Product data sheet

Characteristics

LC1D12P7
TeSys D contactor - 3P(3 NO) - AC-3 - <= 440 V
12 A - 230 V AC coil

Main

Range TeSys
Product name TeSys D
Product or component type Contactor
Device short name LC1D
Contactor application Resistive load
Motor control
Utilisation category AC-3
AC-1
AC-4
Poles description 3P
Power pole contact composition 3 NO
[Ue] rated operational voltage Power circuit: <= 690 V AC 25...400 Hz
Power circuit: <= 300 V DC
[Ie] rated operational current 25 A (at <60 °C) at <= 440 V AC AC-1 for power circuit
12 A (at <60 °C) at <= 440 V AC AC-3 for power circuit
Motor power kW 3 kW at 220...230 V AC 50/60 Hz (AC-3)
5.5 kW at 380...400 V AC 50/60 Hz (AC-3)
5.5 kW at 415...440 V AC 50/60 Hz (AC-3)
7.5 kW at 500 V AC 50/60 Hz (AC-3)
7.5 kW at 660...690 V AC 50/60 Hz (AC-3)
3.7 kW at 400 V AC 50/60 Hz (AC-4)
Motor power HP (UL / CSA) 0.5 hp at 115 V AC 50/60 Hz for 1 phase motors
2 hp at 230/240 V AC 50/60 Hz for 1 phase motors
3 hp at 200/208 V AC 50/60 Hz for 3 phases motors
3 hp at 230/240 V AC 50/60 Hz for 3 phases motors
7.5 hp at 460/480 V AC 50/60 Hz for 3 phases motors
10 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 230 V AC 50/60 Hz
Auxiliary contact composition 1 NO + 1 NC
[Uimp] rated impulse withstand voltage 6 kV conforming to IEC 60947
Overvoltage category III

