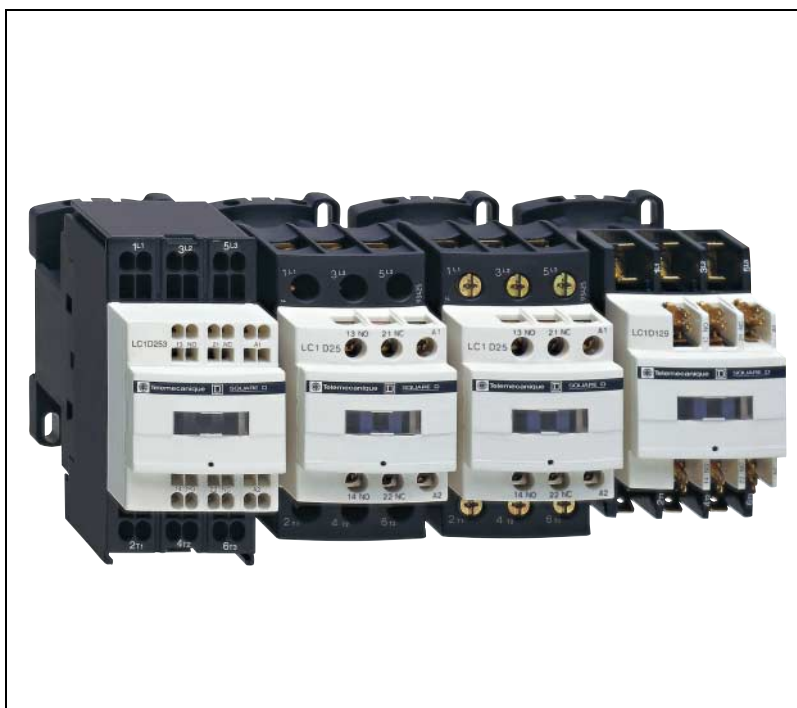


TeSys D-line Contactors, Enclosed Starters, Overload Relays, and Accessories

Class 8502



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Schneider Electric Brands

TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

General Information

The D-line contactors and overload relays are the largest selling line of contactors and starters in the world. They offer high reliability with long mechanical and electrical life and the most complete line of accessories in the industry.

Contactor Ratings

- D-line contactors and overload relays are available in 11 contactor ratings for the USA market for inductive motor applications up to 150 full-load amps and resistive loads up to 200 A. They offer motor control and overload protection for motors rated up to 100 HP at 480 Vac or 125 HP at 600 Vac.
- 3-pole and 4-pole contactor versions available.
- Most contactors include built-in auxiliary contacts.
- All screw connections have IP20 rated touch-safe terminals with both North American and International terminal markings.
- D-line contactors can be panel mounted with screws or DIN rail mounted.
- Available in 3-pole contactor versions with built-in auxiliary contact for holding circuit or 4-pole contactor versions.

Easily Installed Accessories

- Auxiliary contact blocks with serrated wiping action
- Front mount dust tight auxiliary contact blocks
- Pneumatic time delay blocks
- Transient voltage surge suppressors
- Interface modules and electronic timers
- Mechanical latching blocks

Control Circuit Flexibility

The D-line contactors are available with ac or dc operating coils. Several devices utilize a low-consumption dc coil with built-in transient suppression for operation with a low-level dc signal from a computer or PLC without need for an interposing relay.

Overload Relays

Class 10 or Class 20 bimetallic overload relays are available up to 140 A. They are bimetallic ambient compensated and are available with or without single-phase sensitivity for phase unbalance and phase loss protection. New solid state overload relays are available for 90 to 150 A applications. Both bimetallic and solid-state overload relays include the following features:




- Isolated N/C trip contact and N/O alarm contacts.
- Manual or Automatic reset function.
- Tamper-resistant window for FLA settings.
- Test trip button.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LC•D and LP•D Contactors

Environment

Type			LC1D09	LC1D12	LC1D18	LC1D25
Rated insulation voltage (Vi)	UL/CSA	V	690	690	690	690
	To IEC 60947-4-1, overvoltage category III, degree of pollution: 3	V	1000	1000	1000	1000
	Conforming to UL, CSA	V	600	600	600	600
Rated impulse withstand voltage (Vimp)	Conforming to IEC 60947	kV	6	6	6	6
Conforming to standards	 Meets the essential requirements of the LV & EMC directives		IEC 60947-1, 60947-4-1, NFC 63-110, VDE 0660, BS 5424, JEM 1038., EN 60947-1, EN 60947-4-1.			
Approvals	 E164862 CCN NLDX	 LR43364 Class 3211 04	ASE, UL, CSA, DEMKO, NEMKO, SEMKO, FI, Conforming to SNCF, Sichere Trennung recommendations			
	Degree of protection ◆	Conforming to VDE 0106	Power connections	Protection against direct finger contact IP 2X		
Protective treatment	Conforming to IEC 60068	Coil connections	Protection against direct finger contact IP 2X			
		Ambient air temperature around the device	Storage	- 60 to + 80°C (-76 to +176°F)		
Maximum operating altitude	Operation at 80 to 110% nominal control voltage	- 5 to + 60°C (-23 to +140°F)				
	Permissible at nominal control voltage	- 40 to + 70°C (-40 to +158°F)				
	Without derating	3000m (8900 ft.)				
Operating positions	Without derating	± 30° possible, in relation to normal vertical mounting plane				
Flame resistance	Conforming to UL 94	V 1	V1	V1	V1	
	Conforming to IEC 60695-2-1	960°	960°	960°	960°	
Shock resistance ▲ 1/2 sine wave = 11ms	Contact open	10 g	10 g	10 g	8 g	
	Contact closed	15 g	15 g	15 g	15 g	
Vibration resistance ▲ 5 to 300 Hz	Contact open	2 g	2 g	2 g	2 g	
	Contact closed	4 g	4 g	4 g	4 g	

Pole characteristics

Number of poles			3	3 or 4	3	3 or 4	
Rated operational current (Ie)	In ac-3, $\theta \leq 55^\circ\text{C}$ (131°F)	A	9	12	18	25	
	In ac-1, $\theta \leq 40^\circ\text{C}$ (104°F)	A	25	25	32	40	
Rated operational voltage (Ve)	Up to	V	690	690	690	690	
Frequency limits	Of the operational current	Hz	25 to 400	25 to 400	25 to 400	25 to 400	
Rated thermal current (Ith)	$\theta \leq 40^\circ\text{C}$ (104°F)	A	25	25	32	40	
Rated making capacity (1 rms)	Conforming to IEC 60947-4	A	250	250	300	450	
Rated breaking capacity (1 rms)	Conforming to IEC 60947	220-380-415-440 V	250	250	300	450	
		500 V	A	175	175	250	400
		690 V	85	85	120	180	
Permissible short time rating from cold state, no current flowing for previous 15 minutes, at $\theta \leq 40^\circ\text{C}$ (104°F)	For 1 s	A	210	210	240	380	
	For 10 s	A	105	105	145	240	
	For 1 min	A	61	61	84	120	
	For 10 min	A	30	30	40	50	
Short-circuit protection	By circuit breaker		Select circuit breaker in accordance with NEC and local codes				
	By fuses		Maximum 400% of motor full load Amps				
Average impedance per pole	A lth and 50 Hz	mΩ	2.5	2.5	2.5	2	
Power dissipation per pole for the above operational currents	AC-3	W	0.20	0.36	0.8	1.25	
	AC-1	W	1.56	1.56	2.5	3.2	

◆ Protection provided for the cable c.s.a. indicated on page 84 and for cable connections.

▲ In the least favorable direction, without change of contact state (coil supplied at Ve).



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics of Type LC•D and LP•D Contactors

LC1D32	LC1D38	LC1D40	LC1D50	LC1D65	LC1D80	LC1D95	LC1D115	LC1D150
		LP1D40	LP1D50	LP1D65	LP1D80			
690	690	690	690	690	690	690	690	690
1000	1000	1000	1000	1000	1000	1000	1000	1000
600	600	600	600	600	600	600	600	600
6	6	8	8	8	8	8	8	8

IEC 60947-1, 60947-4-1, NFC 63-110, VDE 0660, BS 5424, JEM 1038., EN 60947-1, EN 60947-4-1.

ASE, UL, CSA, DEMKO, NEMKO, SEMKO, FI, Conforming to SNCF, Sichere Trennung recommendations	–	UL 508, CSA C22.2 No.14
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Protection against direct finger contact IP 2X

Protection against direct finger contact IP 2X except LP1D40 to LP1D80

"TH"

- 60 to + 80°C (-76 to +176°F)

- 5 to + 55°C (-23 to +131°F)

- 40 to + 70°C (-40 to +158°F)

3000m (8900 ft.)

± 30° possible, in relation to normal vertical mounting plane

V 1	V 1	V 1	V 1	V 1	V 1	V 1	V 1	V 1
960°	960°	960°	960°	960°	960°	960°	960°	960°
8 g	8 g	8 g	8 g	8 g	8 g	8 g	6 g	6 g
15 g	10 g	10 g	10 g	10 g	10 g	10 g	15 g	15 g
2 g	2 g	2 g	2 g	2 g	2 g	2 g	2 g	2 g
4 g	4 g	3 g	3 g	3 g	3 g	3 g	4 g	4 g

3	3	3 or 4	3	3 or 4	3 or 4	3	3 or 4	3
32	38	40	50	65	80	95	115	150
50	50	60	80	80	125	125	200	200
690	690	1000	1000	1000	1000	1000	1000	1000
25 to 400	25 to 400	25 to 400	25 to 400	25 to 400	25 to 400	25 to 400	25 to 400	25 to 400
50	50	60	80	80	125	125	200	200
550	–	800	900	1000	1100	–	–	–
550	–	800	900	1000	1100	–	–	–
450	–	800	900	1000	1100	–	–	–
180	–	400	400	630	640	–	–	–
430	430	720	810	900	990	1100	1100	1400
260	310	320	400	520	640	800	950	1200
138	150	165	208	260	320	400	550	580
60	60	72	84	110	135	135	250	250

Select circuit breaker in accordance with NEC and local codes

Maximum 400% of motor full load Amps

2	2	1.5	1.5	1	0.8	0.8	0.6	0.6
2	2	2.4	3.7	4.2	5.1	7.2	7.9	13.5
5	5	5.4	9.6	6.4	12.5	12.5	24	24



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LC•D and LP•D Contactors

Control Circuit Characteristics

Type				LC1D09	LC1D12	LC1D18	LC1D25	
Rated control circuit voltage (Vc)	50 or 60 Hz	V		21 to 660				
Control voltage limits ($\theta \leq 55\text{ °C}$ [131 °F])	50 or 60 Hz coils	Operational		0.8 to 1.1 Vac				
		Drop-out		0.3 to 0.6 Vac				
	50/60 Hz coils	Operational		0.85 to 1.1 Vac at 60 Hz				
		Drop-out		0.3 to 0.6 Vac				
Average consumption at 20 °C (68 °F) and at Vc	50 Hz ac	Inrush	50 Hz coil	VA	–	–	–	–
			Cos ϕ		0.75	0.75	0.75	0.75
			50/60 Hz coil	VA	70	70	70	10
		Sealed	50 Hz coil	VA	–	–	–	–
			Cos ϕ		0.3	0.3	0.3	0.3
			50/60 Hz coil	VA	7	7	7	7
	60 Hz ac	Inrush	60 Hz coil	VA	–	–	–	–
			Cos ϕ		0.75	0.75	0.75	0.75
			50/60 Hz coil	VA	70	70	70	100
		Sealed	60 Hz coil	VA	–	–	–	–
			Cos ϕ		0.3	0.3	0.3	0.3
			50/60 Hz coil	VA	7.5	7.5	7.5	7.5
Heat dissipation	50/60 Hz	W	2 to 3	2 to 3	2 to 3	2.5 to 3.5		
Operating time	Closing "C" ■	ms	12 to 22	12 to 22	12 to 22	15 to 24		
	Opening "O" ▲	ms	4 to 19	4 to 19	4 to 19	5 to 19		
Mechanical durability in millions of operating cycles	50 or 60 Hz coil		–	–	–	–		
	50/60 Hz coil at 50 Hz		15	15	15	15		
Maximum operating rate at ambient temperature $\leq 55\text{ °C}$ (131 °F)	In operating cycles per hour		3600	3600	3600	3600		

■ The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles.

