

# Product data sheet

Specifications



## Contactor, TeSys Deca, 3P(3NO), AC-3/AC-3e, 440V, 80A, 24V AC 50/60Hz coil

LC1D80B7

### Main

Range	TeSys
Range of product	TeSys Deca
Product or component type	Contactor
Device short name	LC1D
Contactor application	Motor control Resistive load
Utilisation category	AC-3 AC-3e AC-4 AC-1
Poles description	3P
[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 80 A (at $\leq 60$ °C) at $\leq 440$ V AC AC-3e for power circuit
[Uc] control circuit voltage	24 V AC 50/60 Hz

### Complementary

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) 15 kW at 400 V AC 50/60 Hz (AC-4) 22 kW at 220...230 V AC 50/60 Hz (AC-3e) 37 kW at 380...400 V AC 50/60 Hz (AC-3e) 45 kW at 415...440 V AC 50/60 Hz (AC-3e) 55 kW at 500 V AC 50/60 Hz (AC-3e) 45 kW at 660...690 V AC 50/60 Hz (AC-3e)
Motor power hp	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
Compatibility code	LC1D
Pole contact composition	3 NO
Contact compatibility	M11
Protective cover	With
[Ith] conventional free air thermal current	10 A (at 60 °C) for signalling circuit 125 A (at 60 °C) for power circuit

<b>Irms rated making capacity</b>	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
<b>Rated breaking capacity</b>	1100 A at 440 V for power circuit conforming to IEC 60947
<b>[Icw] rated short-time withstand current</b>	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
<b>Associated fuse rating</b>	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
<b>Average impedance</b>	0.8 mOhm - lth 125 A 50 Hz for power circuit
<b>Power dissipation per pole</b>	5.1 W AC-3 12.5 W AC-1 5.1 W AC-3e
<b>[Ui] rated insulation voltage</b>	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
<b>Overvoltage category</b>	III
<b>Pollution degree</b>	3
<b>[Uimp] rated impulse withstand voltage</b>	8 kV conforming to IEC 60947
<b>Safety reliability level</b>	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
<b>Mechanical durability</b>	4 Mcycles
<b>Electrical durability</b>	0.8 Mcycles 125 A AC-1 at $U_e \leq 440$ V 1.5 Mcycles 80 A AC-3 at $U_e \leq 440$ V 1.5 Mcycles 80 A AC-3e at $U_e \leq 440$ V
<b>Control circuit type</b>	AC at 50/60 Hz standard
<b>Coil technology</b>	Without built-in suppressor module
<b>Control circuit voltage limits</b>	0.85...1.1 $U_c$ (-40...55 °C):operational AC 60 Hz 0.3...0.6 $U_c$ (-40...70 °C):drop-out AC 50/60 Hz 0.8...1.1 $U_c$ (-40...55 °C):operational AC 50 Hz 1...1.1 $U_c$ (55...70 °C):operational AC 50/60 Hz
<b>Inrush power in VA</b>	245 VA 60 Hz cos phi 0.75 (at 20 °C) 245 VA 50 Hz cos phi 0.75 (at 20 °C)
<b>Hold-in power consumption in VA</b>	26 VA 60 Hz cos phi 0.3 (at 20 °C) 26 VA 50 Hz cos phi 0.3 (at 20 °C)
<b>Heat dissipation</b>	6...10 W at 50/60 Hz
<b>Operating time</b>	20...35 ms closing 6...20 ms opening
<b>Maximum operating rate</b>	3600 cyc/h 60 °C
<b>Connections - terminals</b>	Control circuit: screw clamp terminals 2 1...2.5 mm <sup>2</sup> - cable stiffness: flexible with cable end Control circuit: screw clamp terminals 1 1...2.5 mm <sup>2</sup> - cable stiffness: flexible with cable end Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: flexible without cable end Control circuit: screw clamp terminals 2 1...4 mm <sup>2</sup> - cable stiffness: flexible without cable end Control circuit: screw clamp terminals 1 1...4 mm <sup>2</sup> - cable stiffness: solid without cable end Control circuit: screw clamp terminals 2 1...4 mm <sup>2</sup> - cable stiffness: solid without cable end Power circuit: connector 1 4...50 mm <sup>2</sup> - cable stiffness: flexible without cable end Power circuit: connector 2 4...25 mm <sup>2</sup> - cable stiffness: flexible without cable end Power circuit: connector 1 4...50 mm <sup>2</sup> - cable stiffness: flexible with cable end Power circuit: connector 2 4...16 mm <sup>2</sup> - cable stiffness: flexible with cable end Power circuit: connector 1 4...50 mm <sup>2</sup> - cable stiffness: solid without cable end Power circuit: connector 2 4...25 mm <sup>2</sup> - cable stiffness: solid without cable end
<b>Tightening torque</b>	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 Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver pozidriv No 2
<b>Auxiliary contact composition</b>	1 NO + 1 NC

