

# LC1DT20U7

TeSys D contactor - 4P(4 NO) - AC-1 -  $\leq 440$  V  
20 A - 240 V AC 50/60 Hz coil



## 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	20 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	10 A at $\leq 60$ °C for signalling circuit 20 A at $\leq 60$ °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 60947-5-1 250 A at 440 V for power circuit conforming to IEC 60947
Rated breaking capacity	250 A at 440 V for power circuit conforming to IEC 60947
[Icw] rated short-time withstand current	100 A 1 s signalling circuit 120 A 500 ms signalling circuit 210 A $\leq 40$ °C 1 s power circuit 61 A $\leq 40$ °C 1 min power circuit 140 A 100 ms signalling circuit 30 A $\leq 40$ °C 10 min power circuit 105 A $\leq 40$ °C 10 s power circuit
Associated fuse rating	10 A gG for signalling circuit conforming to IEC 60947-5-1

	20 A gG at ≤ 690 V coordination type 2 for power circuit 25 A gG at ≤ 690 V coordination type 1 for power circuit
Average impedance	2.5 mOhm at 50 Hz - Ith 20 A for power circuit
[Ui] rated insulation voltage	600 V for power circuit certifications UL 600 V for signalling circuit certifications CSA 600 V for power circuit certifications CSA 690 V for signalling circuit conforming to IEC 60947-1 690 V for power circuit conforming to IEC 60947-4-1 600 V for signalling circuit certifications UL
Power dissipation per pole	1.56 W AC-1
Protective cover	With
Mounting support	Rail Plate
Standards	IEC 60947-4-1 UL 508 CSA C22.2 No 14 EN 60947-5-1 IEC 60947-5-1 EN 60947-4-1
Product certifications	CSA CCC DNV GOST LROS BV UL RINA GL
Connections - terminals	Power 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 Power circuit : screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end Power 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 : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: flexible - with cable end Power circuit : screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> - cable stiffness: solid - without cable end Power circuit : screw clamp terminals 2 cable(s) 1...4 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: flexible - with 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: 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
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 : 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
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 ≤ 60 °C

## Complementary

Coil technology	Without built-in suppressor module
Control circuit voltage limits	0.8...1.1 Uc operational at 60 °C, AC 50 Hz 0.3...0.6 Uc drop-out at 60 °C, AC 50/60 Hz 0.85...1.1 Uc operational at 60 °C, AC 60 Hz
Inrush power in VA	70 VA at 20 °C (cos φ 0.75) 60 Hz 70 VA at 20 °C (cos φ 0.75) 50 Hz
Hold-in power consumption in VA	7.5 VA at 20 °C (cos φ 0.3) 60 Hz 7 VA at 20 °C (cos φ 0.3) 50 Hz
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
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	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	85 mm
Width	45 mm
Depth	92 mm
Product weight	0.365 kg

## Contractual warranty

Warranty period	18 months
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