



### Main

Range of product	TeSys D
Range	TeSys
Product name	TeSys D
Product or component type	Contactor
Device short name	LC1D
Contactor application	Resistive load
Utilisation category	AC-1
Poles description	4P
Pole contact composition	4 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	40 A ( $\leq 60$ °C) at $\leq 440$ V AC AC-1 for power circuit
Control circuit type	AC 50/60 Hz
Control circuit voltage	240 V AC 50/60 Hz
Auxiliary contact composition	1 NO + 1 NC
[Uimp] rated impulse withstand voltage	Conforming to IEC 60947
Overvoltage category	III
[Ith] conventional free air thermal current	40 A at $\leq 60$ °C for power circuit 10 A at $\leq 60$ °C for signalling circuit
Irms rated making capacity	450 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	450 A at 440 V for power circuit conforming to IEC 60947
[Icw] rated short-time withstand current	120 A $\leq 40$ °C 1 min power circuit 120 A 500 ms signalling circuit 50 A $\leq 40$ °C 10 min power circuit 380 A $\leq 40$ °C 1 s power circuit 100 A 1 s signalling circuit 240 A $\leq 40$ °C 10 s power circuit 140 A 100 ms signalling circuit
Associated fuse rating	63 A gG at $\leq 690$ V coordination type 1 for power circuit

	10 A gG for signalling circuit conforming to IEC 60947-5-1 40 A gG at $\leq 690$ V coordination type 2 for power circuit
Average impedance	2 mOhm at 50 Hz - Ith 40 A for power circuit
[Ui] rated insulation voltage	600 V for signalling circuit certifications CSA 600 V for power circuit certifications UL 600 V for power circuit certifications CSA 690 V for power circuit conforming to IEC 60947-4-1 600 V for signalling circuit certifications UL 690 V for signalling circuit conforming to IEC 60947-1
Electrical durability	1.4 Mcycles 40 A AC-1 at $U_e \leq 440$ V
Power dissipation per pole	3.2 W AC-1
Protective cover	With
Mounting support	Rail Plate
Standards	EN 60947-5-1 IEC 60947-5-1 EN 60947-4-1 UL 508 CSA C22.2 No 14 IEC 60947-4-1
Product certifications	GOST RINA DNV BV UL CCC LROS GL CSA
Connections - terminals	Power circuit : connector 2 cable(s) 2.5...16 mm <sup>2</sup> - cable stiffness: solid - without cable end Power circuit : connector 1 cable(s) 2.5...10 mm <sup>2</sup> - cable stiffness: flexible - without cable end Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end Control circuit : screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with cable end Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end Control circuit : screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - without cable end Power circuit : connector 2 cable(s) 2.5...10 mm <sup>2</sup> - cable stiffness: flexible - with cable end Power circuit : connector 1 cable(s) 2.5...16 mm <sup>2</sup> - cable stiffness: solid - without cable end Power circuit : connector 2 cable(s) 2.5...10 mm <sup>2</sup> - cable stiffness: flexible - without cable end Control circuit : screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end Control circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - with cable end Power circuit : connector 1 cable(s) 2.5...10 mm <sup>2</sup> - cable stiffness: flexible - with cable end
Tightening torque	Power circuit : 1.7 N.m - on connector - with screwdriver flat $\varnothing$ 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 $\varnothing$ 6 mm Power circuit : 1.7 N.m - on connector - with screwdriver Philips No 2
Operating time	12...22 ms closing 4...19 ms opening
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	15 Mcycles
Operating rate	3600 cyc/h at $\leq 60$ °C

## Complementary

Coil technology	Without built-in suppressor module
Control circuit voltage limits	0.3...0.6 $U_c$ drop-out at 60 °C, AC 50/60 Hz 0.85...1.1 $U_c$ operational at 60 °C, AC 60 Hz 0.8...1.1 $U_c$ operational at 60 °C, AC 50 Hz
Inrush power in VA	70 VA at 20 °C (cos $\phi$ 0.75) 60 Hz 70 VA at 20 °C (cos $\phi$ 0.75) 50 Hz
Hold-in power consumption in VA	7.5 VA at 20 °C (cos $\phi$ 0.3) 60 Hz 7 VA at 20 °C (cos $\phi$ 0.3) 50 Hz
Heat dissipation	2...3 W at 50/60 Hz
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
Contact compatibility	M6
Compatibility code	LC1D

## 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 U <sub>c</sub>
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 open 8 Gn for 11 ms Vibrations contactor open 2 Gn, 5...300 Hz Shocks contactor closed 15 Gn for 11 ms Vibrations contactor closed 4 Gn, 5...300 Hz
Height	91 mm
Width	45 mm
Depth	99 mm
Product weight	0.425 kg

## Contractual warranty

Warranty period	18 months
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