

Applications

All types of control system



Rated operational current	Ie max AC-3 (Ue ≤ 440 V) Ie AC-1 (θ ≤ 60 °C)	9 A 20/25 A	12 A	18 A 25/32 A	25 A 25/40 A	32 A 50 A	38 A	
Rated operational voltage		690 V on ~ and ---						
Number of poles		3 or 4	3 or 4	3 or 4	3 or 4	3		
Rated operational power in AC-3	220/240 V 380/400 V 415/440 V 500 V 660/690 V 1000 V	2.2 kW 4 kW 4 kW 5.5 kW 5.5 kW –	3 kW 5.5 kW 5.5 kW 7.5 kW 7.5 kW –	4 kW 7.5 kW 9 kW 10 kW 10 kW –	5.5 kW 11 kW 11 kW 15 kW 15 kW –	7.5 kW 15 kW 15 kW 18.5 kW 18.5 kW –	9 kW 18.5 kW 18.5 kW 18.5 kW 18.5 kW –	
Auxiliary contacts		1 N/C and 1 N/O instantaneous incorporated in the contactors, with add-on blocks common to the whole range comprising up to 4 N/C or N/O instantaneous, up to 1 N/O + 1 N/C time delay and up to 2 N/O or 2 N/C protected contacts and 2 screen continuity terminals.						
Thermal overload relays manual-auto compatible	Class 10 A Class 20	0.10...10 A 2.5...10 A	0.10...13 A 2.5...13 A	0.10...18 A 2.5...18 A	0.10...32 A 2.5...32 A	0.10...38 A	0.10...38 A	
Suppressor modules (--- and low consumption contactors are fitted with a built-in bidirectional peak limiting diode suppressor as standard)	Varistor Diode RC circuit Bidirectional peak limiting diode	• – • •	• – • •	• – • •	• – • •	• – • •	• – • •	
Interfaces	Relay output Relay interface with manual override switch Solid state	• • •	• • •	• • •	• • •	• • •	• • •	
Contactor type references	~ or --- 3 pole ~ 4 pole --- 4 pole	LC1 D09 LC1 DT20/ LC1 D098	LC1 D12 LC1 DT25/ LC1 D128	LC1 D18 LC1 DT32/ LC1 D188	LC1 D25 LC1 DT40/ LC1 D258	LC1 D32 – –	LC1 D38 – –	
Reversing contactor type references	~ 3 pole --- 3 pole ~ 4 pole --- 4 pole	LC2 D09 LC2 D09 LC2 DT20 LC2 DT20	LC2 D12 LC2 D12 LC2 DT25 LC2 DT25	LC2 D18 LC2 D18 LC2 DT32 LC2 DT32	LC2 D25 LC2 D25 LC2 DT40 LC2 DT40	LC2 D32 LC2 D32 – –	LC2 D38 LC2 D38 – –	
Pages	Contactors Reversing contactors	152 to 157						162 to 165



40 A	50 A	65 A	80 A	95 A	115 A	150 A
60 A	80 A		125 A		200 A	

690 V ~ or ---	1000 V on ~ supply, 690 V on --- supply
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3	4	3	3	4	3	4	3	3	4	3
11 kW	15 kW	18.5 kW	22 kW	25 kW	30 kW	40 kW	11 kW	15 kW	18.5 kW	22 kW
18.5 kW	22 kW	30 kW	37 kW	45 kW	55 kW	75 kW	18.5 kW	22 kW	30 kW	37 kW
22 kW	25/30 kW	30 kW	45 kW	45 kW	59 kW	80 kW	22 kW	25/30 kW	30 kW	37 kW
22 kW	30 kW	37 kW	55 kW	55 kW	75 kW	90 kW	30 kW	33 kW	37 kW	45 kW
30 kW	33 kW	37 kW	45 kW	45 kW	80 kW	100 kW	-	-	-	45 kW
-	-	-	45 kW	45 kW	75 kW	90 kW				

1 N/C and 1 N/O instantaneous incorporated in the contactors, with add-on blocks common to the whole range comprising up to 4 N/C or N/O instantaneous, up to 1 N/O + 1 N/C time delay and up to 2 N/O or 2 N/C protected contacts and 2 screen continuity terminals.

13...40 A	13...50 A	13...65 A	17...104 A	17...104 A	60...150 A	60...150 A
13...40 A	13...50 A	13...65 A	17...80 A		60...150 A	60...150 A

•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•
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•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•

LC1 D40A	LC1 D50A	LC1 D65A	LC1 D80	LC1 D95	LC1 D115	LC1 D150
LC1 DT60A	-	LC1 DT80A	LC1 D80	-	LC1 D115	-
LC1 DT60A	-	LC1 DT80A	LC1 D80	-	LC1 D115	-

LC2 D40A	LC2 D50A	LC2 D65A	LC2 D80	LC2 D95	LC2 D115	LC2 D150
LC2 D40A	LC2 D50A	LC2 D65A	-	-	-	-
-	-	-	LC2 D80	-	LC2 D115	-
-	-	-	-	-	-	-

152 to 157
162 to 165

Applications

Automation systems



Rated operational current	le max AC-3 ($U_e \leq 440$ V)
	le AC-1 ($\theta \leq 60$ °C)

9 A
20/25 A

12 A
20/25 A

18 A
25/32 A

Rated operational voltage	690 V
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Number of poles	3 or 4
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3 or 4

3 or 4

3 or 4

Rated operational power in AC-3	220/240 V
	380/400 V
	415/440 V
	500 V
	660/690 V

2.2 kW
4 kW
4 kW
5.5 kW
5.5 kW

3 kW
5.5 kW
5.5 kW
7.5 kW
7.5 kW

4 kW
7.5 kW
9 kW
10 kW
10 kW

Coil consumption	2.4 W (100 mA - 24 V)
Operating ranges	0.7...1.25 U_c

Operating time at 20 °C and at U_c	Closing	70 ms
	Opening	25 ms

Auxiliary contact block modules	1 N/C and 1 N/O instantaneous contacts incorporated in the contactors, with add-on blocks common to the whole range, comprising up to 2 N/C or 2 N/O instantaneous standard contacts
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Interference suppression	Built-in suppression as standard, by bi-directional peak limiting diode
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Contactor type	3-pole
	4-pole

LC1 D09
LC1 DT20/D098

LC1 D12
LC1 DT25/D128

LC1 D18
LC1 DT32/D188

Reversing contactor type	3-pole
	4-pole

LC2 D09
LC2 DT20

LC2 D12
LC2 DT25

LC2 D18
LC2 DT32

Pages	Contactors	152 to 157
	Reversing contactors	162 to 165

(1) With low consumption kit **LA4 DBL** (see page 173).
 (2) With 2 low consumption kits **LA4 DBL** (see page 173).



25 A	32 A	38 A	40 A	50 A	65 A
25/40 A	50 A	50 A	60 A	–	80 A
690 V			690 V		
3 or 4	3	3	3	3	3
5.5 kW	7.5 kW	9 kW	11 kW	15 kW	18.5 kW
11 kW	15 kW	18.5 kW	18.5 kW	22 kW	30 kW
11 kW	15 kW	18.5 kW	22 kW	25/30 kW	30 kW
15 kW	18.5 kW	18.5 kW	22 kW	30 kW	37 kW
15 kW	18.5 kW	18.5 kW	30 kW	33 kW	37 kW
2.4 W (100 mA - 24 V)			0.6 W (25 mA - 24 V) for relay LA4 DFB + the power consumed by the contactor coil		
0.7...1.25 U _c			–	–	–
70 ms			–	–	–
25 ms			–	–	–

1 N/C and 1 N/O instantaneous contacts incorporated in the contactors, with add-on blocks common to the whole range, comprising up to 2 N/C or 2 N/O instantaneous standard contacts

Built-in suppression as standard, by bi-directional peak limiting diode

LC1 D25	LC1 D32	LC1 D38	LC1 D40A (1)	LC1 D50A (1)	LC1 D65A (1)
LC1 DT40/D258			–	–	LC1 DT80A (1)
LC2 D25	LC2 D32	LC2 D38	LC2 D40A (2)	LC2 D50A (2)	LC2 D65A (2)
LC2 DT40					

152 to 157

162 to 165

Operational current and power conforming to IEC ($\theta \leq 60^\circ\text{C}$)

Contactor size			LC1/ LP1 K06	LC1/ LP1 K09	LC1 K12	LC1 K16	LC1 D09	LC1 D12	LC1 D18	LC1 D25	LC1 D32	LC1 D38	LC1 D40A
Maximum operational current in AC-3	$\leq 440\text{ V}$	A	6	9	12	16	9	12	18	25	32	38	40
Rated operational power P (standard motor power ratings)	220/240 V	kW	1.5	2.2	3	3	2.2	3	4	5.5	7.5	9	11
	380/400 V	kW	2.2	4	5.5	7.5	4	5.5	7.5	11	15	18.5	18.5
	415 V	kW	2.2	4	5.5	7.5	4	5.5	9	11	15	18.5	22
	440 V	kW	3	4	5.5	7.5	4	5.5	9	11	15	18.5	22
	500 V	kW	3	4	4	5.5	5.5	7.5	10	15	18.5	18.5	22
	660/690 V	kW	3	4	4	4	5.5	7.5	10	15	18.5	18.5	30
	1000 V	kW	–	–	–	–	–	–	–	–	–	–	–

Maximum operating rate in operating cycles/hour (1)

On-load factor	Operational power	LC1 D09	LC1 D12	LC1 D18	LC1 D25	LC1 D32	LC1 D38	LC1 D40A				
$\leq 85\%$	P	–	–	–	–	1200	1200	1200	1200	1000	1000	1000
	0.5 P	–	–	–	–	3000	3000	2500	2500	2500	2500	2500
$\leq 25\%$	P	–	–	–	–	1800	1800	1800	1800	1200	1200	1200

Operational current and power conforming to UL, CSA ($\theta \leq 60^\circ\text{C}$)

Contactor size			LC1/ LP1 K06	LC1/ LP1 K09	LC1/ LP1 K12	LC1 D09	LC1 D12	LC1 D18	LC1 D25	LC1 D32	LC1 D38	LC1 D40A
Maximum operational current in AC-3	$\leq 440\text{ V}$	A	6	9	12	9	12	18	25	32	–	40
Rated operational power P (standard motor power ratings 60 Hz)	200/208 V	HP	1.5	2	3	2	3	5	7.5	10	–	10
	230/240 V	HP	1.5	3	3	2	3	5	7.5	10	–	10
	460/480 V	HP	3	5	7.5	5	7.5	10	15	20	–	30
	575/600 V	HP	3	5	10	7.5	10	15	20	25	–	30

(1) Depending on the operational power and the on-load factor ($\theta \leq 60^\circ\text{C}$).

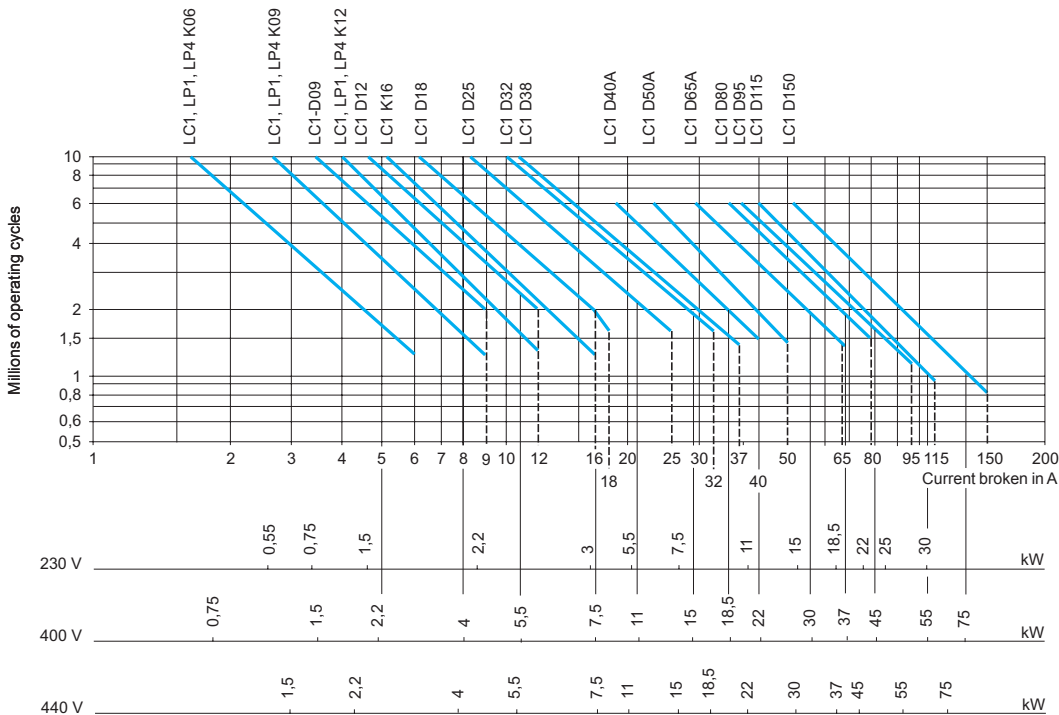
LC1 D50A	LC1 D65A	LC1 D80	LC1 D95	LC1 D115	LC1 D150	LC1 F185	LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800	LC1 BL	LC1 BM	LC1 BP	LC1 BR
50	65	80	95	115	150	185	225	265	330	400	500	630	780	800	750	1000	1500	1800
15	18,5	22	25	30	40	55	63	75	100	110	147	200	220	250	220	280	425	500
22	30	37	45	55	75	90	110	132	160	200	250	335	400	450	400	500	750	900
25	30	45	45	59	80	100	110	140	180	220	280	375	425	450	425	530	800	900
30	30	45	45	59	80	100	110	140	200	250	295	400	425	450	450	560	800	900
30	37	55	55	75	90	110	129	160	200	257	355	400	450	450	500	600	750	900
33	37	45	45	80	100	110	129	160	220	280	335	450	475	475	560	670	750	900
-	-	45	45	65	75	100	100	147	160	185	335	450	450	450	530	530	670	750

LC1 D50A	LC1 D65A	LC1 D80	LC1 D95	LC1 D115	LC1 D150	LC1 F185	LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800	LC1 BL	LC1 BM	LC1 BP	LC1 BR
1000	1000	750	750	750	750	750	750	750	750	500	500	500	500	500	120	120	120	120
2500	2500	2000	2000	2000	1200	2000	2000	2000	2000	1200	1200	1200	1200	600	120	120	120	120
1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	600	600	120	120	120	120

LC1 D50A	LC1 D65A	LC1 D80	LC1 D95	LC1 D115	LC1 D150	LC1 F185	LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800
50	65	80	95	115	150	185	225	265	330	400	500	630	780	800
15	20	30	30	30	40	50	60	60	75	100	150	250	-	350
15	20	30	30	40	50	60	75	75	100	125	200	300	450	400
40	40	60	60	75	100	125	150	150	200	250	400	600	900	900
40	50	60	60	100	125	150	150	200	250	300	500	800	-	900

Selection according to required electrical durability, in category AC-3 (Ue ≤ 440 V)

Control of 3-phase asynchronous squirrel cage motors with breaking whilst running.
 The current broken (Ic) in category AC-3 is equal to the rated operational current (Ie) of the motor.



Operational power in kW-50 Hz.

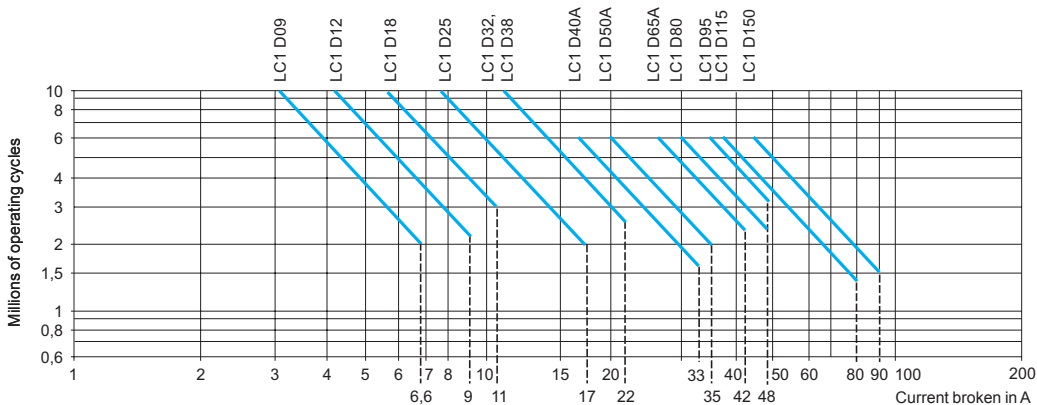
Example:

Asynchronous motor with P = 5.5 kW - Ue = 400 V - Ie = 11 A - Ic = Ie = 11 A
 or asynchronous motor with P = 5.5 kW - Ue = 415 V - Ie = 11 A - Ic = Ie = 11 A
 3 million operating cycles required.

The above selection curves show the contactor rating needed: LC1 D18.

Selection according to required electrical durability, in category AC-3 (Ue = 660/690 V) (1)

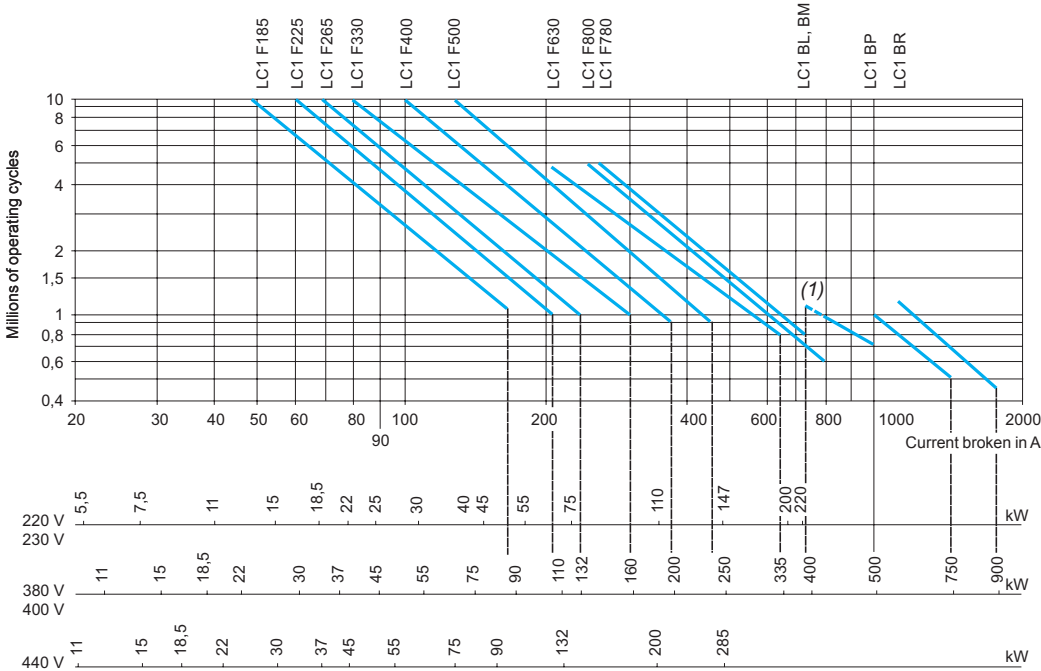
Control of 3-phase asynchronous squirrel cage motors with breaking whilst running.
 The current broken (Ic) in category AC-3 is equal to the rated operational current (Ie) of the motor.



(1) For Ue = 1000 V, use the 660/690 V curves, but do not exceed the operational current at the operational power indicated for 1000 V.

Selection according to required electrical durability, in category AC-3 (U_e ≤ 440 V)

Control of 3-phase asynchronous squirrel cage motors with breaking whilst running.
 The current broken (I_c) in category AC-3 is equal to the rated operational current (I_e) of the motor.



Operational power in kW-50 Hz.

