



Main

Range	TeSys
Product name	TeSys D
Product or component type	Contactors
Device short name	LC1D
Contactors application	Resistive load Motor control
Utilisation category	AC-3 AC-1
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	50 A (at ≤ 60 °C) at ≤ 440 V AC AC-1 for power circuit 38 A (at ≤ 60 °C) at ≤ 440 V AC AC-3 for power circuit
Motor power kW	18.5 kW at 500 V AC 50/60 Hz 18.5 kW at 660...690 V AC 50/60 Hz 18.5 kW at 380...400 V AC 50/60 Hz 9 kW at 220...230 V AC 50/60 Hz 18.5 kW at 415...440 V AC 50/60 Hz
Motor power HP (UL / CSA)	10 hp at 230/240 V AC 50/60 Hz for 3 phases motors 10 hp at 200/208 V AC 50/60 Hz for 3 phases motors 5 hp at 240 V AC 50/60 Hz for 1 phase motors 20 hp at 480 V AC 50/60 Hz for 3 phases motors 25 hp at 600 V AC 50/60 Hz for 3 phases motors
Control circuit type	AC at 50/60 Hz
[Uc] control circuit voltage	110 V AC 50/60 Hz
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	10 A (at 60 °C) for signalling circuit 50 A (at 60 °C) for power 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 60947-5-1 550 A at 440 V for power circuit conforming to IEC 60947
Rated breaking capacity	550 A at 440 V for power circuit conforming to IEC 60947
[I _{cw}] rated short-time withstand current	60 A 40 °C - 10 min for power circuit 430 A 40 °C - 1 s for power circuit 150 A 40 °C - 1 min for power circuit 310 A 40 °C - 10 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
Associated fuse rating	10 A gG for signalling circuit conforming to IEC 60947-5-1 63 A gG at ≤ 690 V coordination type 1 for power circuit 63 A gG at ≤ 690 V coordination type 2 for power circuit
Average impedance	2 mOhm - Ith 50 A 50 Hz for power circuit
[U _i] rated insulation voltage	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 Power circuit: 690 V conforming to IEC 60947-4-1
Electrical durability	1.4 Mcycles 50 A AC-1 at U _e ≤ 440 V 1.4 Mcycles 38 A AC-3 at U _e ≤ 440 V
Power dissipation per pole	5 W AC-1 3 W AC-3
Safety 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	UL DNV RINA BV CCC CSA LROS (Lloyds register of shipping) GL GOST
Connections - terminals	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 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 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 Power circuit: screw clamp terminals 1 cable(s) 2.5...10 mm ² flexible without cable end Power circuit: screw clamp terminals 2 cable(s) 2.5...10 mm ² flexible without cable end Power circuit: screw clamp terminals 1 cable(s) 1...10 mm ² flexible with cable end Power circuit: screw clamp terminals 2 cable(s) 1.5...6 mm ² flexible with cable end Power circuit: screw clamp terminals 1 cable(s) 1.5...10 mm ² solid without cable end Power circuit: screw clamp terminals 2 cable(s) 2.5...10 mm ² solid without cable end
Tightening torque	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 Power circuit: 2.5 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm Power circuit: 2.5 N.m - on screw clamp terminals - with screwdriver Philips No 2
Operating time	4...19 ms opening 12...22 ms closing
Safety reliability level	B10d = 1369863 cycles contactor with nominal load conforming to EN/ISO 13849-1 B10d = 2000000 cycles contactor with mechanical load conforming to EN/ISO 13849-1
Mechanical durability	15 Mcycles
Maximum operating rate	3600 cyc/h 60 °C

Complementary

Coil technology	Without built-in suppressor module
Control circuit voltage limits	Drop-out: 0.3...0.6 Uc AC 50/60 Hz (at 60 °C) Operational: 0.8...1.1 Uc AC 50 Hz (at 60 °C) Operational: 0.85...1.1 Uc AC 60 Hz (at 60 °C)
Inrush power in VA	70 VA 60 Hz cos phi 0.75 (at 20 °C) 70 VA 50 Hz cos phi 0.75 (at 20 °C)
Hold-in power consumption in VA	7.5 VA 60 Hz cos phi 0.3 (at 20 °C) 7 VA 50 Hz cos phi 0.3 (at 20 °C)
Heat dissipation	2...3 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 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	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 closed: 15 Gn for 11 ms Shocks contactor open: 8 Gn for 11 ms
Height	85 mm
Width	45 mm
Depth	92 mm
Net weight	0.38 kg

Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	REACH Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) EU RoHS Declaration
Toxic heavy metal free	Yes
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	Download RoHS China Declaration
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

Contractual warranty

Warranty	18 months
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