Product data sheet
Characteristics

LC1D80MW
Contactor, TeSys Deca, 3P(3NO), AC-3/AC-3e, <=440V, 80A, 220V DC wide voltage range coil, screw clamp terminals



Main

Range	TeSys
Range of product	TeSys Deca Advanced
Product or component type	Contactor
Device short name	LC1D
Contactor application	Resistive load Motor control
Utilisation category	AC-3 AC-3e AC-1 AC-4
Poles description	3P
[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 <= 1000 V AC AC-1 for power circuit 80 A (at <60 °C) at <= 440 V AC AC-3 for power circuit 80 A (at <60 °C) at <= 440 V AC AC-3e for power circuit
[Uc] control circuit voltage	220 V DC

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) 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) 15 KW at 400 V AC 50/60 Hz (AC-4)
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
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

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
Power dissipation per pole	5.1 W AC-3 12.5 W AC-1 5.1 W AC-3e
[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
Overvoltage category	III
Pollution degree	3
[Uimp] rated impulse withstand voltage	8 KV conforming to IEC 60947
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	10 Mcycles
Electrical durability	0.8 Mcycles 125 A AC-1 at Ue <= 440 V 1.5 Mcycles 80 A AC-3 at Ue <= 440 V 1.5 Mcycles 80 A AC-3e at Ue <= 440 V
Control circuit type	DC wide range
Coil technology	Without built-in suppressor module
Control circuit voltage limits	0.75...1.2 Uc (-40…55 °C):operational DC 0.1...0.3 Uc (-40…70 °C):drop-out DC 1...1.2 Uc (55…70 °C):operational DC
Inrush power in W	22 W (at 20 °C)
Hold-in power consumption in W	22 W at 20 °C
Operating time	95...130 ms closing 20...35 ms opening
Time constant	75 Ms
Maximum operating rate	3600 Cyc/H at 60 °C
Connections - terminals	Control circuit: screw clamp terminals 2 1…2.5 mm² - cable stiffness: flexible with cable end Control circuit: screw clamp terminals 1 1…2.5 mm² - cable stiffness: flexible with cable end Control circuit: screw clamp terminals 1 1…4 mm² - cable stiffness: flexible without cable end Control circuit: screw clamp terminals 2 1…4 mm² - cable stiffness: flexible without cable end Control circuit: screw clamp terminals 1 1…4 mm² - cable stiffness: solid without cable end Control circuit: screw clamp terminals 2 1…4 mm² - cable stiffness: solid without cable end Power circuit: connector 1 4…50 mm² - cable stiffness: flexible without cable end Power circuit: connector 2 4…25 mm² - cable stiffness: flexible without cable end Power circuit: connector 1 4…50 mm² - cable stiffness: flexible with cable end Power circuit: connector 2 4…16 mm² - cable stiffness: flexible with cable end Power circuit: connector 1 4…50 mm² - cable stiffness: solid without cable end Power circuit: connector 2 4…25 mm² - cable stiffness: 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 Control circuit: 1.2 N.m - on screw clamp terminals - with screwdriver pozidriv No 2
Auxiliary contact composition	1 NO + 1 NC
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 voltage	17 V for signalling circuit
Minimum switching current	5 MA for signalling circuit
Insulation resistance	> 10 MOhm 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
Mounting support	Rail Plate

Environment

Standards	EN 60947-4-1 EN 60947-5-1 IEC 60947-4-1 IEC 60947-5-1 CSA C22.2 No 14 UL 60947-4-1 IEC 60335-2-40:Annex JJ UL 60335-2-40:Annex JJ IEC 60335-1:Clause 30.2
Product certifications	CCC[RETURN]UL[RETURN]CB Scheme[RETURN]CSA[RETURN]CE[RETURN]UKCA[RETUR
IP degree of protection	IP20 front face conforming to IEC 60529
Protective treatment	TH conforming to IEC 60068-2-30
Climatic withstand	Conforming to IACS E10 exposure to damp heat
Permissible ambient air temperature around the device	-40…60 °C 60…70 °C with derating
Operating altitude	0...3000 m
Fire resistance	850 °C conforming to IEC 60695-2-1
Flame retardance	V1 conforming to UL 94
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	186 Mm
Net weight	2.59 Kg

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	21.0 Cm
Package 1 Width	10.0 Cm
Package 1 Length	14.0 Cm
Package 1 Weight	2.6 Kg

Offer Sustainability

Recyclability potential, in %	76
Total lifecycle Carbon footprint	97 kg CO2 eq.
Carbon footprint of the manufacturing phase [A1 to A3]	10.960713361237987
Carbon footprint of the manufacturing phase [A1 to A3]	11 kg CO2 eq.
Carbon footprint of the distribution phase [A4]	0.21622581342878092
Carbon footprint of the distribution phase [A4]	0.2 kg CO2 eq.
Carbon footprint of the installation phase [A5]	0.31002666931072853
Carbon footprint of the installation phase [A5]	0.3 kg CO2 eq.
Carbon footprint of the use phase [B2, B3, B4, B6]	81.20896739130431
REACh free of SVHC	Yes
Carbon footprint of the use phase [B2, B3, B4, B6]	81 kg CO2 eq.
Toxic heavy metal free	Yes
Mercury free	Yes
Sustainable packaging	Yes
Carbon footprint of the end-of-life phase [C1 to C4]	4.088997647987764
Carbon footprint of the end-of-life phase [C1 to C4]	4 kg CO2 eq.
Environmental Disclosure	Product Environmental Profile

Total lifecycle Carbon footprint	97
Packaging made with recycled cardboard	Yes
Packaging without single use plastic	Yes
REACh Regulation	Free of Substances of Very High Concern above the threshold
EU RoHS Directive	Compliant
PVC free	Yes
End of life manual availability	No need of specific recycling operations
Take-back	No
WEEE Label	The product must be disposed on European Union markets following specific waste collection and

Contractual warranty

Warranty (in months)	18

Product Life Status : Commercialised