947-4-1</p>
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	IP20 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
Fire resistance	850 °C conforming to IEC 60695-2-1
Flame retardance	V0 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: 8 Gn for 11 ms Shocks contactor closed: 10 Gn for 11 ms
Height	127 mm
Width	75 mm
Depth	119 mm
Net weight	1.4 kg