▲ The opening time "O" is measured from the moment the coil supply is switched off to the moment the mains poles separate.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics of Type LC•D and LP•D Contactors

LC1D32	LC1D38	LC1D40	LC1D50	LC1D65	LC1D80	LC1D95	LC1D115	LC1D150	
21 to 660		24 to 660					24 to 500		
0.8 to 1.1 Vac		0.85 to 1.1 Vac						-	
0.3 to 0.6 Vac							0.3 to 0.5 Vc		-
0.85 to 1.1 Vac at 60 Hz						0.8 to 1.15 Vac at 50/60 Hz			
0.3 to 0.6 Vac							0.3 to 0.5 Vac		-
-	-	200	200	200	200	200	300	-	
0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.8	0.9	
70	70	245	245	245	245	245	450	450	
-	-	20	20	20	20	20	22	-	
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.9	
7	7	26	26	26	26	26	2 to 18	2 to 18	
-	-	220	220	220	220	220	300	-	
0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.8	0.9	
70	70	245	245	245	245	245	450	450	
-	-	22	22	22	22	22	22	-	
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.9	
7.5	7.5	26	26	26	26	26	6	6	
2 to 3	2 to 3	6 to 10	6 to 10	6 to 10	6 to 10	6 to 10	7 to 8	6 to 7	
12 to 22	12 to 22	20 to 26	20 to 26	20 to 26	20 to 35	20 to 35	20 to 50	20 to 35	
4 to 19	4 to 19	8 to 12	8 to 12	8 to 12	6 to 20	6 to 20	6 to 20	40 to 75	
-	-	16	16	16	10	10	8	-	
15	15	6	6	6	4	4	8	8	
3600	3600	3600	3600	3600	3600	3600	2400	1200	



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LC•D and LP•D Contactors

DC Control Circuit Characteristics

Type of contactor			LC1 D09 to D38	LP1 D12 and D25	LC1 or LP1 D40 to D65	LC1 or LP1D80	LC1D115 & LC1D150	
Rated control circuit voltage (Uc)	dc	V	12 to 440		12 to 440		24 to 440	
Rated insulation voltage	Conforming to IEC 60947-1	V	690					
	Conforming to UL, CSA	V	600					
Control voltage limits	Operational	Standard coil	0.7 to 1.25 Uc at 60 °C	0.8 to 1.1 Uc @ 55 °C	0.85 to 1.1 Uc at 55 °C		0.75 to 1.2 Uc at 55 °C	
		Wide range coil	–	0.7 to 1.25 Uc @ 55 °C	0.75 to 1.2 Uc at 55 °C		–	
	Drop-out		0.1 to 0.25 Uc at 60 °C		0.1 to 0.3 Uc at 55 °C		0.15 to 0.4 Uc at 55 °C	
Average consumption at 20 °C and at Uc	dc	Inrush	W	5.4	9/11	22	22	270 to 365
		Sealed	W	5.4	9/11	22	22	2.4 to 5.1
Average operating time at Uc (1)	Closing	"C"	ms	55	52 - 64	85 to 110	95 to 130	20 to 35
	Opening	"O"	ms	20	8 - 14	20 to 35	20 to 35	40 to 75
	Note: The arcing time depends on the circuit switched by the poles. For normal three-phase applications, the arcing time is usually less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.							
Time constant (L/R)		ms	28	42	65	75	25	
Mechanical life at Uc	In millions of operating cycles		30	30	20	20	8	
Maximum operating rate at ambient temperature ≤ 60 °C	In operating cycles per hour		3600	3600	3600	3600	1200	

Low Consumption Control Circuit Characteristics

Rated insulation voltage	Conforming to IEC 60947-1	V	690				
	Conforming to UL, CSA	V	600				
Maximum voltage	Of the control circuit on dc		250				
Average consumption dc at 20 °C and at Uc	Wide range coil (0.7 to 1.25 Uc)	Inrush	W	2.4			
		Sealed	W	2.4			
Operating time (1) at Uc and at 20 °C	Closing	"C"	ms	70			
	Opening	"O"	ms	25			
Voltage limits (θ ≤ 60 °C) of the control circuit	Operational		0.7 to 1.25 Uc				
	Drop-out		0.1 to 0.3 Uc				
Time constant (L/R)		ms	40				
Mechanical life	In millions of operating cycles		30				
Maximum operating rate	At ambient temperature ≤ 60 °C	ops/h	3600				
Rated insulation voltage	Conforming to UL, CSA	V	600				
	Conforming to IEC 60947-1	V	690				

(1) Operating times depend on the type of contactor electromagnet and its control mode.
The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles. The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.

Selection: page 141, 142

Dimensions: page 121 - 124

Schematics: pages 125, 126



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

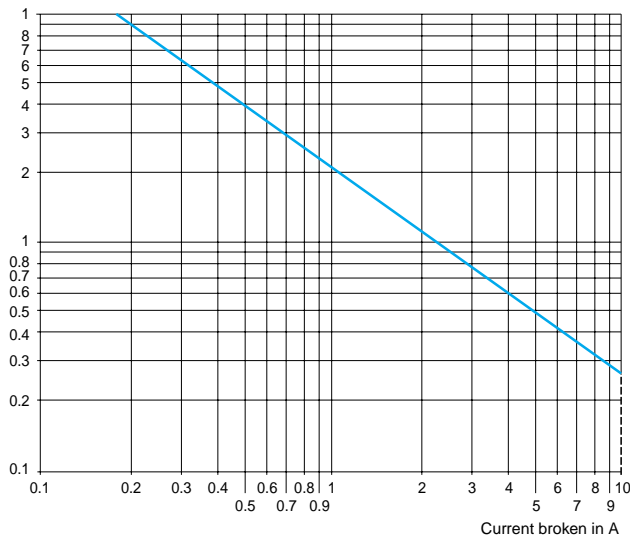
Characteristics of Type LC•D and LP•D Contactors

Contactor Integral Auxiliary Contact Characteristics

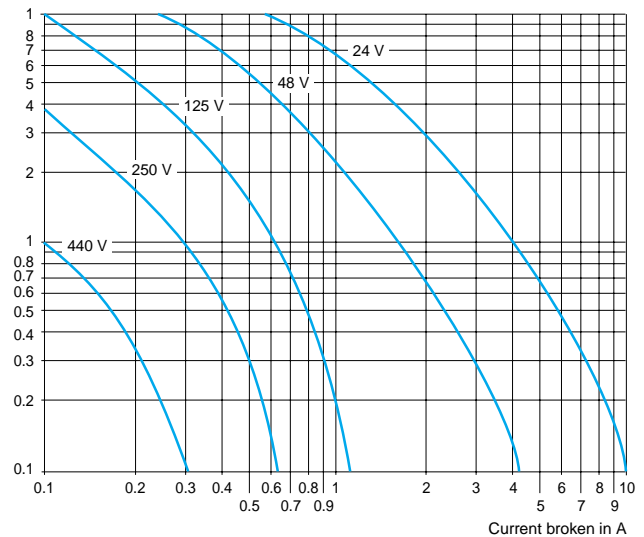
Linked contacts conforming to draft standard IEC 60947-4-5	Each contactor has two N/O and N/C contacts mechanically linked on the same movable contact holder.		
Mirror contact	The N/C contact on each contactor represents the state of the power contacts and can be connected to a PREVENTA safety module		
Rated operational voltage (Ue)	Up to	V	690
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	690
	Conforming to UL, CSA	V	600
Conventional thermal current (Ith)	For ambient temperature ≤ 60 °C	A	10
Operating current frequency		Hz	25 to 400
Minimum switching capacity	U min.	V	17
	I min.	mA	5
Short-circuit protection	Conforming to IEC 60947-5-1		gG fuse: 10 A
Rated making capacity	Conforming to IEC 60947-5-1, I rms	A	ac: 140, dc: 250
Short-time rating	Permissible for	1 s	A 100
		500 ms	A 120
		100 ms	A 140
Insulation resistance		MΩ	> 10
Non-overlap time	Guaranteed between N/C and N/O contacts	ms	1.5 on energizing and on de-energizing
	ac supply categories AC-14 and AC-15		dc supply category DC-13
Contact operating power conforming to IEC 60947-5-1	Electrical life (valid for up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making power (cos φ 0.7) = 10 times the power broken (cos φ 0.4).		Electrical life (valid for up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the load.

	V	24	48	115	230	400	440	600	V	24	48	125	250	440
1 million operating cycles	VA	60	120	280	560	960	1050	1440	W	96	76	76	76	44
3 million operating cycles	VA	16	32	80	160	280	300	420	W	48	38	38	32	–
10 million operating cycles	VA	4	8	20	40	70	80	100	W	14	12	12	–	–

AC-15



DC-13



Selection: page 141, 142

Dimensions: page 121 - 124

Schematics: pages 125, 126



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LC•D and LP•D Contactors

Power Circuit Connections

Type				LC1D09 LC1D12	LC1D18	LC1D25	
Cabling (for screw clamp terminals)	Stranded cable without cable end	Connector type		Screw clamp terminals			
		1 conductor	AWG	18-10	18-8	18-8	
		2 conductors	AWG	18-10	18-8	18-8	
		1 conductor	mm ²	1/4	1.5/6	1.5/10	
		2 conductors	mm ²	1/4	1.5/6	1.5/6	
		Flexible cable with cable end	1 conductor	AWG	18-10	18-3	18-3
			2 conductors	AWG	18-10	18-10	18-10
			1 conductor	mm ²	1/4	1/6	1/6
	2 conductors		mm ²	1/2.5	1/4	1/4	
	Solid cable without cable end	1 conductor	AWG	18-8	18-8	18-8	
		2 conductors	AWG	18-8	18-8	18-8	
		1 conductor	mm ²	1/4	1.5/6	1.5/6	
		2 conductors	mm ²	1/4	1.5/6	1.5/6	
	Phillips head type			N° 2	N° 2	N° 2	
	Screwdriver Ø			Ø 6	Ø 6	Ø 6	
Hexagon spanner			–	–	–		
Tightening torque			15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	23 lb.-in. 2.5 N•m		
Bus bar connection (for bus bar or ring tongue terminals)				Connection by bus bar or ring tongue terminals			
	Bar c.s.a.			–	–	–	
	Lug external Ø	mm	8	8	10		
	Screw Ø	mm	M3.5	M3.5	M4		
	Phillips head type			N° 2	N° 2	N° 2	
	Screwdriver Ø			Ø 6	Ø 6	Ø 6	
	Hexagon spanner			–	–	–	
Tightening torque			15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m		
Flexible cabling (for spring terminals)				Spring terminals			
	Flexible cable without cable end	1 conductor	AWG	14	12	12	
		2 conductors	AWG	14	12	12	
		1 conductor	mm ²	2.5	4	4	
		2 conductors	mm ²	2.5	4	4	

Control Circuit Connections

Type				LC1D09 LC1D12	LC1D18	LC1D25	
Connection by cable							
Screw clamp terminals							
Cabling	Stranded cable without cable end	1 or 2 conductors		AWG	18-14	18-14	18-14
		1 conductor	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	
		2 conductors	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	
		1 conductor	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	
	Stranded cable with cable end	2 conductors	AWG (mm ²)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	
		1 conductor	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	
	Solid cable without cable end	2 conductors	AWG (mm ²)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	
		Phillips head type		N° 2	N° 2	N° 2	
Screwdriver Ø			mm	Ø 6	Ø 6	Ø 6	
Tightening torque				15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	17 lb.-in. 1.7 N•m	
Connection by bus bar or ring tongue terminals							
Lug external Ø			mm	8	8	8	
Screw Ø			mm	M3.5	M3.5	M3.5	
Phillips head type				N° 2	N° 2	N° 2	
Screwdriver Ø				3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	
Tightening torque				15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics of Type LC•D and LP•D Contactors

LC1D32	LC1D38	LC1D40 LP1D40	LC1D50 LP1D50	LC1D65 LP1D65	LC1D80 LP1D80	LC1D95	LC1D115	LC1D150
			Box lug terminals				LA9D11560• terminals	
14-6	–	10-3	10-3	10-3	10-2	–	8-250 mcm	8-250 mcm
14-6	–	10-4	10-4	10-4	10-4	–	8-0+8-250 mcm	8-0+8-250 mcm
2.5/10	2.5/10	2.5/25	2.5/25	2.5/25	4/50	4/50	10/120	10/120
2.5/10	2.5/10	2.5/16	2.5/16	2.5/16	4/25	4/25	10/120+ 10/50	10/120+ 10/50
18-3/0	–	10-4	10-4	10-4	10-4	–	–	–
14-2	–	12-2	12-2	12-2	12-2	–	–	–
1/10	1/10	2.5/25	2.5/25	2.5/25	4/50	4/50	10/120	10/120
1.5/6	1.5/6	2.5/10	2.5/10	2.5/10	4/16	4/16	10/120+ 10/50	10/120+ 10/50
14-8	–	10-3	10-3	10-3	10-3	–	8-250 mcm	8-250 mcm
10-8	–	10-6	10-6	10-6	10-2	–	8-0+ 8-250mcm	8-0+8-250 mcm
1.5/10	1.5/10	2.5/25	2.5/25	2.5/25	4/50	4/50	10/120	10/120
2.5/10	2.5/10	2.5/16	2.5/16	2.5/16	4/25	4/25	10/120+ 10/50	10/120+ 10/50
N° 2	N° 2	–	–	–	–	–	–	–
Ø 6	Ø 6	Ø 6 to Ø 8	Ø 6 to Ø 8	Ø 6 to Ø 8	Ø 6 to Ø 8	Ø 6 to Ø 8	–	–
–	–	4 mm	4 mm	4 mm	4 mm	4 mm	4 mm	4 mm
23 lb.-in. 2.5 N•m	23 lb.-in. 2.5 N•m	45 lb.-in. 5 N•m	45 lb.-in. 5 N•m	45 lb.-in. 5 N•m	100 lb.-in. 11.3 N•m	100 lb.-in. 11.3 N•m	100 lb.-in. 11.3 N•m	100 lb.-in. 11.3 N•m

Connection by bus bar or ring tongue terminals

–	–	–	–	–	3 x 16	3 x 16	5 x 25	5 x 25
10	10	13	16	16	17	17	25	25
M4	M4	M5	M6	M6	M6	M6	M8	M8
N° 2	N° 2	N° 2	N° 3	N° 3	–	–	–	–
3/16 in. Ø 6 mm	3/16 in. Ø 6 mm	Ø 8 mm	Ø 8 mm	Ø 8 mm	Ø 8 mm	Ø 8 mm	–	–
–	–	–	–	–	10 mm	10 mm	13 mm	13 mm
20 lb.-in. 7.5 N•m	20 lb.-in. 7.5 N•m	53 lb.-in. 6 N•m	71 lb.-in. 6 N•m	71 lb.-in. 6 N•m	71 lb.-in. 8 N•m	71 lb.-in. 8 N•m	124 lb.-in. 14 N•m	124 lb.-in. 14 N•m
12	12	–	–	–	–	–	–	–
12	12	–	–	–	–	–	–	–
4	4	–	–	–	–	–	–	–
4	4	–	–	–	–	–	–	–

LC1D32	LC1D38	LC1D40 LP1D40	LC1D50 LP1D50	LC1D65 LP1D65	LC1D80 LP1D80	LC1D95	LC1D115	LC1D150
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Connection by cable

Screw clamp terminals

18-14	18-14	18-14	18-14	18-14	18-14	18-14	18-14	18-14
1/4	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
1/4	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
1/4	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
1/4	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
1/4	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 10 (1/4)	18 - 12 (1/2.5)	18 - 12 (1/2.5)
N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2
Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6
15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m

Connection by bus bar or ring tongue terminals

8	8	8	8	8	8	8	8	8
M3.5	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5
N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2
3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6	3/16 in. Ø 6
15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m	15 lb.-in. 1.7 N•m



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Contactors for Motor Control

The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

NOTE: 3-pole contactors without auxiliary contacts conform to standard EN50012. For further information on auxiliary contact blocks and modules, see pages 106 to 107.