<b>Auxiliary contacts type</b>	type mechanically linked 1 NO + 1 NC conforming to IEC 60947-5-1 type mirror contact 1 NC conforming to IEC 60947-4-1
<b>Signalling circuit frequency</b>	25...400 Hz
<b>Minimum switching voltage</b>	17 V for signalling circuit
<b>Minimum switching current</b>	5 mA for signalling circuit
<b>Insulation resistance</b>	> 10 MOhm for signalling circuit
<b>Non-overlap time</b>	1.5 ms on de-energisation between NC and NO contact 1.5 ms on energisation between NC and NO contact
<b>Mounting support</b>	Plate Rail

## Environment

<b>Standards</b>	CSA C22.2 No 14 EN 60947-4-1 EN 60947-5-1 IEC 60947-4-1 IEC 60947-5-1 UL 508
<b>Product certifications</b>	UL GOST DNV BV CSA RINA LROS (Lloyds register of shipping) GL CCC
<b>IP degree of protection</b>	IP20 front face conforming to IEC 60529
<b>Protective treatment</b>	TH conforming to IEC 60068-2-30
<b>Climatic withstand</b>	conforming to IACS E10 exposure to damp heat
<b>Permissible ambient air temperature around the device</b>	-40...60 °C 60...70 °C with derating
<b>Operating altitude</b>	0...3000 m
<b>Fire resistance</b>	850 °C conforming to IEC 60695-2-1
<b>Flame retardance</b>	V1 conforming to UL 94
<b>Mechanical robustness</b>	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)
<b>Height</b>	127 mm
<b>Width</b>	85 mm
<b>Depth</b>	130 mm
<b>Net weight</b>	1.59 kg

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	9.5 cm
<b>Package 1 Width</b>	13.5 cm
<b>Package 1 Length</b>	14.0 cm
<b>Package 1 Weight</b>	1.555 kg
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	5
<b>Package 2 Height</b>	15.0 cm

Package 2 Width	30.0 cm
Package 2 Length	40.0 cm
Package 2 Weight	8.1 kg
Unit Type of Package 3	P06
Number of Units in Package 3	80
Package 3 Height	77.0 cm
Package 3 Width	80.0 cm
Package 3 Length	60.0 cm
Package 3 Weight	138.1 kg

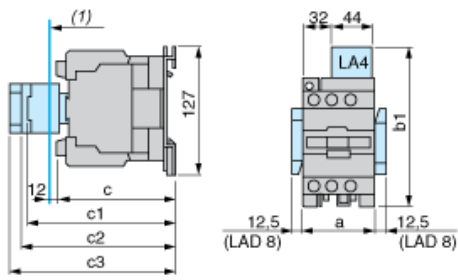
## Offer Sustainability

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
China RoHS Regulation	<a href="#">China RoHS declaration</a> Pro-active China RoHS declaration (out of China RoHS legal scope)
RoHS exemption information	<a href="#">Yes</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
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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

## Contractual warranty

Warranty	18 months
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**Dimensions**



(1) Minimum electrical clearance

LC1		D80	D95
<b>a</b>		85	85
<b>b1</b>	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
<b>c</b>	without cover or add-on blocks	125	125
	with cover, without add-on blocks	130	130
<b>c1</b>	with LAD N (1 contact)	150	150
	with LAD N or C (2 or 4 contacts)	158	158
<b>c2</b>	with LA6 DK10, LAD 6DK	170	170
<b>c3</b>	with LAD T, R, S	178	178
	with LAD T, R, S and sealing cover	182	182

**Wiring**

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**Recommended replacement(s)**