

# Product datasheet

## Characteristics

# LC1D80F7

TeSys D contactor - 3P(3 NO) - AC-3 -  $\leq 440$  V  
80 A - 110 V AC 50/60 Hz coil



### 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: $\leq 300$ V DC 25...400 Hz Power circuit: $\leq 690$ V AC
[Ie] rated operational current	125 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-1 for power circuit 80 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-3 for power circuit
Motor power kW	22 kW at 220...230 V AC 50/60 Hz (AC-3) 37 kW at 380...400 V AC 50/60 Hz (AC-3) 45 kW at 415...440 V AC 50/60 Hz (AC-3) 55 kW at 500 V AC 50/60 Hz (AC-3) 45 kW at 660...690 V AC 50/60 Hz (AC-3) 45 kW at 1000 V AC 50/60 Hz (AC-3) 15 kW at 400 V AC 50/60 Hz (AC-4)
Motor power HP (UL / CSA)	20 hp at 200/208 V AC 50/60 Hz for 3 phases motors 7.5 hp at 115 V AC 50/60 Hz for 1 phase motors 15 hp at 230/240 V AC 50/60 Hz for 1 phase motors 25 hp at 230/240 V AC 50/60 Hz for 3 phases motors 60 hp at 460/480 V AC 50/60 Hz for 3 phases motors 60 hp at 575/600 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	8 kV conforming to IEC 60947

Overvoltage category	III
[Ith] conventional free air thermal current	10 A (at 60 °C) for signalling circuit 125 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 1100 A at 440 V for power circuit conforming to IEC 60947
Rated breaking capacity	1100 A at 440 V for power circuit conforming to IEC 60947
[Icw] rated short-time withstand current	640 A 40 °C - 10 s for power circuit 990 A 40 °C - 1 s for power circuit 135 A 40 °C - 10 min for power circuit 320 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 60947-5-1 200 A gG at <= 690 V coordination type 1 for power circuit 160 A gG at <= 690 V coordination type 2 for power circuit
Average impedance	0.8 mOhm - Ith 125 A 50 Hz for power circuit
[Ui] rated insulation voltage	Power circuit: 600 V CSA certified Power circuit: 600 V UL certified Power circuit: 1000 V conforming to IEC 60947-4-1 Signalling circuit: 690 V conforming to IEC 60947-1 Signalling circuit: 600 V CSA certified Signalling circuit: 600 V UL certified
Electrical durability	0.8 Mcycles 125 A AC-1 at Ue <= 440 V 1.5 Mcycles 80 A AC-3 at Ue <= 440 V
Power dissipation per pole	5.1 W AC-3 12.5 W AC-1
Safety cover	With
Mounting support	Rail Plate
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	GL RINA BV DNV LROS (Lloyds register of shipping) CCC GOST UL CSA
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...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 without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> flexible without cable end Control circuit: screw clamp terminals 1 cable(s) 1...4 mm <sup>2</sup> solid without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm <sup>2</sup> solid without cable end Power circuit: connector 1 cable(s) 4...50 mm <sup>2</sup> flexible without cable end Power circuit: connector 2 cable(s) 4...25 mm <sup>2</sup> flexible without cable end Power circuit: connector 1 cable(s) 4...50 mm <sup>2</sup> flexible with cable end Power circuit: connector 2 cable(s) 4...16 mm <sup>2</sup> flexible with cable end Power circuit: connector 1 cable(s) 4...50 mm <sup>2</sup> solid without cable end Power circuit: connector 2 cable(s) 4...25 mm <sup>2</sup> solid without cable end
Tightening torque	Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver Philips No 2 Power circuit: 9 N.m - on connector - with screwdriver flat Ø 6 to Ø 8 mm Power circuit: 9 N.m - on connector hexagonal screw head 4 mm
Operating time	20...35 ms closing 6...20 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	4 Mcycles

Maximum operating rate	3600 cyc/h 60 °C
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## Complementary

Coil technology	Without built-in suppressor module
Control circuit voltage limits	Operational: 0.85...1.1 Uc AC 60 Hz (at 55 °C) Drop-out: 0.3...0.6 Uc AC 50/60 Hz (at 55 °C) Operational: 0.8...1.1 Uc AC 50 Hz (at 55 °C)
Inrush power in VA	245 VA 60 Hz cos phi 0.75 (at 20 °C) 245 VA 50 Hz cos phi 0.75 (at 20 °C)
Hold-in power consumption in VA	26 VA 60 Hz cos phi 0.3 (at 20 °C) 26 VA 50 Hz cos phi 0.3 (at 20 °C)
Heat dissipation	6...10 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 Shocks contactor open: 8 Gn for 11 ms Vibrations contactor closed: 3 Gn, 5...300 Hz Shocks contactor closed: 10 Gn for 11 ms
Height	127 mm
Width	85 mm
Depth	130 mm
Net weight	1.59 kg

## 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>
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

## Contractual warranty

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Warranty	18 months
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