AC and DC Control Circuit — 3-pole Contactors with Touch-safe Terminals for Power Cabling (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ▼◆	Weight lb (kg)
1-phase 50/60 Hz		3-phase 50/60 Hz					220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V		N/O	N/C		
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575 V 600 V													
HP	HP	HP	HP	HP	HP	A	kW	kW	kW	kW	kW	kW	A					
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	–	9	1	1	LC1D09**	0.71 (0.320)
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	–	12	1	1	LC1D12**	0.72 (0.325)
1	3	5	5	10	15	18	4	7.5	9	9	10	10	–	18	1	1	LC1D18**	0.73 (0.330)
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	–	25	1	1	LC1D25**	0.82 (0.370)
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	–	32	1	1	LC1D32**	0.83 (0.375)
Not for North American applications ▲						38	9	18.5	18.5	18.5	18.5	18.5	–	38	1	1	LC1D38**◆	0.84 (0.380)
3	5	10	10	30	30	40	11	18.5	22	22	22	30	22	40	1	1	LC1D40**	3.11 (1.400)
3	7.5	15	15	40	40	50	15	22	25	30	30	33	30	50	1	1	LC1D50**	3.11 (1.400)
5	10	20	20	50	50	65	18.5	30	37	37	37	37	37	65	1	1	LC1D65**	3.11 (1.400)
7.5	15	25	30	60	60	80	22	37	45	45	55	45	45	80	1	1	LC1D80**	3.53 (1.590)
Not for North American applications						95	25	45	45	45	55	45	45	95	1	1	LC1D95**◆	3.58 (1.610)
–	–	30	40	75	100	115	30	55	59	59	75	80	75	115	1	1	LC1D115**	5.38 (2.420)
–	–	40	50	100	125	150	40	75	80	80	90	100	90	150	1	1	LC1D150**	5.42 (2.440)

- ◆ For LC1D09 to LC1D38: clip-on mounting on 35 mm DIN rail **AM1DP** or screw mounting.
For LC1D40 to LC1D95: clip-on mounting on 35 mm DIN rail **AM1DE** or 75 mm DIN rail **AM1DL** or screw mounting.
For LC1D115 and LC1D150: clip-on mounting on 2 x 35 mm DIN rails **AM1DP** or screw mounting.
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.
- ▲ Devices are UL Listed at the same HP rating as 32 amp devices.
- ◆ LC1D38 and LC1D95 are UL listed at the same HP rating as 32 and 80 amp devices respectively.

LC1D09**



LC1D25**



LC1D95**



LC1D115**



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Contactors for Motor Control



The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

NOTE: 3-pole contactors without auxiliary contacts conform to standard EN50012. For further information on auxiliary contact blocks and modules, see pages 106 to 107.

LC1D123••

AC and DC Control Circuit — 3-pole Contactors for Spring Terminal Connections (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ▼◆	Weight lb (kg)
1-phase 50/60 Hz		3-phase 50/60 Hz					220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V		N/O	N/C		
115/120 V	230/240 V	200/208 V	220/240 V	460/480 V	575 V 600 V													
HP	HP	HP	HP	HP	HP	A	kW	kW	kW	kW	kW	kW	kW	A				
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	—	9	1	1	LC1D093••	0.71 (0.320)
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC1D123••	0.72 (0.325)
1	3	5	5	10	15	18	4	7.5	9	9	10	10	—	18	1	1	LC1D183••	0.73 (0.330)
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	—	25	1	1	LC1D253••	0.82 (0.370)
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	—	32	1	1	LC1D323••	0.83 (0.375)
Not UL Listed or CSA Certified Not for North American applications						38	9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC1D383••	0.84 (0.380)

- ◆ For LC1D09 to LC1D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Contactors for Motor Control



LC1D1156••

The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

NOTE: 3-pole contactors without auxiliary contacts conform to standard EN50012. For further information on auxiliary contact blocks and modules, see pages 106 to 107.

AC and DC Control Circuit — 3-pole Contactors for Ring-tongue Terminals or Bus Bar Power Connections (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ◆ ▼	Weight lb (kg)	
1-phase 50/60 Hz			3-phase 50/60 Hz				220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V		A	N/O			N/C
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575 V 600 V														
HP	HP	HP	HP	HP	HP	A	kW	kW	kW	kW	kW	kW	A						
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	—	9	1	1	LC1D096••	0.71 (0.320)	
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC1D126••	0.72 (0.325)	
1	3	5	5	10	15	18	4	7.5	9	9	10	10	—	18	1	1	LC1D186••	0.73 (0.330)	
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	—	25	1	1	LC1D256••	0.82 (0.370)	
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	—	32	1	1	LC1D326••	0.83 (0.375)	
Not UL Listed or CSA Certified Not for North American applications						38	9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC1D386••	0.84 (0.380)	
3	5	10	10	30	30	40	11	18.5	22	22	22	30	22	40	1	1	LC1D406••	2.93 (1.320)	
3	7.5	15	15	40	40	50	15	22	25	30	30	33	30	50	1	1	LC1D506••	2.93 (1.320)	
5	10	20	20	50	50	65	18.5	30	37	37	37	37	37	65	1	1	LC1D656••	2.93 (1.320)	
7.5	15	25	30	60	60	80	22	37	45	45	55	45	45	80	1	1	LC1D806••	3.55 (1.600)	
Not UL Listed or CSA Certified Not for North American applications						95	25	45	45	45	55	45	45	95	1	1	LC1D956••	3.55 (1.600)	
—	—	30	40	75	100	115	30	55	59	59	75	80	75	115	1	1	LC1D1156••	4.69 (2.110)	
—	—	40	50	100	125	150	40	75	80	80	90	100	90	150	1	1	LC1D1506••	4.69 (2.130)	

- ◆ For LC1D09 to LC1D38: clip-on mounting on 35 mm DIN rail **AM1DP** or screw mounting.
- For LC1D40 to LC1D95: clip-on mounting on 35 mm DIN rail **AM1DE** or 75 mm DIN rail **AM1DL** or screw mounting.
- For LC1D115 and LC1D150: clip-on mounting on 2 x 35 mm DIN rails **AM1DP** or screw mounting.
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

AC Control Circuit — 3-pole Contactors for Connection with Slip-on Connectors

For contactors **LC1D09** and **LC1D12** only, replace the last digit in the catalog numbers shown in the table above ("6") with a 9. For example, **LC1D096••** becomes **LC1D099••**. These contactors include slip-on connectors: UL Recognized **E164862 NLDX2**, 2 x 6.35 mm (0.25 in.) on the power poles and 1 x 6.35 mm (0.25 in.) on the coil terminals.







TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Resistive Loads



LC1D12004**

NOTE: 3-pole contactors without auxiliary contacts conform to standard EN50012. For further information on auxiliary contact blocks and modules, see pages 106 to 107.

AC Control Circuit — 3- or 4-pole Contactors with Touch-safe Terminals for Power Cabling (AC-1 category)

Non-inductive loads maximum current ($\theta \leq 55^\circ\text{C}$ [131 °F]) Utilization category AC-1	Number of Poles		Instantaneous Auxiliary Contacts		Catalog Number ◆▼	Weight lb (kg)
						
A	N/O	N/C	N/O	N/C		
25	3	—	1	1	or ▲	LC1D09** LC1D12** 0.75 (0.340) 0.77 (0.345)
	4	—	—	—		LC1D12004** 0.77 (0.350)
32	2	2	—	—		LC1D12008** 0.77 (0.350)
	3	—	1	1		LC1D18** 0.79 (0.355)
40	3	—	1	1		LC1D25** 0.89 (0.400)
	4	—	—	—		LC1D25004** 1.18 (0.530)
50	2	2	—	—		LC1D25008** 1.19 (0.535)
	3	—	1	1	or ▲	LC1D32** or LC1D38 ❖ 1.21 (0.545)
60	3	—	1	1		LC1D40** 3.11 (1.400)
	4	—	—	—		LC1D40004** 3.20 (1.440)
80	2	2	—	—		LC1D40008** 3.22 (1.450)
	3	—	1	1	or ▲	LC1D50** LC1D65** 3.11 (1.400) 3.11 (1.400)
125	4	—	—	—		LC1D65004** 3.20 (1.440)
	2	2	—	—		LC1D65008** 3.22 (1.450)
200	3	—	1	1	or ▲	LC1D80** LC1D95** ❖ 3.53 (1.590) 3.58 (1.610)
	4	—	—	—		LC1D80004** LC1D80008** 4.09 (1.840) 4.09 (1.840)
200	3	—	1	1	or ▲	LC1D115** LC1D150** 5.38 (2.420) 5.42 (2.440)
	4	—	—	—		LC1D115004** 6.35 (2.860)



LC1D65004**

- ◆ For LC1D09 to LC1D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
- ▲ For LC1D40 to LC1D95: clip-on mounting on 35 mm DIN rail AM1DE or 75 mm DIN rail AM1DL or screw mounting.
- ▼ For LC1D115 and LC1D150: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.
- ▲ Select between the two shown based upon the number of operating cycles; see the AC-1 graph on page 22 for further information.
- ◆ Use voltage codes on page 49 "Coil Selection" to complete catalog number.
- ❖ LC1D38 and LC1D95 are UL listed at the same HP rating as 32 and 80 amp devices respectively.

AC Control Circuit — 3-pole Spring Terminal Connections (AC-1 category)

For contactors LC1D09, LC1D12, and LC1D18 only, add 3 to the last digit. Example: LC1D09** becomes LC1D093**.



LC1D115004**



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories





Resistive Loads



LC1D1156••


NOTE: 3-pole contactors without auxiliary contacts conform to standard EN50012. For further information on auxiliary contact blocks and modules, see pages 106 to 107.

AC Control Circuit — 3- or 4-pole Contactors For Ring-tongue Terminals or Bus Bar Power Connections (AC-1 category)

Non-inductive loads maximum current ($\theta \leq 55^\circ\text{C}$ [131 °F]) Utilization category AC-1	Number of Poles		Instantaneous Auxiliary Contacts		Catalog Number ◆ ▼	Weight lb (kg)	
							
A	N/O	N/C	N/O	N/C			
25	3	–	1	1	or ▲	LC1D096•• LC1D126••	0.74 (0.335)
	4	–	–	–		LC1D120046••	0.75 (0.340)
	2	2	–	–		LC1D120086••	0.75 (0.340)
32	3	–	1	1		LC1D186••	0.77 (0.345)
	3	–	1	1		LC1D256••	0.87 (0.390)
40	4	–	–	–		LC1D250046••	1.15 (0.520)
	2	2	–	–		LC1D250086••	1.17 (0.525)
	3	–	1	1	or ▲	LC1D326•• LC1D386•• ❖	1.21 (0.545)
60	3	–	1	1		LC1D406••	2.93 (1.320)
	4	–	–	–		LC1D400046••	3.18 (1.430)
	2	2	–	–		LC1D400086••	3.20 (1.440)
80	3	–	1	1	or ▲	LC1D506•• LC1D656••	2.93 (1.320)
	4	–	–	–		LC1D650046••	3.18 (1.430)
	2	2	–	–		LC1D650086••	3.20 (1.440)
125	3	–	1	1	or ▲	LC1D806•• LC1D956•• ❖	3.55 (1.600)
	4	–	–	–		LC1D800046••	3.89 (1.750)
	2	2	–	–		LC1D800086••	4.07 (1.830)
200	3	–	1	1	or ▲	LC1D1156•• LC1D1506••	4.68 (2.110)
	4	–	–	–		LC1D1150046••	4.73 (2.130)
	4	–	–	–		LC1D1150046••	5.44 (2.450)

- ◆ For LC1D09 to LC1D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
- For LC1D40 to LC1D95: clip-on mounting on 35 mm DIN rail AM1DE or 75 mm DIN rail AM1DL or screw mounting.
- For LC1D115 and LC1D150: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.
- ▲ Select between the two shown based upon the number of operating cycles; see the AC-1 graph on page 22 for further information.
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.
- ❖ LC1D38 and LC1D95 are UL listed at the same HP rating as 32 and 80 amp devices respectively.

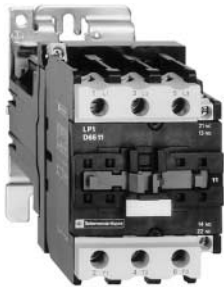
AC Control Circuit — 3- or 4-pole Contactors for Connection with Slip-on Connectors (AC-1 category)

For contactors LC1D09 and LC1D12 only, replace the last digit in the catalog numbers shown in the table above ("6") with a 9. For example, LC1D096•• becomes LC1D099••. These contactors include slip-on connectors: UL Recognized  E164862 NLDX2, 2 x 6.35 mm (0.25 in.) on the power poles and 1 x 6.35 mm (0.25 in.) on the coil terminals.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Resistive Loads

NOTE: For information on auxiliary contact blocks and modules, see pages 106 to 107.



LP1D65**



LC1D115**

DC Control Circuit — 3- or 4-pole Contactors with Touch-safe Terminals for Power Cabling (AC-1 category)

Non-inductive loads maximum current ($\theta \leq 55^\circ\text{C}$ [131 °F]) Utilization category AC-1	Number of Poles		Instantaneous Auxiliary Contacts		Catalog Number ◆▼	Weight lb (kg)
	N/O	N/C	N/O	N/C		
A	N/O	N/C	N/O	N/C		
25	3	–	1	1	or ▲	LC1D09** 1.42 (0.640)
	4	–	–	–		LC1D12** 1.42 (0.640)
	2	2	–	–		LP1D12004** 1.42 (0.640)
32	3	–	1	–		LP1D12008** 1.42 (0.640)
	3	–	1	1		LC1D18** 1.44 (0.650)
40	3	–	1	1		LC1D25** 2.05 (0.925)
	4	–	–	–		LP1D25004** 2.07 (0.930)
	2	2	–	–		LP1D25008** 2.07 (0.930)
50	3	–	1	1		LC1D32** 2.11 (0.950)
60	3	–	1	1		LC1D40** 4.85 (2.185)
	4	–	–	–		LP1D40004** 4.90 (2.205)
	2	2	–	–		LP1D40008** 4.88 (2.200)
80	3	–	1	1	or ▲	LC1D50** 4.85 (2.185)
	4	–	–	–		LP1D65** 4.86 (2.190)
	2	2	–	–		LP1D65004** 4.91 (2.210)
125	3	–	1	1		LP1D65008** 4.93 (2.220)
	3	–	1	1		LC1D80** 5.61 (2.525)
	4	–	–	–		LP1D80004** 5.99 (2.695)
200	2	2	–	–		LP1D80008** 6.47 (2.910)
	3	–	1	1	or ▲	LC1D115** 5.42 (2.440)
	4	–	–	–		LC1D150** 5.42 (2.440)
						LC1D115004** 6.44 (2.900)

◆ For LC1D09 to LC1D32: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.

