

Product data sheet

Specifications



TeSys D contactor - 3P(3 NO) - AC-3 - <= 440 V 80 A - 24 V AC 50/60 Hz coil

LC1D80B7

Main

Range	TeSys
Product name	TeSys D
Product or component type	Contactor
Device short name	LC1D
Contactor 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: <= 300 V DC 25...400 Hz Power circuit: <= 690 V AC
[Ie] rated operational current	125 A (at <60 °C) at <= 440 V AC AC-1 for power circuit 80 A (at <60 °C) at <= 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)	7.5 hp at 120 V AC 50/60 Hz for 1 phase motors 15 hp at 230/240 V AC 50/60 Hz for 1 phase motors 30 hp at 200/208 V AC 50/60 Hz for 3 phases motors 30 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	24 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
Front 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 GOST DNV BV CSA RINA LROS (Lloyds register of shipping) GL CCC
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...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 solid without cable end Control circuit: screw clamp terminals 2 cable(s) 1...4 mm ² solid without cable end Power circuit: connector 1 cable(s) 4...50 mm ² flexible without cable end Power circuit: connector 2 cable(s) 4...25 mm ² flexible without cable end Power circuit: connector 1 cable(s) 4...50 mm ² flexible with cable end Power circuit: connector 2 cable(s) 4...16 mm ² flexible with cable end Power circuit: connector 1 cable(s) 4...50 mm ² solid without cable end Power circuit: connector 2 cable(s) 4...25 mm ² 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: 12 N.m - on connector - with screwdriver flat Ø 6 to Ø 8 mm Power circuit: 12 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
Complementary	
Coil technology	Without built-in suppressor module
Control circuit voltage limits	0.85...1.1 Uc (-40...55 °C):operational AC 60 Hz 0.3...0.6 Uc (-40...70 °C):drop-out AC 50/60 Hz 0.8...1.1 Uc (-40...55 °C):operational AC 50 Hz 1...1.1 Uc (55...70 °C):operational AC 50/60 Hz
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	-40...60 °C 60...70 °C with derating
Ambient air temperature for storage	-60...80 °C
Operating altitude	0...3000 m
Fire resistance	850 °C conforming to IEC 60695-2-1
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

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	1.555 kg
Package 1 Height	9.5 cm
Package 1 width	13.5 cm
Package 1 Length	14 cm
Unit Type of Package 2	S02
Number of Units in Package 2	5
Package 2 Weight	8.1 kg
Package 2 Height	15 cm
Package 2 width	30 cm
Package 2 Length	40 cm
Unit Type of Package 3	P06
Number of Units in Package 3	80
Package 3 Weight	138.1 kg

Package 3 Height	77 cm
Package 3 width	80 cm
Package 3 Length	60 cm

Offer Sustainability

Sustainable offer status	Green Premium product
REACH Regulation	REACH Declaration
REACH free of SVHC	Yes
EU RoHS Directive	Compliant EU RoHS Declaration
Toxic heavy metal free	Yes
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration Pro-active China RoHS declaration (out of China RoHS legal scope)
Environmental Disclosure	Product Environmental Profile
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
PVC free	Yes
California proposition 65	WARNING: This product can expose you to chemicals including: Antimony oxide & Antimony trioxide, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

Contractual warranty

Warranty	18 months
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Dimensions



(1) Minimum electrical clearance

LC1		D80	D95
a		85	85
b1	with LA4 D•2	135	135
	with LA4 DB3 or LAD 4BB3	135	–
	with LA4 DF, DT	142	142
	with LA4 DM, DW, DL	150	150
c	without cover or add-on blocks	125	125
	with cover, without add-on blocks	130	130
c1	with LAD N (1 contact)	150	150
	with LAD N or C (2 or 4 contacts)	158	158
c2	with LA6 DK10, LAD 6DK	170	170
c3	with LAD T, R, S	178	178
	with LAD T, R, S and sealing cover	182	182

Wiring