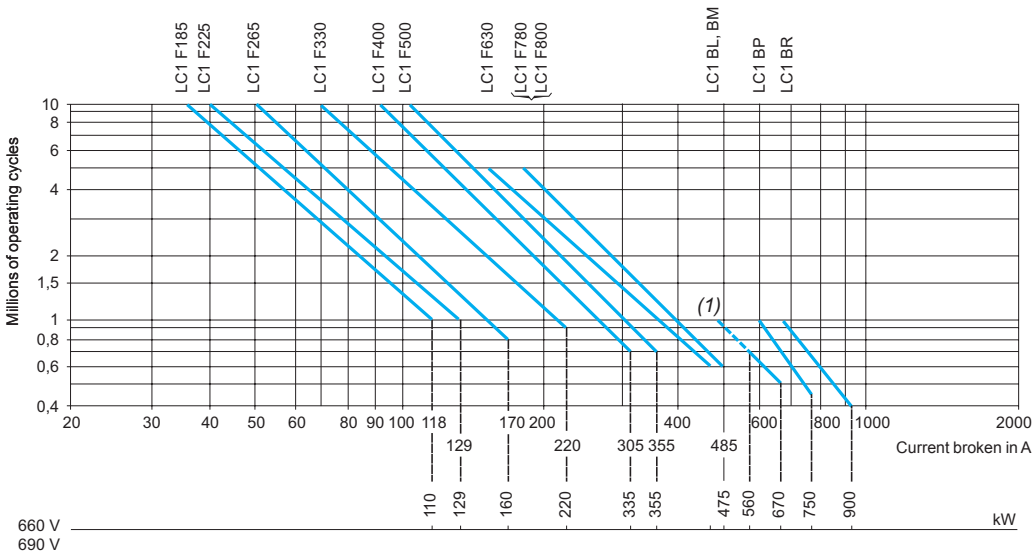
Example:

Asynchronous motor with P = 132 kW - U_e = 380 V - I_e = I_c = 245 A
 or asynchronous motor with P = 132 kW - U_e = 415 V - I_e = I_c = 240 A
 1.5 million operating cycles required.
 The above selection curves show the contactor rating needed: LC1 F330.

(1) The dotted lines are only applicable to LC1 BL contactors.

Selection according to required electrical durability, in category AC-3 (U_e = 660/690 V)

Control of 3-phase asynchronous squirrel cage motors with breaking whilst running.
 The current broken (I_c) in category AC-3 is equal to the rated operational current (I_e) of the motor.



Example:

Asynchronous motor with P = 132 kW - U_e = 660 V - I_e = I_c = 140 A
 1.5 million operating cycles required.
 The above selection curves show the contactor rating needed: LC1 F330.

(1) The dotted lines are only applicable to LC1 BL contactors.

Maximum operational current (open-mounted device)												
Contactor size			LC1/ LP1 K09	LC1/ LP1 K12	LC1 D09	LC1 DT20	LC1 D12 DT25	LC1 D18 DT32	LC1 D25 DT40	LC1 D32	LC1 D38	LC1 D40A DT60A
Maximum operating rate in operating cycles/hour			600	600	600	600	600	600	600	600	600	600
Connection conforming to IEC 60947-1	Cable c.s.a.	mm ²	4	4	4	4	4	6	6	10	10	35
	Bar c.s.a.	mm	-	-	-	-	-	-	-	-	-	-
Operational current in AC-1 in A, according to the ambient temperature, conforming to IEC 60947-1	≤ 40 °C	A	20	20	25	20	25	32	40	50	50	60
	≤ 60 °C	A	20	20	25	20	25	32	40	50	50	60
	≤ 70 °C	A (at UC)	(1)	(1)	17	(1)	17	22	28	35	35	42
Maximum operational power ≤ 60 °C	220/230 V	kW	8	8	9	8	9	11	14	18	18	21
	240 V	kW	8	8	9	8	9	12	15	19	19	23
	380/400 V	kW	14	14	15	14	15	20	25	31	31	37
	415 V	kW	14	14	17	14	17	21	27	34	34	41
	440 V	kW	15	15	18	15	18	23	29	36	36	43
	500 V	kW	17	17	20	17	20	23	33	41	41	49
	660/690 V	kW	22	22	27	22	27	34	43	54	54	65
	1000 V	kW	-	-	-	-	-	-	-	-	-	-

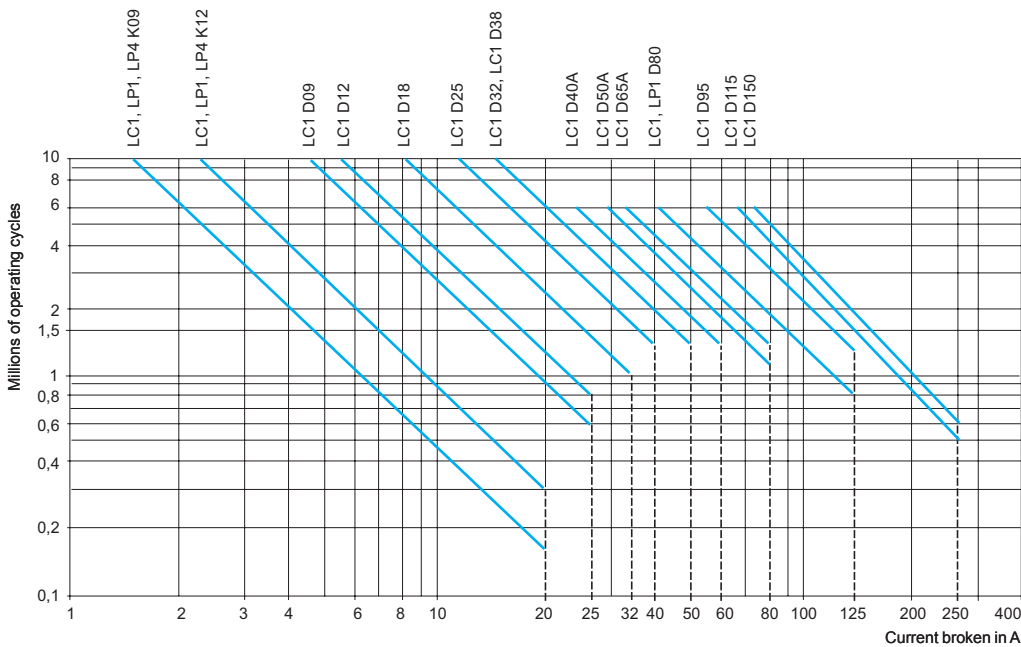
(1) Please consult your Regional Sales Office.

Increase in operational current by parallel connection of poles

Apply the following coefficients to the currents or power values given above; these coefficients take into account an often unbalanced current distribution between the poles:

- 2 poles in parallel: K = 1.6
- 3 poles in parallel: K = 2.25
- 4 poles in parallel: K = 2.8

Selection according to required electrical durability, in category AC-1 (Ue ≤ 440 V)



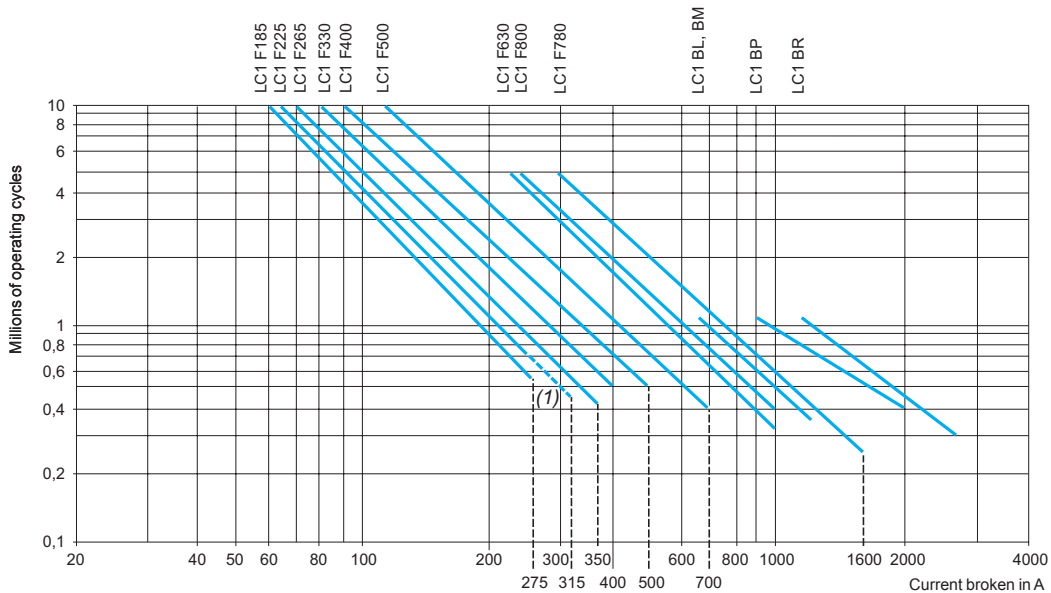
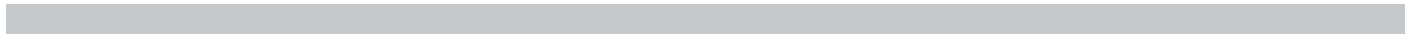
Control of resistive circuits (cos φ ≥ 0.95).

The current broken (Ic) in category AC-1 is equal to the current (Ie) normally drawn by the load.

Example:

- Ue = 220 V - Ie = 50 A θ ≤ 40 °C - Ic = Ie = 50 A.
- 2 million operating cycles required.
- The above selection curves show the contactor rating needed: either LC1 or LP1 D50.

LC1 D50A	LC1 D65A	LC1/ LP1 DT80A D80	LC1 D95	LC1 D115	LC1 D150	LC1 F185	LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800	LC1 BL	LC1 BM	LC1 BP	LC1 BR
600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	120	120	120	120
35	35	50	50	120	120	150	185	185	240	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	2	2
80	80	125	125	250	250	275	315	350	400	30 x 5	40 x 5	60 x 5	100 x 5	60 x 5	50 x 5	80 x 5	100 x 5	100 x 10
80	80	125	125	200	200	275	280	300	360	500	700	1000	1600	1000	800	1250	2000	2750
56	56	80	80	160	160	180	200	250	290	340	500	700	1100	700	600	900	1500	2000
29	29	45	45	80	80	90	100	120	145	170	240	350	550	350	300	425	700	1000
31	31	49	49	83	83	100	110	125	160	180	255	370	570	370	330	450	800	1100
50	50	78	78	135	135	165	175	210	250	300	430	600	950	600	500	800	1200	1600
54	54	85	85	140	140	170	185	220	260	310	445	630	1000	630	525	825	1250	1700
58	58	90	90	150	150	180	200	230	290	330	470	670	1050	670	550	850	1400	2000
65	65	102	102	170	170	200	220	270	320	380	660	750	1200	750	600	900	1500	2100
80	80	135	135	235	235	280	300	370	400	530	740	1000	1650	1000	800	1100	1900	2700
-	-	120	120	345	345	410	450	540	640	760	950	1500	2400	1500	1100	1700	3000	4200



Example:

- $U_e = 220\text{ V} - I_e = 500\text{ A} - \theta \leq 40\text{ }^\circ\text{C} - I_c = I_e = 500\text{ A}.$
- 2 million operating cycles required.
- The above selection curves show the contactor rating needed: LC1 F780.

(1) The dotted lines are only applicable to LC1 F225 contactors.

Maximum breaking current

Category AC-2: slip ring motors - breaking the starting current.
 Category AC-4: squirrel cage motors - breaking the starting current.

Contactor size			LC1/ LP1 K06	LC1/ LP1 K09	LC1/ LP1 K12	LC1 D09	LC1 D12	LC1 D18	LC1 D25	LC1 D32	LC1 D38	LC1 D40A
In category AC-4 (Ie max)	Ue ≤ 440 V Ie max broken = 6 x I motor	A	36	54	54	54	72	108	150	192	192	240
	440 V < Ue ≤ 690 V Ie max broken = 6 x I motor	A	26	40	40	40	50	70	90	105	105	150

Depending on the maximum operating rate (1) and the on-load factor, θ ≤ 60 °C (2)

From 150 and 15 % to 300 and 10 %	A	20	30	30	30	40	45	75	80	80	110
From 150 and 20 % to 600 and 10 %	A	18	27	27	27	36	40	67	70	70	96
From 150 and 30 % to 1200 and 10 %	A	16	24	24	24	30	35	56	60	60	80
From 150 and 55 % to 2400 and 10 %	A	13	19	19	19	24	30	45	50	50	62
From 150 and 85 % to 3600 and 10 %	A	10	16	16	16	21	25	40	45	45	53

(1) Do not exceed the maximum number of operating cycles..

(2) For temperatures higher than 60 °C, use a maximum operating rate value equal to 80% of the actual value when selecting from the tables.

Counter current braking (plugging)

The current varies from the maximum plug-braking current to the rated motor current.
 The making current must be compatible with the rated making and breaking capacities of the contactor.

As breaking normally takes place at a current value at or near the locked rotor current, the contactor can be selected using the criteria for categories AC-2 and AC-4.

Permissible AC-4 power rating for 200 000 operating cycles

Operational voltage		LC●/ LP● K06	LC●/ LP● K09	LC● LP● K12	LC● D09	LC● D12	LC● D18	LC● D25	LC● D32	LC● D38	LC● D40A
220/230 V	kW	0.75	1.1	1.1	1.5	1.5	2.2	3	4	4	4
380/400 V	kW	1.5	2.2	2.2	2.2	3.7	4	5.5	7.5	7.5	9
415 V	kW	1.5	2.2	2.2	2.2	3	3.7	5.5	7.5	7.5	9
440 V	kW	1.5	2.2	2.2	2.2	3	3.7	5.5	7.5	7.5	11
500 V	kW	2.2	3	3	3	4	5.5	7.5	9	9	11
660/690 V	kW	3	4	4	4	5.5	7.5	10	11	11	15



LC1 D50A	LC1 D65A	LC1 D80	LC1 D95	LC1 D115	LC1 D150	LC1 F185	LC1 F225	LC1 F26	LC1 F330	LC1 F40	LC1 F500	LC1 F630	LC1 F780	LC1 F800	LC1 BL	LC1 BM	LC1 BP	LC1 BR
300	390	480	570	630	830	1020	1230	1470	1800	2220	2760	3360	4260	3690	4320	5000	7500	9000
170	210	250	250	540	640	708	810	1020	1410	1830	2130	2760	2910	2910	4000	4800	5400	6600
140	160	200	200	280	310	380	420	560	670	780	1100	1400	1600	1600	2250	3000	4500	5400
120	148	170	170	250	280	350	400	500	600	700	950	1250	1400	1400	2000	2400	3750	5000
100	132	145	145	215	240	300	330	400	500	600	750	950	1100	1100	1500	2000	3000	3600
80	110	120	120	150	170	240	270	320	390	450	600	720	820	820	1000	1500	2000	2500
70	90	100	100	125	145	170	190	230	290	350	500	660	710	710	750	1000	1500	1800



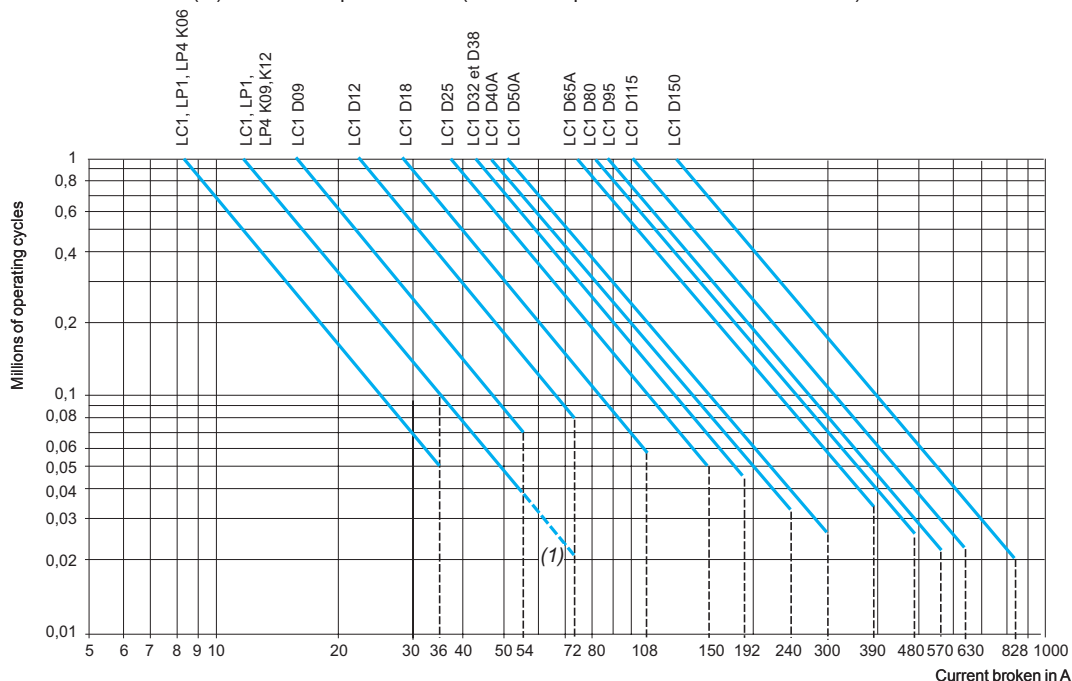
LC● D50A	LC● D65A	LC● D80	LC● D95	LC1 D115	LC1 D150	LC1 F185	LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800	LC1 BL	LC1 BM	LC1 BP	LC1 BR
5.5	7.5	7.5	9	9	11	18.5	22	28	33	40	45	55	63	63	90	110	150	200
11	11	15	15	18.5	22	33	40	51	59	75	80	100	110	110	160	160	220	250
11	11	15	15	18.5	22	37	45	55	63	80	90	100	110	110	160	160	250	280
11	15	15	15	18.5	22	37	45	59	63	80	100	110	132	132	160	200	250	315
15	15	22	22	30	37	45	55	63	75	90	110	132	150	150	180	200	250	355
15	18.5	25	25	30	45	63	75	90	110	129	140	160	185	185	200	250	315	450

Selection according to required electrical durability, in categories AC-2 or AC-4 ($U_e \leq 440\text{ V}$)

Control of 3-phase asynchronous squirrel cage motors (AC-4) or slip ring motors (AC-2) with breaking whilst motor stalled.

The current broken (I_c) in AC-2 is equal to $2.5 \times I_e$.

The current broken (I_c) in AC-4 is equal to $6 \times I_e$. (I_e = rated operational current of the motor).



Example:

- Asynchronous motor with $P = 5.5\text{ kW}$ - $U_e = 400\text{ V}$ - $I_e = 11\text{ A}$. $I_c = 6 \times I_e = 66\text{ A}$
- or asynchronous motor with $P = 5.5\text{ kW}$ - $U_e = 415\text{ V}$ - $I_e = 11\text{ A}$. $I_c = 6 \times I_e = 66\text{ A}$.
- 200 000 operating cycles required.
- The above selection curves show the contactor rating needed: LC1 D25.

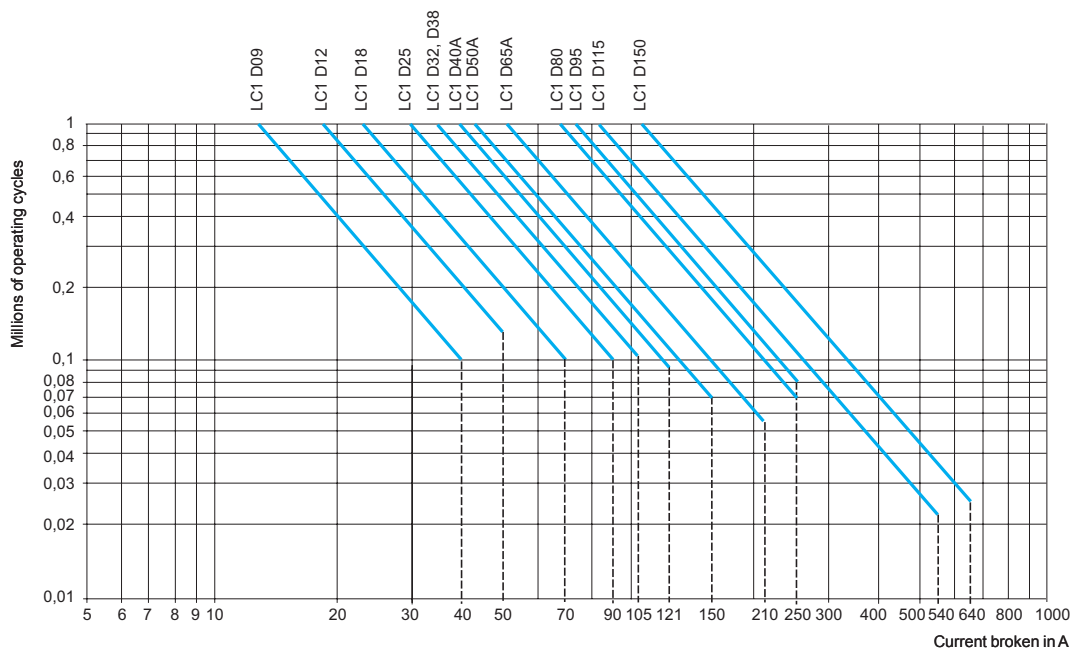
(1) The dotted lines are only applicable to LC1, LP1, K12 contactors.

