

LC1D38BL

TeSys D contactor - 3P(3 NO) - AC-3 - \leq 440 V 38 A - 24 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	38 A (\leq 60 °C) at \leq 440 V AC AC-3 for power circuit 50 A (\leq 60 °C) at \leq 440 V AC AC-1 for power circuit
Motor power kW	18.5 kW at 415...440 V AC 50/60 Hz 9 kW at 220...230 V AC 50/60 Hz 18.5 kW at 660...690 V AC 50/60 Hz 18.5 kW at 500 V AC 50/60 Hz 18.5 kW at 380...400 V AC 50/60 Hz
Motor power HP (UL / CSA)	25 hp at 600 V AC 50/60 Hz for 3 phases motors 20 hp at 480 V AC 50/60 Hz for 3 phases motors 5 hp at 240 V AC 50/60 Hz for 1 phase motors 10 hp at 200/208 V AC 50/60 Hz for 3 phases motors 10 hp at 230/240 V AC 50/60 Hz for 3 phases motors
Control circuit type	DC low consumption
Control circuit voltage	24 V DC
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	50 A at \leq 60 °C for power circuit 10 A at \leq 60 °C for signalling circuit
Irms rated making capacity	550 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	550 A at 440 V for power circuit conforming to IEC 60947
[Icw] rated short-time withstand current	310 A \leq 40 °C 10 s power circuit 150 A \leq 40 °C 1 min power circuit 430 A \leq 40 °C 1 s power circuit 60 A \leq 40 °C 10 min power circuit 140 A 100 ms signalling circuit 120 A 500 ms signalling circuit 100 A 1 s signalling circuit

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Associated fuse rating	63 A gG at ≤ 690 V coordination type 2 for power circuit 63 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	2 mOhm at 50 Hz - Ith 50 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	1.4 Mcycles 38 A AC-3 at Ue ≤ 440 V 1.4 Mcycles 50 A AC-1 at Ue ≤ 440 V
Power dissipation per pole	3 W AC-3 5 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 No 14
Product certifications	BV CCC CSA DNV GL GOST RINA UL LROS
Connections - terminals	Power circuit: screw clamp terminals 2 cable(s) 2.5...10 mm ² - cable stiffness: solid - without cable end Power circuit: screw clamp terminals 1 cable(s) 1.5...10 mm ² - cable stiffness: solid - without cable end Power circuit: screw clamp terminals 2 cable(s) 1.5...6 mm ² - cable stiffness: flexible - with cable end Power circuit: screw clamp terminals 1 cable(s) 1...10 mm ² - cable stiffness: flexible - with cable end Power circuit: screw clamp terminals 2 cable(s) 2.5...10 mm ² - cable stiffness: flexible - without cable end Power circuit: screw clamp terminals 1 cable(s) 2.5...10 mm ² - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm ² - cable stiffness: solid - without 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...2.5 mm ² - cable stiffness: flexible - with 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...4 mm ² - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm ² - cable stiffness: flexible - without cable end
Tightening torque	Power circuit: 2.5 N.m - on screw clamp terminals - with screwdriver Philips No 2 Power circuit: 2.5 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 Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm
Operating time	20...30 ms opening 65.45...88.55 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	30 Mcycles
Operating rate	3600 cyc/h at $\leq 60\text{ }^{\circ}\text{C}$

Complementary

Coil technology	Built-in bidirectional peak limiting diode suppressor
Control circuit voltage limits	0.8...1.25 Uc at $60\text{ }^{\circ}\text{C}$ operational 0.1...0.3 Uc at $60\text{ }^{\circ}\text{C}$ drop-out
Time constant	40 ms
Inrush power in W	2.4 W at $20\text{ }^{\circ}\text{C}$
Hold-in power consumption in W	2.4 W at $20\text{ }^{\circ}\text{C}$
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	$> 10\text{ MOhm}$ 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	$-5\text{...}60\text{ }^{\circ}\text{C}$
Ambient air temperature for storage	$-60\text{...}80\text{ }^{\circ}\text{C}$
Permissible ambient air temperature around the device	$-40\text{...}70\text{ }^{\circ}\text{C}$ at Uc
Operating altitude	3000 m without derating in temperature
Fire resistance	$850\text{ }^{\circ}\text{C}$ conforming to IEC 60695-2-1
Flame retardance	V1 conforming to UL 94
Mechanical robustness	Shocks contactor open 8 Gn for 11 ms Shocks contactor closed 15 Gn for 11 ms Vibrations contactor closed 4 Gn, 5...300 Hz Vibrations contactor open 2 Gn, 5...300 Hz
Height	85 mm
Width	45 mm
Depth	101 mm
Product weight	0.54 kg

RoHS compliance

RoHS EUR status	Compliant
RoHS EUR conformity date(YYWW)	0721

Contractual warranty

Period	18 months
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