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications.
<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional free air thermal current</td>
<td>25 A (at 60 °C) for power circuit</td>
</tr>
<tr>
<td></td>
<td>10 A (at 60 °C) for signalling circuit</td>
</tr>
<tr>
<td>Irms rated making capacity</td>
<td>250 A at 440 V for power circuit conformance to IEC 60947</td>
</tr>
<tr>
<td></td>
<td>140 A AC for signalling circuit conformance to IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>250 A DC for signalling circuit conformance to IEC 60947-5-1</td>
</tr>
<tr>
<td>Rated breaking capacity</td>
<td>250 A at 440 V for power circuit conformance to IEC 60947</td>
</tr>
<tr>
<td>[Icw] rated short-time withstand current</td>
<td>105 A 40 °C - 10 s for power circuit</td>
</tr>
<tr>
<td></td>
<td>210 A 40 °C - 1 s for power circuit</td>
</tr>
<tr>
<td></td>
<td>30 A 40 °C - 10 min for power circuit</td>
</tr>
<tr>
<td></td>
<td>61 A 40 °C - 1 min for power circuit</td>
</tr>
<tr>
<td></td>
<td>100 A - 1 s for signalling circuit</td>
</tr>
<tr>
<td></td>
<td>120 A - 500 ms for signalling circuit</td>
</tr>
<tr>
<td></td>
<td>140 A - 100 ms for signalling circuit</td>
</tr>
<tr>
<td>Associated fuse rating</td>
<td>10 A gG for signalling circuit conformance to IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>40 A gG at &lt;= 690 V coordination type 1 for power circuit</td>
</tr>
<tr>
<td></td>
<td>25 A gG at &lt;= 690 V coordination type 2 for power circuit</td>
</tr>
<tr>
<td>Average impedance</td>
<td>2.5 mOhm - Ith 25 A 50 Hz for power circuit</td>
</tr>
<tr>
<td>[Ui] rated insulation voltage</td>
<td>Power circuit: 690 V conformance to IEC 60947-4-1</td>
</tr>
<tr>
<td></td>
<td>Power circuit: 600 V CSA certified</td>
</tr>
<tr>
<td></td>
<td>Signalling circuit: 690 V conformance to IEC 60947-1</td>
</tr>
<tr>
<td></td>
<td>Signalling circuit: 600 V CSA certified</td>
</tr>
<tr>
<td></td>
<td>Signalling circuit: 600 V UL certified</td>
</tr>
<tr>
<td>Electrical durability</td>
<td>2 Mcycles 12 A AC-3 at Ue &lt;= 440 V</td>
</tr>
<tr>
<td></td>
<td>0.8 Mcycles 25 A AC-1 at Ue &lt;= 440 V</td>
</tr>
<tr>
<td>Power dissipation per pole</td>
<td>0.36 W AC-3</td>
</tr>
<tr>
<td></td>
<td>1.56 W AC-1</td>
</tr>
<tr>
<td>Front cover</td>
<td>With</td>
</tr>
<tr>
<td>Mounting support</td>
<td>Rail</td>
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<tr>
<td></td>
<td>Plate</td>
</tr>
<tr>
<td>Standards</td>
<td>CSA C22.2 No 14</td>
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<tr>
<td></td>
<td>EN 60947-4-1</td>
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<td>EN 60947-5-1</td>
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<tr>
<td></td>
<td>IEC 60947-4-1</td>
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<td></td>
<td>IEC 60947-5-1</td>
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<tr>
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<td>UL 508</td>
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<tr>
<td>Product certifications</td>
<td>CSA</td>
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<td>GOST</td>
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<td>BV</td>
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<td>RINA</td>
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<tr>
<td></td>
<td>DNV</td>
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<tr>
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<td>LROS (Lloyds register of shipping)</td>
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<tr>
<td></td>
<td>GL</td>
</tr>
<tr>
<td></td>
<td>CCC</td>
</tr>
<tr>
<td></td>
<td>UL</td>
</tr>
<tr>
<td>Connections - terminals</td>
<td>Power circuit: screw clamp terminals 1 cable(s) 1...4 mm²flexible without cable end</td>
</tr>
<tr>
<td></td>
<td>Power circuit: screw clamp terminals 2 cable(s) 1...4 mm²flexible without cable end</td>
</tr>
<tr>
<td></td>
<td>Power circuit: screw clamp terminals 1 cable(s) 1...4 mm²flexible with cable end</td>
</tr>
<tr>
<td></td>
<td>Power circuit: screw clamp terminals 2 cable(s) 1...2.5 mm²flexible with cable end</td>
</tr>
<tr>
<td></td>
<td>Power circuit: screw clamp terminals 1 cable(s) 1...4 mm²solid without cable end</td>
</tr>
<tr>
<td></td>
<td>Power circuit: screw clamp terminals 2 cable(s) 1...4 mm²solid without cable end</td>
</tr>
<tr>
<td></td>
<td>Control circuit: screw clamp terminals 1 cable(s) 1...4 mm²flexible without cable end</td>
</tr>
<tr>
<td></td>
<td>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm²flexible with cable end</td>
</tr>
<tr>
<td></td>
<td>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm²solid without cable end</td>
</tr>
<tr>
<td></td>
<td>Control circuit: screw clamp terminals 2 cable(s) 1...4 mm²solid without cable end</td>
</tr>
<tr>
<td>Tightening torque</td>
<td>Power circuit: 1.7 N.m - on screw clamp terminals - with screwdriver flat Ø 6 mm</td>
</tr>
<tr>
<td></td>
<td>Control circuit: 1.7 N.m - on screw clamp terminals - with screwdriver Philips No 2</td>
</tr>
<tr>
<td>Operating time</td>
<td>12...22 ms closing</td>
</tr>
<tr>
<td></td>
<td>4...19 ms opening</td>
</tr>
<tr>
<td>Safety reliability level</td>
<td>B10d = 1369863 cycles contactor with nominal load conformance to EN/ISO 13849-1</td>
</tr>
<tr>
<td></td>
<td>B10d = 20000000 cycles contactor with mechanical load conformance to EN/ISO 13849-1</td>
</tr>
<tr>
<td>Mechanical durability</td>
<td>15 Mcycles</td>
</tr>
<tr>
<td>Maximum operating rate</td>
<td>3600 cyc/h 60 °C</td>
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### Complementary