Selection according to required electrical durability, use in category AC-4 ($440\text{ V} < U_e \leq 690\text{ V}$)

Control of 3-phase asynchronous squirrel cage motors with breaking whilst motor stalled

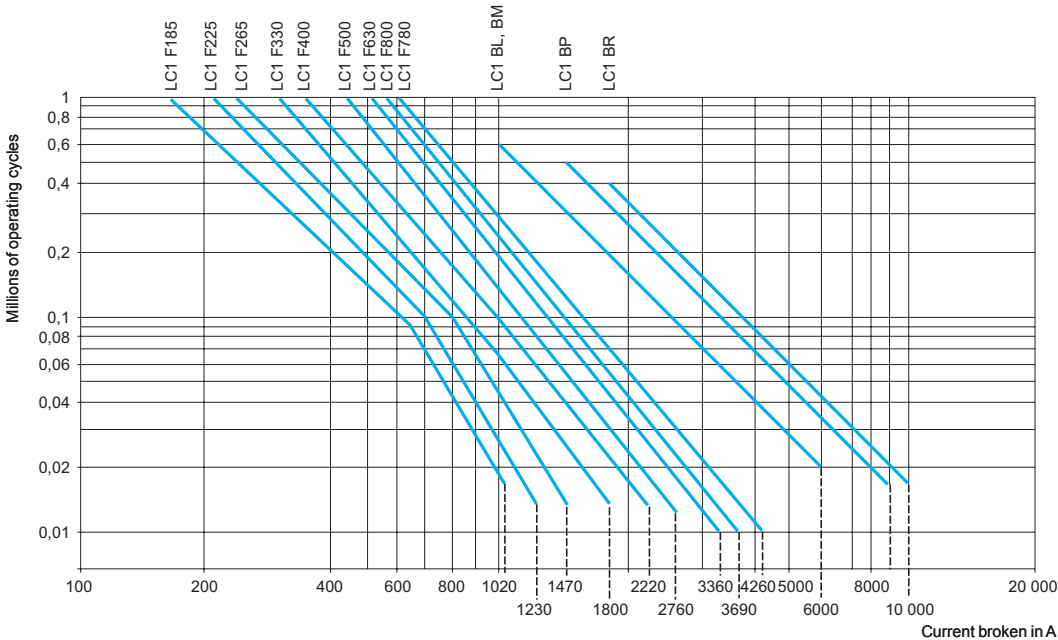
The current broken (I_c) in AC-2 is equal to $2.5 \times I_e$.

The current broken (I_c) in AC-4 is equal to $6 \times I_e$. (I_e = rated operational current of the motor).



Selection according to required electrical durability, in categories AC-2 or AC-4 ($U_e \leq 440\text{ V}$)

Control of 3-phase asynchronous squirrel cage motors (AC-4) or slip ring motors (AC-2) with breaking whilst motor stalled. The current broken (I_c) in AC-4 is equal to $6 \times I_e$. (I_e = rated operational current of the motor).

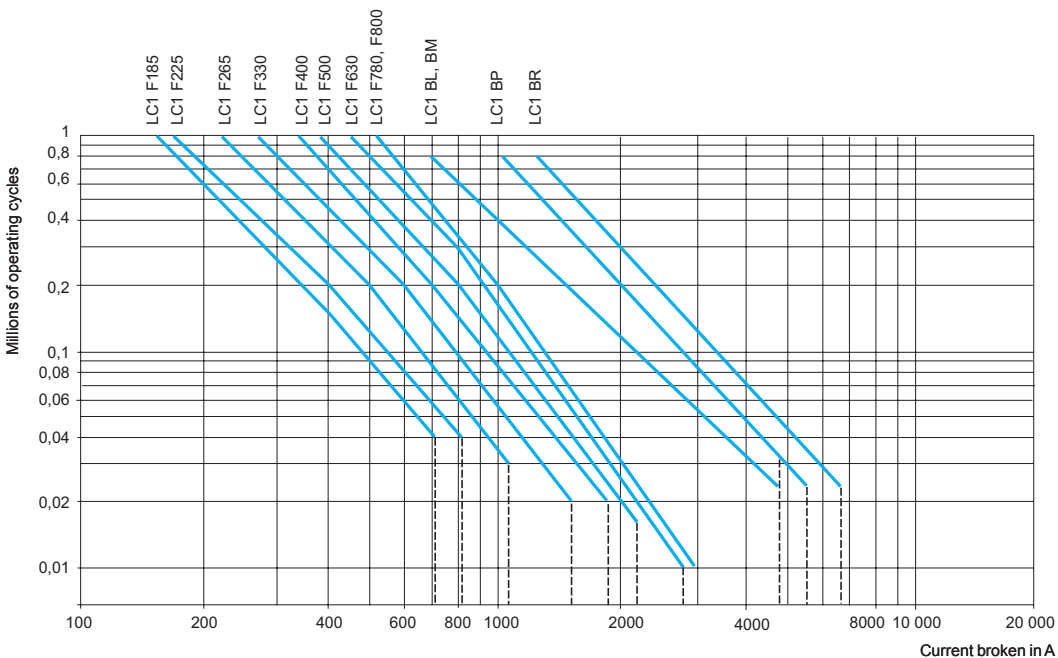


Example:

- Asynchronous motor with $P = 90\text{ kW}$ - $U_e = 380\text{ V}$ - $I_e = 170\text{ A}$. $I_c = 6 \times I_e = 1020\text{ A}$ or asynchronous motor with $P = 90\text{ kW}$ - $U_e = 415\text{ V}$ - $I_e = 165\text{ A}$. $I_c = 6 \times I_e = 990\text{ A}$.
- 60 000 operating cycles required.
- The above selection curves show the contactor rating needed: LC1 F265.

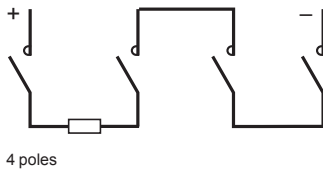
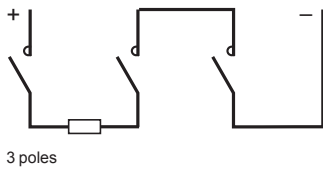
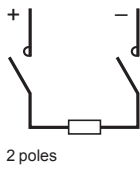
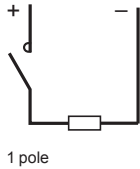
Selection according to required electrical durability, use in category AC-4 ($440\text{ V} < U_e \leq 690\text{ V}$)

Control of 3-phase asynchronous squirrel cage motors with breaking whilst motor stalled. The current broken (I_c) in AC-4 is equal to $6 \times I_e$. (I_e = rated operational current of the motor).



TeSys contactors

For utilisation categories DC-1 to DC-5



Rated operational current (Ie) in Amperes, in utilisation category DC-1, resistive loads: time constant $\frac{L}{R} \leq 1$ ms, ambient temperature ≤ 60 °C

Rated operational voltage Ue V	No. of poles connected in series	Contactor rating (1)									
		LC1 D09	LC1 DT20	LC1 D12 DT25	LC1 D18 DT32	LC1 D25 DT40	LC1 D32	LC1 D38	LC1 D40A	LC1 DT60A	
24	1	20	20	20	25	32	40	40	50	50	
	2	20	20	20	25	32	40	40	50	50	
	3	20	20	20	25	32	40	40	50	50	
	4	-	20	20	25	32	-	-	-	50	
48/75	1	20	20	20	25	32	40	40	50	50	
	2	20	20	20	25	32	40	40	50	50	
	3	20	20	20	25	32	40	40	50	50	
	4	-	20	20	25	32	-	-	-	50	
125	1	4	4	4	4	7	7	7	7	7	
	2	20	20	20	25	32	40	40	50	50	
	3	20	20	20	25	32	40	40	50	50	
	4	-	20	20	25	32	-	-	-	50	
250	1	1	1	1	1	1	1	1	1	1	
	2	4	4	4	4	7	7	7	7	7	
	3	20	20	20	25	32	40	40	50	50	
	4	-	20	20	25	32	-	-	-	50	
300	3	4	4	4	4	7	7	7	7	-	
	4	-	20	20	25	32	-	-	-	50	
460	1	-	-	-	-	-	-	-	-	-	
	4	-	-	-	-	-	-	-	-	-	
900	2	-	-	-	-	-	-	-	-	-	
1200	3	-	-	-	-	-	-	-	-	-	
1500	4	-	-	-	-	-	-	-	-	-	

Rated operational current (Ie) in Amperes, in utilisation category DC-2 to DC-5, inductive loads: time constant $\frac{L}{R} \leq 15$ ms, ambient temperature ≤ 60 °C

Rated operational voltage Ue V	No. of poles connected in series	Contactor rating (1)									
		LC1 D09	LC1 DT20	LC1 D12 DT25	LC1 D18 DT32	LC1 D25 DT40	LC1 D32	LC1 D38	LC1 D40A	LC1 DT60A	
24	1	20	20	20	25	32	40	40	50	50	
	2	20	20	20	25	32	40	40	50	50	
	3	20	20	20	25	32	40	40	50	50	
	4	-	20	20	25	32	-	-	-	50	
48/75	1	20	20	20	25	32	40	40	50	50	
	2	20	20	20	25	32	40	40	50	50	
	3	20	20	20	25	32	40	40	50	50	
	4	-	20	20	25	32	-	-	-	50	
125	1	2	2	2	2	3	3	3	4	4	
	2	20	20	20	25	32	40	40	50	50	
	3	20	20	20	25	32	40	40	50	50	
	4	-	20	20	25	32	-	-	-	50	
250	1	0,5	0,5	0,5	0,5	0,5	0,5	0,5	1	1	
	2	2	2	2	2	3	3	3	4	4	
	3	8	8	8	8	32	40	40	50	50	
	4	-	20	20	25	32	-	-	-	50	
300	3	2	2	2	2	3	3	3	3	3	
	4	-	8	8	8	32	-	-	-	50	
460	1	-	-	-	-	-	-	-	-	-	
	4	-	-	-	-	-	-	-	-	-	
900	2	-	-	-	-	-	-	-	-	-	
1200	3	-	-	-	-	-	-	-	-	-	
1500	4	-	-	-	-	-	-	-	-	-	

(1) For rated operational currents of contactors LC1 and LP1 K: please consult your Regional Sales Office.

LC1 D50A	LC1 D65A	LC1 DT80A	LC1 D80	LC1 D95	LC1 D115	LC1 D150	LC1 F185	LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800	LC1 BL	LC1 BM	LC1 BP	LC1 BR
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
-	-	65	100	-	200	-	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
-	-	65	100	-	200	-	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
7	7	7	12	12	12	12	210	230	270	320	380	520	760	1180	760	700	1100	1750	2400
65	65	65	100	100	200	200	210	230	270	320	380	520	760	1180	760	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
-	-	65	100	-	200	-	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
1	1,5	1,5	2	2	10	10	-	-	-	-	-	-	-	-	-	700	1100	1750	2400
7	7	7	12	12	200	200	190	200	250	280	350	450	700	1000	700	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
-	-	65	100	-	200	-	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
7	7	7	12	12	200	200	190	200	250	280	350	450	700	1000	700	700	1100	1750	2400
-	-	65	100	-	200	-	240	260	300	360	430	580	850	1000	850	700	1100	1750	2400
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1100	1750	2400
-	-	-	-	-	200	-	190	200	250	280	350	450	700	1000	700	700	1100	1750	2400
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1100	1750	2400
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1100	1750	2400
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1100	1750	2400

LC1 D50A	LC1 D65A	LC1 DT80A	LC1 D80	LC1 D95	LC1 D115	LC1 D150	LC1 F185	LC1 F225	LC1 F265	LC1 F330	LC1 F400	LC1 F500	LC1 F630	LC1 F780	LC1 F800	LC1 BL	LC1 BM	LC1 BP	LC1 BR
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
-	-	65	100	-	200	-	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
65	65	65	100	100	200	200	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
-	-	65	100	-	200	-	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
4	4	4	5	5	10	10	-	-	-	-	-	-	-	-	-	700	1100	1750	2400
65	65	65	100	100	200	200	160	180	250	300	350	500	700	1000	700	700	1100	1750	2400
65	65	65	100	100	200	200	240	240	280	310	350	550	850	1000	850	700	1100	1750	2400
-	-	65	100	-	200	-	240	240	280	310	350	550	850	1000	850	700	1100	1750	2400
1	1,5	1,5	1	1	3	3	-	-	-	-	-	-	-	-	-	700	1100	1750	2400
4	4	4	5	5	200	200	140	160	220	280	310	480	680	900	680	700	1100	1750	2400
65	65	65	100	100	200	200	160	180	250	300	350	500	700	1000	700	700	1100	1750	2400
-	-	65	100	-	200	-	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
3	3	3	5	5	200	200	140	160	220	280	310	480	680	900	680	700	1100	1750	2400
-	-	65	100	-	200	-	240	260	300	360	430	580	850	1300	850	700	1100	1750	2400
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1100	1750	2400
-	-	-	-	-	200	-	140	160	220	280	310	480	680	800	680	700	1100	1750	2400
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1100	1750	2400
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1100	1750	2400
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	700	1100	1750	2400

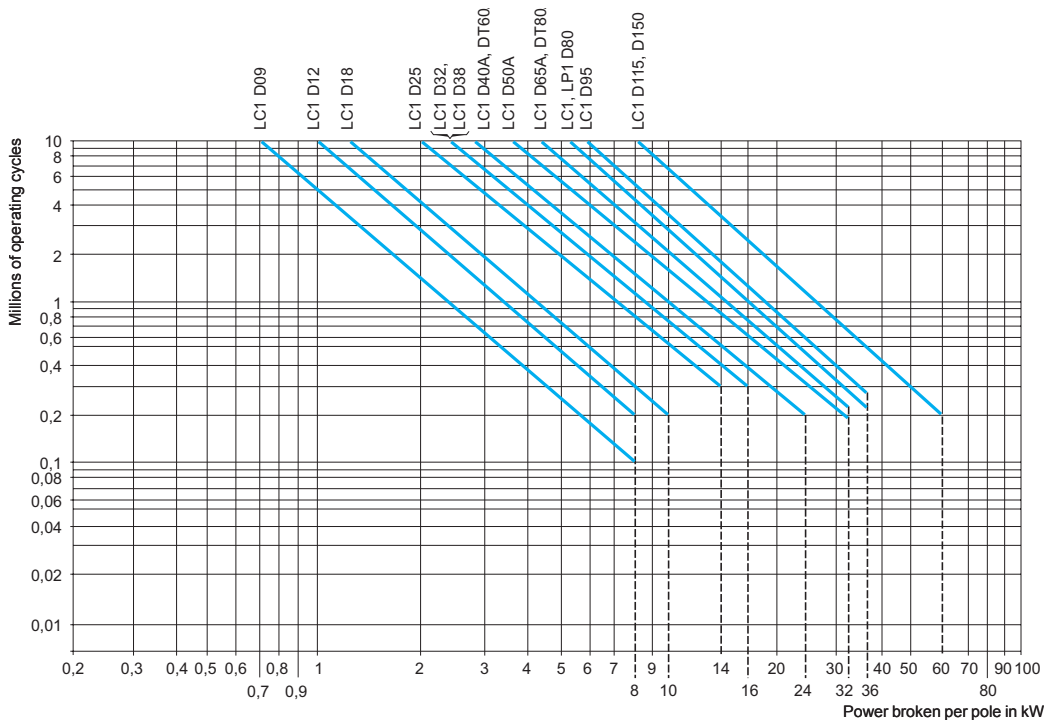
Selection according to required electrical durability, use in categories DC-1 to DC-5

- The criteria for contactor selection are:
- the rated operational current I_e ,
 - the rated operational voltage U_e ,
 - the utilisation category and the time constant L/R,
 - the required electrical durability.

Maximum operating rate (operating cycles)

The following limits must not be exceeded: 120 operating cycles/hour at rated operational current I_e .

Electrical durability

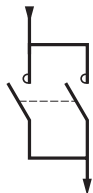


Example

Series wound motor - $P = 1.5 \text{ kW}$ - $U_e = 200 \text{ V}$ - $I_e = 7.5 \text{ A}$. Utilisation: reversing, inching.

- Utilisation category = DC-5.
- Select contactor LC1 D09 with 3 poles in series.
- The power broken is: $P_c \text{ total} = 2.5 \times 200 \times 7.5 = 3.75 \text{ kW}$.
- The power broken per pole is: 1.25 kW .
- The electrical durability read from the curve is ≥ 3 millions of operating cycles.

Use of poles in parallel



Electrical durability can be increased by using poles connected in parallel.

With N poles connected in parallel, the electrical durability becomes: electrical durability read from the curves $\times N \times 0.7$.

Note: 1

When the poles are connected in parallel, the maximum operational currents indicated on pages 136 et 137 must not be exceeded.

Note: 2

Ensure that the connections are made in such a way as to equalise the currents in each pole.

Selection according to required electrical durability, use in categories DC-1 to DC-5

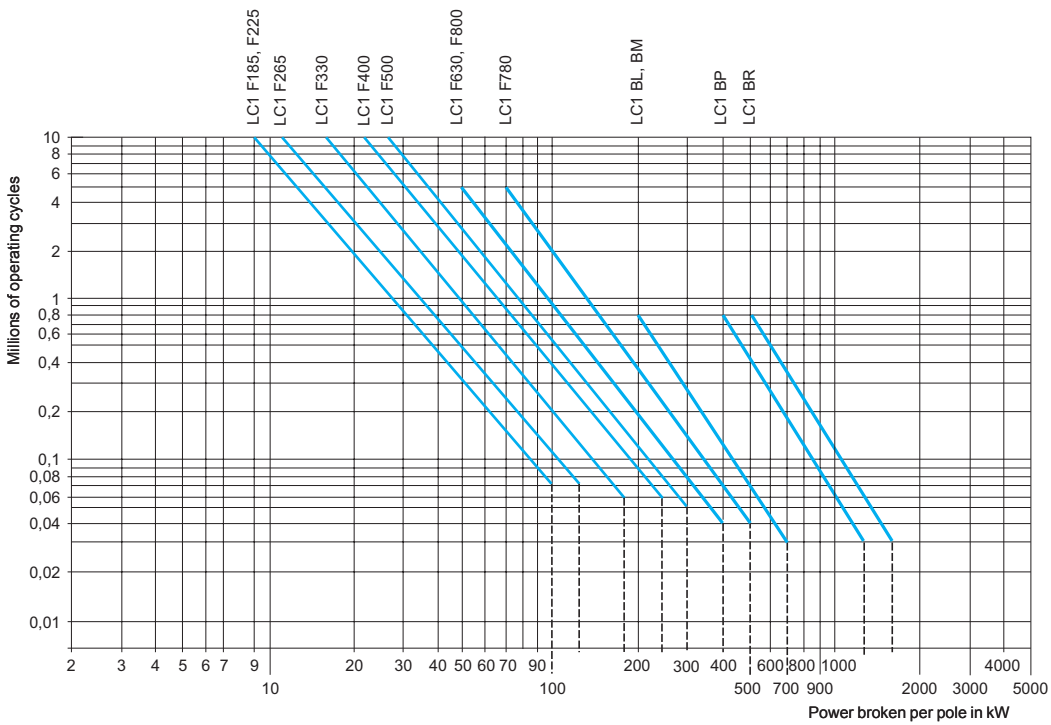
Determining the electrical durability

The electrical durability can be read directly from the curves below, having previously calculated the power broken as follows:

$$P \text{ broken} = U \text{ broken} \times I \text{ broken}$$

The tables below give the values of U_c and I_c for the various utilisation categories.

Utilisation categories	U broken	I broken	P broken
DC-1 Non inductive or slightly inductive loads	U_e	I_e	$U_e \times I_e$
DC-2 Shunt wound motors, breaking whilst motor running	$0.1 U_e$	I_e	$0.1 U_e \times I_e$
DC-3 Shunt wound motors, reversing, inching	U_e	$2.5 I_e$	$U_e \times 2.5 I_e$
DC-4 Series wound motors, breaking whilst motor running	$0.3 U_e$	I_e	$0.3 U_e \times I_e$
DC-5 Series wound motors, reversing, inching	U_e	$2.5 I_e$	$U_e \times 2.5 I_e$



Example

Series wound motor: $P = 40 \text{ kW}$ - $U_e = 200 \text{ V}$ - $I_e = 200 \text{ A}$. Utilisation: reversing, inching.
Utilisation category = DC-5.

- Select contactor LC1 F265 with 2 poles in series.
- The power broken is: $P_c \text{ total} = 2.5 \times 200 \times 200 = 100 \text{ kW}$.
- The power broken per pole is 50 kW .
- The electrical durability read from the curve is $500\,000$ operating cycles.