For LC1D40 to LC1D80: clip-on mounting on 75 mm DIN rail AM1DL or screw mounting.

For LC1D115 and LC1D150: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.

▲ Select between the two shown based upon the number of operating cycles; see the AC-1 graph on page 22 for further information.

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

AC Control Circuit — 3-pole Spring Terminal Connections

For contactors LC1D09, LC1D12, and LC1D18 only, add 3 to the last digit. Example: LC1D09** becomes LC1D093**.







TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Resistive Loads



LC1D1156••

NOTE: For information on auxiliary contact blocks and modules, see pages 106 to 107.

DC Control Circuit — 3- or 4-pole Contactors For Ring-tongue Terminals or Bus Bar Power Connections (AC-1 category)

Non-inductive loads maximum current ($\theta \leq 55^\circ\text{C}$ [131 °F]) Utilization category AC-1	Number of Poles		Instantaneous Auxiliary Contacts		Catalog Number ◆ ▼	Weight lb (kg)
						
A	N/O	N/C	N/O	N/C	or ▲	
25	3	–	1	1	or ▲	LC1D096•• 1.40 (0.630)
	4	–	–	–		LP1D120046•• 1.40 (0.630)
32	2	2	–	–		LP1D120086•• 1.40 (0.630)
	3	–	1	1		LC1D186•• 1.42 (0.640)
40	3	–	1	1		LC1D256•• 2.03 (0.915)
	4	–	–	–		LP1D250046•• 2.04 (0.920)
50	2	2	–	–		LP1D250086•• 2.04 (0.920)
	3	–	1	1		LC1D326•• 2.09 (0.940)
60	3	–	1	1		LC1D406•• 4.83 (2.175)
	4	–	–	–		LP1D400046•• 4.87 (2.190)
80	2	2	–	–		LP1D400086•• 4.87 (2.190)
	3	–	1	1	or ▲	LC1D506•• 4.83 (2.175)
125	4	–	–	–		LP1D650046•• 4.89 (2.200)
	2	2	–	–		LP1D650086•• 4.91 (2.210)
200	3	–	1	1		LC1D806•• 5.59 (2.515)
	4	–	–	–		LP1D800046•• 5.95 (2.680)
200	2	2	–	–		LP1D800086•• 6.44 (2.900)
	3	–	1	1	or ▲	LC1D1156•• 4.73 (2.130)
200	4	–	–	–		LC1D1506•• 4.73 (2.130)
						LC1D1150046•• 5.49 (2.470)

- ◆ For LC1D09 to LC1D32: clip-on mounting on 35 mm DIN rail **AM1DP** or screw mounting.
For LC1D40 to LC1D80: clip-on mounting on 75 mm DIN rail **AM1DL** or screw mounting.
For LC1D115 and LC1D150: clip-on mounting on 2 x 35 mm DIN rails **AM1DP** or screw mounting.
- ▲ Select between the two shown based upon the number of operating cycles; see the AC-1 graph on page 22 for further information.
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

DC Control Circuit — 3- or 4-pole Contactors for Connection with Slip-on Connectors (AC-1 category)

For contactors **LC1D09** and **LC1D12** only, replace the last digit in the catalog numbers shown in the table above ("6") with a 9. For example, **LC1D096••** becomes **LC1D099••**. These contactors include slip-on connectors: UL Recognized **E164862 NLDX2**, 2 x 6.35 mm (0.25 in.) on the power poles and 1 x 6.35 mm (0.25 in.) on the coil terminals.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Reversing Contactors for Motor Control



The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

The contactors are pre-assembled, horizontally-mounted, and have pre-wired power connections. Order accessories separately. For information on auxiliary contact blocks and modules, see pages 106 to 107.

AC and DC Control Circuit — 3-pole Reversing Contactors with Touch-safe Terminals for Power Cabling (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ◆▼	Weight lb (kg)
1-phase 50/60 Hz		3-phase 50/60 Hz					220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V		A	N/O		
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575 V 600 V	A	kW	kW	kW	kW	kW	kW	kW	A				
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	—	9	1	1	LC2D09●●▲*	1.55 (0.700)
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC2D12●●▲*	1.55 (0.700)
1	3	5	5	10	15	18	4	7.5	9	9	10	10	—	18	1	1	LC2D18●●▲*	1.670 (0.75)
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	—	25	1	1	LC2D25●●▲*	2.44 (1.100)
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	—	32	1	1	LC2D32●●▲*	2.67 (1.200)
Not for North American applications ▲						38	9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC2D38●●▲*◆	2.67 (1.200)
3	5	10	10	30	30	40	11	18.5	22	22	22	30	—	40	1	1	LC2D40●●▲	5.33 (2.400)
3	7.5	15	15	40	40	50	15	22	25	30	30	33	—	50	1	1	LC2D50●●▲	5.33 (2.400)
5	10	20	20	50	50	65	18.5	30	37	37	37	37	—	65	1	1	LC2D65●●▲	5.33 (2.400)
7.5	15	25	30	60	60	80	22	37	45	45	55	45	—	80	1	1	LC2D80●●▲	7.11 (3.200)
Not UL Listed or CSA Certified Not for North American applications						95	25	45	45	45	55	45	—	95	1	1	LC2D95●●▲◆	7.11 (3.200)
—	—	30	40	75	100	115	30	55	59	59	75	80	75	115	1	1	LC2D11500■	14.44 (6.500)
—	—	40	50	100	125	150	40	75	80	80	90	100	90	150	1	1	LC2D15000■	14.44 (6.500)

- ◆ For LC2D09 to LC2D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
- For LC2D40 to LC2D95: clip-on mounting on 35 mm DIN rail AM1DE or 75 mm DIN rail AM1DL or screw mounting.
- For LC2D115 and LC2D150: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.
- ▲ Includes mechanical interlock without electrical contacts. Installer to complete wiring for electrically interlocking contactor operating coils by utilizing a N/C auxiliary contact integrated in the contactor or optional LADN or LAD8N type auxiliary contact block.
- Included with electrical contacts integrated in mechanical interlock (type LA9D●●02).
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.
- * For reversing contactors with electrical interlocking pre-wired at the factory, add suffix V to the catalog number reflected above. Example: LC2D09●● becomes LC2D09●●V.
- ◆ LC2D38 and LC2D95 are UL listed at the same HP rating as 32 and 80 amp devices respectively.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Reversing Contactors for Motor Control



The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

The contactors are pre-assembled, horizontally-mounted, and have pre-wired power connections. Order accessories separately. For information on auxiliary contact blocks and modules, see pages 106 to 107.

AC and DC Control Circuit — 3-pole Reversing Contactors for Spring Terminal Connections (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ◆ ▼	Weight lb (kg)
1-phase 50/60 Hz			3-phase 50/60 Hz				220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V		N/O	N/C		
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575 V 600 V	A	kW	kW	kW	kW	kW	kW	A					
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	–	9	1	1	LC2D093** ▲	1.55 (0.700)
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	–	12	1	1	LC2D123** ▲	1.55 (0.700)
1	3	5	5	10	15	18	4	7.5	9	9	10	10	–	18	1	1	LC2D183** ▲	1.670 (0.75)
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	–	25	1	1	LC2D253** ▲	2.44 (1.100)
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	–	32	1	1	LC2D323** ▲	2.67 (1.200)
Not for North American applications ▲						38	9	18.5	18.5	18.5	18.5	18.5	–	38	1	1	LC2D383** ▲ ❖	2.67 (1.200)

- ◆ For LC2D09 to LC2D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
- ▲ Includes mechanical interlock without electrical contacts. Installer to complete wiring for electrically interlocking contactor operating coils by utilizing a N/C auxiliary contact integrated in the contactor or optional LADN or LAD8N type auxiliary contact block.
- Included with electrical contacts integrated in mechanical interlock (type LA9D**02).
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.
- * For reversing contactors with electrical interlocking pre-wired at the factory, add suffix V to the catalog number reflected above. Example: LC2D09** becomes LC2D09**V.
- ❖ LC2D38 and LC2D95 are UL listed at the same HP rating as 32 and 80 amp devices respectively.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Reversing Contactors for Motor Control



The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of contactors for motor control.

The contactors have pre-wired power connections. Order accessories separately. For information on auxiliary contact blocks and modules, see pages 106 to 107.

LC2D50**

AC and DC Control Circuit — 3-pole Reversing Contactors for Ring-tongue Terminals or Bus Bar Power Connections (AC-3 category)

Maximum horsepower ratings						Maximum Inductive Current in AC-3 Category 600 V	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3								Rated Operating Current in AC-3 up to 440 V	Instantaneous Auxiliary Contacts		Catalog Number ◆ ▼	Weight
1-phase 50/60 Hz		3-phase 50/60 Hz														N/O	N/C		
115/120 V	230/240 V	200/208 V	220/240 V	460/480 V	575 V 600 V	A	220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V	A				lb (kg)	
0.5	1	2	2	5	7.5	9	2.2	4	4	4	5.5	5.5	—	9	1	1	LC2D096** ■	1.55 (0.700)	
1	2	3	3	7.5	10	12	3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC2D126** ■	1.55 (0.700)	
1	3	5	5	10	15	18	4	7.5	9	9	10	10	—	18	1	1	LC2D186** ■	1.67 (0.750)	
2	3	7.5	7.5	15	20	25	5.5	11	11	11	15	15	—	25	1	1	LC2D256** ■	2.44 (1.100)	
2	5	10	10	20	30	32	7.5	15	15	15	18.5	18.5	—	32	1	1	LC2D326** ■	2.67 (1.200)	
Not for North American applications ▲						38	9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC2D386** ▲ ❖	2.67 (1.200)	
—	—	30	40	75	100	115	30	55	59	59	75	80	75	115	1	1	LC2D1156** ■	13.22 (5.950)	
—	—	15	15	40	40	150	40	70	80	80	90	100	90	150	1	1	LC2D1506** ■	13.22 (5.950)	

- ◆ For LC2D09 to LC2D38: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
For LC2D115 and LC2D150: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.
- ▲ Includes mechanical interlock without electrical contacts. Installer to complete wiring for electronically interlocking contactor operating coils by utilizing a N/C auxiliary contact integrated in the contactor or optional LADN or LAD8N type auxiliary contact block.
- Included with electrical contacts integrated in mechanical interlock (type LA9D**02).
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.
- ❖ LC2D38 and LC2D95 are UL listed at the same HP rating as 32 and 80 amp devices respectively.

AC Control Circuit — 3-pole Reversing Contactors for Connection with Slip-on Connectors (AC-3 category)

For contactors LC2D09 and LC2D12 only, replace the last digit in the catalog numbers shown in the table above ("6") with a 9. For example, LC2D096** becomes LC2D099**. These contactors include slip-on connectors: UL Recognized E164862 NLDX2, 2 x 6.35 mm (0.25 in.) on the power poles and 1 x 6.35 mm (0.25 in.) on the coil terminals.

Power connections are to be made by the customer.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Changeover Contactors for Resistive Loads



LC2D12004**

The contactors have pre-wired power connections. Order accessories separately. For information on auxiliary contact blocks and modules, see pages 106 to 107.

AC and DC Control Circuit — 4-pole Changeover Contactors with Touch-safe Terminals for Power Cabling (AC-1 category)



LP2D65004**

Utilization category AC-1 Non-inductive loads Maximum rated operational current ($\theta < 55\text{ }^{\circ}\text{C}$ [131 °F])	Instantaneous Auxiliary Contacts		Catalog Number ◆ ▼	Weight
	N/O	N/C		
A	N/O	N/C		lb (kg)
AC Control				
25	–	–	LC2D12004** ▲	1.55 (0.700)
40	–	–	LC2D25004** ▲	2.43 (1.100)
60	–	–	LC2D40004** ▲	5.30 (2.400)
80	–	–	LC2D65004** ▲	7.07 (3.200)
125	–	–	LC2D80004** ▲	7.07 (3.200)
200	–	–	LC2D115004** ■	16.0 (27.250)
DC Control				
25	–	–	LP2D12004** ▲	2.65(1.200)
40	–	–	LP2D25004** ▲	3.87 (1.750)

- ◆ For LC2D12 and LC2D25: clip-on mounting on 35 mm DIN rail AM1DP or screw mounting.
For LC2D40 to LC2D95: clip-on mounting on 35 mm DIN rail AM1DE or 75 mm DIN rail AM1DL or screw mounting.
For LC2D115: clip-on mounting on 2 x 35 mm DIN rails AM1DP or screw mounting.
- ▲ Includes mechanical interlock (type LA9**D978) without electrical contacts. Installer to complete wiring for electronically interlocking contactor operating coils by utilizing a N/C auxiliary contact integrated in the contactor or optional LA1DN or LA8DN type auxiliary contact block.
- Includes mechanical interlock (Type LA9D11502) with pre-wired electrical contacts for interlocking contactor operating coils.
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Changeover Contactors for Resistive Loads



LC2D12004••



LP2D65004••

AC and DC — 4-pole Changeover Contactors with Ring-tongue Terminal or Bus Bar Power Connection (AC-1 category)

Utilization category AC-1 Non-inductive loads Maximum rated operational current ($\theta < 55\text{ }^{\circ}\text{C}$ [131 °F])	Instantaneous Auxiliary Contacts		Catalog Number ◆▼	Weight lb (kg)
	A	N/O N/C		
AC Control				
25	–	–	LC2D120046•• ▲	1.55 (0.700)
40	–	–	LC2D250046•• ▲	2.43 (1.100)
60	–	–	LC2D400046•• ▲	5.30 (2.400)
80	–	–	LC2D650046•• ▲	7.07 (3.200)
125	–	–	LC2D800046•• ▲	7.07 (3.200)
200	–	–	LC2D1150046•• ■	16.0 (27.250)
DC Control				
25	–	–	LP2D120046•• ▲	2.65 (1.200)
40	–	–	LP2D250046•• ▲	3.87 (1.750)

- ◆ For LC2D12 and LC2D25: clip-on mounting on 35 mm DIN rail **AM1DP** or screw mounting.
For LC2D40 to LC2D95: clip-on mounting on 35 mm DIN rail **AM1DE** or 75 mm DIN rail **AM1DL** or screw mounting.
For LC2D115: clip-on mounting on 2 x 35 mm DIN rails **AM1DP** or screw mounting.
- ▲ Includes mechanical interlock (Type **LA9••D978**) without electrical contacts. Installer to complete wiring for electronically interlocking contactor operating coils by utilizing a N/C auxiliary contact integrated in the contactor or optional **LA1DN** or **LA8DN** type auxiliary contact block.
- Includes mechanical interlock (Type **LA9D11502**) with pre-wired electrical contacts for interlocking contactor operating coils.
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

4-pole Changeover Contactors for Connection with Slip-on Connectors (AC-1 category)

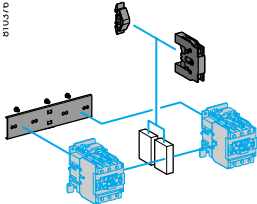
For contactor **LC2D12** only, replace the last digit in the catalog number shown in the table above ("6") with a 9. For example, **LC2D120046••** becomes **LC2D120049••**. These contactors include slip-on connectors: UL Recognized **E164862 NLDX2**, 2 x 6.35 mm (0.25 in.) on the power poles and 1 x 6.35 mm (0.25 in.) on the coil terminals.

