

# LC1D115F7

## TeSys D contactor - 3P(3 NO) - AC-3 - <= 440 V 115 A - 110 V AC coil



### Main

Commercial Status	Commercialised
Range of product	TeSys D
Product or component type	Contacteur
Device short name	LC1D
Contacteur application	Motor control Resistive load
Utilisation category	AC-1 AC-3
Poles description	3P
Power pole contact composition	3 NO
[Ue] rated operational voltage	<= 300 V DC for power circuit <= 1000 V AC 25...400 Hz for power circuit
[Ie] rated operational current	115 A (<= 60 °C) at <= 440 V AC AC-3 for power circuit 200 A (<= 60 °C) at <= 440 V AC AC-1 for power circuit
Motor power kW	65 kW at 1000 V AC 50/60 Hz 80 kW at 660...690 V AC 50/60 Hz 75 kW at 500 V AC 50/60 Hz 59 kW at 415...440 V AC 50/60 Hz 55 kW at 380...400 V AC 50/60 Hz 30 kW at 220...230 V AC 50/60 Hz
Motor power HP (UL / CSA)	100 hp at 575/600 V AC 50/60 Hz for 3 phases motors 75 hp at 460/480 V AC 50/60 Hz for 3 phases motors 40 hp at 230/240 V AC 50/60 Hz for 3 phases motors 30 hp at 200/208 V AC 50/60 Hz for 3 phases motors
Control circuit type	AC 50/60 Hz
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
[I <sub>th</sub> ] conventional free air thermal current	200 A at <= 60 °C for power circuit
I <sub>rm</sub> s rated making capacity	1260 A at 440 V for power circuit conforming to IEC 60947 250 A DC for signalling circuit conforming to IEC 60947-5-1 140 A AC for signalling circuit conforming to IEC 60947-5-1
Rated breaking capacity	1100 A at 440 V for power circuit conforming to IEC 60947
[I <sub>cw</sub> ] rated short-time withstand current	140 A 100 ms signalling circuit 120 A 500 ms signalling circuit 100 A 1 s signalling circuit 1100 A <= 40 °C 1 s power circuit 950 A <= 40 °C 10 s power circuit 550 A <= 40 °C 1 min power circuit 250 A <= 40 °C 10 min power circuit

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Associated fuse rating	10 A gG for signalling circuit 200 A gG at ≤ 690 V coordination type 2 for power circuit 250 A gG at ≤ 690 V coordination type 1 for power circuit
Average impedance	0.60 mOhm at 50 Hz - Ith 200 A for power circuit
[U <sub>i</sub> ] rated insulation voltage	1000 V for power circuit conforming to IEC 60947-4-1 600 V for signalling circuit certifications UL 600 V for signalling circuit certifications CSA 690 V for signalling circuit conforming to IEC 60947-1 600 V for power circuit certifications UL 600 V for power circuit certifications CSA
Electrical durability	0.95 Mcycles 115 A AC-3 at U <sub>e</sub> ≤ 440 V 0.8 Mcycles 200 A AC-1 at U <sub>e</sub> ≤ 440 V
Power dissipation per pole	7.9 W AC-3 24 W AC-1
Safety cover	With
Mounting support	Plate Rail
Standards	EN 60947-4-1 EN 60947-5-1 IEC 60947-4-1 IEC 60947-5-1 UL 508 CSA C22.2 No 14
Product certifications	BV CCC CSA DNV GL GOST RINA UL LROS
Connections - terminals	Power circuit: connector 2 cable(s) 10...50 mm <sup>2</sup> - cable stiffness: solid - without cable end Power circuit: connector 1 cable(s) 10...120 mm <sup>2</sup> - cable stiffness: solid - without cable end Power circuit: connector 2 cable(s) 10...50 mm <sup>2</sup> - cable stiffness: flexible - with cable end Power circuit: connector 1 cable(s) 10...120 mm <sup>2</sup> - cable stiffness: flexible - with cable end Power circuit: connector 2 cable(s) 10...50 mm <sup>2</sup> - cable stiffness: flexible - without cable end Power circuit: connector 1 cable(s) 10...120 mm <sup>2</sup> - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 2 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: solid - without cable end Control circuit: screw clamp terminals 1 cable(s) 1...2.5 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 - without cable end Control circuit: screw clamp terminals 1 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - without cable end Control circuit: screw clamp terminals 1 cable(s) 1...2.5 mm <sup>2</sup> - cable stiffness: flexible - with 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	Power circuit: 12 N.m - on connector hexagonal 4 mm Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver Philips No 2 Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm
Operating time	20...50 ms closing 6...20 ms opening
Safety reliability level	B10d = 20000000 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	8 Mcycles
Operating rate	2400 cyc/h at $\leq 60$ °C

### Complementary

Coil technology	Without built-in suppressor module
Control circuit voltage limits	0.8...1.15 $U_c$ at 55 °C operational 50/60 Hz 0.3...0.5 $U_c$ at 55 °C drop-out 50/60 Hz
Inrush power in VA	280...350 VA at 20 °C ( $\cos \phi$ 0.8) 50 Hz 280...350 VA at 20 °C ( $\cos \phi$ 0.8) 60 Hz
Hold-in power consumption in VA	2...18 VA at 20 °C ( $\cos \phi$ 0.3) 50 Hz 2...18 VA at 20 °C ( $\cos \phi$ 0.3) 60 Hz
Heat dissipation	3...8 W at 50/60 Hz
Auxiliary contacts type	Type mirror contact (1 NC) conforming to IEC 60947-4-1 Type mechanically linked (1 NO + 1 NC) conforming to IEC 60947-5-1
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 energisation (between NC and NO contact) 1.5 ms on de-energisation (between NC and NO contact)
Insulation resistance	> 10 MOhm for signalling circuit

### 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 $U_c$
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	Shocks contactor open 6 Gn for 11 ms Shocks contactor closed 15 Gn for 11 ms Vibrations contactor closed 4 Gn, 5...300 Hz Vibrations contactor open 2 Gn, 5...300 Hz
Height	158 mm
Width	120 mm
Depth	136 mm
Product weight	2.5 kg

### RoHS compliance

RoHS EUR status	Compliant
RoHS EUR conformity date(YYWW)	0742

### Contractual warranty

Period	18 months
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