Contactor type	LC1	D09...D18 DT20 and DT25	D25...D38 DT32 and DT40	D40A...D65A DT60A and DT80A	D80...D95	D115 and D150	
Environment							
Rated insulation voltage (Ui)	Conforming to IEC 60947-4-1, overvoltage category III, degree of pollution: 3	V	690			1000	
	Conforming to UL, CSA	V	600				
Rated impulse withstand voltage (Uimp)	Conforming to IEC 60947	kV	6			8	
Conforming to standards			IEC/EN 60947-4-1, IEC/EN 60947-5-1, UL 508, CSA C22.2 n°14.				
Product certifications			UL, CSA (1), CCC, GOST GL, DNV, RINA, BV, LROS (pending for contactors LC1 D40A to D65A)				
Degree of protection (2) (front face only)	Conforming to VDE 0106 and IEC 60529						
	Power circuit connections		Protection against direct finger contact IP 2X				
	Coil connection		Protection against direct finger contact IP 2X				
Protective treatment	Conforming to IEC 60068-2-30		"TH"				
Ambient air temperature around the device	Storage	°C	- 60...+ 80				
	Operation	°C	- 5...+ 60				
	Permissible	°C	- 40...+ 70, for operation at Uc				
Maximum operating altitude	Without derating	m	3000				
Operating positions (3)	Without derating in the following positions						
	Positions that are not permissible		For $\overline{\text{---}}$ contactors LC1 D09 to LC1 D65A. 				
Flame resistance	Conforming to UL 94		V1				
	Conforming to IEC 60695-2-1	°C	850				
Shock resistance (4) 1/2 sine wave = 11 ms	Contactor open		10 gn	8 gn	10 gn	8 gn	6 gn
	Contactor closed		15 gn	15 gn	15 gn	10 gn	15 gn
Vibration resistance (4) 5...300 Hz	Contactor open		2 gn				
	Contactor closed		4 gn	4 gn	4 gn	3 gn	4 gn

(1) Contactor LC1 D95 with d.c. coil is not UL/CSA certified.

(2) Protection provided for the cabling c.s.a.'s indicated on the next page and for connection by cable.

(3) When mounting on a vertical rail, use a stop.

(4) Without modifying the contact states, in the most unfavourable direction (coil energised at Ue).

Contactor type	LC1	D09 and D12 DT20 and DT25	D18 (3P)	D25 (3P)	D32	D38	D18 and D25 (4P) DT32 and DT40	D40A to D65A DT60A and DT80A (1)	D80 and D95	D115 and D150
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Power circuit connections

Screw clamp terminal connections

Tightening			Screw clamp terminals				Connector 2 inputs	Screw clamp terminals	Connector 1 input	Connector 2 inputs
Flexible cable without cable end	1 conductor	mm ²	1...4	1.5...6	2.5...10		2.5...10	1...35	4...50	10...120
	2 conductors	mm ²	1...4	1.5...6	2.5...10		2.5...10	1...25 and 1...35	4...25	10...120 + 10...50
Flexible cable with cable end	1 conductor	mm ²	1...4	1...6	1...10		2.5...10	1...35	4...50	10...120
	2 conductors	mm ²	1...2.5	1...4	1.5...6		2.5...10	1...25 and 1...35	4...16	10...120 + 10...50
Solid cable without cable end	1 conductor	mm ²	1...4	1.5...6	1.5...10		2.5...16	1...35	4...50	10...120
	2 conductors	mm ²	1...4	1.5...6	2.5...10		2.5...16	1...25 and 1...35	4...25	10...120 + 10...50
Screwdriver	Philips		N° 2	N° 2	N° 2		N° 2	–	–	–
	Flat screwdriver Ø		Ø 6	Ø 6	Ø 6		Ø 6	–	Ø 6...Ø 8	–
Hexagonal key			–	–	–		–	4	4	4
Tightening torque		N.m	1.7	1.7	2.5		1.8	5: ≤ 25 mm ² 8: 35 mm ²	9	12

Spring terminal connections (2)

Flexible cable without cable end	1 conductor	mm ²	2.5 (4: DT25)	4	4	4	–	10	–	–
	2 conductors	mm ²	2.5 (except DT25)	4	4	4	–	–	–	–

Connection by bars or lugs

Bar c.s.a.			–	–	–	–	–	–	3 x 16	5 x 25
Lug external Ø	mm		8	8	10	10	8	16.5	17	25
Ø of screw	mm		M3.5	M3.5	M4	M4	M3.5	M6	M6	M8
Screwdriver	Philips		N° 2	N° 2	N° 2	N° 2	N° 2	–	–	–
	Flat screwdriver Ø		Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	–	Ø 8	–
Key for hexagonal headed screw			–	–	–	–	–	10	10	13
Tightening torque		N.m	1.7	1.7	2.5	2.5	1.8	6	9	12

Control circuit connections

Connection by cable (tightening via screw clamps)

Flexible cable without cable end	1 conductor	mm ²	1...4	1...4	1...4	1...4	1...4	1...4	1...4	1...2.5
	2 conductors	mm ²	1...4	1...4	1...4	1...4	1...4	1...4	1...4	1...2.5
Flexible cable with cable end	1 conductor	mm ²	1...4	1...4	1...4	1...4	1...4	1...4	1...2.5	1...2.5
	2 conductors	mm ²	1...2.5	1...2.5	1...2.5	1...2.5	1...2.5	1...2.5	1...2.5	1...2.5
Solid cable without cable end	1 conductor	mm ²	1...4	1...4	1...4	1...4	1...4	1...4	1...4	1...2.5
	2 conductors	mm ²	1...4	1...4	1...4	1...4	1...4	1...4	1...4	1...2.5
Screwdriver	Philips		N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2
	Flat screwdriver Ø		Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6
Tightening torque		N.m	1.7	1.7	1.7	1.7	1.7	1.7	1.2	1.2

Spring terminal connections (2)

Flexible cable without cable end	1 conductor	mm ²	2.5	2.5	2.5	2.5	–	2.5	0.75...2.5	–
	2 conductors	mm ²	2.5	2.5	2.5	2.5	–	2.5	0.75...2.5	–

Connection by bars or lugs

Lug external Ø	mm		8	8	8	8	8	8	8	8
Ø of screw	mm		M3.5	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5	M3.5
Screwdriver	Philips		N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2	N° 2
	Flat screwdriver Ø		Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6	Ø 6
Tightening torque		N.m	1.7	1.7	1.7	1.7	1.7	1.7	1.2	1.2

(1) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference LAD ALLEN4, see page 175).

(2) If cable ends are used, choose the next size down (example: for 2.5 mm², use 1.5 mm²) and square crimp the cable ends using a special tool.

Contactor type	LC1	D09 (3P)	DT20 D098	D12 (3P)	DT25 D128	D18 (3P)	DT32 D188	D25 (3P)	DT40 D258	
Pole characteristics										
Rated operational current (Ie) (Ue ≤ 440 V)	In AC-3, θ ≤ 60 °C	A	9	12	18	25				
	In AC-1, θ ≤ 60 °C	A	25 (1)	20	25 (1)	25	32 (1)	32	40 (1)	40
Rated operational voltage (Ue)	Up to	V	690	690	690	690				
Frequency limits	Of the operational current	Hz	25...400	25...400	25...400	25...400				
Conventional thermal current (Ith)	θ ≤ 60 °C	A	25 (1)	20	25 (1)	25	32 (1)	32	40 (1)	40
Rated making capacity (440 V)	Conforming to IEC 60947	A	250	250	300	450				
Rated breaking capacity (440 V)	Conforming to IEC 60947	A	250	250	300	450				
Permissible short time rating No current flowing for preceding 15 minutes with θ ≤ 40 °C	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				
Fuse protection against short-circuits (U ≤ 690 V)	Without thermal overload relay, gG fuse	type 1	A	25	40	50	63			
		type 2	A	20	25	35	40			
	With thermal overload relay	A	See pages 208 to 211, for aM or gG fuse ratings corresponding to the associated thermal overload relay							
Average impedance per pole	At Ith 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				

Control circuit characteristics, a.c. supply

Rated control circuit voltage (Uc)	50/60 Hz	V	12...690			
Control voltage limits						
50 or 60 Hz coils	Operation		–			
	Drop-out		–			
50/60 Hz coils	Operation		0.8...1.1 Uc on 50 Hz and 0.85...1.1 Uc on 60 Hz at 60 °C			
	Drop-out		0.3...0.6 Uc at 60 °C			
Average consumption at 20 °C and at Uc	~ 50 Hz	Inrush	50 Hz coil	VA	–	
			Cos φ		0.75	
		Sealed	50/60 Hz coil	VA	70	
			Cos φ		0.3	
		~ 60 Hz	Inrush	50/60 Hz coil	VA	7
				Cos φ		0.75
	Sealed		60 Hz coil	VA	–	
			Cos φ		0.3	
	50/60 Hz coil		60 Hz coil	VA	7.5	
			Cos φ		0.3	
	Heat dissipation	50/60 Hz	W	2...3		
	Operating time (2)	Closing "C"	ms	12...22		
Opening "O"		ms	4...19			
Mechanical durability in millions of operating cycles	50 or 60 Hz coil		–			
	50/60 Hz coil on 50 Hz		15			
Maximum operating rate at ambient temperature ≤ 60 °C	In operating cycles per hour		3600			

(1) Versions with spring terminal connections:

16 A for LC1 D093 and LC1 D123 (20 A possible with 2 x 2.5 mm² in parallel),

25 A for LC1 D183 to LC1 D323 (32 A possible for LC1 D183 connected with 2 x 4 mm² cables in parallel; 40 A possible for LC1 D253 and LC1 D323 connected with 2 x 4 mm² in parallel).

(2) The closing time "C" is measured from the moment the coil supply is switched on to closure 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.

D32	D38	D40A	DT60A	D50A	D65A	DT80A	D80	D95	D115	D150
32	38	40	–	50	65	–	80	95	115	150
50 (1)	50	60	60	80	80	80	125	125	200	200
690	690	690	690	690	690	690	1000	1000	1000	1000
25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400	25...400
50	50	60	60	80	80	80	125	125	200	200
550	550	800	800	900	1000	1000	1100	1100	1260	1660
550	550	800	800	900	1000	1000	1100	1100	1100	1400
430	430	720	720	810	900	900	990	1100	1100	1400
260	310	320	320	400	520	520	640	800	950	1200
138	150	165	165	208	260	260	320	400	550	580
60	60	72	72	84	110	110	135	135	250	250
63	63	80	80	100	125	125	200	200	250	315
63	63	80	80	100	125	125	160	160	200	250

See pages 208 to 211 for aM or gG fuse ratings corresponding to the associated thermal overload relay

2	2	1.5	1.6	1.5	1.5	1.6	0.8	0.8	0.6	0.6
2	3	2.4	–	3.7	6.3	–	5.1	7.2	7.9	13.5
5	5	5.4	5.8	9.6	9.6	10.2	12.5	12.5	24	24

12...690	12...690						24...500			
–	–						0.85...1.1 Uc at 55 °C			
–	–						0.3...0.6 Uc at 55 °C	0.3...0.5 Uc at 55 °C		
0.8...1.1 Uc on 50 Hz and 0.85...1.1 Uc on 60 Hz at 60 °C	0.8...1.1 Uc on 50 Hz and 0.85...1.1 Uc on 60 Hz at 60 °C						0.8...1.1 Uc on 50 Hz and 0.85...1.1 Uc on 60 Hz at 55 °C	0.8...1.15 Uc on 50/60 Hz at 55 °C		
0.3...0.6 Uc at 60 °C	0.3...0.6 Uc at 60 °C						0.3...0.6 Uc at 55 °C	0.3...0.5 Uc at 55 °C		
–	–						200	300		
0.75	0.75						0.75	0.8		
70	160						245	280...350		
–	–						20	22		
0.3	0.3						0.3	0.3		
7	15						26	2...18		
–	–						220	300		
0.75	0.75						0.75	0.8		
70	140						245	280...350		
–	–						22	22		
0.3	0.3						0.3	0.3		
7.5	13						26	2...18		
2...3	4...5						6...10	3...8		
12...22	12...26	12...26	12...26	12...26	12...26	12...26	20...35	20...35	20...50	20...35
4...19	4...19	4...19	4...19	4...19	4...19	4...19	6...20	6...20	6...20	40...75
–	–						10	10	8	–
15	6	6	6	6	6	6	4	4	8	8
3600	3600	3600	3600	3600	3600	3600	3600	3600	2400	1200

Contactor type			LC1 D09...D38 LC1 DT20...DT40	LC1 D40A...D65A LC1 DT60 and DT80	LC1 or LP1 D80 LC1 D95	LC1 D115 and LC1 D150
d.c. control circuit characteristics						
Rated control circuit voltage (Uc)	---		V	12...440	12...440	24...440
Rated insulation voltage	Conforming to IEC 60947-1		V	690		
	Conforming to UL, CSA		V	600		
Control voltage limits	Operation	Standard coil		0.7...1.25 Uc at 60 °C	0.75...1.25 Uc at 60 °C	0.85...1.1 Uc at 55 °C
		Wide range coil		–	–	0.75...1.2 Uc at 55 °C
	Drop-out			0.1...0.25 Uc at 60 °C	0.1...0.3 Uc at 60 °C	0.1...0.3 Uc at 55 °C
Average consumption at 20 °C and at Uc	---		W	Inrush	5.4	19
				Sealed	5.4	7.4
Operating time (1) average at Uc	Closing	"C"	ms	63 ± 15 %	50 ± 15%	95...130
	Opening	"O"	ms	20 ± 20 %	20 ± 20%	20...35
				<i>Note: The arcing time depends on the circuit switched by the poles. For all normal 3-phase applications, the arcing time is 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.</i>		
Time constant (L/R)			ms	28	34	75
Mechanical durability at Uc	In millions of operating cycles			30	10	10
Maximum operating rate at ambient temperature ≤ 60 °C	In operating cycles per hour			3600	3600	3600
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 ---		V	250	–	
Average consumption d.c. at 20 °C and at Uc	Wide range coil (0.7...1.25 Uc)	Inrush	W	2.4	–	
		Sealed	W	2.4	–	
Operating time (1) at Uc and at 20 °C	Closing	"C"	ms	77 ± 15 %	–	
	Opening	"O"	ms	25 ± 20 %	–	
Voltage limits (θ ≤ 60 °C) of the control circuit	Operation			0.8 to 1.25 Uc	–	
	Drop-out			0.1...0.3 Uc	–	
Time constant (L/R)			ms	40	–	
Mechanical durability	In millions of operating cycles			30	–	
Maximum operating rate at ambient temperature ≤ 60 °C	In operating cycles per hour			3600	–	

(1) The 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

Characteristics of auxiliary contacts incorporated in the contactor

Mechanically linked contacts	Conforming to IEC 60947-5-1		Each contactor has 2 N/O and N/C contacts mechanically linked on the same movable contact holder
Mirror contact	Conforming to IEC 60947-4-1		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 (U_e)	Up to	V	690
Rated insulation voltage (U_i)	Conforming to IEC 60947-1	V	690
	Conforming to UL, CSA	V	600
Conventional thermal current (I_{th})	For ambient temperature ≤ 60 °C	A	10
Frequency of the operational current		Hz	25...400
Minimum switching capacity λ = 10⁻⁶	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	~: 140, ---: 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 energisation and on de-energisation)

Operational power of contacts
conforming to IEC 60947-5-1

a.c. supply, categories AC-14 and AC-15
Electrical durability (valid for up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making current (cos φ 0.7) = 10 times the power broken (cos φ 0.4).

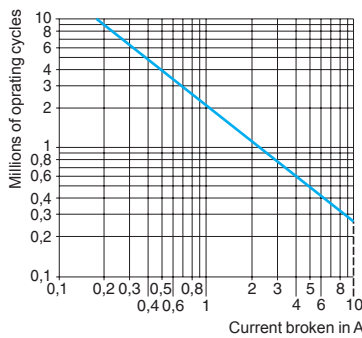
d.c. supply, category DC-13
Electrical durability (valid for up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the load.

1 million operating cycles
3 million operating cycles
10 million operating cycles

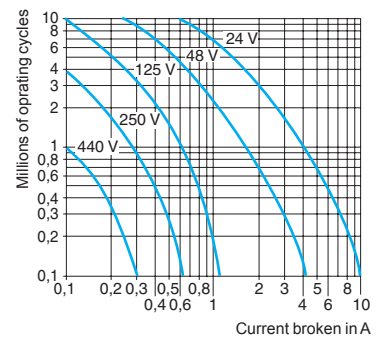
V	24	48	115	230	400	440	600
VA	60	120	280	560	960	1050	1440
VA	16	32	80	160	280	300	420
VA	4	8	20	40	70	80	100

V	24	48	125	250	440
W	96	76	76	76	44
W	48	38	38	32	–
W	14	12	12	–	–

AC-15



DC-13



Contact block type		LAD N or LAD C	LAD T and LAD S	LAD R	LAD 8	
Environment						
Conforming to standards		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...+ 80			
	Operation	°C	- 5...+ 60			
	Permissible for operation at Uc	°C	- 40...+ 70			
Maximum operating altitude	Without derating	m	3000			
Connection by cable	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			
	Spring terminal connections	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 the operational current		Hz	25...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	~: 140; ---: 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 energisation and on de-energisation)			
Overlap time	Guaranteed between N/C and N/O contacts on LAD C22	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...+ 70	- 40...+ 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 148			

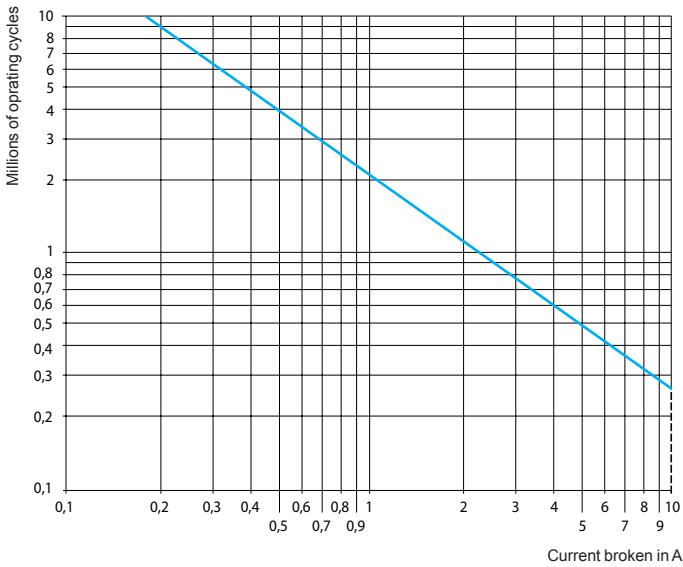
Contact block type			LA1 DX	LA1 DZ		LA1 DY
				Protected	Non protected	
Environment						
Conforming to standards			IEC60947-5-1, VDE0660			
Product certifications			UL, CSA			
Protective treatment	Conforming to IEC 60068		"TH"			
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X			
Ambient air temperature	Storage and operation	°C	- 25...+ 70			
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid conductor 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 (U _e)	Up to	V	50	50	690	24
Rated insulation voltage (U _i)	Conforming to IEC 60947-5-1	V	250	250	690	250
	Conforming to UL, CSA	V	–	–	600	–
Conventional thermal current (I _{th})	For ambient temperature ≤ 40 °C	A	–	–	10	–
Maximum operational current (I _e)		mA	500	500	–	50
Frequency of the operational current		Hz	–	–	25...400	–
Minimum switching capacity	U min	V	3	3	3	3
	I min	mA	0.3	0.3	0.3	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	–	–	~:140; ∞: 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			Silver - Single break	Silver - Single break	–	Gold - Single break with crossed bars

Rated operational power of contacts (conforming to IEC 60947-5-1)

a.c. supply, categories AC-14 and AC-15

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

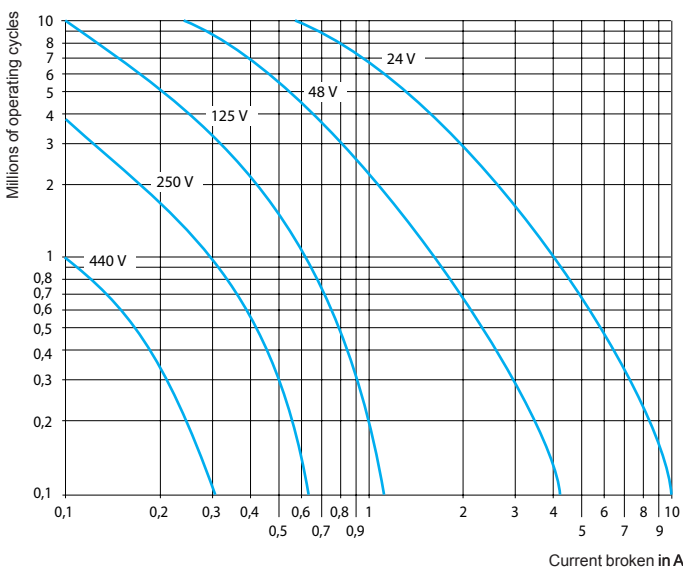
	V	24	48	115	230	400	440	600
1 million operating cycles	VA	60	120	280	560	960	1050	1440
3 million operating cycles	VA	16	32	80	160	280	300	420
10 million operating cycles	VA	4	8	20	40	70	80	100



d.c. supply, category DC-13

Electrical durability (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	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



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...+ 80
	Operation	°C	- 25...+ 55
	Permissible for operation at U _c	°C	- 25...+ 70

Suppressor modules					
Module type		LA4 DA, LAD 4RC, LAD 4RC3	LA4 DB, LAD 4T, LAD 4T3	LA4 DC, LAD 4D3	LA4 DE, LAD 4V, LAD 4V3
Type of protection		RC circuit	Bidirectional peak limiting diode	Diode	Varistor
Rated control circuit voltage (U _c)	V	~ 24...415	~ or --- 24...440	--- 12...250	~ or --- 24...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 (1)					
Mechanical latch block type		LAD 6K10	LA6 DK20		
For use on contactor		LC1 D09...D65A DT20...DT80A	LC1 D80...D150 LP1 D80 and LC1 D115		
Product certifications		UL, CSA	UL, CSA		
Rated insulation voltage	Conforming to IEC 60947-5-1	V	690	690	
Rated control circuit voltage	~ 50/60 Hz and ---	V	24...415	24...415	
Power required	For unlatching	~	VA	25	
		---	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	

(1) Unlatching can be manually operated or electrically controlled (pulsed).

