



### 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-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	80 A (at <60 °C) at <= 440 V AC-1 for power circuit 66 A (at <60 °C) at <= 440 V AC-3 for power circuit
Motor power kW	18.5 kW at 220...230 V AC 50 Hz (AC-3) 37 kW at 380...400 V AC 50 Hz (AC-3) 37 kW at 415 V AC 50 Hz (AC-3) 37 kW at 440 V AC 50 Hz (AC-3) 37 kW at 500 V AC 50 Hz (AC-3) 37 kW at 660...690 V AC 50 Hz (AC-3)
Motor power HP (UL / CSA)	5 hp at 115 V AC 60 Hz for 1 phase motors 10 hp at 230/240 V AC 60 Hz for 1 phase motors 20 hp at 200/208 V AC 60 Hz for 3 phases motors 20 hp at 230/240 V AC 60 Hz for 3 phases motors 40 hp at 460/480 V AC 60 Hz for 3 phases motors 50 hp at 575/600 V AC 60 Hz for 3 phases motors
Control circuit type	AC at 50/60 Hz
[Uc] control circuit voltage	220 V AC 50/60 Hz
Auxiliary contact composition	1 NO + 1 NC
[Uimp] rated impulse withstand voltage	6 kV conforming to IEC 60947
Overtoltage category	III

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

[I <sub>th</sub> ] conventional free air thermal current	10 A (at 60 °C) for signalling circuit 80 A (at 60 °C) for power circuit
I <sub>rms</sub> 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 1000 A at 440 V AC for power circuit conforming to IEC 60947
Rated breaking capacity	1000 A at 440 V for power circuit conforming to IEC 60947
[I <sub>cw</sub> ] rated short-time withstand current	520 A 40 °C - 10 s for power circuit 900 A 40 °C - 1 s for power circuit 110 A 40 °C - 10 min for power circuit 260 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 60947-5-1 125 A gG at ≤ 690 V coordination type 1 for power circuit 125 A gG at ≤ 690 V coordination type 2 for power circuit
Average impedance	1.5 mΩ - I <sub>th</sub> 80 A 50 Hz for power circuit
[U <sub>i</sub> ] rated insulation voltage	Signalling circuit: 690 V conforming to IEC 60947-1 Power circuit: 690 V conforming to IEC 60947-4-1
Electrical durability	0.7 Mcycles 80 A AC-1 at U <sub>e</sub> ≤ 440 V 1 Mcycles 66 A AC-3 at U <sub>e</sub> ≤ 440 V
Power dissipation per pole	9.6 W AC-1 6.5 W AC-3
Safety cover	With
Mounting support	Rail Plate
Standards	EN/IEC 60947-4-1 EN/IEC 60947-5-1 UL 60947-4-1 CSA C22.2 No 60947-4-1
Product certifications	CCC CSA EAC UL KC DNV-GL LROS (Lloyds register of shipping)
Connections - terminals	Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> flexible with cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible with cable end Power circuit: EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> flexible with cable end Power circuit: EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> flexible with cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> solid Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> solid Power circuit: EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> solid Power circuit: EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> solid Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> flexible Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> flexible Power circuit: EverLink BTR screw connectors 1 cable(s) 1...35 mm <sup>2</sup> flexible Power circuit: EverLink BTR screw connectors 2 cable(s) 1...25 mm <sup>2</sup> flexible
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: 8 N.m - on EverLink BTR screw connectors - cable 25...35 mm <sup>2</sup> hexagonal screw head 4 mm Power circuit: 5 N.m - on EverLink BTR screw connectors - cable 1...25 mm <sup>2</sup> hexagonal screw head 4 mm
Operating time	4...19 ms opening 12...26 ms closing
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	6 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 U <sub>c</sub> AC 50/60 Hz (at 60 °C) Operational: 0.8...1.1 U <sub>c</sub> AC 50 Hz (at 60 °C)

	Operational: 0.85...1.1 Uc AC 60 Hz (at 60 °C)
Inrush power in VA	140 VA 60 Hz cos phi 0.75 (at 20 °C) 160 VA 50 Hz cos phi 0.75 (at 20 °C)
Hold-in power consumption in VA	13 VA 60 Hz cos phi 0.3 (at 20 °C) 15 VA 50 Hz cos phi 0.3 (at 20 °C)
Heat dissipation	4...5 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	-25...60 °C
Ambient air temperature for storage	-60...80 °C
Permissible ambient air temperature around the device	-40...70 °C at Uc
Operating altitude	0...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: 10 Gn for 11 ms
Height	122 mm
Width	55 mm
Depth	120 mm
Net weight	0.86 kg
Colour	Grey (SE GREY 6)

## Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	<a href="#">REACH Declaration</a>
REACH free of SVHC	Yes
EU RoHS Directive	Compliant <a href="#">EU RoHS Declaration</a>
Toxic heavy metal free	Yes
Mercury free	Yes
RoHS exemption information	<a href="#">Yes</a>
China RoHS Regulation	<a href="#">China RoHS declaration</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End of Life Information</a>
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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