Power connections are to be made by the customer.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Component Parts for Reversing and Two Speed Contactors

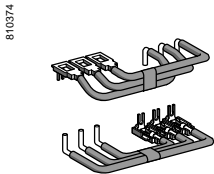


LA9D4002

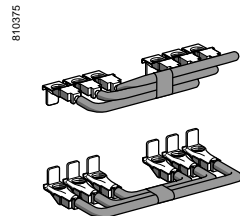
For 3-pole Motor Reversing Contactors

Contactors with Screw Clamp Terminals or Connectors
Horizontally Mounted, Assembled by Customer

Using 2 Identical Contactors (1)	Set of Power Connections		Mechanical Interlock	
	Catalog Number	Weight lb (kg)	Catalog Number of Kit	Weight lb (kg)
Including mechanical interlock and an electrical interlocking kit for the contactors				
LC1D09 to D38	LAD9R1V (2)	(0.10) 0.045	-	-
Including mechanical interlock with integral electrical interlocking				
LC1D40 to D65	LA9D6569	(0.64) 0.290	LA9D4002	0.37 (0.170)
LC1D80 and D95 (ac)	LA9D8069	(0.64) 0.290	LA9D4002	0.37 (0.170)
LC1D80 and D95 (dc)	LA9D8069	(1.08) 0.490	LA9D8002	0.37 (0.170)
LC1D115 and D150	LA9D11569	(3.20) 1.450	LA9D11502	0.63 (0.290)
Including mechanical interlock without electrical interlocking				
LC1D09 to D38	LAD9R1 (2)	(0.10) 0.045	-	-
LC1D40 to D65	LA9D6569	(0.64) 0.290	LA9D50978	0.37 (0.170)
LC1D80 and D95 (ac)	LA9D8069	(1.08) 0.490	LA9D50978	0.37 (0.170)
LC1D80 and D95 (dc)	LA9D8069	(1.08) 0.490	LA9D80978	0.37 (0.170)



LA9D6569

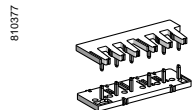
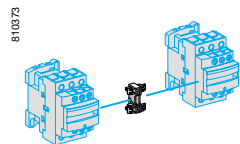


LA9D8069

For Low Speed – High Speed Starter

Description	For Contactors with Connections	Catalog Number	Weight lb (kg)
Connection kit enabling reversing of slow and high speed directions, using a reversing contactor and a 2 N/O + 2 N/C main pole contactor	Screw clamps or connectors	LA9D9PVG V	0.03 (0.016)
	Spring terminals	LAD3PVPG	0.15 (0.068)

- (1) To order the 2 contactors: see pages 65, 87 and 88.
 (2) Including mechanical interlock.

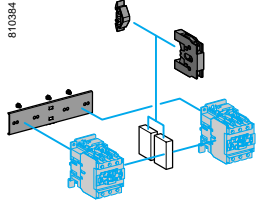


LAD9R1

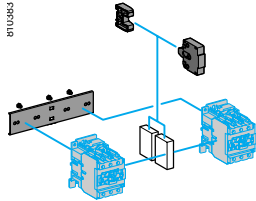
Characteristics: page 82, 83 Dimensions, Schematics: page 127, 128



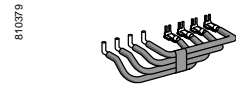
TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Component Parts for Assembling Changeover Contactor Parts for Distribution



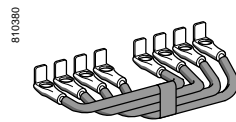
LA9D4002



LA9D50978



LA9D6570



LA9D8070

For 4-pole Changeover Contactor Pairs (3-phase distribution + neutral)

Contactors with Screw Clamp Terminals or Connectors Horizontally Mounted, Assembled by Customer

Using 2 Identical Contactors (1)	Set of Power Connections		Mechanical Interlock	
	Catalog Number	Weight lb (kg)	Catalog Number of Kit	Weight lb (kg)
Including mechanical interlock and an electrical interlocking kit for the contactors				
LC1DT20 to DT32	LADT9R1V (2)	(0.09) 0.040	–	–
LC1DT40 and DT60	LADT9R2V (2)	(0.10) 0.045	–	–
Including mechanical interlock with integral electrical interlocking				
LC1D65004	LA9D6570	(0.33) 0.150	LA9D4002	0.37 (0.170)
LC1D80004	LA9D8070	(0.62) 0.280	LA9D4002	0.37 (0.170)
LP1D80004	LA9D8070	(0.62) 0.280	LA9D8002	0.37 (0.170)
LC1D115004	LA9D11570	(2.43) 1.100	LA9D11502	0.62 (0.280)
Including mechanical interlock without electrical interlocking (3)				
LC1DT20 to DT32	LADT9R1 (2)	(0.08) 0.035	–	–
LC1DT40 and DT60	LADT9R2 (2)	(0.09) 0.040	–	–
LC1 or LP1D65004	LA9D6570	(0.33) 0.150	LA9D50978	0.34 (0.155)
LC1D80004	LA9D8070	(0.62) 0.280	LA9D50978	0.34 (0.155)
LP1D80004	LA9D8070	(0.62) 0.280	LA9D80978	0.40 (0.180)

For 3-pole changeover contactor pairs

LC1D115 and D150	LA9D11571	(2.12) 0.960	LA9D11502	0.62 (0.280)
------------------	-----------	--------------	-----------	--------------

- (1) To order the two contactors: see page 89.
- (2) Including mechanical interlock.
- (3) Order two contact blocks LA1DN1 to obtain electrical interlocking between the contactors, see page 107.




Characteristics: page 82, 83 Dimensions, Schematics: page 127, 128



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics

Auxiliary Contact Blocks without Dust and Damp Protected Contacts for Contactors

Environment

Contact block type			LADN or C	LADT and S	LADR	LAD8
Conforming to standards	 Meets the essential requirements of the LV & EMC directives		IEC 60947-5-1, NF C 63-140, VDE 0660, BS 4794, EN 60947-5-1			
Product certifications	 		UL, CSA			
Protective treatment	Conforming to IEC 60068		"TH"			
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X			
Ambient air temperature around the device	Storage	°C	- 60 to + 80			
	Operation	°C	- 5 to + 60			
	Permissible for operation at Uc	°C	- 40 to + 70			
Maximum operating altitude	Without derating	m	3000			
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end	mm ²	Min.: 1 x 1; max.: 2 x 2.5			
Connection by spring terminals	Flexible or solid cable without cable end	mm ²	Max.: 2 x 2.5			

Instantaneous and Time Delay Contact Characteristics

Number of contacts			1, 2 or 4	2	2	2
Rated operational voltage (Ue)	Up to	V	690			
Rated insulation voltage (Ui)	Conforming to IEC 60947-5-1	V	690			
	Conforming to UL, CSA	V	600			
Conventional thermal current (Ith)	For ambient temperature ≤ 60 °C	A	10			
Frequency of operational current		Hz	25 to 400			
Minimum switching capacity	U min.	V	17			
	I min.	mA	5			
Short-circuit protection	Conforming to IEC 60947-5-1 and VDE 0660. gG fuse	A	10			
Rated making capacity	Conforming to IEC 60947-5-1, I rms	A	ac: 140; dc: 250			
Short-time rating	Permissible for:	1 s	A	100		
		500 ms	A	120		
		100 ms	A	140		
Insulation resistance		MΩ	> 10			
Non-overlap time	Guaranteed between N/C and N/O contacts	ms	1.5 (on energizing and on de-energizing)			
Overlap time	Guaranteed between N/C and N/O on LADC22	ms	1.5	–	–	–
Time delay (LADT, R and S contact blocks) Accuracy only valid for setting range indicated on the front face	Ambient air temperature for operation	°C	–	- 40 to + 70	- 40 to + 70	–
	Repeat accuracy		–	± 2%	± 2%	–
	Drift up to 0.5 million operating cycles		–	+ 15%	+ 15%	–
	Drift depending on ambient air temperature		–	0.25% per °C	0.25% per °C	–
Mechanical durability	In millions of operating cycles		30	5	5	30
Operational power of contacts			See page 101.			

Catalog Number: page 107, 108

Dimensions: page 121, 122

Schematics: pages 125, 126



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics

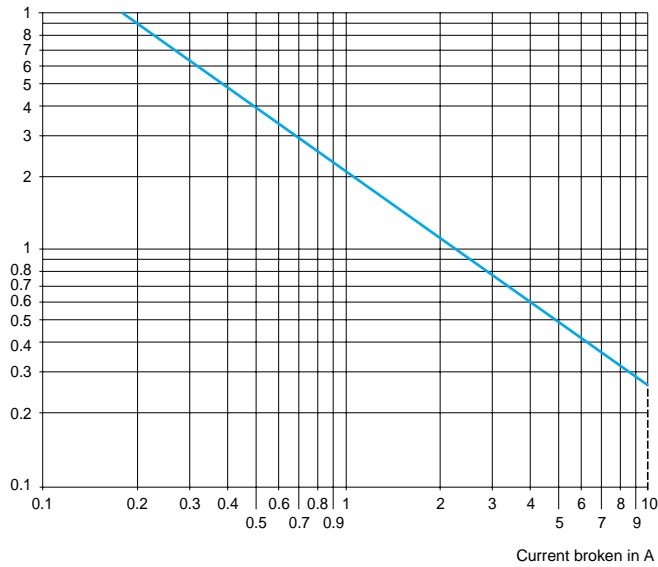
Auxiliary Contact Blocks with Dust and Damp Protected Contacts for Contactors

Operational Power of Contacts (conforming to IEC 60947-5-1)

AC supply, categories AC-14 and AC-15

Electrical durability (valid up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making power ($\cos \varphi 0.7$) = 10 times the power broken ($\cos \varphi 0.4$)

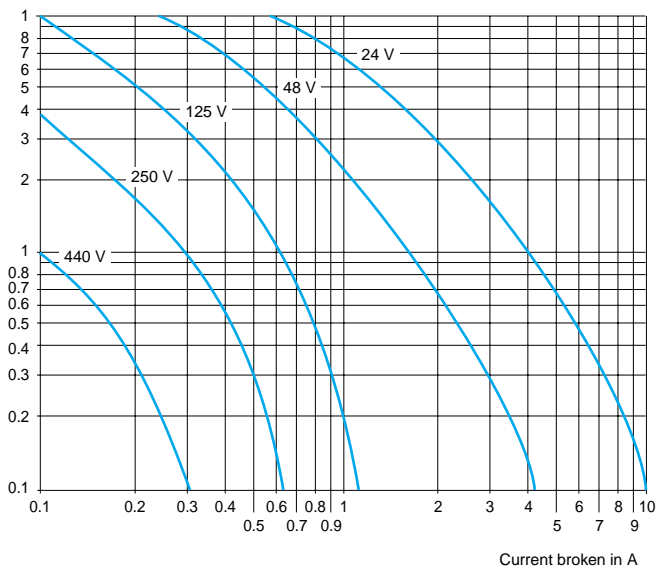
	V	24	48	115	230	400	440	600
1 million operating cycles	VA	60	120	280	560	960	1050	1440
3 million operating cycles	VA	16	32	80	160	280	300	420
10 million operating cycles	VA	4	8	20	40	70	80	100



DC supply, category DC-13

Electrical durability (valid up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the power.