The LA6 DK or LAD 6K latch coil and the LC1 D operating coil must not be energised simultaneously.

The duration of the LA6 DK or LAD 6K and LC1 D control signals must be ≥ 100 ms.

Module type		LA4 DT (On-delay)	
Environment			
Conforming to standards		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...+80
	Operation	°C	-25...+55
	For operation at U_c	°C	-25...+70
Rated insulation voltage (U_i)	Conforming to IEC 60947-1	V	250
Cabling	Phillips n° 2 and Ø 6 mm Flexible or solid conductor with or without cable end	mm²	Min: 1 x 1; max: 2 x 2.5

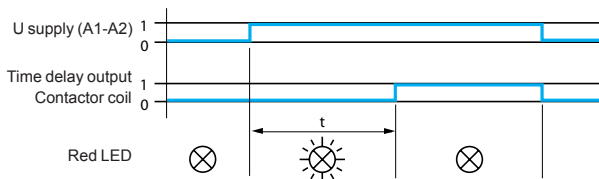
Control circuit characteristics			
Built-in protection	Of the input		By varistor
	Contactors coil suppression		By varistor
Rated control circuit voltage (U_c)		V	~ or --- : 24...250
Permissible variation			0.8...1.1 U_c
Type of control			By mechanical contact only

Timing characteristics			
Timing ranges		s	0.1...2; 1.5...30; 25...500
Repeat accuracy	0...40 °C		± 3 % (10 ms minimum)
Reset time	During time delay period	ms	150
	After time delay period	ms	50
Immunity to microbreaks	During time delay period	ms	10
	After time delay period	ms	2
Minimum control pulse duration		ms	-
Time delay signalling	By LED		Illuminates during time delay period

Switching characteristics (solid state type)			
Maximum power dissipated		W	2
Leakage current		mA	< 5
Residual voltage		V	3.3
Overvoltage protection			3 kV; 0.5 joule
Electrical durability	In millions of operating cycles		30

Function diagram

Electronic on-delay timer LA4 DT



Environment						
Conforming to standards			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...+ 80			
	Operation	°C	- 25...+ 55			
	Permissible for operation at U _c	°C	- 25...+ 70			
Other characteristics						
Module type			LA4 DFB With relay	LA4 DWB Solid state		
Conventional thermal current (I _{th})	For ambient temperature ≤ 50 °C	A	8			
Rated insulation voltage	Conforming to IEC 60947-5-1	V	250			
Rated operational voltage	Conforming to IEC 60947-5-1	V	250			
Indication of input state			By integral LED which illuminates when the contactor coil is energised			
Input signals	Control voltage (E1-E2)	V	~ 24	~ 24		
	Permissible variation	V	17...30	5...30		
	Current consumption at 20 °C	mA	25	8.5 for 5 V 15 for 24 V		
	State "0" guaranteed for U	V	< 2.4	< 2.4		
	I	mA	< 2	< 2		
State "1" guaranteed for U	V	17	5			
Built-in protection	Against reversed polarity		By diode	By diode		
	Of the input		By diode	By diode		
Electrical durability at 220 A/240 V	In millions of operating cycles		10	20		
Maximum immunity to microbreaks		ms	4	1		
Power dissipated	At 20 °C	W	0.6	0.4		
Direct mounting on contactor	With coil	~ 24...250 V	LC1 D80...D150	-		
		~ 100...250 V	-	LC1 D80...D115		
		~ 380...415 V	-	-		
Mounting with cabling adapter LAD 4BB	With coil	~ 24...250 V	LC1 D09...D38, LC1 DT20...DT40	LC1 D09...D38, LC1 DT20...DT40		
		~ 380...415 V	-	-		
Mounting with cabling adapter LAD 4BB3	With coil	~ 24...250 V	LC1 D40A...D65A	LC1 D40A...D65A		
		~ 380...415 V	LC1 D40A...D65A	LC1 D40A...D65A		
Total operating time at U _c (of the contactor)	The 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.					
			LC1 D09...D38, LC1 DT20...DT40	LC1 D40A...D65A	LC1 D80 and D95	
	With LA4 DFB	"C"	ms	20...30	28...34	28...43
		"O"	ms	16...24	20...24	18...32
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			

TeSys contactors

TeSys D contactors for motor control
up to 75 kW at 400 V, in category AC-3
For connection by screw clamp terminals and lugs



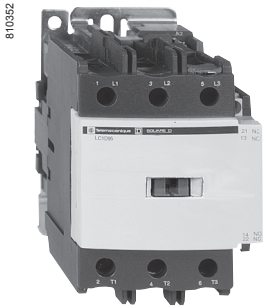
LC1 D09●●



LC1 D25●●



LC1 D65A●●



LC1 D95●●



LC1 D115●●

3-pole contactors										Weight (3)	
Standard power ratings of 3-phase motors 50-60 Hz in category AC-3 (0 ≤ 60 °C)							Rated oper- ational current in AC-3 440 V up to	Instan- taneous auxiliary contacts	Basic reference, to be completed by adding the control voltage code (2)		
220 V	380 V	415 V	440 V	500 V	660 V	1000 V				Fixing (1)	
230 V	400 V			690 V						kg	
Connection by screw clamp terminals											
2.2	4	4	4	5.5	5.5	—	9	1	1	LC1 D09●●	0.320
3	5.5	5.5	5.5	7.5	7.5	—	12	1	1	LC1 D12●●	0.325
4	7.5	9	9	10	10	—	18	1	1	LC1 D18●●	0.330
5.5	11	11	11	15	15	—	25	1	1	LC1 D25●●	0.370
7.5	15	15	15	18.5	18.5	—	32	1	1	LC1 D32●●	0.375
9	18.5	18.5	18.5	18.5	18.5	—	38	1	1	LC1 D38●●	0.380
Power connections by EverLink® BTR screw connectors (4) and control by spring terminals											
11	18.5	22	22	22	30	—	40	1	1	LC1 D40A●● (5)	0.850
15	22	25	30	30	33	—	50	1	1	LC1 D50A●● (5)	0.855
18.5	30	30	30	37	37	—	65	1	1	LC1 D65A●● (5)	0.860
Connection by screw clamp terminals or connectors											
22	37	45	45	55	45	45	80	1	1	LC1 D80●●	1.590
25	45	45	45	55	45	45	95	1	1	LC1 D95●●	1.610
30	55	59	59	75	80	65	115	1	1	LC1 D115●●	2.500
40	75	80	80	90	100	75	150	1	1	LC1 D150●●	2.500

Connection by lugs or bars
In the references selected above, insert a figure 6 before the voltage code.
Example: LC1 D09●● becomes LC1 D096●●.

Separate components
Auxiliary contact blocks and add-on modules: see pages 168 to 175.

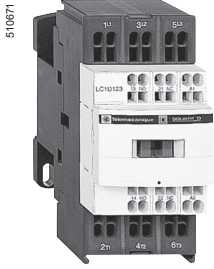
(1) LC1 D09 to D65A: clip-on mounting on 35 mm rail AM1 DP or screw fixing.
LC1 D80 to D95: clip-on mounting on 35 mm rail AM1 DP or 75 mm rail AM1 DL or screw fixing.
LC1 D80 to D95: clip-on mounting on 75 mm rail AM1 DL or screw fixing.
LC1 D115 and D150: clip-on mounting on 2 x 35 mm rails AM1 DP or screw fixing.
(2) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

a.c. supply														
Volts	24	42	48	110	115	220	230	240	380	400	415	440	500	
LC1 D09...D150 (D115 and D150 coils with built-in suppression as standard, by bi-directional peak limiting diode).														
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	S7	
LC1 D80...D115														
50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5	
60 Hz	B6	—	E6	F6	—	M6	—	U6	Q6	—	—	R6	—	
d.c. supply														
Volts	12	24	36	48	60	72	110	125	220	250	440			
LC1 D09...D65A (coils with integral suppression device fitted as standard)														
U 0.75...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD			
LC1 D80...D95														
U 0.85...1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD			
U 0.75...1.2 Uc	JW	BW	CW	EW	—	SW	FW	—	MW	—	—			
LC1 D115 and D150 (coils with integral suppression device fitted as standard)														
U 0.75...1.2 Uc	—	BD	—	ED	ND	SD	FD	GD	MD	UD	RD			
Low consumption														
Volts	5	12	20	24	48	110	220	250						
LC1 D09...D38 (coils with integral suppression device fitted as standard)														
U 0.8...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL						

For other voltages between 5 and 690 V, see pages 176 to 181.
(3) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg from LC1 D09 to D38, 0.075 kg from LC1 D40A to D65A and 1 kg for LC1 D80 and D95.
(4) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference LAD ALLEN4, see page 175).
(5) For low consumption kit LA4 DBL (see page 173).

TeSys contactors

TeSys D contactors for motor control
up to 30 kW at 400 V, in category AC-3
For connection by spring terminals



LC1 D123●●



LC1 D65A3●●

3-pole contactors								Weight (3)			
Standard power ratings of 3-phase motors 50-60 Hz in category AC-3 (0 ≤ 60 °C)								Rated operational current in AC-3 440 V up to	Instan- taneous auxiliary contacts	Basic reference, to be completed by adding the control voltage code (2)	Weight (3)
220 V	380 V	415 V	440 V	500 V	660 V	1000 V	kg				
230 V	400 V				690 V						
kW	kW	kW	kW	kW	kW	kW	A				kg
Power and control connections by spring terminals											
2.2	4	4	4	5.5	5.5		9	1	1	LC1 D093●●	0.320
3	5.5	5.5	5.5	7.5	7.5		12	1	1	LC1 D123●●	0.325
4	7.5	9	9	10	10		18	1	1	LC1 D183●●	0.330
5.5	11	11	11	15	15		25	1	1	LC1 D253●●	0.370
7.5	15	15	15	18.5	18.5		32 (4)	1	1	LC1 D323●●	0.375

Power connections by EverLink® BTR screw connectors (5) and control by spring terminals											
11	18.5	22	22	22	30		40	1	1	LC1 D40A3●● (6)	0.850
15	22	25	30	30	33		50	1	1	LC1 D50A3●● (6)	0.855
18.5	30	30	30	37	37		65	1	1	LC1 D65A3●● (6)	0.860

Connection by Faston connectors
These contactors are fitted with Faston connectors: 2 x 6.35 mm on the power poles and 1 x 6.35 mm on the coil and auxiliary terminals.
For contactors LC1 D09 and LC1 D12 only, replace the figure 3 with a 9 in the references selected above.
Example: LC1 D093●● becomes LC1 D099●●.

Separate components
Auxiliary contact blocks and add-on modules: see pages 168 to 175.

(1) LC1 D09 to D32: clip-on mounting on 35 mm rail AM1 DP or screw fixing.
(2) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

a.c. supply													
Volts	24	42	48	110	115	220	230	240	380	400	415	440	
LC1 D09...D65A													
50/60 Hz		B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7
d.c. supply													
Volts	12	24	36	48	60	72	110	125	220	250	440		
LC1 D09...D65A (coils with built-in suppression as standard, by bi-directional peak limiting diode)													
U 0.75...1.25 Uc		JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD	
Low consumption													
Volts ---	5	12	20	24	48	110	220	250					
LC1 D09...D32 (coils with integral suppression device fitted as standard)													
U 0.8...1.25 Uc		AL	JL	ZL	BL	EL	FL	ML	UL				

For other voltages between 5 and 690 V, see pages 176 to 181.
(3) The weights indicated are for contactors with a.c. control circuit.
For d.c. or low consumption control circuit, add 0.160 kg from LC1 D09 to D32 and 0.075 kg from LC1 D40A to D65A.
(4) Must be wired with 2 x 4 mm² cables in parallel on the upstream side. On the downstream side, outgoing terminal block LAD 331 may be used (Quickfit technology, see page 227). When wired with a single cable, the product is limited to 25 A (11 kW/400 V motors).
(5) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference LAD ALLEN4, see page 175).
(6) For low consumption kit LA4 DBL (see page 173).

TeSys contactors

TeSys D, 3-pole contactors

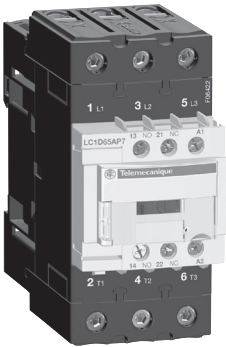
for control in category AC-1, from 25 to 200 A

810356



LC1 D09●●

108896



LC1 D65A●●

3-pole contactors

Non inductive loads maximum current ($\theta \leq 60^\circ\text{C}$) utilisation category AC-1	Number of poles	Instan- taneous auxiliary contacts	Basic reference, to be completed by adding the control voltage code (1)	Weight (3)
			Fixing (2)	

A					kg
Connection by screw clamp terminals					
25	3	1	1	LC1 D09●● or LC1 D12●●	0.320 0.325
32	3	1	1	LC1 D18●●	0.330
40	3	1	1	LC1 D25●●	0.370
50	3	1	1	LC1 D32●● or LC1 D38●●	0.375 0.380

Connection by EverLink®, BTR screw connectors (4)					
60	3	1	1	LC1 D40A●● (7)	0.850
80	3	1	1	LC1 D50A●● (7) or LC1 D65A●● (5) (7)	0.855 0.860

Connection by screw clamp terminals or connectors					
125	3	1	1	LC1 D80●● or LC1 D95●● (5)	1.590 1.610
200	3	1	1	LC1 D115●● or LC1 D150●● (6)	2.500 2.500

3-pole contactors for connection by lugs

In the references selected above, insert a figure 6 before the voltage code.
Example: LC1 D09●● becomes LC1 D096●●.

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

a.c. supply													
Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
LC1 D09...D150 (coils D115 and D150 fitted with integral suppression device as standard)													
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	-
LC1 D80...D150													
50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
60 Hz	B6	-	E6	F6	-	M6	-	U6	Q6	-	-	R6	-
d.c. supply													
Volts	12	24	36	48	60	72	110	125	220	250	440		
LC1 D09...D65A (coils with integral suppression device fitted as standard)													
U 0.7...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
LC1 or LP1 D80 and D95													
U 0.85...1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
U 0.75...1.2 Uc	JW	BW	CW	EW	-	SW	FW	-	MW	-	-		
LC1 D115 and D150 (coils with integral suppression device fitted as standard)													
U 0.75...1.2 Uc	-	BD	-	ED	ND	SD	FD	GD	MD	UD	RD		
Low consumption													
Volts	5	12	20	24	48	110	220	250					
LC1 D09...D38 (coils with integral suppression device fitted as standard)													
U 0.8...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL					

For other voltages between 5 and 690 V, see pages 176 to 181.

(2) LC1 D09 to D65A: clip-on mounting on 35 mm rail AM1 DP or screw fixing.

LC1 D80 and D95: clip-on mounting on 35 mm rail AM1 DP or 75 mm rail AM1 DL or screw fixing.

LC1 or LP1 D80 to D95: clip-on mounting on 75 mm rail AM1 DL or screw fixing.

LC1 D115 and D150: clip-on mounting on 2 x 35 mm rails AM1 DP or screw fixing.

(3) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg from LC1 D09 to D38, 0.075 kg from LC1 D40 to D65 and 1 kg for LC1 D80 and D95.

(4) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference LAD ALLEN4, see page 175).

(5) Selection according to the number of operating cycles, see AC-1 curve, page 130.

(6) 32 A with 2 x 4 mm² cables connected in parallel.

(7) For low consumption kit LA4 DBL (see page 173).

TeSys contactors

TeSys D, 3-pole contactors

For control in category AC-1, 25 to 200 A



LC1 D123



LC1 D65A3

3-pole contactors for connection by Faston connectors

These contactors are fitted with Faston connectors: 2 x 6.35 mm on the power poles and 1 x 6.35 mm on the coil terminals. For contactors LC1 D09 and LC1 D12 only, in the references selected from the previous page, insert a figure 9 before the voltage code. Example: **LC1 D09** becomes **LC1 D099**.

3-pole contactors

Non inductive loads maximum current (θ ≤ 60 °C) utilisation category AC-1	Number of poles	Instantaneous auxiliary contacts		Basic reference, to be completed by adding the control voltage code (1)	Weight (3)
				Fixing (2)	
A					kg
Connection by spring terminals					
16	3	1	1	LC1 D093 (4) or LC1 D123 (4)	0.320 0.325
25	3	1	1	LC1 D183 (5) or LC1 D253 (6) or LC1 D323 (6)	0.335 0.325 0.325

Power connections by EverLink® BTR screw connectors and control by spring terminals

60	3	1	1	LC1 D40A3 (8)	0.850
80	3	1	1	LC1 D50A3 (7) (8) or LC1 D65A3 (7) (8)	0.855 0.860

Separate components

Auxiliary contact blocks and add-on modules: see pages 168 to 175.

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

a.c. supply													
Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
LC1 D09...D150 (coils D115 and D150 fitted with integral suppression device as standard)													
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	-
LC1 D80...D115													
50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
60 Hz	B6	-	E6	F6	-	M6	-	U6	Q6	-	-	R6	-
d.c. supply													
Volts	12	24	36	48	60	72	110	125	220	250	440		
LC1 D09...D65A (coils with integral suppression device fitted as standard)													
U 0.7...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
LC1 or LP1 D80 and LC1 D95													
U 0.85...1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
U 0.75...1.2 Uc	JW	BW	CW	EW	-	SW	FW	-	MW	-	-		
LC1 D115 and D150 (coils with integral suppression device fitted as standard)													
U 0.75...1.2 Uc	-	BD	-	ED	ND	SD	FD	GD	MD	UD	RD		
Low consumption													
Volts	5	12	20	24	48	110	220	250					
LC1 D09...D38 (coils with integral suppression device fitted as standard)													
U 0.8...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL					

For other voltages between 5 and 690 V, see pages 176 to 181.

(2) **LC1 D09 to D65A**: clip-on mounting on 35 mm rail **AM1 DP** or screw fixing.

LC1 D80 and D95: clip-on mounting on 35 mm rail **AM1 DP** or 75 mm rail **AM1 DL** or screw fixing.

LC1 or LP1 D80 and D95: clip-on mounting on 75 mm rail **AM1 DL** or screw fixing.

LC1 D115 and D150: clip-on mounting on 2 x 35 mm rails **AM1 DP** or screw fixing.

(3) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg from **LC1 D09 to D38** and 0.075 kg from **LC1 D40A to D65A**.

(4) 20 A with 2 x 2.5 mm² cables connected in parallel.

(5) 32 A with 2 x 4 mm² cables connected in parallel.

(6) 40 A with 2 x 4 mm² cables connected in parallel.

(7) Selection according to the number of operating cycles, see AC-1 curve, page 130.

(8) For low consumption kit **LA4 DBL** (see page 173).

