Product data sheet
Characteristics

LC1D18BD
TeSys D contactor - 3P(3 NO) - AC-3 - <= 440 V 18 A - 24 V DC coil

Main

Commercial Status	Commercialised
Range of product	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	<= 300 V DC for power circuit <= 690 V AC 25...400 Hz for power circuit
[Ie] rated operational current	18 A (<= 60 °C) at <= 440 V AC AC-3 for power circuit 32 A (<= 60 °C) at <= 440 V AC AC-1 for power circuit
Motor power kW	10 kW at 660...690 V AC 50/60 Hz 10 kW at 500 V AC 50/60 Hz 9 kW at 415...440 V AC 50/60 Hz 7.5 kW at 380...400 V AC 50/60 Hz 4 kW at 220...230 V AC 50/60 Hz
Motor power HP (UL / CSA)	15 hp at 575/600 V AC 50/60 Hz for 3 phases motors 10 hp at 460/480 V AC 50/60 Hz for 3 phases motors 5 hp at 230/240 V AC 50/60 Hz for 3 phases motors 5 hp at 200/208 V AC 50/60 Hz for 3 phases motors 3 hp at 230/240 V AC 50/60 Hz for 1 phase motors 1 hp at 115 V AC 50/60 Hz for 1 phase motors
Control circuit type	DC standard
Control circuit voltage	24 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	32 A at <= 60 °C for power circuit 10 A at <= 60 °C for signalling circuit
Irms rated making capacity	300 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	300 A at 440 V for power circuit conforming to IEC 60947
[Icw] rated short-time withstand current	84 A <= 40 °C 1 min power circuit 40 A <= 40 °C 10 min power circuit 240 A <= 40 °C 1 s power circuit 145 A <= 40 °C 10 s power circuit 140 A 100 ms signalling circuit 120 A 500 ms signalling circuit 100 A 1 s signalling circuit

Associated fuse rating	35 A gG at <= 690 V coordination type 2 for power circuit 50 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	2.5 mOhm at 50 Hz - Ith 32 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 Mcycles 32 A AC-1 at Ue <= 440 V 1.65 Mcycles 18 A AC-3 at Ue <= 440 V
Power dissipation per pole	0.8 W AC-3 2.5 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) 1.5...6 mm² - cable stiffness: solid - without cable end Power circuit: screw clamp terminals 1 cable(s) 1.5...6 mm² - cable stiffness: solid - without cable end Power circuit: screw clamp terminals 2 cable(s) 1...4 mm² - cable stiffness: flexible - with cable end Power circuit: screw clamp terminals 1 cable(s) 1...6 mm² - cable stiffness: flexible - with cable end Power circuit: screw clamp terminals 2 cable(s) 1.5...6 mm² - cable stiffness: flexible - without cable end Power circuit: screw clamp terminals 1 cable(s) 1.5...6 mm² - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm² - cable stiffness: solid - without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm² - cable stiffness: solid - without cable end Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm² - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm² - cable stiffness: flexible - with cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm² - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm² - 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: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2 Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm
Operating time	16...24 ms opening 53.55...72.45 ms closing

Safety reliability level	B10d = 20000000 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 <= 60 °C

Complementary

Coil technology	Built-in bidirectional peak limiting diode suppressor
Control circuit voltage limits	0.7...1.25 Uc at 60 °C operational 0.1...0.25 Uc at 60 °C drop-out
Time constant	28 ms
Inrush power in W	5.4 W at 20 °C
Hold-in power consumption in W	5.4 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	77 mm
Width	45 mm
Depth	95 mm
Product weight	0.49 kg

RoHS compliance

RoHS EUR status	Compliant
RoHS EUR conformity date(YYWW)	0627

Contractual warranty

Period	18 months