



Main

Range	TeSys
Product name	TeSys D
Product or component type	Contactors
Device short name	LC1D
Contactors application	Motor control Resistive load
Utilisation category	AC-4 AC-1 AC-3
Poles description	3P
Power pole contact composition	3 NO
[Ue] rated operational voltage	Power circuit: ≤ 690 V AC 25...400 Hz Power circuit: ≤ 300 V DC
[Ie] rated operational current	9 A (at ≤ 60 °C) at ≤ 440 V AC AC-3 for power circuit 25 A (at ≤ 60 °C) at ≤ 440 V AC AC-1 for power circuit
Motor power kW	2.2 kW at 220...230 V AC 50/60 Hz (AC-3) 4 kW at 380...400 V AC 50/60 Hz (AC-3) 4 kW at 415...440 V AC 50/60 Hz (AC-3) 5.5 kW at 500 V AC 50/60 Hz (AC-3) 5.5 kW at 660...690 V AC 50/60 Hz (AC-3) 2.2 kW at 400 V AC 50/60 Hz (AC-4)
Motor power HP (UL / CSA)	1 hp at 230/240 V AC 50/60 Hz for 1 phase motors 2 hp at 200/208 V AC 50/60 Hz for 3 phases motors 2 hp at 230/240 V AC 50/60 Hz for 3 phases motors 5 hp at 460/480 V AC 50/60 Hz for 3 phases motors 7.5 hp at 575/600 V AC 50/60 Hz for 3 phases motors 0.33 hp at 115 V AC 50/60 Hz for 1 phase motors
Control circuit type	DC standard
[Uc] control circuit voltage	24 V DC
Auxiliary contact composition	1 NO + 1 NC
[Uimp] rated impulse withstand voltage	6 kV conforming to IEC 60947

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

Overvoltage category	III
[Ith] conventional free air thermal current	25 A (at 60 °C) for power circuit 10 A (at 60 °C) for signalling circuit
Irms rated making capacity	250 A at 440 V for power circuit conforming to IEC 60947 140 A AC for signalling circuit conforming to IEC 60947-5-1 250 A DC for signalling circuit conforming to IEC 60947-5-1
Rated breaking capacity	250 A at 440 V for power circuit conforming to IEC 60947
[Icw] rated short-time withstand current	105 A 40 °C - 10 s for power circuit 210 A 40 °C - 1 s for power circuit 30 A 40 °C - 10 min for power circuit 61 A 40 °C - 1 min for power circuit 100 A - 1 s for signalling circuit 120 A - 500 ms for signalling circuit 140 A - 100 ms for signalling circuit
Associated fuse rating	10 A gG for signalling circuit conforming to IEC 60947-5-1 25 A gG at <= 690 V coordination type 1 for power circuit 20 A gG at <= 690 V coordination type 2 for power circuit
Average impedance	2.5 mOhm - Ith 25 A 50 Hz for power circuit
[Ui] rated insulation voltage	Power circuit: 690 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
Electrical durability	0.6 Mcycles 25 A AC-1 at Ue <= 440 V 2 Mcycles 9 A AC-3 at Ue <= 440 V
Power dissipation per pole	1.56 W AC-1 0.2 W AC-3
Front cover	With
Mounting support	Plate Rail
Standards	CSA C22.2 No 14 EN 60947-4-1 EN 60947-5-1 IEC 60947-4-1 IEC 60947-5-1 UL 508
Product certifications	LROS (Lloyds register of shipping) CSA UL GOST DNV CCC GL BV RINA
Connections - terminals	Power circuit: screw clamp terminals 1 cable(s) 1...4 mm ² flexible without cable end Power circuit: screw clamp terminals 2 cable(s) 1...4 mm ² flexible without cable end Power circuit: screw clamp terminals 1 cable(s) 1...4 mm ² flexible with cable end Power circuit: screw clamp terminals 2 cable(s) 1...2.5 mm ² flexible with cable end Power circuit: screw clamp terminals 1 cable(s) 1...4 mm ² solid without cable end Power circuit: screw clamp terminals 2 cable(s) 1...4 mm ² solid without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm ² flexible without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm ² flexible without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm ² flexible with cable end Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm ² flexible with cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm ² solid without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm ² solid without cable end
Tightening torque	Power 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 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	53.55...72.45 ms closing 16...24 ms opening
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	30 Mcycles

Maximum operating rate	3600 cyc/h 60 °C
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Complementary

Coil technology	Built-in bidirectional peak limiting diode suppressor
Control circuit voltage limits	0.1...0.25 Uc (-40...70 °C):drop-out DC 0.7...1.25 Uc (-40...60 °C):operational DC 1...1.25 Uc (60...70 °C):operational DC
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 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	IP20 front face conforming to IEC 60529
Protective treatment	TH conforming to IEC 60068-2-30
Pollution degree	3
Ambient air temperature for operation	-40...60 °C 60...70 °C with derating
Ambient air temperature for storage	-60...80 °C
Operating altitude	0...3000 m
Fire resistance	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 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	77 mm
Width	45 mm
Depth	95 mm
Net weight	0.48 kg

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	532 g
Package 1 Height	5 cm
Package 1 width	9.2 cm
Package 1 Length	11.2 cm

Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	REACH Declaration
EU RoHS Directive	Compliant EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration

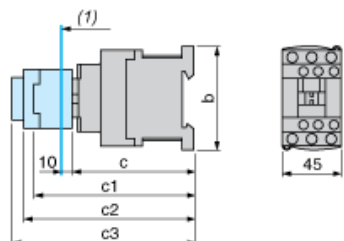
Product out of China RoHS scope. Substance declaration for your information

Environmental Disclosure	Product Environmental Profile
Circularity Profile	End of Life Information
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
PVC free	Yes
California proposition 65	WARNING: This product can expose you to chemicals including: Antimony oxide & Antimony trioxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

Contractual warranty

Warranty	18 months
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Dimensions



(1) Minimum electrical clearance

LC1		D09...D18	D093...D123	D099...D129
b		77	99	80
c	without cover or add-on blocks	93	93	93
	with cover, without add-on blocks	95	95	95
c1	with LAD N or C (2 or 4 contacts)	126	126	126
c2	with LA6 DK10	138	138	138
c3	with LAD T, R, S	146	146	146
	with LAD T, R, S and sealing cover	150	150	150

Wiring