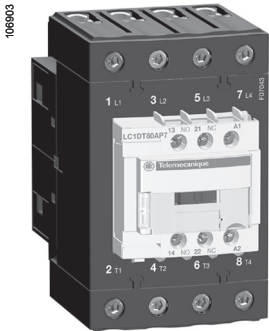
TeSys contactors

TeSys D, 4-pole contactors

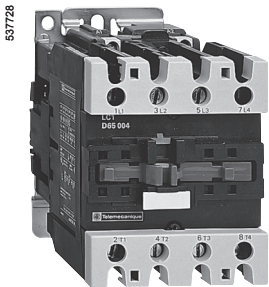
For control in category AC-1, 25 to 200 A



LC1 DT20●●



LC1 DT80A●●



LC1 D65008●●

4-pole contactors for connection by screw clamp terminals or connectors

Non inductive loads maximum current ($\theta \leq 60^\circ\text{C}$) utilisation category AC-1	Number of poles	Instantaneous auxiliary contacts	Basic reference, to be completed by adding the control voltage code (1)	Weight (3)
			Fixing (2)	

A					kg
Connection by screw clamp terminals					
20	4	–	1	1	LC1 DT20●● 0.365
	2	2	1	1	LC1 D098●● 0.365
25	4	–	1	1	LC1 DT25●● 0.365
	2	2	1	1	LC1 D128●● 0.365
32	4	–	1	1	LC1 DT32●● 0.425
	2	2	1	1	LC1 D188●● 0.425
40	4	–	1	1	LC1 DT40●● 0.425
	2	2	1	1	LC1 D258●● 0.425

Connection by EverLink®, BTR screw connectors					
60	4	–	1	1	LC1 DT60A●● 1.090
80	4	–	1	1	LC1 DT80A●● 1.150

Connection by screw clamp terminals or connectors					
60	2	2	–	–	LC1 D40008●● 1.440
					or LP1 D40008●● 2.210
80	2	2	–	–	LC1 D65008●● 1.450
					or LP1 D65008●● 2.220
125	4	–	–	–	LC1 D80004●● 1.760
					or LP1 D80004●● 2.685
	2	2	–	–	LC1 D80008●● 1.840
					or LP1 D80008●● 2.910
200	4	–	–	–	LC1 D115004●● 2.860

4-pole contactors for connection by lugs or bars

In the references selected above, insert a figure 6 before the voltage code.

Example: LC1 DT20●● becomes LC1 DT206●●.

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

a.c. supply													
Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
LC1 D09...D150 and LC1 DT20...DT80A (coils D115 and D150 fitted with integral suppression device as standard)													
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	–
LC1 D80...D115													
50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
60 Hz	B6	–	E6	F6	–	M6	–	U6	Q6	–	–	R6	–
d.c. supply													
Volts	12	24	36	48	60	72	110	125	220	250	440		
LC1 D09...D65A and LC1 DT20...DT80A (coils with integral suppression device fitted as standard)													
U 0.7...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
LC1 or LP1 D80													
U 0.85...1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
U 0.75...1.2 Uc	JW	BW	CW	EW	–	SW	FW	–	MW	–	–		
LC1 D115 (coils with integral suppression device fitted as standard)													
U 0.75...1.2 Uc	–	BD	–	ED	ND	SD	FD	GD	MD	UD	RD		
Low consumption													
Volts	5	12	20	24	48	110	220	250					
LC1 D09...D38 and LC1 DT20...DT40 (coils with integral suppression device fitted as standard)													
U 0.8...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL					

For other voltages between 5 and 690 V, see pages 176 to 181.

(2) LC1 D09 to D38 and LC1 DT20 to DT80A: clip-on mounting on 35 mm rail AM1 DP or screw fixing.

LC1 D80 ~: clip-on mounting on 35 mm rail AM1 DP or 75 mm rail AM1 DL or screw fixing.

LC1 or LP1 D80 ---: clip-on mounting on 75 mm rail AM1 DL or screw fixing.



LC1 D115 and D150: clip-on mounting on 2 x 35 mm rails AM1 DP or screw fixing.

(3) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg from LC1 D09 to D38, 0.075 kg from LC1 DT60A and D80A and 1 kg for LC1 D80.

TeSys contactors

TeSys D, 4-pole contactors

For control in category AC-1, 25 to 200 A

4-pole contactors						
Non inductive loads maximum current ($\theta \leq 60^\circ\text{C}$) utilisation category AC-1	Number of poles	Instan- taneous auxiliary contacts		Basic reference, to be completed by adding the voltage code (1)	Weight (3)	
						Fixing (2)
A					kg	
Connection by spring terminals						
20	4	–	1	1	LC1 DT203●●	0.380
	2	2	1	1	LC1 D0983●●	0.380
25	4	–	1	1	LC1 DT253●●	0.380
	2	2	1	1	LC1 D1283●●	0.380
32	4	–	1	1	LC1 DT323●●	0.425
	2	2	1	1	LC1 D1883●●	0.425
40	4	–	1	1	LC1 DT403●●	0.425
	2	2	1	1	LC1 D2583●●	0.425
Connection by by EverLink®, BTR screw connectors and control circuit by spring terminals						
60	4	–	1	1	LC1 DT60A3●●	1.090
80	4	–	1	1	LC1 DT80A3●●	1.150

Separate components

Auxiliary contact blocks and add-on modules: see pages 168 to 175.

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

a.c. supply													
Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
LC1 D09...D25 and LC1 DT20...DT80A (coils with integral suppression device fitted as standard)													
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	–
d.c. supply													
Volts	12	24	36	48	60	72	110	125	220	250	440		
LC1 D09...D25 and LC1 DT20...DT80A (coils with integral suppression device fitted as standard)													
U 0.7...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
Low consumption													
Volts $\overline{\text{--}}$	5	12	20	24	48	110	220	250					
LC1 D09...D25 and LC1 DT20...DT40 (coils with integral suppression device fitted as standard)													
U 0.8...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL					

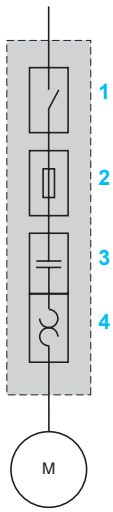
For other voltages between 5 and 690 V, see pages 176 to 181.

(2) LC1 D09 to D38 and LC1 DT20 to DT80A: clip-on mounting on 35 mm \sqcap rail AM1DP or screw fixing.

(3) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg from LC1 D09 to D38, 0.075 kg for LC1 DT60A and DT80A.

TeSys contactors

for the North American market,
conforming to UL and CSA



- 1 Motor Disconnect (Disconnect switch)
- 2 Motor Branch Circuit Protection (Short-circuit protection)
- 3 Motor Controller (Contactor)
- 4 Motor Overload Protection (Thermal overload relay)

Starters for the North American market

In recent years, the North American market has started to harmonise UL, CSA and ANCE standards, as well as the industrial installation codes provided by national regulations (NEC for the United States, CEC for Canada and MEC for Mexico). (1)

Major improvements, carried out by the Canena (2) are aimed at harmonising product requirements based on IEC (3) standards.

However, the North American codes use specific terminology for defining the functions of a starter.

These functions can be fulfilled by standard IEC products, accompanied by appropriate certifications.

Combination Starters

Combination Starters are the most common type of packaged motor starter. They are called "Combination" because of their structure and their combined functions.

The figure opposite shows the four combined functions that constitute a complete motor starter circuit, defined as a "Motor branch circuit" by the NEC (US National Electric Code) in article 430. Standard UL508 currently gives different types of combination starter that meet the requirements of a "Motor branch circuit".

Type E, called "**self-protected combination starter**", covers all these functions and can be controlled manually (thermal-magnetic circuit-breaker) or remotely (starter-controller). Type E starters withstand faults within their declared nominal rating without sustaining damage, after which they can be put back into service. In addition, they can withstand more severe short-circuit and durability performance tests without welding or excessive wear of the contact tips.

Type F, called "**Combination motor starter**", consists of a type E manual starter (thermal-magnetic circuit-breaker) combined with a contactor. These starters are evaluated by means of basic short-circuit tests, but are not considered as "self-protected".

For this combination, the type E starter must be marked "Combination Motor Controller when used with ...", followed by the reference of the load side contactor.

(1) **UL**: Underwriters Laboratories, **CSA**: Canadian Standards Association, **ACNE**: Association of Standardization and Certification, **NEC**: National Electric Code, **CEC**: Canadian Electrical Code, **MEC**: Mexican Electrical Code.
 (2) **Canena**: Council for Harmonization of Electrotechnical Standardization of North America.
 (3) **IEC**: International Electrotechnical Commission.

Control panels

To help users properly coordinate their motor control equipment with their distribution system in the event of a fault, article 409 of the 2005 NEC requires panel builders to list the short-circuit withstand rating of their motor control panels.

According to standard UL508A, manufacturers must use the short-circuit withstand value of the lowest rated device as the nominal withstand rating of the panel, unless the devices have been tested together for a higher coordinated rating.

The minimum **“short-circuit current rating”** (SCCR), on motor control components for horsepower ratings of 50 hp or below is 5 000 A.

Using a **type E** or **type F** combination starter eliminates the coordination problems of using individual components for the “motor branch circuit protection”, “motor controller” and “motor overload protection” functions.

The panel builder uses the declared short-circuit current rating for the combination starter. This value is generally higher than 5 000 A.

This makes it easier to list the short-circuit current ratings and to check the compatibility of a UL508A motor control panel within a given distribution system.

TeSys contactors

for the North American market,
conforming to UL and CSA

Group protection

Article 430.53 of the NEC allows a single short-circuit protection device to be used for more than one motor circuit if the components used are marked and listed for such use.

Components suitable for use in group protection, known as “**motor group installations**”, can be marked in one of the following two ways:

Case n° 1

The contactor and the motor overload relay are both listed as suitable for group installation.

An inverse time circuit-breaker can be used as the short-circuit protection device if it is also listed as suitable for group installation.

The panel builder must therefore make sure that the short-circuit protection device selected (fuses or inverse time circuit-breaker) does not exceed the value allowed by article 430.40 for the smallest overload relay used in the circuit.

Once these conditions have been met, the panel builder can reduce the size of the conductor connecting the short-circuit protection device to the individual motor contactor/overload relay, to one third of the size of the upstream circuit conductor supplying the protection device.

The panel builder must limit the length of the motor starter conductor (connecting the short-circuit protection device to the motor contactor/overload relay) to a maximum of 7.6 m (25 feet).

Case n° 2

The motor contactor and overload relay are listed as suitable for “**tap conductor protection**” in group installations.

This category allows the panel designer to reduce the size of the conductor connecting the short-circuit protection device to the individual motor contactor/overload relay, to one tenth of the size of the upstream circuit conductor supplying the protection device.

The designer must limit the length of this conductor to a maximum of 3.05 m (10 feet).

In both cases, the supply circuits must not be less than 125 % of the connected motor FLA (Full Load Amps) rating.

For panel builders, using **type F** combination starters in group installations simplifies group motor considerations.

Each starter is a fully coordinated motor branch circuit.

The panel builder follows the same NEC requirements for sizing the supply conductors as those required for single motor branch circuits.

The size of the supply conductors can be reduced in accordance with the specifications of article 430.28.

This allows the same flexibility in conductor sizing as that offered in article 430.53 (D), without a requirement to check the short-circuit protection rating marked on the components and the overload relay limit.

A UL508A panel does not need a short-circuit protection device when each motor starter installed is a **type F**.

The upstream short-circuit protection device supplying the starter protects the panel. The panel builder only has to consider the panel/enclosure disconnect requirements specified by the NEC or local codes.

TeSys contactors

for the North American market,
conforming to UL and CSA standards, 20 to 200

534278



LC1 D09●●

510687



LC1 D25●●

106896



LC1 D65A●●

534280



LC1 D95●●

Contactors

Standard power ratings of motors 50/60 Hz						Size	Associated cable type 75 °C-Cu	Continuous current	Type of contactor required Basic reference, to be completed (1) Fixing, connection (2)
Single-phase 1 Ø		3-phase 3 Ø							
115 V	230 V	200 V	230 V	460 V	575 V				
	240 V	208 V	240 V	480 V	600 V				
HP	HP	HP	HP	HP	HP		A		

Connection by screw clamp terminals

0.5	1	2	2	5	7.5	00	AWG10	20	LC1 D09●●
1	2	3	3	7.5	10	0	AWG10	25	LC1 D12●●
1	3	5	5	10	15	0	AWG8	32	LC1 D18●●
2	3	5	7.5	15	20	1	AWG6	40	LC1 D25●●
2	5	7.5	10	20	30	1	AWG6	50	LC1 D32●●

Power connections by EverLink® BTR screw connectors (4) and control by spring terminals

3	5	10	10	30	30	2	AWG3	60	LC1 D40A●●
3	7.5	15	15	40	40	2	AWG3	70	LC1 D50A●●
5	10	20	20	40	50	2	AWG3	80	LC1 D65A●●

Connection by screw clamp terminals or connectors

7.5	15	20	25	60	60	2	AWG2	110	LC1 D80●●
7.5	15	20	25	60	60	2	AWG2	110	LC1 D95●●
–	–	30	40	75	100	3	AWG2/0	175	LC1 D115●●
–	–	40	50	100	125	4	AWG3/0	200	LC1 D150●●

Applications with High-Fault Short-Circuit ratings

For contactors **LC1 D40A** to **LC1 D65A**, the High-Fault Short-Circuit ratings are 50 kA at 480 V and 25 kA at 600 V. If these contactors are used, stick the **LAD UL1** warning sticker on the enclosure door..

Description	Language	Sold in lots of	Reference
Warning sticker	English, Spanish, French	10	LAD UL1

Application example

For a 15 HP-230 V motor

Select a contactor type **LC1 D50A**.

Information: the contactor rating selected corresponds to "size 2", the associated cable is type AWG3 75 °C-Cu.

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

a.c. supply

Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
-------	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

LC1 D09...D150 (D115 and D150 coils with integral suppression device fitted as standard)

50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	S7
----------	----	----	----	----	-----	----	----	----	----	----	----	----	----

LC1 D80...D115

50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
-------	----	----	----	----	-----	----	----	----	----	----	----	----	----

60 Hz	B6	–	E6	F6	–	M6	–	U6	Q6	–	–	R6	–
-------	----	---	----	----	---	----	---	----	----	---	---	----	---

d.c. supply

Volts	12	24	36	48	60	72	110	125	220	250	440
-------	----	----	----	----	----	----	-----	-----	-----	-----	-----

LC1 D09...D65A (coils with integral suppression device fitted as standard)

U 0.7...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD
-----------------	----	----	----	----	----	----	----	----	----	----	----

LC1 D80 and D95

U 0.85...1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD
-----------------	----	----	----	----	----	----	----	----	----	----	----

U 0.75...1.2 Uc	JW	BW	CW	EW	–	SW	FW	–	MW	–	–
-----------------	----	----	----	----	---	----	----	---	----	---	---

LC1 D115 and D150 (coils with integral suppression device fitted as standard)

U 0.75...1.2 Uc	–	BD	–	ED	ND	SD	FD	GD	MD	UD	RD
-----------------	---	----	---	----	----	----	----	----	----	----	----

Low consumption

Volts ---	5	12	20	24	48	110	220	250
-----------	---	----	----	----	----	-----	-----	-----

LC1 D09...D38 (coils with integral suppression device fitted as standard)

U 0.7...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL
-----------------	----	----	----	----	----	----	----	----

(2) **LC1 D09** to **D65A**: clip-on mounting on 35 mm L rail **AM1 DP** or screw fixing.

LC1 D80 and **LC1 D95**: clip-on mounting on 35 mm L rail **AM1 DP** or 75 mm L rail **AM1 DL** or screw fixing.

LC1 D115 and **D150**: clip-on mounting on 2 x 35 mm L rails **AM1 DP** or screw fixing.

TeSys contactors

TeSys D, 3-pole reversing contactors for motor control up to 75 kW at 400 V, in category AC-3
Horizontally mounted, pre-assembled

810389



LC2 D12●●

106905



LC2 D65A●●

113119



LC2 D115●●

3-pole reversing contactors for connection by screw clamp terminals

Pre-wired power connections.

Standard power ratings of 3-phase motors 50-60 Hz in category AC-3 (θ ≤ 60 °C)							Rated operational current in AC-3 440 V up to	Instantaneous auxiliary contacts per contactor	Contactors supplied with coil		Weight (3)
									Basic reference, to be completed by adding the control voltage code (2)		
220 V	380 V	415 V	440 V	500 V	660 V	1000 V		Fixing (1)			
230 V	400 V				690 V						

kW	kW	kW	kW	kW	kW	kW	kW	A				kg
With mechanical interlock, without electrical interlocking, for connection by screw clamp terminals or connectors												
2.2	4	4	4	5.5	5.5	–	–	9	1	1	LC2 D09●● (4)	0.687
3	5.5	5.5	5.5	7.5	7.5	–	–	12	1	1	LC2 D12●● (4)	0.697
4	7.5	9	9	10	10	–	–	18	1	1	LC2 D18●● (4)	0.707
5.5	11	11	11	15	15	–	–	25	1	1	LC2 D25●● (4)	0.787
7.5	15	15	15	18.5	18.5	–	–	32	1	1	LC2 D32●● (4)	0.797
9	18.5	18.5	18.5	18.5	18.5	–	–	38	1	1	LC2 D38●● (4)	0.807
11	18.5	22	22	22	30	–	–	40	1	1	LC2 D40A●● (5)	1.870
15	22	25	30	30	33	–	–	50	1	1	LC2 D50A●● (5)	1.880
18.5	30	30	30	37	37	–	–	65	1	1	LC2 D65A●● (5)	1.890
22	37	45	45	55	45	–	–	80	1	1	LC2 D80●●	3.200
25	45	45	45	55	45	–	–	95	1	1	LC2 D95●●	3.200

With mechanical interlock and electrical interlocking, for connection by screw clamp terminals or connectors												
30	55	59	59	75	80	65	–	115	1	1	LC2 D115●●	6.350
40	75	80	80	90	100	75	–	150	1	1	LC2 D150●●	6.400

Connection by lugs or bars

For reversing contactors LC2 D09 to LC2 D38, LC2 D115 and LC2 D150, in the references selected above, insert a figure 6 before the voltage code. Example: **LC2 D09●●** becomes **LC2 D096●●**.

To build a 40 to 65 A reversing contactor, for connection by lugs, order 2 contactors **LC1 D●●A6** and mechanical interlock **LAD 4CM** (see page 166).

Component parts

Auxiliary contact blocks and add-on modules: see pages 168 to 175.

- (1) LC2 D09 to D38: clip-on mounting on 35 mm rail **AM1 DP** or screw fixing.
LC2 D40 to D95: clip-on mounting on 35 mm rail **AM1 DP** or 75 mm rail **AM1 DL** or screw fixing.
LC2 D115 and D150: clip-on mounting on 35 mm rail **AM1 DP** or screw fixing.
- (2) Standard control circuit voltages (for other voltages between 16 and 690 V, please consult your Regional Sales Office):

a.c. supply														
Volts	24	42	48	110	115	220	230	240	380	400	415	440	500	
LC2 D09...D150 (D115 and D150 coils with integral suppression device fitted as standard))														
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	S7	
LC2 D80...D115														
50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5	
60 Hz	B6	–	E6	F6	–	M6	–	U6	Q6	–	–	R6	–	
d.c. supply														
Volts	12	24	36	48	60	72	110	125	220	250	440			
LC2 D09...D65A (coils with integral suppression device fitted as standard)														
U 0.75...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD			
Low consumption														
Volts ---	5	12	20	24	48	110	220	250						
LC2 D09...D38 (coils with integral suppression device fitted as standard)														
U 0.8...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL						

For other voltages between 5 and 690 V, see pages 176 to 181.

(3) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.330 kg for **LC2 D09 to D38**, 0.150 kg for **LC1 D40A to D65A**.

(4) For reversing contactors with electrical interlocking pre-wired at the factory, add suffix **V** to the references selected above. Example: **LC2 D09P7** becomes **LC2 D09P7V**.

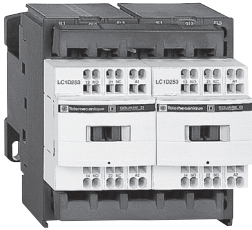
(5) For low consumption kit **LA4 DBL** (see page 173).

Note: when assembling a reversing contactor, it is good practice to incorporate a 50 ms time delay.

TeSys contactors

TeSys D, 3-pole reversing contactors for motor control up to 15 kW at 400 V, in category AC-3
Horizontally mounted, pre-assembled

565133



LC2 D123●●

3-pole reversing contactors, for connection by spring terminals

Pre-wired power connections.
Mechanical interlock without electrical interlocking.

Standard power ratings of 3-phase motors 50-60 Hz in category AC-3 ($\theta \leq 60^\circ\text{C}$)							Rated operational current in AC-3 440 V up to	Instantaneous auxiliary contacts per contactor	Contactors supplied with coil Basic reference, to be completed by adding the voltage code (2)	Weight (3)
220 V	380 V	415 V	440 V	500 V	660 V					
230 V	400 V				690 V					
kW	kW	kW	kW	kW	kW	A			Fixing (1)	kg
For connection by spring terminals										
2.2	4	4	4	5.5	5.5	9	1	1	LC2 D093●●	0.687
3	5.5	5.5	5.5	7.5	7.5	12	1	1	LC2 D123●●	0.697
4	7.5	9	9	10	10	18	1	1	LC2 D183●●	0.707
5.5	11	11	11	15	15	25	1	1	LC2 D253●●	0.787
7.5	15	15	15	18.5	18.5	32 (4)	1	1	LC2 D323●●	0.797

Power connection by EverLink®, BTR screw connectors (5) and control by spring terminals

11	18.5	22	22	22	30	40	1	1	LC2 D40A3●● (6)	1.870
15	22	25	30	30	33	50	1	1	LC2 D50A3●● (6)	1.880
18.5	30	30	30	37	37	65	1	1	LC2 D65A3●● (6)	1.890

For connection by Faston connectors

All power connections are to be made by the customer.

