



### Main

Range of product	TeSys D
Product or component type	Contactors
Device short name	LP1D
Contactors application	Resistive load
Utilisation category	AC-1
Control circuit type	DC
Coil type	Standard
Poles description	4P
Pole contact composition	4 NO
[Ie] rated operational current	60 A ( $\leq 140$ °F (60 °C)) AC AC-1 for power circuit
[Uc] control circuit voltage	24 V DC
Connections - terminals	Control circuit: screw clamp terminal 1 cable 0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: solid - without cable end Control circuit: screw clamp terminal 2 cable 0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: flexible - without cable end Control circuit: screw clamp terminal 2 cable 0...0.01 in <sup>2</sup> (1...4 mm <sup>2</sup> ) - cable stiffness: solid - without cable end Power circuit: screw clamp terminal 1 cable 0...0.05 in <sup>2</sup> (1...35 mm <sup>2</sup> ) - cable stiffness: solid - without cable end Power circuit: screw clamp terminal 2 cable 0...0.04 in <sup>2</sup> (1...25 mm <sup>2</sup> ) - cable stiffness: solid - without cable end Power circuit: screw clamp terminal 2 cable 0...0.05 in <sup>2</sup> (1...35 mm <sup>2</sup> ) - cable stiffness: solid - without cable end Control circuit: screw clamp terminal 2 cable 0...0 in <sup>2</sup> (1...2.5 mm <sup>2</sup> ) - cable stiffness: flexible - with cable end

### Complementary

Coil technology	Built-in bidirectional peak limiting diode suppressor
Protective cover	With
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
Control circuit voltage limits	0.1...0.3 Uc at 140 °F (60 °C) drop-out 0.75...1.25 Uc at 140 °F (60 °C) operational
Time constant	34 ms
[Ui] rated insulation voltage	600 V control circuit certifications CSA 600 V control circuit certifications UL 600 V power circuit certifications CSA 600 V power circuit certifications UL 690 V control circuit conforming to IEC 60947-1 690 V power circuit conforming to IEC 60947-1
[Uimp] rated impulse withstand voltage	6 kV conforming to IEC 60947
Overvoltage category	III
Mounting support	Plate Rail
Flame retardance	V1 conforming to UL 94
Tightening torque	Control circuit: 10.62 lbf.in (1.2 N.m) - on screw clamp terminal - with screwdriver Philips No 2 Control circuit: 10.62 lbf.in (1.2 N.m) - on screw clamp terminal - with screwdriver flat Ø 6 mm Power circuit: 44.25 lbf.in (5 N.m) - on screw clamp terminal - with screwdriver flat Ø 6 to Ø 8 mm hexagonal

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System Voltage	<= 690 V AC 25...400 Hz power circuit
[I <sub>th</sub> ] conventional free air thermal current	10 A at <= 140 °F (60 °C) control circuit 60 A at <= 140 °F (60 °C) power circuit
Irms rated making capacity	250 A AC for control circuit conforming to IEC 60947-5-1 800 A at 440 V power circuit conforming to IEC 60947
Rated breaking capacity	800 A at 440 V power circuit conforming to IEC 60947
Associated fuse rating	10 A gG control circuit conforming to IEC 60947-5-1 80 A gG at <= 690 V coordination type 1 power circuit 80 A gG at <= 690 V coordination type 2 power circuit
Average impedance	At 50 Hz - I <sub>th</sub> 60 A for power circuit
Power dissipation per pole	5.4 W AC-1
Inrush power in W	19 W at 68 °F (20 °C)
Hold-in power consumption in W	7.4 W at 68 °F (20 °C)
Operating time	20 ms opening 50 ms closing
Mechanical durability	10000000 cycles
Operating rate	3600 cyc/h at <= 140 °F (60 °C)
Minimum switching current	5 mA control circuit
Minimum switching voltage	17 V control circuit
Non-overlap time	1.5 ms on de-energisation between NC and NO contacts 1.5 ms on energisation between NC and NO contacts
Insulation resistance	> 10 MOhm control circuit
Rated operational power in W	14 W at 24 V DC-13 - electrical durability: 10000000 cycles - for control circuit 48 W at 24 V DC-13 - electrical durability: 3000000 cycles - for control circuit 96 W at 24 V DC-13 - electrical durability: 1000000 cycles - for control circuit
Height	5 in (127 mm)
Width	3.35 in (85 mm)
Depth	7.17 in (182 mm)
Product weight	4.87 lb(US) (2.21 kg)

## Environment

standards	BS 5424 EN 60947-1 EN 60947-4-1 IEC 60947-1 IEC 60947-4-1 JEM 1038 NF C 63-110 VDE 0660
product certifications	CSA DNV GL GOST PTB RINA Sichere trennung SNCF UL
IP degree of protection	IP2x conforming to IEC 60529 IP2x conforming to VDE 0106
protective treatment	TH (pollution degree: 3) conforming to IEC 60068
ambient air temperature for operation	23...140 °F (-5...60 °C)
ambient air temperature for storage	-76...176 °F (-60...80 °C)
permissible ambient air temperature around the device	-40...158 °F (-40...70 °C) at U <sub>c</sub>
operating altitude	9842.52 ft (3000 m) without derating in temperature
fire resistance	1562 °F (850 °C) conforming to IEC 60695-2-1
shock resistance	10 gn contactor opened 15 gn contactor closed
vibration resistance	2 gn 5...300 Hz contactor opened 4 gn 5...300 Hz contactor closed

Contractual warranty

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Warranty period	18 months
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