	V	24	48	125	250	440
1 million operating cycles	W	120	90	75	68	61
3 million operating cycles	W	70	50	38	33	28
10 million operating cycles	W	25	18	14	12	10



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TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics

Auxiliary Contact Blocks with Dust and Damp Protected Contacts for Contactors

Environment

Contact block type			LA1DX	LA1DX		LA1DY
				protected	non protected	
Conforming to standards	CE Meets the essential requirements of the LV & EMC directives		IEC 60947-5-1, VDE 0660			
Product certifications	UL SF		UL, CSA			
Protective treatment	Conforming to IEC 600068		"TH"			
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X			
Ambient air temperature	Storage and operation	°C	- 25 to + 70			
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end	mm ²	Min.: 1 x 1 Max.: 2 x 2.5			
Number of contacts			2	2	2	2

Contact Characteristics

Rated operational voltage (Ue)	Up to	V	50	50	690	24	
Rated insulation voltage (Ui)	Conforming to IEC 60947-5-1	V	250	250	690	250	
	Conforming to UL, CSA	V	–	–	600	–	
Conventional thermal current (Ith)	For ambient temperature ≤ 40 °C	A	–	–	10	–	
Maximum operational current (Ie)		mA	50	50	10	50	
Frequency of operational current		Hz	–	–	25 to 400	–	
Minimum switching capacity	U min.	V	3	3	17	3	
	I min.	mA	0.3	0.3	5	0.3	
Short-circuit protection	Conforming to IEC 60947-5-1. gG fuse	A	–	–	10	–	
Rated making capacity	Conforming to IEC 60947-5-1, I rms	A	–	–	ac: 140; dc: 250	–	
Short-time rating	Permissible for:	1 s	A	–	–	100	–
		500 ms	A	–	–	120	–
		100 ms	A	–	–	140	–
Insulation resistance		MΩ	> 10	> 10	> 10	> 10	
Mechanical durability	In millions of operating cycles		5	5	30	5	
Materials and technology used for dust and damp protected contacts			Gold - Single break with crossed bars	Gold - Single break with crossed bars	–	Gold - Single break with crossed bars	

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Dimensions: page 121, 122

Schematics: pages 125, 126



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics

Interface Modules for Contactors

Environment

Conforming to standards	CE	Meets the essential requirements of the LV & EMC directives	IEC 60255-5
Product certifications	UL	SP	UL, CSA
Protective treatment	Conforming to IEC 60068		"TH"
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X
Ambient air temperature around the device	Storage	°C	- 40 to + 80
	Operation	°C	- 25 to + 55
	Permissible for operation at Uc	°C	- 25 to + 70

Other Characteristics

Module type			LA4DFBQ	LA4DFB	LA4DFE	LA4DLB	LA4DLE	LA4DWB	
			With relay	With relay	With relay	With relay + override	Solid state		
Rated insulation voltage	Conforming to IEC 60947-1		V	5	250				
Rated operational voltage	Conforming to IEC 60947-1		V	415	250				
Indication of input state	By integral LED which illuminates when the contactor coil is energized								
Input signals	Control voltage (E1-E2)		V	dc 24	dc 24	dc 48	dc 24	dc 48	dc 24
	Permissible variation		V	17 to 30	17 to 30	33 to 60	17 to 30	33 to 60	5 to 30
	Current consumption at 20 °C		mA	25	25	15	25	15	8.5 for 5 V 15 for 24 V
	State "0" guaranteed for	U	V	< 2.4	< 2.4	< 4.8	< 2.4	< 4.8	< 2.4
		I	mA	< 2	< 2	< 1.3	< 2	< 1.3	< 2
State "1" guaranteed for	U	V	17	17	33	17	33	5	
Built-in protection	Against reverse polarity		By diode						
	Of the input		By diode						
Electrical durability at 220/240 V	In millions of operating cycles			3	10	10	3	3	20
Maximum immunity time to micro-breaks			ms	4	4	4	4	4	1
Power dissipated	At 20 °C		W	0.6	0.6	0.6	0.6	0.6	0.4
Direct mounting without contactor	With coil:	ac 24 to 250 V		–	LC1D40 to D150				–
		ac 100 to 250 V		–					LC1D40 to D115
		ac 380 to 415 V		LC1D40 to D150	–				–
Mounting with cabling adaptor LAD-4BB	With coil:	ac 24 to 250 V		–	LC1D09 to D38, DT20 to DT60				LC1D09 to D38, DT20 to DT60
		ac 380 to 415 V		LC1D09 to D38, DT20 to DT60	–				–
Total operating time at Uc (of the contactor)	Operating times depend on the type of contactor electromagnet and its control mode. The closing time "C" is measured from the moment the coil supply is switched on to initial contact of the main poles. The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.								
				LC1D09 to D38, DT20 to DT60		LC1D40 to D65		LC1D80 and D95	
	With LA4DF, DL	N/O	ms	20 to 30		28 to 34		28 to 43	
N/C		ms	16 to 24		20 to 24		18 to 32		
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end		mm ²	Min.: 1 x 1					
			mm ²	Min.: 2 x 2.5					

Catalog Number: page 110

Dimensions: page 121, 122

Schematics: pages 125, 126



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics

Electronic Serial Timer Modules for Contactors

Environment

Module type			LA4DT (On-delay)	LA4DR (Off-delay) for LC1D
Conforming to standards	CE	Meets the essential requirements of the LV & EMC directives	IEC 60255-5	
Product certifications			UL, CSA	
Protective treatment	Conforming to IEC 60068		"TH"	
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X	
Ambient air temperature around the device	Storage	°C	- 40 to + 80	
	Operation	°C	- 25 to + 55	
	For operation at U _c	°C	- 25 to + 70	
Rated insulation voltage (U _i)	Conforming to IEC 60947-1	V	250	
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end	mm ²	Min.: 1 x 1	
			Max.: 2 x 2.5	

Control Circuit Characteristics

Built-in protection	On input		By varistor	By varistor
	Suppression of contactor		By varistor	By bidirectional peak limiting diode
Rated control circuit voltage (U _c)		V	ac or dc 24 to 250	ac 24 to 250
Permissible variation			0.8 to 1.1 U _c	0.8 to 1.1 U _c
Type of control			By mechanical contact only	By mechanical contact only, connecting cable < 10 m

Time Delay Characteristics

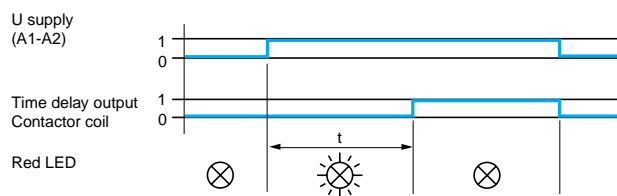
Timing ranges		s	0.1 to 2; 1.5 to 30; 25 to 500	0.1 to 2; 1.5 to 30; 25 to 500
Repeat accuracy	0 to 40 °C		± 3% (10 ms minimum)	± 3% (10 ms minimum)
Reset time	During the time delay period	ms	150	225
	After the time delay period	ms	50	–
Immunity to micro-breaks	During the time delay period	ms	10	20
	After the time delay period	ms	2	–
Indication of time delay	By LED		Illuminates during time delay period	Illuminates during time delay period

Switching Characteristics (solid state type)

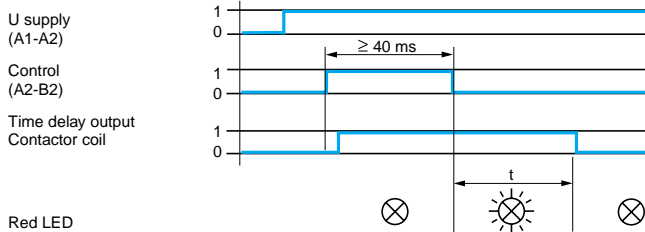
Maximum power dissipated		W	2	3.5
Leakage current		mA	< 5	< 5
Residual voltage		V	3.3	3.3
Overvoltage protection			3 kV; 0.5 N·m	3 kV; 0.5 N·m
Electrical durability	In millions of operating cycles		30	30

Operating Diagrams

LA4DT "On-delay" electronic timers



LA4DR "Off-delay" electronic timers



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Dimensions: page 121, 122

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TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics

Control Modules, Coil Suppressor Modules and Mechanical Latch Blocks for Contactors

Environment

Conforming to standards			IEC 60947-5-1
Product certifications			UL, CSA
Protective treatment	Conforming to IEC 60068		"TH"
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X
Ambient air temperature around the device	Storage	°C	- 40 to + 80
	Operation	°C	- 25 to + 55
	Permissible for operation at U _c	°C	- 25 to + 70

"Auto - Man - Stop" Control Modules

Recommendation	The Auto - Man selector switch must only be operated with the Start - Stop ("O" "I") switch in position "O"		
Rated insulation voltage	Conforming to IEC 60947-5-1	V	250
Rated operational voltage	Conforming to IEC 60947-5-1	V	250
Protection	Against electric shocks	kV	2
Built-in protection	Contacteur coil suppression		By varistor
Indication	By integral LED		Illuminates when the contactor coil is energized
Electrical durability	In operating cycles		20,000

Coil Suppressor Modules

Module type			LA4DA LAD4RC	LA4DB LAD4T	LA4DC	LA4DE LAD4V
Type of protection			RC circuit	Bidirectional peak limiting diode	Diode	Varistor
Rated control circuit voltage (U _c)		V	ac 24 to 415	ac or dc 24 to 72	dc 12 to 250	ac or dc 24 to 250
Maximum peak voltage			3 U _c	2 U _c	U _c	2 U _c
Natural RC frequency	24/48 V	Hz	400	–	–	–
	50/127 V	Hz	200			
	110/240 V	Hz	100	–	–	–
	380/415 V	Hz	150	–	–	–

Mechanical Latch Blocks

Mechanical latch block type			LA6DK10	LAD6K10	LA6DK20
For mounting on contactor			LC1D40 to D65, LP1D65	LC1D09 to D38, DT20 to DT60	LC1D80 to D150 LP1D80 and LC1D115
Certification			UL, CSA		UL, CSA
Rated insulation voltage	Conforming to IEC 60947-5-1	V	690		690
Rated control circuit voltage	ac 50/60 Hz and dc	V	24 to 415		24 to 415
Power required	For unlatching	ac	VA	25	
		dc	W	30	
Maximum operating rate	In operating cycles/hour		1200		1200
On-load factor			10%		10%
Mechanical durability at U _c	In millions of operating cycles		0.5		0.5

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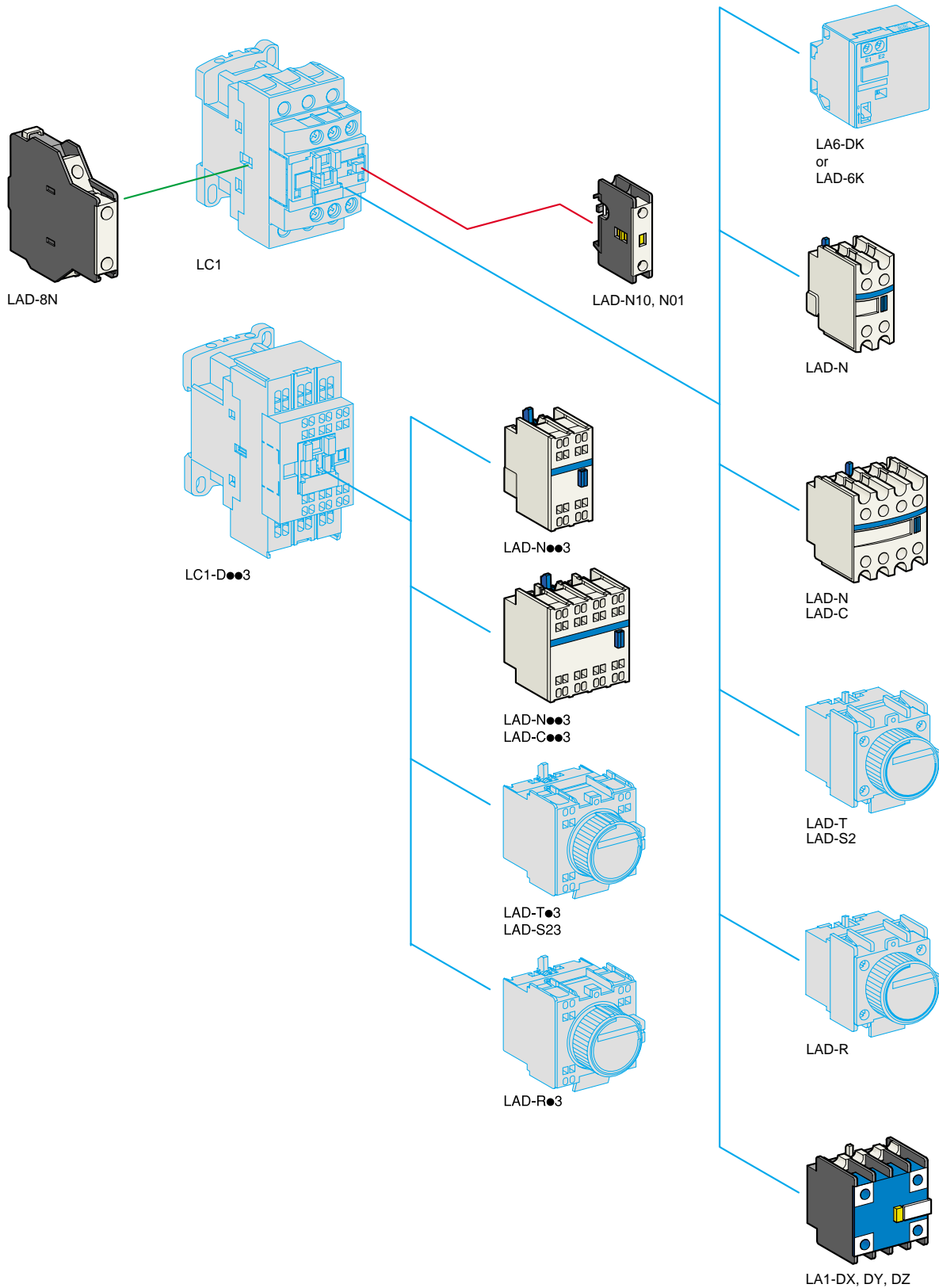
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TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Auxiliary Contact Blocks








TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Auxiliary Contact Blocks

Instantaneous Auxiliary Contact Blocks for Connection by Screw Clamp Terminals

For use in normal operating environments

In order to mount on an LAD8N on an LC1D40 to D95, a set of shims must be ordered separately, see page 114.