These contactors are fitted with Faston connectors: 2 x 6.35 mm on the power poles and 1 x 6.35 mm on the coil terminals.

For reversing contactors LC2 D09 and LC2 D12 only, in the references selected above, replace the figure 3 before the voltage code with a figure 9.

Example: LC2 D093●● becomes LC2 D099●●.

Component parts

Auxiliary contact blocks and add-on modules: see pages 168 to 175.

(1) LC2 D09 to D32: clip-on mounting on 35 mm rail AM1 DP or screw fixing.

(2) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

a.c. supply														
Volts	24	42	48	110	115	220	230	240	380	400	415	440	500	
LC2 D09...D65														
50/60 Hz		B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	S7
d.c. supply														
Volts	12	24	36	48	60	72	110	125	220	250	440			
LC2 D09...D65A (coils with integral suppression device fitted as standard)														
U 0.75...1.25 U _c		JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
Low consumption														
Volts ---	5	12	20	24	48	110	220	250						
LC2 D09...D32 (coils with integral suppression device fitted as standard)														
U 0.8...1.25 U _c		AL	JL	ZL	BL	EL	FL	ML	UL					

For other voltages between 5 and 690 V, see pages 176 to 181.

(3) The weights indicated are for reversing contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.330 kg for LC2 D09 to D38, 0.150 kg for LC1 D40A to D65A.

(4) Must be wired with 2 x 4 mm² cables in parallel on the upstream side. On the downstream side, outgoing terminal block LAD 331 may be used (Quickfit technology, see page 227). When wired with a single cable, the product is limited to 25 A (11 kW/400 V motors).

(5) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference LAD ALLEN4, see page 175).

(6) For low consumption kit LA4 DBL (see page 173).

TeSys contactors

TeSys D, 4-pole changeover contactor pairs for control in category AC-1, 20 to 200 A

537895



LC2 DT20●●

Pre-assembled. Pre-wired power connections.

For connection by screw clamp terminals or connectors

LC2 DT20 to LC2 DT40: mechanical interlock without electrical interlocking.

LC2 D80004: order separately 2 auxiliary contact blocks LAD N●1 to obtain electrical interlocking between the 2 contactors (see page page 169). For electrical interlocking incorporated in the mechanical interlock, please consult your Regional Sales Office.

LC2 D115004: mechanical interlock with integral, pre-wired electrical interlocking.

Utilisation category AC-1 Non-inductive loads Maximum rated operational current ($\theta \leq 60^\circ\text{C}$)	Instantaneous auxiliary contacts per contactor		Contactors supplied with coil	Weight kg
			Basic reference, to be completed by adding the voltage code (1) Fixing (2)	
A				kg
20	1	1	LC2 DT20●●	0.730
25	1	1	LC2 DT25●●	0.730
32	1	1	LC2 DT32●●	0.850
40	1	1	LC2 DT40●●	0.850
125	–	–	LC2 D80004●●	3.200
200	–	–	LC2 D115004●●	7.400

For connection by lugs or bars

20	1	1	LC2 DT206●●	0.730
25	1	1	LC2 DT256●●	0.730
32	1	1	LC2 DT326●●	0.850
40	1	1	LC2 DT406●●	0.850

For customer assembly.

For connection by screw clamp terminals or connectors

60	1	1	LC1 DT60A●● (3)	–
80	1	1	LC1 DT80A●● (3)	–

For connection by lugs or bars

60	1	1	LC1 DT60A6●● (3)	–
80	1	1	LC1 DT80A6●● (3)	–

Accessories

Auxiliary contact blocks and add-on modules: see pages 168 to 175.

(1) See note (1) on next page.

(2) LC2 DT20 to LC2 DT80: clip-on mounting on 35 mm \perp rail AM1 DP or screw fixing.

LC2 D80: clip-on mounting on 35 mm \perp rail AM1 DP or 75 mm \perp rail AM1 DL or screw fixing.

LC2 D115: clip-on mounting on 2 x 35 mm \perp rails AM1 DP or screw fixing.

(3) For these operational currents, order 2 identical contactors and a mechanical interlock LAD 4CM (see page 166).

Note: when assembling changeover contactor pairs, it is good practice to incorporate a 50 ms time delay.

TeSys contactors

TeSys D, 4-pole changeover contactor pairs for control in category AC-1, 20 A

Pre-assembled. Pre-wired power connections.			
For connection by spring terminals.			
Utilisation category AC-1 Non-inductive loads Maximum rated operational current ($\theta \leq 60^\circ\text{C}$)	Instantaneous auxiliary contacts per contactor		Weight
		Contactors supplied with coil	
		Basic reference, to be completed by adding the control voltage code (1)	
		Fixing (2)	
A			kg
20	1	1	LC2 DT203●● 0.760

For customer assembly.			
Power connection by EverLink®, BTR screw connectors (3) and control by spring terminals			
60	1	1	LC1 DT60A3●● (4) –
80	1	1	LC1 DT80A3●● (4) –

Separate components

Auxiliary contact blocks and add-on modules: see pages 168 to 175.

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

a.c. supply													
Volts	24	42	48	110	115	220	230	240	380	400	415	440	500
LC2 DT20...DT40, LC1 DT60...DT80													
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	–
LC2 D80004...D115004													
50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
60 Hz	B6	–	E6	F6	–	M6	–	U6	Q6	–	–	R6	–
d.c. supply													
Volts	12	24	36	48	60	72	110	125	220	250	440		
LC2 DT20...DT40, LC1 DT60...DT80 (coils with integral suppression device fitted as standard)													
U 0.7...1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
Low consumption													
Volts	5	12	20	24	48	110	220	250					
LC2 DT20...DT40 (coils with integral suppression device fitted as standard)													
U 0.8...1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL					

For other voltages between 5 and 690 V, see pages 176 to 181.

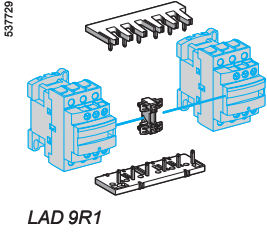
(2) Clip-on mounting on 35 mm rail AM1 DP or screw fixing.

(3) BTR screws: hexagon socket head. In accordance with local electrical wiring regulations, a size 4 insulated Allen key must be used (reference LAD ALLEN4, see page 175).

(4) For these operational currents, order 2 identical contactors and a mechanical interlock LAD 4CM (see page 166).

TeSys contactors

Component parts for assembling reversing contactors for motor control, low-speed/high-speed starters and star-delta starters



For 3-pole reversing contactors for motor control

Contactors with screw clamp terminals or connectors. Horizontally mounted, assembled by customer

Description	For contactors (1) (2 identical contactors)	Reference	Weight kg
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Kits for assembly of reversing contactors

Kit comprising: <ul style="list-style-type: none"> ■ a mechanical interlock LAD 9V2 with electrical interlocking LAD 9V1. ■ a set of power connections LAD 9V5 (parallel) and LAD 9V6 (reversing) 	LC1 D09 to D38	LAD 9R1V	0.045
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Kit comprising: <ul style="list-style-type: none"> ■ a mechanical interlock LAD 9V2 without electrical interlocking ■ a set of power connections LAD 9V5 (parallel) and LAD 9V6 (reversing) 	LC1 D09 to D38	LAD 9R1	0.045
---	----------------	----------------	-------

Kit comprising: <ul style="list-style-type: none"> ■ a mechanical interlock LAD 4CM, ■ a set of power connections LA9 D65A69. 	LC1 D40A to D65A	LAD 9R3	0.170
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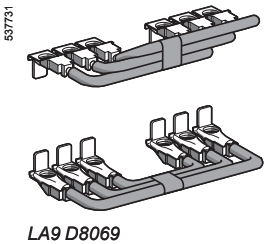
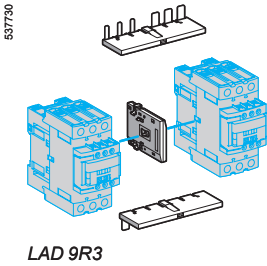
Mechanical interlocks

Mechanical interlock with integral electrical interlocking	LC1 D80 and D95 (~)	LA9 D4002	0.170
	LC1 D80 and D95 (---)	LA9 D8002	0.170
	LC1 D115 and D150	LA9 D11502	0.290

Mechanical interlock without integral electrical interlocking	LC1 D09 to D38	LAD 9V2	0.040
	LC1 D40A to D65A	LAD 4CM	0.040
	LC1 D80 and D95 (~)	LA9 D50978	0.170
	LC1 D80 and D95 (---)	LA9 D80978	0.170

Sets of power connections

Comprising: <ul style="list-style-type: none"> ■ a set of parallel bars, ■ a set of reverser bars. 	LC1 D09 to D38 with screw clamp terminals or connectors	LAD 9V5 + LAD 9V6	–
	LC1 D09...D32 with spring terminal connections	LAD 9V12 + LAD 9V13 (2)	–
	LC1 D40A to D65A	LA9 D65A69	0.130
	LC1 D80 and D95 (~)	LA9 D8069	0.490
	LC1 D80 and D95 (---)	LA9 D8069	0.490
	LC1 D115 and D150	LA9 D11569	1.450



For low-speed/high-speed starter

Description	For contactors with connection type	Reference	Weight kg
Connection kit enabling reversing of low and high speed directions using a reversing contactor and a 2N/O + 2N/C main pole contactor	Screw clamps or connectors	LAD 9PVG V	0.016
	Power connection module with spring terminal connections	LAD 3PVG V	0.034
	Outgoing terminal block with spring terminal connections	LAD 3PVG V10	0.034

For star-delta starter

Description	For contactors	Reference	Weight kg
Mounting kit comprising: <ul style="list-style-type: none"> ■ 1 time delay contact block LAD S2 (LC1 D09...D80), ■ power circuit connections (LC1 D09...D80), ■ hardware required for fixing the contactors onto the mounting plate (LC1 D80). 	LC1 D09 and D12	LAD 91217	0.180
	LC1 D18 to D32	LAD 93217	0.310
	LC1 D40A and D50A	LAD 9SD3	0.380
	LC1 D80	LA9 D8017	0.680
Equipment mounting plates	LC1 D09, D12 and D18	LA9 D12974	0.150
	LC1 D32	LA9 D32974	0.180
	LC1 D40A and D50A	–	–
	LC1 D80	LA9 D80973	0.300

(1) To order the 2 contactors: see pages 154 and 162.

(2) To assemble a reversing contactor with spring terminal connections, the following components must be ordered:

- 1 mechanical interlock **LAD 9V2**,
- 1 upstream power connection kit and 1 downstream power connection kit.

Upstream power connection kit **LAD 9V10**: installed in the Quickfit system with power connection module **LAD 34**.

(If module **LAD 34** is not used, replace **LAD 9V10** with **LAD 9V12**).

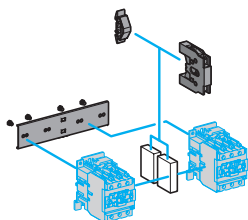
Downstream power connection kit **LAD 9V11**: installed in the Quickfit system with outgoing terminal block **LAD 331**.

(If **LAD 331** is not used, replace **LAD 9V11** with **LAD 9V13**).

TeSys contactors

Component parts for assembling changeover contactor pairs

537732



LA9 D4002

For 4-pole changeover contactor pairs (3-phase distribution + neutral)

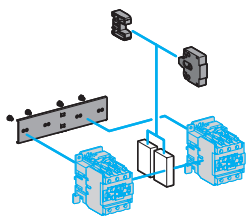
Contactors with screw clamp terminals or connectors. Horizontally mounted, assembled by customer.

Description	For contactors (1) (2 identical contactors)	Reference	Weight kg
Kits for assembly of changeover contactor pairs			

Kit comprising: ■ a mechanical interlock LAD 9V2 with electrical interlocking LAD 9V1 , ■ a set of power connections (changeover) LAD 9V7 .	LC1 DT20 to DT40 with screw clamps or connectors	LAD T9R1V	0.045
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Kit comprising: ■ a mechanical interlock LAD 9V2 without electrical interlocking, ■ a set of power connections (changeover) LAD 9V7 .	LC1 DT20 to DT40 with screw clamps or connectors	LAD T9R1	0.045
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537733

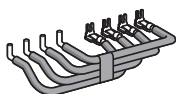


LA9 D50978

Mechanical interlocks			
With integral electrical interlocking	LC1 D80004	LA9 D4002	0.170
	LP1 D80004	LA9 D8002	0.170
	LC1 D115004	LA9 D11502	0.280

Without integral electrical interlocking	LC1 DT20 to DT40 with screw clamps or connectors	LAD 9V2 (2)	0.040
	LC1 DT203 to DT403 with spring terminals	LAD 9V2 (2)	0.040
	LC1 DT60A and DT80A	LAD 4CM	0.040
	LC1 D80004	LA9 D50978	0.155
	LP1 D80004	LA9 D80978	0.180

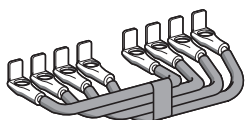
537734



LA9 D6570

Sets of power connections			
Comprising a set of parallel bars	LC1 D60A and D80A	LA9 D65A70 ▲	0.150
	LC1 D80004	LA9 D8070	0.280
	LP1 D80004	LA9 D8070	0.280
	LC1 D115004	LA9 D11570	1.100
	LC1 DT203 to DT403 with spring terminals	LAD 9V9	0.100
	LC1 D80004	LA9 D8070 (2)	–
	LP1 D80004	LA9 D8070 (2)	–

537735



LA9 D8070

For 3-pole changeover contactor pairs

Contactors with screw clamp terminals or connectors. Horizontally mounted, assembled by customer.

Description	For contactors (1) (2 identical contactors)	Reference	Weight kg
Mechanical interlocks			

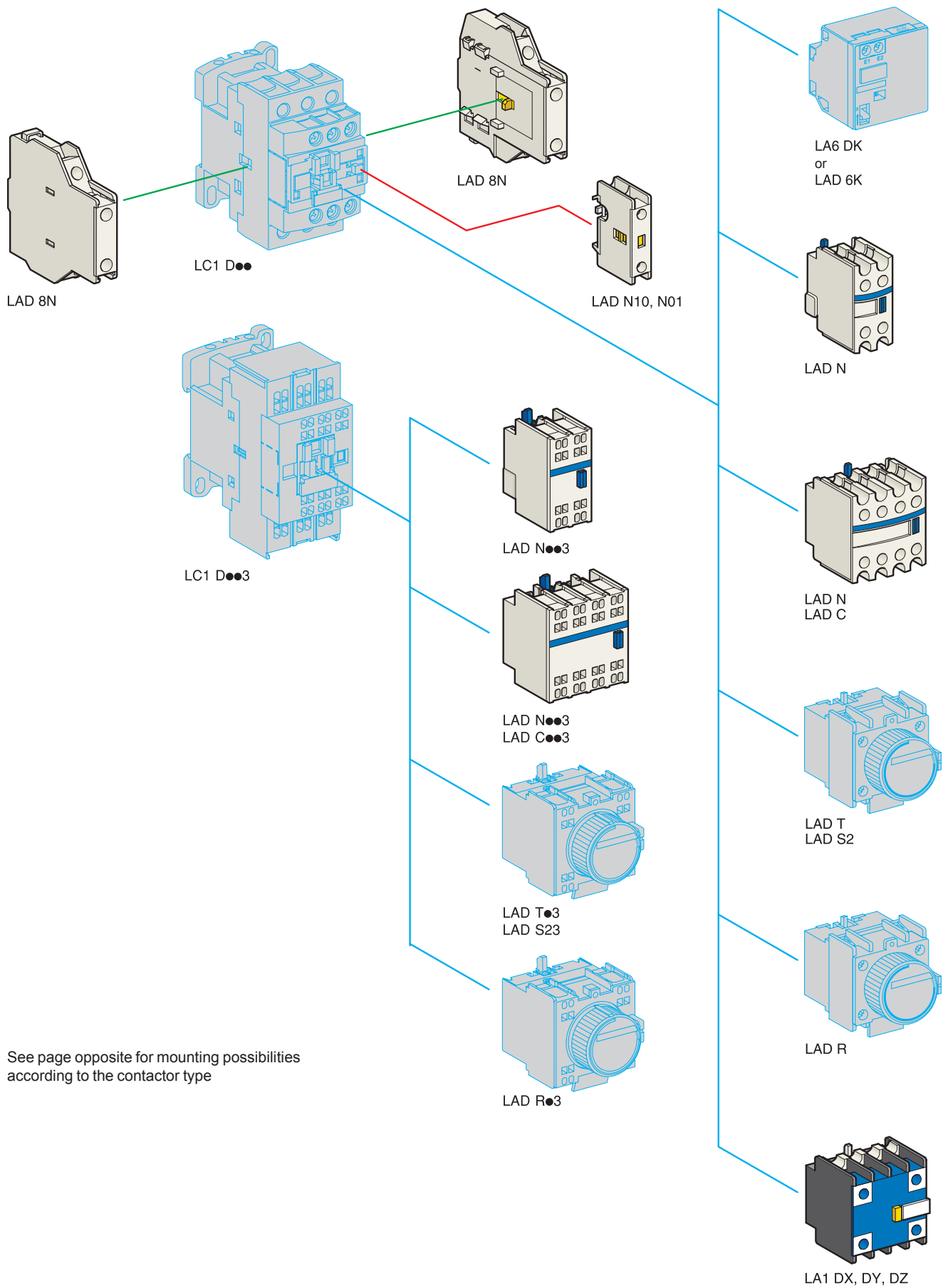
Without integral electrical interlocking	LC1 D40A...D65A	LAD 9R3S	0.105
With integral electrical interlocking	LC1 D115 and D150	LA9 D11502	0.280

Sets of power connections			
Comprising a set of parallel bars,	LC1 D115 and D150	LA9 D11571	0.960

(1) To order the 2 contactors: see pages 154 and 162.

(2) Order 2 contact blocks **LAD N•1** to build the electrical interlock, see page 169.

▲ Available 3rd quarter 2009.



See page opposite for mounting possibilities according to the contactor type






TeSys contactors

TeSys D contactors and reversing contactors Instantaneous auxiliary contact blocks

Instantaneous auxiliary contact blocks for connection by screw clamp terminals

For use in normal operating environments

In order to mount an LAD 8N on an LC1 D80 to D95, a set of shims must be ordered separately, see page 175

Clip-on mounting (1)	Number of contacts per block	Composition					Reference	Weight kg
								
Front	1	-	-	-	1	-	LAD N10	0.020
		-	-	-	-	1	LAD N01	0.020
	2	-	-	-	1	1	LAD N11	0.030
		-	-	-	2	-	LAD N20	0.030
		-	-	-	-	2	LAD N02	0.030
	4	-	-	-	2	2	LAD N22	0.050
		-	-	-	1	3	LAD N13	0.050
		-	-	-	4	-	LAD N40	0.050
		-	-	-	-	4	LAD N04	0.050
		-	-	-	3	1	LAD N31	0.050
	4 incl. 1 N/O & 1 N/C make before break	-	-	-	2	2	LAD C22	0.050
Side	2	-	-	-	1	1	LAD 8N11	0.030
		-	-	-	2	-	LAD 8N20	0.030
		-	-	-	-	2	LAD 8N02	0.030

For terminal referencing conforming to EN 50012

Front on 3P contactors and 4P contactors 20 to 80 A	2	-	-	-	1	1	LAD N11G	0.030
Front on 4P contactors 125 to 200 A	4	-	-	-	2	2	LAD N22G	0.050
	2	-	-	-	1	1	LAD N11P	0.030
	4	-	-	-	2	2	LAD N22P	0.050

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

Front	2	-	2	-	-	-	LA1 DX20	0.040
		1	1	-	-	-	LA1 DX11	0.040
		2	-	-	-	-	LA1 DX02	0.040
		-	2	2	-	-	LA1 DY20 (2)	0.040
		-	2	-	2	-	LA1 DZ40	0.050
	4	-	2	-	1	1	LA1 DZ31	0.060

Instantaneous auxiliary contact blocks for connection by lugs

This type of connection is not possible for blocks with 1 contact or blocks with dust and damp protected contacts. For all other instantaneous auxiliary contact blocks, add the figure 6 to the end of the references selected above. Example: LAD N11 becomes LAD N116.

Instantaneous auxiliary contact blocks for connection by spring terminals

This type of connection is not possible for LAD 8, LAD N with 1 contact or blocks with dust and damp protected contacts. For all other contact blocks, add the figure 3 to the end of the references selected above. Example: LAD N11 becomes LAD N113.