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
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<tbody>
<tr>
<td>Coil technology</td>
<td>Without built-in suppressor module</td>
</tr>
<tr>
<td>Inrush power in VA</td>
<td>70 VA 60 Hz cos phi 0.75 (at 20 °C)</td>
</tr>
<tr>
<td></td>
<td>70 VA 50 Hz cos phi 0.75 (at 20 °C)</td>
</tr>
<tr>
<td>Hold-in power consumption in VA</td>
<td>7.5 VA 60 Hz cos phi 0.3 (at 20 °C)</td>
</tr>
<tr>
<td></td>
<td>7 VA 50 Hz cos phi 0.3 (at 20 °C)</td>
</tr>
<tr>
<td>Heat dissipation</td>
<td>2...3 W at 50/60 Hz</td>
</tr>
<tr>
<td>Auxiliary contacts type</td>
<td>type mechanically linked 1 NO + 1 NC conforming to IEC 60947-5-1 type mirror contact 1 NC conforming to IEC 60947-4-1</td>
</tr>
<tr>
<td>Signalling circuit frequency</td>
<td>25...400 Hz</td>
</tr>
<tr>
<td>Minimum switching current</td>
<td>5 mA for signalling circuit</td>
</tr>
<tr>
<td>Minimum switching voltage</td>
<td>17 V for signalling circuit</td>
</tr>
<tr>
<td>Non-overlap time</td>
<td>1.5 ms on de-energisation between NC and NO contact</td>
</tr>
<tr>
<td></td>
<td>1.5 ms on energisation between NC and NO contact</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>&gt; 10 MOhm for signalling circuit</td>
</tr>
<tr>
<td>Contact compatibility</td>
<td>M2</td>
</tr>
<tr>
<td>Compatibility code</td>
<td>LC1D</td>
</tr>
<tr>
<td>Motor power range</td>
<td>4...6 kW at 380...440 V 3 phases</td>
</tr>
<tr>
<td></td>
<td>4...6 kW at 480...500 V 3 phases</td>
</tr>
<tr>
<td></td>
<td>2.2...3 kW at 200...240 V 3 phases</td>
</tr>
<tr>
<td>Motor starter type</td>
<td>Direct on-line contactor</td>
</tr>
<tr>
<td>Contactor coil voltage</td>
<td>230 V AC standard</td>
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</table>

### Environment

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td>IP degree of protection</td>
<td>IP20 front face conforming to IEC 60529</td>
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<tr>
<td>Protective treatment</td>
<td>TH conforming to IEC 60068-2-30</td>
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<tr>
<td>Pollution degree</td>
<td>3</td>
</tr>
<tr>
<td>Ambient air temperature for storage</td>
<td>-60...80 °C</td>
</tr>
<tr>
<td>Operating altitude</td>
<td>3000 m without derating</td>
</tr>
<tr>
<td>Fire resistance</td>
<td>850 °C conforming to IEC 60695-2-1</td>
</tr>
<tr>
<td>Flame retardance</td>
<td>V1 conforming to UL 94</td>
</tr>
<tr>
<td>Mechanical robustness</td>
<td>Vibrations contactor open: 2 Gn, 5...300 Hz</td>
</tr>
<tr>
<td></td>
<td>Vibrations contactor closed: 4 Gn, 5...300 Hz</td>
</tr>
<tr>
<td></td>
<td>Shocks contactor open: 10 Gn for 11 ms</td>
</tr>
<tr>
<td></td>
<td>Shocks contactor closed: 15 Gn for 11 ms</td>
</tr>
<tr>
<td>Height</td>
<td>77 mm</td>
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<tr>
<td>Width</td>
<td>45 mm</td>
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<tr>
<td>Depth</td>
<td>86 mm</td>
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<tr>
<td>Net weight</td>
<td>0.325 kg</td>
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### Offer Sustainability

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Sustainable offer status</td>
<td>Green Premium product</td>
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<tr>
<td>REACh Regulation</td>
<td>REACh Declaration</td>
</tr>
<tr>
<td>REACh free of SVHC</td>
<td>Yes</td>
</tr>
<tr>
<td>EU RoHS Directive</td>
<td>Compliant</td>
</tr>
<tr>
<td></td>
<td>EU RoHS Declaration</td>
</tr>
<tr>
<td>Toxic heavy metal free</td>
<td>Yes</td>
</tr>
<tr>
<td>Mercury free</td>
<td>Yes</td>
</tr>
<tr>
<td>RoHS exemption information</td>
<td>Yes</td>
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<tr>
<td>China RoHS Regulation</td>
<td>China RoHS declaration</td>
</tr>
<tr>
<td>Environmental Disclosure</td>
<td>Product Environmental Profile</td>
</tr>
<tr>
<td>Circularity Profile</td>
<td>End of Life Information</td>
</tr>
<tr>
<td>WEEE</td>
<td>The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins</td>
</tr>
<tr>
<td>Contractual warranty</td>
<td>Warranty</td>
</tr>
<tr>
<td>----------------------</td>
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</table>