Clip-on mounting (1)	Number of contacts per block	Composition					Catalog Number	Weight lb (kg)
								
Front	1	-	-	-	1	-	LADN10	0.04 (0.020)
		-	-	-	-	1	LADN01	0.04 (0.020)
	2	-	-	-	1	1	LADN11	0.07 (0.030)
		-	-	-	2	-	LADN20	0.07 (0.030)
		-	-	-	-	2	LADN02	0.07 (0.030)
		-	-	-	2	2	LADN22	0.11 (0.050)
	4	-	-	-	1	3	LADN13	0.11 (0.050)
		-	-	-	4	-	LADN40	0.11 (0.050)
		-	-	-	-	4	LADN04	0.11 (0.050)
		-	-	-	3	1	LADN31	0.11 (0.050)
-		-	-	2	2	LADC22	0.11 (0.050)	
4 includes one N/O and one N/C make before break		-	-	-	2	2	LADC22	0.11 (0.050)
Side	2	-	-	-	1	1	LAD8N11	0.07 (0.030)
		-	-	-	2	-	LAD8N20	0.07 (0.030)
		-	-	-	-	2	LAD8N02	0.07 (0.030)

For terminal referencing conforming to standard EN 50012

Front, on 3P contactors & 4P contactors 20 to 60A	2	-	-	-	1	1	LADN11G	0.07 (0.030)
	4	-	-	-	2	2	LADN22G	0.11 (0.050)
Front, on 4P contactors 80 to 200A	2	-	-	-	1	1	LADN11P	0.07 (0.030)
	4	-	-	-	2	2	LADN22P	0.11 (0.050)

With dust and damp protected terminals, for use in particularly harsh industrial environments

Front	2	-	2	-	-	-	LA1DX20	0.09 (0.040)
		2	-	-	-	-	LA1DX02	0.09 (0.040)
	4	-	2	2	-	-	LA1DY20 (3)	0.09 (0.040)
		-	2	-	2	-	LA1DZ40	0.11 (0.050)
		-	2	-	1	1	LA1DZ31	0.13 (0.060)

Instantaneous auxiliary contact blocks for connection by lugs

This type of connection is not possible for blocks with dust and damp protected contacts. For all other instantaneous auxiliary contact blocks, add the digit 6 to the end of the references selected above. Example: LADN10 becomes LADN106.

Instantaneous auxiliary contact blocks for connection by spring terminals

This type of connection is not possible for LAD8, LADN with 1 contact or blocks with dust and damp protected contacts. For all other contact blocks, add the digit 3 to the end of the references selected above. Example: LADN11 becomes LADN113.

Instantaneous auxiliary contact blocks for connection by Faston connectors

This type of connection is not possible for LAD8, LADN with 1 contact or blocks with dust and damp protected contacts. For all other contact blocks, add the digit 9 to the end of the references selected above. Example: LADN11 becomes LADN119.

(1) Maximum number of auxiliary contacts that can be fitted

Contactors		Instantaneous auxiliary contact blocks				Time delay Front mounted	
Type	Number of poles and size	Side mounted		Front mounted			
				1 contact	2 contacts	4 contacts	
ac	3P	LC1D09 to D38	1 on left-hand side	and	-	1	or 1
		LC1D40 to D95 (50/60 Hz)	1 on each side	or	2	and 1	or 1
		LC1D40 to D95 (50 or 60 Hz)	1 on each side	and	2	and 1	or 1
	4P	LC1D115 and D150	1 on left-hand side	and	-	1	or 1
		LC1DT20 to DT60	1 on left-hand side	and	-	1	or 1
		LC1D65 and D80	1 on each side	or	1	or 1	or 1
dc	3P	LC1D115	1 on each side	and	1	or 1	or 1
		LC1D09 to D38	-	-	-	1	or 1
		LC1D40 to D95	-	-	1	or 1	or 1
	4P	LC1D115 and D150	1 on left-hand side	and	-	1	or 1
		LC1DT20 to DT80	1 on left-hand side	or	-	1	or 1
		LP1D65 and D80	-	-	2	and 1	or 1
LC (4)	3P	LC1D115	1 on each side	-	-	and 1	or 1
	4P	LC1D09 to D38	-	-	1 (5)	-	-
		LC1DT20 to DT60	1 on left-hand side	and	-	1	or 1

(3) Device with 4 shield bonding terminals.

(4) LC: low consumption.

(5) Except LADN02.

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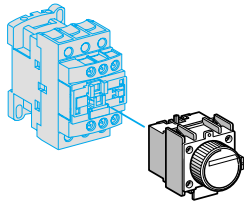
Dimensions: page 121 - 124

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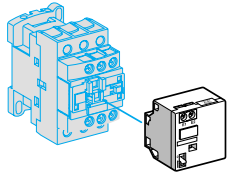


TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

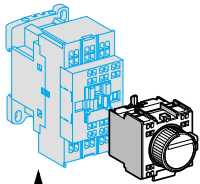
Selection of Time-Delay Blocks, and Mechanical-Latch Blocks



LADT●

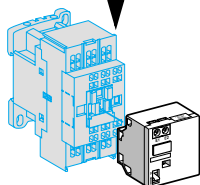


LA6DK●●



LADT●3

Spring Terminals



LA6DK●●

Time Delay Auxiliary Contact Blocks for Connection by Screw Clamp Terminals

Maximum number of auxiliary contact blocks that can be attached per contactor, see page 107.
 Sealing cover to be ordered separately, see page 114.
 LADT0 and LADR0: with extended scale from 0.1 to 0.6 s.
 LADS2: with switching time of 40 ms ± 15 ms between opening of the N/C contact and closing of the N/O contact.

Clip-on Mounting	Number of Contacts	Time Delay		Catalog Number	Weight lb (kg)
		Type	Setting Range		
Front	1 N/O + 1 N/C	On-delay	0.1 to 3 s	LADT0	(0.13) 0.060
			0.1 to 30 s	LADT2	(0.13) 0.060
			10 to 180 s	LADT4	(0.13) 0.060
			1 to 30 s	LADS2	(0.13) 0.060
		Off-delay	0.1 to 3 s	LADR0	(0.13) 0.060
			0.1 to 30 s	LADR2	(0.13) 0.060
			10 to 180 s	LADR4	(0.13) 0.060

Time delay auxiliary contact blocks for connection by lugs

Add the digit 6 to the end of the references selected above. Example: LADT0 becomes LADT06.

Time delay auxiliary contact blocks for connection by spring terminals

Add the digit 3 to the end of the references selected above. Example: LADT0 becomes LADT03.

Time delay auxiliary contact blocks for connection by Faston connectors

Add the digit 9 to the end of the references selected above. Example: LADT0 becomes LADT09.

Mechanical latch blocks (3)

Clip-on Mounting	Unlatching Control	For use on Contactor	Basic Reference. Complete with Code Indicating Control Voltage	Standard Voltages (1)	Weight lb (kg)
Front	Manual or electric	LC1D40 to D65 3P ac or dc LC1D65 4P ac LP1D65 4P dc	LA6DK10●	B E F M Q	(0.15) 0.070
		LC1D80 to D150 3P ac LC1D80 and D115 3P dc LP1D80 and LC1D115 4P dc	LA6DK20●	B E F M Q	(0.20) 0.090
		LC1D09 to D38 ac or dc LC1DT20 to DT60 ac or dc	LAD6K10●	B E F M Q	(0.15) 0.070

(1) Standard control circuit voltages (for other voltages please consult your Regional Sales Office).

Volts 50/60 Hz, ~	24	32/36	42/48	60/72	100	110/127	220/240	256/277	380/415
Code	B	C	E	EN	K	F	M	U	Q

(3) The mechanical latching block must not be powered up at the same time as the contactor. The duration of the control signal for the mechanical latching block and the contactor should be ≥ 100 ms.

Characteristics: page 100 - 102 Dimensions: page 121 - 124 Schematics: pages 125, 126





TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of SERIPLEX® Module



LA4SPX ▲

SERIPLEX® Module

Approvals	 File E114926 CCN NRAQ		 LR53531 Class 2252 01	
	SERIPLEX	1 block per contactor Clip-on front mounting	Operates coils up to	Catalog Number
Contactor adaptor module ◆	LC1D09 to LC1D80	277 Vac	LA4SPX	0.160 (0.072)
	LP1D09 to LP1D80	24 Vdc		

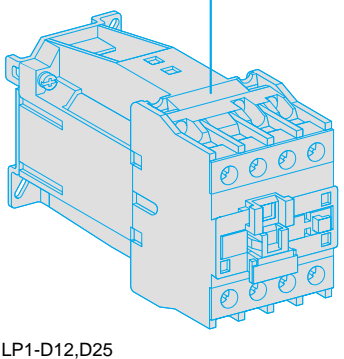
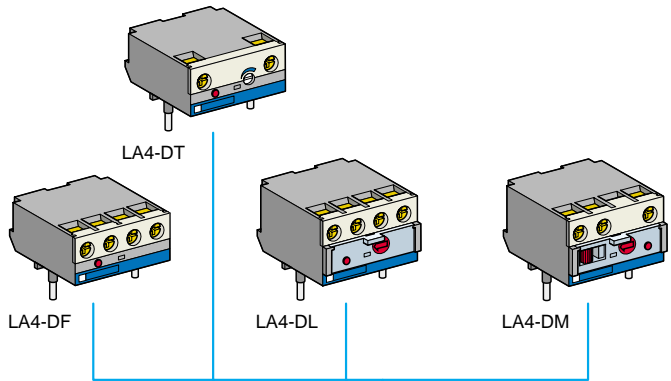
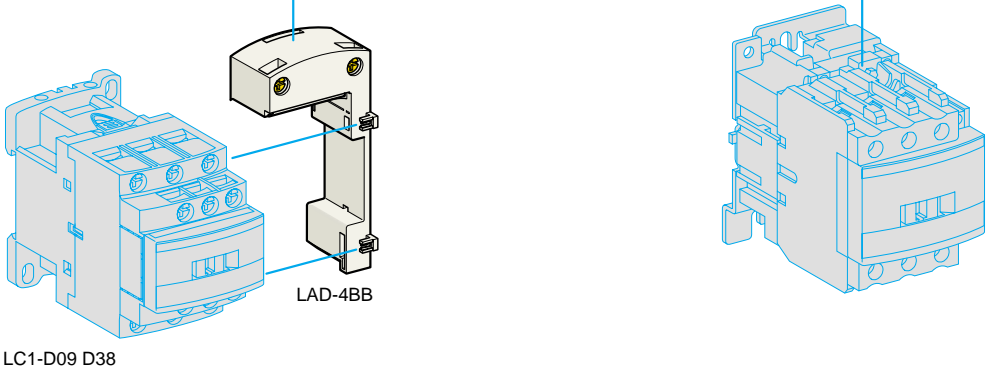
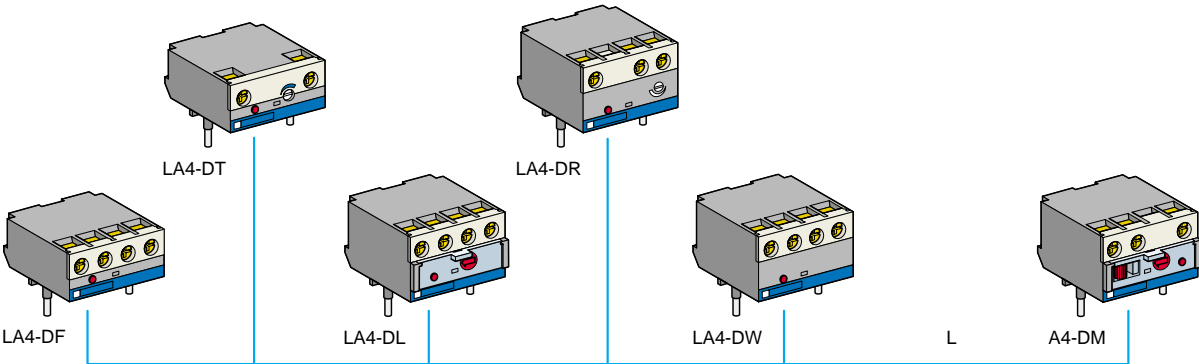
◆ For more information, refer to SERIPLEX catalog 8330CT9601.

▲ Attaches similarly to all other accessories.



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Electronic Timers and Interface Modules



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Electronic Timers and Interface Modules

Electronic Serial Timer Modules (1)

- 3-pole contactors LC1D09 to D38 and 4-pole contactors LC1DT20 to DT60: mounted using adaptor LAD4BB, to be ordered separately, see page 114.
- 3-pole contactors LC1D40 to D150 and 4-pole contactors LC1D65 to D115: mounted directly across terminals A1 and A2 of contactor (screw fixing).

On-delay Type

Operational Voltage		Time	Catalog Number	Weight lb (kg)
ac 24 to 250 V	100 to 250 V			
LC1 D09 to D38 (3P) and DT20 to DT60 (4P) ☉	LC1 D40 to D150 (3P)	0.1 to 2 s	LA4DT0U	0.09 (0.040)
		1.5 to 30 s	LA4DT2U	0.09 (0.040)
		25 to 500 s	LA4DT4U	0.09 (0.040)

Off-delay Type

LC1 D09 to D18 (3P) and DT20 to DT60 (4P) ☉	LC1 D25 to D150 (3P) and D40 to D115 (4P)	0.1 to 2 s	LA4DR0U	0.11 (0.050)
		1.5 to 30 s	LA4DR2U	0.11 (0.050)
		25 to 500 s	LA4DR4U	0.11 (0.050)

☉ Planned availability for DT type; fourth quarter 2001.

Interface Modules

- 3-pole contactors LC1D09 to D38 and 4-pole contactors LC1DT20 to DT60: mounted using adaptor LAD-4BB, to be ordered separately, see page 114.
- 3-pole contactors LC1D40 to D150 and 4-pole contactors LC1D65 to D115: mounted directly across terminals A1 and A2 of contactor (screw fixing).

Relay Interface

Operational Voltage		Supply voltage E1-E2 (dc)	Catalog Number	Weight lb (kg)
AC 24 to 250 V	AC 380 to 415 V			
–	LC1D09 to D150 (3P) and DT20 to DT60 (4P)	24 V	LA4DFBQ	0.12 (0.055)
LC1D09 to D150 (3P) and DT20 to DT60 (4P)	–	24 V	LA4DFB	0.11 (0.050)
		48 V	LA4DFE	0.11 (0.050)

Relay Interface with Manual Override Switch (output forced "ON")

Operational Voltage		Supply Voltage E1-E2 (dc)	Catalog Number	Weight lb (kg)
AC 24 to 250 V	AC 100 to 250 V			
LC1D09 to D150 (3P) and DT20 to DT60 (4P) ☉	–	24 V	LA4DLB	0.10 (0.045)
		48 V	LA4DLE	0.10 (0.045)

Solid State Interface

LC1D09 to D38 (3P) and DT20 to DT60 (4P) ☉	LC1D40 to D115 (3P)	24 V	LA4DWB	0.10 (0.045)
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☉ Planned availability for DT type; fourth quarter 2001.

Auto-Man-Stop Control Modules

For local override operation tests with two-position "Auto-Man" switch and "O-I" switch

- 3-pole contactors LC1D09 to D38 and 4-pole contactors LC1DT20 to DT60: mounted using adaptor LAD-4BB, to be ordered separately, see page 114.
- 3-pole contactors LC1D40 to D150 and 4-pole contactors LC1D65 to D115: mounted directly across terminals A1 and A2 of contactor (screw fixing).

Operational voltage		Catalog Number	Weight lb (kg)
AC 24 to 100 V	AC 100 to 250 V		
LC1D09 to D150 (3P) and DT20 to DT60 (4P)	–	LA4DMK	0.09 (0.040)
–	LC1D40 to D150 (3P)	LA4DMU	0.09 (0.040)

(1) For 24 V operation, the contactor must be fitted with a 21 V coil (code Z). See pages 115 to 120.

Characteristics: page 103 - 105

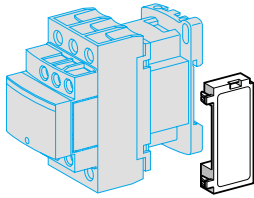
Dimensions: page 121 - 124

Schematics: pages 125, 126



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Coil Suppressor Modules



LAD4



LA4D

RC Circuits (resistor-capacitor)

- Effective protection for circuits highly sensitive to "high frequency" interference. For use only in cases where the voltage is virtually sinusoidal, i.e. less than 5% total harmonic distortion.
- Voltage limited to 3 Uc maximum and oscillating frequency limited to 400 Hz maximum.
- Slight increase in drop-out time (1.2 to 2 times the normal time).

Mounting	For use with Contactor (1) Rating	Type		Catalog Number	Weight lb (kg)
		V ac	V dc		
Clip-on (3)	D09 to D38 (3P) DT20 to DT60 ☼	24 to 48	–	LAD4RCE	0.03 (0.012)
		110 to 240	–	LAD4RCU	0.03 (0.012)
Screw mounting(4)	D40 to D150 (3P) and D40 to D115 (4P)	24 to 48	–	LA4DA2E	0.04 (0.018)
		50 to 127	–	LA4DA2G	0.04 (0.018)
		110 to 240	–	LA4DA2U	0.04 (0.018)
		380 to 415	–	LA4DA2N	0.04 (0.018)

Varistors (peak limiting)

- Protection provided by limiting the transient voltage to 2 Uc max.
- Maximum reduction of transient voltage peaks.
- Slight increase in drop-out time (1.1 to 1.5 times the normal time).

Clip-on (3)	D09 to D38 (3P) (2) DT20 to DT60 ☼	24 to 48	–	LAD4VE	0.03 (0.012)
		50 to 127	–	LAD4VG	0.03 (0.012)
		110 to 250	–	LAD4VU	0.03 (0.012)
Screw mounting (4)	D40 to D115 (3P) and D40 to D115 (4P)	24 to 48	–	LA4DE2E	0.04 (0.018)
		50 to 127	–	LA4DE2G	0.04 (0.018)
		110 to 250	–	LA4DE2U	0.04 (0.018)
	D40 to D115 (3P) and D40 to D115 (4P)	–	24 to 48	LA4DE3E	0.04 (0.018)
		–	50 to 127	LA4DE3G	0.04 (0.018)
		–	110 to 250	LA4DE3U	0.04 (0.018)

Diodes

- No overvoltage or oscillating frequency.
- Increase in drop-out time (6 to 10 times the normal time).
- Polarized component.

Clip-on (3)	D12 and D25 (4P)	–	12 to 250	LA4DC1U	0.03 (0.012)
Screw mounting (4)	D40 to D95 (3P) D40 and D80 (4P) ☼	–	24 to 250	LA4DC3U	0.04 (0.018)

Bidirectional peak limiting diode

- Protection provided by limiting the transient voltage to 2 Uc max.
- Maximum reduction of transient voltage peaks.

Clip-on (3)	D09 to D38 (3P) (2)	24	–	LAD4TB	0.03 (0.012)
	DT20 to DT60 ☼	72	–	LAD4TS	0.03 (0.012)
Screw mounting (4)	D40 to D95 (3P)	24	–	LA4DB2B	0.04 (0.018)
	D40 and D80 (4P)	72	–	LA4DB2S	0.04 (0.018)
	D40 to D95 (3P)	–	24	LA4DB3B	0.04 (0.018)
	D40 and D80 (4P)	–	72	LA4DB3S	0.04 (0.018)

(1) For satisfactory protection, a suppressor module must be installed across the coil of each contactor.

(2) From LC1D09 to D38 and LC1DT20 to DT60, dc and low consumption 3-pole contactors are fitted with built-in suppression as standard.

(3) Clipping-on makes the electrical connection. The overall size of the contactor remains unchanged.

(4) Mounting at the top of the contactor on coil terminals A1 and A2.

☼ Planned availability for DT type; fourth quarter 2001.

Characteristics: page 100 - 102

Dimensions: page 121 - 124

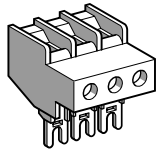
Schematics: pages 125, 126



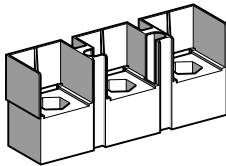
TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Accessories for Contactors and Reversing Contactors

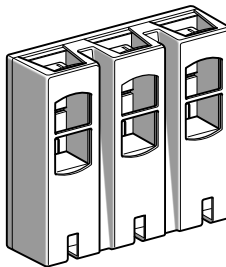
Accessories for Main Pole and Control Connections



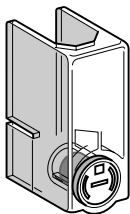
LA9D3260



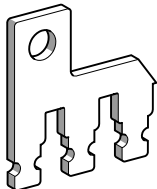
LA9D11550●



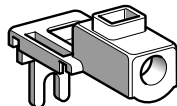
LA9D11560●



LA9D11570●



LA9D80962



LA9D6567

Description	For Use on Contactors		Sold In Lots Of	Catalog Number	Weight lb (kg)	
	ac	dc				
Connectors for cable, sizes (1 connector)	4-pole 10 mm ² (8 AWG)	D09, D12, DT20, DT25 ☼	D09, D12, DT20, DT25 ☼	1	LA9D1260	0.67 (0.030)
	3-pole 25 mm ² (4 AWG)	D09 to D38	D09 to D38	1	LA9D3260	0.09 (0.040)
	4-pole 25 mm ² (4 AWG)	DT32 to DT60 ☼	DT32 to DT60 ☼	1	LAD96060	0.13 (0.060)
Connectors for cable, sizes (2 connectors)	3-pole 120 mm ² (250 MCM)	D115, D150	D115, D150	1	LA9D115603B	1.2 (0.560)
	4-pole 120 mm ² (250 MCM)	D115	D115	1	LA9D115604	1.6 (0.740)
Connector for lug type terminals (2 connectors)	3-pole	D115, D150	D115, D150	1	LA9D115503B	0.66 (0.300)
	4-pole	D115	D115	1	LA9D115504	0.80 (0.360)
Protective covers for lug type terminals	3-pole (1)	D115, D150	D115, D150	1	LA9D115703	0.55 (0.250)
	4-pole (1)	D115, D150	D115, D150	1	LA9D115704	0.66 (0.300)
Links for parallel connection of	2 poles	D09 to D38	D09 to D38	10	LA9D2561	0.13 (0.060)
		DT20 & DT25 (4P) ☼	DT20 & DT25 (4P) ☼	10	LA9D1261	0.03 (0.012)
		DT32 to DT60 (4P) ☼	DT32 to DT60 (4P) ☼	10	LA9D2561	0.13 (0.060)
		D40 to D65	D40 to D65	2	LA9D40961	0.05 (0.021)
		D80, D95	D80	2	LA9D80961	0.13 (0.060)
	3 poles (star connection)	D09 to D38	D09 to D38	10	LAD9P3 (2)	0.01 (0.005)
		D80, D95	D80	1	LA9D80962	0.18 (0.080)
		4 poles	DT20 to DT60 ☼	DT20 to DT60 ☼	2	LA9D1263
	D40 to D65		D40 to D65	2	LA9D40963	0.15 (0.070)
	D80, D95		D80	2	LA9D80963	0.22 (0.100)
	Staggered coil connection	–	D40 to D80	10	LA9D09966	0.01 (0.006)
	Control circuit take-off from main pole	D40 to D65	D40 to D65	10	LA9D6567	0.02 (0.010)
D80, D95		D80	10	LA9D8067	0.02 (0.010)	
Spreaders for increasing the pole pitch to 45 mm	D115, D150	D115, D150	3	GV7AC03	0.4 (0.180)	

- (1) For 3-pole contactors: 1 set of 6 covers, for 4-pole contactors: 1 set of 8 covers.
 (2) Separate connecting bar for connecting 2 poles in parallel.
 ☼ Planned availability for DT type; fourth quarter 2001.

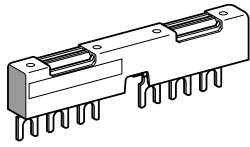
Dimensions: page 121 - 124

Schematics: pages 125, 126



TeSys D-Line Contactors, Enclosed Starters, Overload Relays, and Accessories

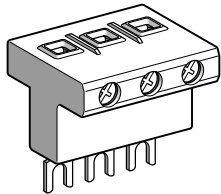
Selection of Accessories for Contactors and Reversing Contactors



GV2G245

Sets of Contacts and ARC Chambers

Description	For Use on Contactors	LC1D115	LC1D150	LC1D115004	LC1D115	LC1D150	LC1D115004	Catalog Number	Weight lb (kg)
Set of contacts	3-pole	LC1D115	LC1D150	LC1D115004	LC1D115	LC1D150	LC1D115004	LA5D1158031	0.60 (0.260)
		LC1D115	LC1D150	LC1D115004	LC1D115	LC1D150	LC1D115004	LA5D150803	0.60 (0.260)
Arc chambers	3-pole	LC1D115	LC1D150	LC1D115004	LC1D115	LC1D150	LC1D115004	LA5D115804	0.72 (0.330)
		LC1D115	LC1D150	LC1D115004	LC1D115	LC1D150	LC1D115004	LA5D11550	0.87 (0.395)
Arc chambers	4-pole	LC1D115	LC1D150	LC1D115004	LC1D115	LC1D150	LC1D115004	LA5D15050B	0.87 (0.395)
		LC1D115	LC1D150	LC1D115004	LC1D115	LC1D150	LC1D115004	LA5D115450B	1.03 (0.470)



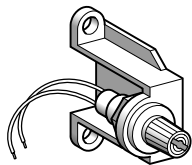
GV1G09

Cabling Accessories

Description	For Use on Contactors	Without coil suppression		Catalog Number	Weight lb (kg)
		LC1D09 to D38 LC1 DT20 to DT60 ☼	ac 24 to 48 V		
For adapting existing wiring to a new product	LC1D09 to D38 LC1 DT20 to DT60 ☼	With coil suppression	ac 24 to 48 V	LAD4BB	0.04 (0.019)
			ac 50 to 127 V	LAD4BBVE	0.03 (0.014)
			ac 110 to 250 V	LAD4BBVG	0.03 (0.014)
Set of 63 A busbars for paralleling of contactors	2 contactors LC1D09 to D18 or D25 to D38			GV2G245	0.08 (0.036)
	4 contactors LC1D09 to D18 or D25 to D38			GV2G445	0.17 (0.077)
Terminal block for supply to:	One or more GV2G busbar sets			GV1G09	0.09 (0.040)

☼ Planned availability for DT type; fourth quarter 2001.

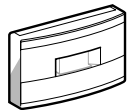
Protection Accessories



LA9D941

Description	Application	Sold in Lots Of	Catalog Number	Weight lb (kg)
Miniature circuit-breaker	5 x 20 with 4 A-250 V fuse	1	LA9D941	0.05 (0.025)
Sealing cover	For LADT, LADR	1	LA9D901	0.01 (0.005)
Safety cover preventing access to the moving contact carrier	LC1D09 to D38 and DT20 to DT60 ☼	1	LAD9ET1	0.06 (0.026)
	LC1D40 to D65	1	LAD9ET2	0.03 (0.012)
	LC1D80 and D95	1	LAD9ET3	0.008 (0.004)
	LC1D115 and D150	1	LAD9ET4	0.008 (0.004)
Lens cap for safety cover	LC1D09...D38 and DT20 to DT60 ☼	100	LAD9ECT1	0.002 (0.001)

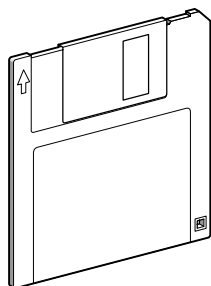
☼ Planned availability for DT type; fourth quarter 2001.



LAD9ET

Marking Accessories

Description	Application	Sold in Lots Of	Catalog Number	Weight lb (kg)
Sheet of 80 blank labels self-adhesive, 8 x 33 (1)	Contactors (excluding 4-pole LC1-D65 to D115) LADN (4 contacts), LA6DK	10	LAD21	0.04 (0.020)
Sheet of 80 blank labels self-adhesive, 8 x 12 (1)	LADN (2 contacts), LADT, LADR, LRD	10	LAD22	0.04 (0.020)
Sheet of 80 blank labels for marking using plotter or 8 x 33 engraver	Contactors (excluding 4-pole LC1D65 to D115) LAD (4 contacts), LA6DK	10	LAD23	0.11 (0.050)
Sheet of 112 blank labels for marking using plotter or 8 x 12 mm engraver	All products	35	LAD24	0.44 (0.200)
Label holder snap-in, 8 x 22 mm	4-pole contactors LC1D65 and D80, LA6DK	100	LA9D92	0.002 (0.001)
Bag of 300 blank labels self-adhesive, 7 x 21 mm	On holder LA9D92	1	LA9D93	0.002 (0.001)
"SIS Label" label creation software	Multi-language version (EN, FR, GE)	1	XBY1U	0.13 (0.060)



XBY1U

Mounting Accessories

Mounting plate	For replacement of LC1F115 or F150 by LC1D115 or D150	1	LA9D730	0.80 (0.360)
Set of shims	For fitting side mounting blocks LAD8N on LC1D40 to D95	1	LA9D511	0.04 (0.020)

(1) These legends are for sticking onto the safety cover of the contactors or add-on block, if fitted.