Instantaneous auxiliary contact blocks for connection by Faston connectors

This type of connection is not possible for LAD 8, LAD N with 1 contact or blocks with dust and damp protected contacts. For all other contact blocks, add the figure 9 to the end of the references selected above. Example: LAD N11 becomes LAD N119.

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

Contactors	Type	Number of poles and size	Instantaneous auxiliary contacts	Front mounted			Time delay Front mounted		
				Side mounted	1 contact	2 contacts		4 contacts	
~	3P	LC1 D09...D38	1 on LH side	and	-	1	or 1	or 1	
		LC1 D40A...D65A	1 on LH or 1 on RH side	and	-	1	or 1	or 1	
		LC1 D80 and D95 (50/60 Hz)	1 on each side	or	2	and 1	or 1	or 1	
		LC1 D80 and D95 (50 or 60 Hz)	1 on each side	and	2	and 1	or 1	or 1	
		LC1 D115 and D150	1 on LH side	and	-	1	or 1	or 1	
	4P	LC1 DT20...DT40	1 on LH side	and	-	1	or 1	or 1	
		LC1 DT60A and DT80A	1 on LH or 1 on RH side	and	-	1	or 1	or 1	
		LC1 D40008, D65008 and D80	1 on each side	or	1	or 1	or 1	or 1	
		LC1 D115	1 on each side	and	1	or 1	or 1	or 1	
≡	3P	LC1 D09...D38	-	-	-	1	or 1	or 1	
		LC1 D40A...D65A	-	-	-	1	or 1	or 1	
		LC1 D80 and D95	-	-	1	or 1	or 1	or 1	
		LC1 D115 and D150	1 on LH side	and	-	1	or 1	or 1	
	4P	LC1 DT20...DT40	-	-	-	-	1	or 1	or 1
		LC1 DT60A and DT80A	-	-	-	-	1	or 1	or 1
		LC1 D40008, D65008 and D80	-	-	2	and 1	or 1	or 1	
		LC1 D115	1 on each side	-	-	and 1	or 1	or 1	
BC (3)	3P	LC1 D09...D38	-	-	-	1	-	-	
	4P	LC1 DT20...DT40	-	-	-	1	-	-	

(2) Device fitted with 4 earth screen continuity terminals.

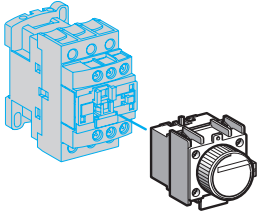
(3) LC: low consumption.

TeSys contactors

TeSys D contactors and reversing contactors

Time delay auxiliary contact blocks

Mechanical latch blocks



LAD T0●

Time delay auxiliary contact blocks for connection by screw clamp terminals

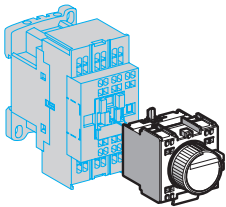
Maximum number of auxiliary contact blocks that can be fitted per contactor, see page 169.

Sealing cover to be ordered separately, see page 175.

LAD T0 and LAD R0: with extended scale from 0.1 to 0.6 s.

LAD S2: 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		Reference	Weight kg
		Type	Setting range		
Front	1 N/O + 1 N/C	On-delay	0.1...3 s	LAD T0	0.060
			0.1...30 s	LAD T2	0.060
			10...180 s	LAD T4	0.060
			1...30 s	LAD S2	0.060
		Off-delay	0.1...3 s	LAD R0	0.060
			0.1...30 s	LAD R2	0.060
			10...180 s	LAD R4	0.060



LAD T03●

Time delay auxiliary contact blocks for connection by lugs

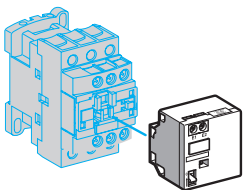
Add the figure 6 to the end of the references selected above. Example: LAD T0 becomes LAD T06.

Time delay auxiliary contact blocks for connection by spring terminals

Add the figure 3 to the end of the references selected above. Example: LAD T0 becomes LAD T03

Time delay auxiliary contact blocks for connection by Faston connectors

Add the figure 9 to the end of the references selected above. Example: LAD T0 becomes LAD T09.



LAD 6K10●

Mechanical latch blocks (1)

Clip-on mounting	Unlatching control	For use on contactor	Basic reference, to be completed by adding the control voltage code (2)	Weight kg
Front	Manual or electric	LC1 D09...D38 (~ or ---)	LAD 6K10●	0.070
		LC1 DT20...DT40 (~ or ---)		
		LC1 D40A...D65A (3 P ~ or ---) LC1 DT60A and DT80A (4 P ~ or ---)	LAD 6K10●	0.070
Front		LC1 D80...D150 (3 P ~)	LA6 DK20●	0.090
		LC1 D80 and D115 (3 P ---)		
		LC1 D80 (4 P ~)		
		LC1 D80 and D115 (4 P ~)		
		LP1 D80 and LC1 D115 (4 P ---)		

(1) The mechanical latch block must not be powered up at the same time as the contactor.
The duration of the control signal for the mechanical latch block and the contactor should be:
≥ 100 ms for a contactor operating on an a.c. supply,
≥ 250 ms for a contactor operating on a d.c. supply.

Maximum impulse duration for the LAD 6K10● mechanical latch block: 10 seconds.

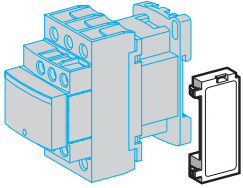
(2) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office).

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

TeSys contactors

TeSys D contactors and reversing contactors

Suppressor modules

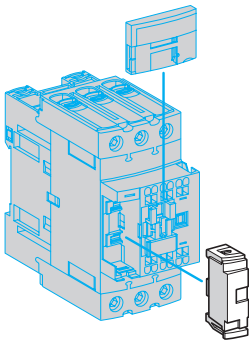


LAD 4●●

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 max. and oscillating frequency limited to 400 Hz max. Slight increase in drop-out time (1.2 to 2 times the normal time).

Mounting	For use with contactor (1) Rating	Type		Reference	Weight kg
		V~	V---		
Clip-on side mounting (3)	D09...D38 (3P) DT20...DT40	24...48	–	LAD 4RCE	0.012
		50...127	–	LAD 4RCG	0.012
		110...250	–	LAD 4RCU	0.012
Clip-on front mounting (3)	D40A...D65A (3P) DT60A...DT80A (4P)	24...48	–	LAD 4RC3E	0.020
		50...127	–	LAD 4RC3G	0.020
		110...240	–	LAD 4RC3U	0.020
Screw fixing (4)	D80...D150 (3P) D40...D115 (4P)	380...415	–	LAD 4RC3N	0.040
		24...48	–	LA4 DA2E	0.018
		50...127	–	LA4 DA2G	0.018
		110...240	–	LA4 DA2U	0.018
		380...415	–	LA4 DA2N	0.018



LAD 4RC3●, LAD 4V3●,
LAD 4D3U, LAD 4T3●

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 side mounting (3)	D09...D38 (3P) DT20...DT40	24...48	–	LAD 4VE	0.012
		50...127	–	LAD 4VG	0.012
		110...250	–	LAD 4VU	0.012
Clip-on front mounting (3)	D40A...D65A (3P) DT60A...DT80A (4P)	24...48	24...48	LAD 4V3E	0.020
		50...127	50...127	LAD 4V3G	0.020
		110...250	110...250	LAD 4V3U	0.020
Screw fixing (4)	D80...D115 (3P) D80...D115 (4P)	24...48	–	LA4 DE2E	0.018
		50...127	–	LA4 DE2G	0.018
		110...250	–	LA4 DE2U	0.018
		–	24...48	LA4 DE3E	0.018
		–	50...127	LA4 DE3G	0.018
		–	110...250	LA4 DE3U	0.018

Flywheel diodes

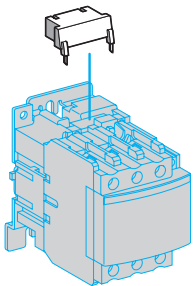
No overvoltage or oscillating frequency. Increase in drop-out time (6 to 10 times the normal time). Polarised component.

Clip-on side mounting (5)	D09...D38 (3P), DT20...DT40	–	24...250	LAD 4DDL	0.012
Clip-on front mounting (5)	D40A...D65A (3P), DT60A...DT80A (4P)	–	24...250	LAD 4D3U	0.020
Screw fixing (4)	D80 and D95 (3P), D40...D80 (4P)	–	24...250	LA4 DC3U	0.018

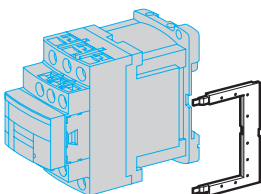
Bidirectional peak limiting diodes

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

Clip-on side mounting (3) (5)	D09...D38 (3P) DT20...DT40 (4P) (2)	24	–	LAD 4TB	0.012
		–	24	LAD 4TBDL	0.012
		72	–	LAD 4TS	0.012
		–	72	LAD 4TSDL	0.012
		–	125	LAD 4TGDL	0.012
		–	250	LAD 4TUDL	0.012
		–	600	LAD 4TXDL	0.012
Clip-on front mounting (3)	D40A...D65A (3P) DT60A...DT80A (4P) (2)	12...24	12...24	LAD 4T3B	0.020
		25...72	25...72	LAD 4T3S	0.020
		73...125	73...125	LAD 4T3G	0.020
		126...250	126...250	LAD 4T3U	0.020
		251...440	251...440	LAD 4T3R	0.020
Screw fixing (4)	D80...D95 (3P) D40...D80 (4P)	24	–	LA4 DB2B	0.018
		72	–	LA4 DB2S	0.018
		–	24	LA4 DB3B	0.018
		–	72	LA4 DB3S	0.018

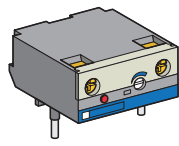


LA4 D●●

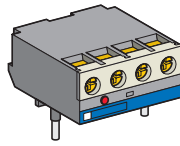


LAD 4DDL or LAD 4TDL

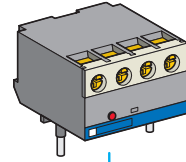
- (1) For satisfactory protection, a suppressor module must be fitted across the coil of each contactor.
- (2) From D09 to D65A and from LC1 DT20 to DT80A, d.c. and low consumption 3-pole contactors are fitted with a built-in bidirectional peak limiting diode suppressor as standard. This bidirectional peak limiting diode is removable and can therefore be replaced by the user. (See reference above). If a d.c. or low consumption contactor is used without suppression, the standard suppressor should be replaced with a blanking plug (reference LAD 9DL for LC1 D09 to D38 and LC1 DT20 to DT40; reference LAD 9DL3 for LC1 D40A to D65A and LC1 DT60A to DT80A).
- (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.
- (5) In order to install these accessories, the existing suppression device must first be removed.



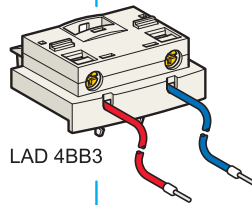
LA4 DT



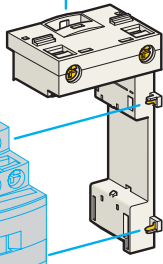
LA4 DFB



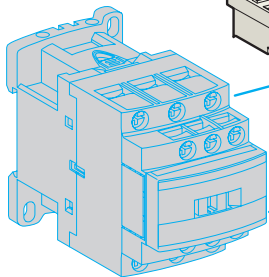
LA4 DWB



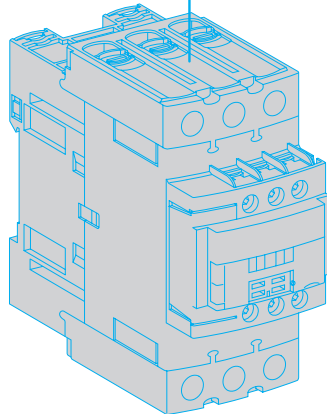
LAD 4BB3



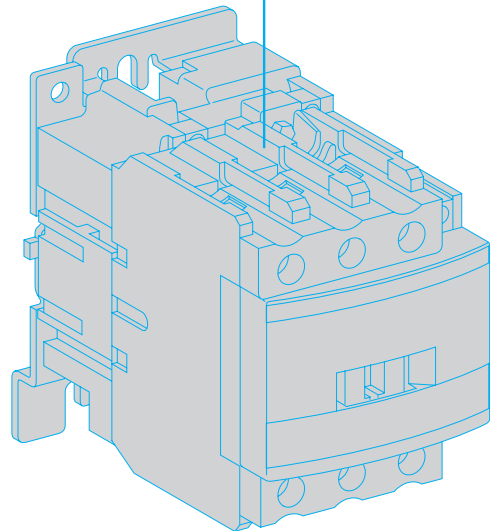
LAD 4BB



LC1 D09...D38



LC1 D40A...D65A



LC1 D80...D95

See page opposite for mounting possibilities according to the contactor type

Electronic serial timer modules (1)

- 3-pole contactors LC1 D09 to D38:
mounted using adapter LAD 4BB, to be ordered separately, see below.
- 3-pole contactors LC1 D40A to D65A:
mounted using adapter LAD 4BB3, to be ordered separately, see below.
- 3-pole contactors LC1 D80 to D150 and 4-pole contactors LC1 D40 to D115:
mounted directly across terminals A1 and A2 of the contactor.

On-delay type				
Operational voltage ~		Time delay	Reference	Weight kg
24...250 V	100...250 V			
LC1 D09...D65A (3P)	LC1 D80...D150 (3P)	0.1...2 s	LA4 DT0U	0.040
		1.5...30 s	LA4 DT2U	0.040
		25...500 s	LA4 DT4U	0.040

Interface modules

- 3-pole contactors LC1 D09 to D38: mounted using adapter LAD 4BB, to be ordered separately, see below.
- 3-pole contactors LC1 D40A to D65A: mounted using adapter LAD4 BB3, to be ordered separately, see below.

Relay interface				
Operational voltage ~		Supply voltage E1-E2 (---)	Reference	Weight kg
24...250 V				
LC1 D09...D150 (3P)		24 V	LA4 DFB	0.050

Relay interface with "AUTO-I" manual override switch (output forced "ON"), solid state type

Operational voltage ~		Supply voltage E1-E2 (---)	Reference	Weight kg
24...250 V	100...250 V			
LC1 D09...D65A (3P)	LC1 D80...D115 (3P)	24 V	LA4 DWB	0.045

Low consumption kit

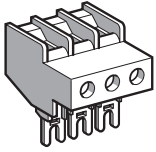
For use on contactors	Composition	Reference	Weight kg
LC1 D40A...D65A (3P) (2)	Kit comprising: <ul style="list-style-type: none"> ■ a retrofit coil LAD 4BB3. ■ a relay interface module LA4 DFB. 	LA4 DBL	0.077

Retrofit: coil for 3-pole contactor**For adapting existing wiring to a new product**

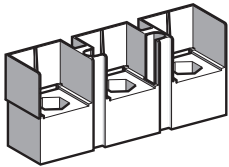
For use on contactors		Reference	Weight kg	
LC1 D09...D38	Without coil suppression	LAD 4BB	0.019	
	With coil suppression	~ 24...48 V	LAD 4BBVE	0.014
		~ 50...127 V	LAD 4BBVG	0.014
		~ 110...250 V	LAD 4BBVU	0.014
LC1 D40A...65A	Without coil suppression	LAD 4BB3	0.027	

(1) For 24 V operation, the contactor must be fitted with a 21 V coil (code Z). See pages 176 to 181.

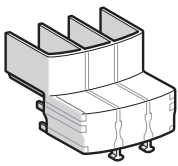
(2) The kit is compatible with a coil voltage of ~ 24 V to ~ 250 V (B7 to U7) and --- 24 V to --- 250 V (BD to UD).



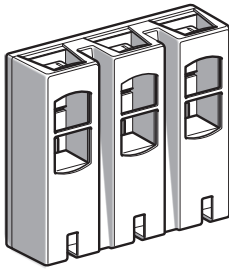
LA9 D3260



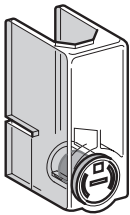
LA9 D11550



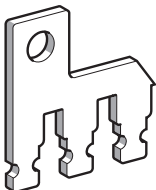
LAD 96570



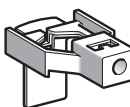
LA9 D11560



LA9 D11570



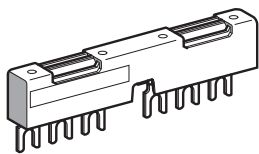
LA9 D80962



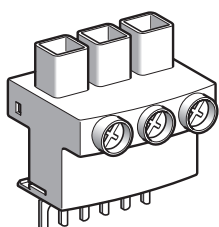
LA9 D11567

Accessories for main pole and control connections						
Description		For use with contactors LC1		Sold in lots of	Unit reference	Weight kg
		~	...			
Connectors for cable, size (1 connector)	4-pole 10 mm ²	DT20, DT25	DT20, DT25	1	LAD 92560	0.030
	3-pole 25 mm ²	D09...D38	D09...D38	1	LA9 D3260	0.040
EverLink® terminal block	3-pole	D40A...D65A	D40A...D65A	1	LAD 96560	0.087
Connectors for cables (2 connectors)	3-pole 120 mm ²	D115, D150	D115, D150	1	LA9 D115603	0.560
	4-pole 120 mm ²	D115	D115	1	LA9 D115604	0.740
Connectors for lug type terminals (2 connectors)	3-pole	D1156, D1506	D1156, D1506	1	LA9 D115503	0.300
	4-pole	D1156	D1156	1	LA9 D115504	0.360
Protective covers for connectors for lug type terminals	3-pole	D40A6...D65A6	D40A6...D65A6	1	LAD 96570	0.021
		D1156, D1506	D1156, D1506	1	LA9 D115703 (1)	0.250
	4-pole	D60A6...D80A6	D60A6...D80A6	1	LAD 96580	0.027
		D1156, D1506	D1156, D1506	1	LA9 D115704	0.300
IP 20 covers for lug type terminals (for mounting with circuit-breakers GV3 P●●6 and GV3 L●●6)	3 poles	D40A6...D65A6	D40A6...D65A6	1	LAD 96575	0.010
Links for parallel connection of	2 poles	D09...D38	D09...D38	10	LA9 D2561	0.060
		DT20, DT25 (4P)	DT20, DT25 (4P)	10	LA9 D1261	0.012
		DT32, DT40 (4P)	DT32, DT40 (4P)	10	LAD 96061	0.060
		D40A...D65A	D40A...D65A	1	LAD 9P32	0.021
	3 poles	D80, D95	D80	2	LA9 D80961	0.060
		D09...D38	D09...D38	10	LAD 9P3 (2)	0.005
		D40A...D65A	D40A...D65A	1	LAD 9P33	0.021
		D80, D95	D80, D95	1	LA9 D80962	0.080
4 poles	DT20, DT25	DT20, DT25	2	LA9 D1263	0.024	
	D80, D95	D80	2	LA9 D80963	0.100	
Staggered coil connection	–	D80	10	LA9 D09966	0.006	
Control circuit take-off from main pole	D80, D95	D80, D95	10	LA9 D8067	0.010	
	D115, D150	D115, D150	10	LA9 D11567	0.014	
Spreaders for increasing the pole pitch to 45 mm	D115, D150	D115, D150	3	GV7 AC03	0.180	

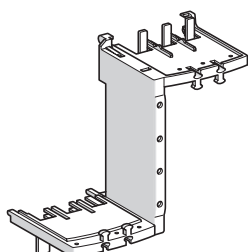
(1) For 3-pole contactors: 1 set of 6 covers, for 4-pole contactors: 1 set of 8 covers.
 (2) Separate connecting bar for connecting 2 poles in parallel.



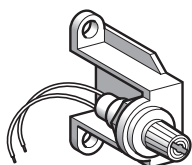
GV2 G245



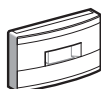
GV1 G09



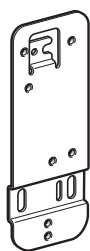
GV3 S



LA9 D941



LAD 9ET●



LAD 7X3

Sets of contacts and arc chambers

Description	For contactor	Reference	Weight kg
Sets of contacts	3-pole	LC1 D115	LA5 D1158031 0.260
		LC1 D150	LA5 D150803 0.260
	4-pole	LC1 D115004	LA5 D115804 0.330
		LC1 D115	LA5 D11550 0.395
Arc chambers	3-pole	LC1 D150	LA5 D15050 0.395
		LC1 D115004	LA5 D115450 0.470
	4-pole	LC1 D115004	LA5 D115450 0.470

Power connection accessories

Terminal block	For supply to one or more GV2 G busbar sets	GV1 G09	0.040
Set of 63 A busbars for paralleling of contactors	2 contactors LC1 D09...D18 or D25...D38	GV2 G245	0.036
	4 contactors LC1 D09...D18 or D25...D38	GV2 G445	0.077
Set of 115 A busbars for paralleling of contactors	2 contactors LC1 D40A...D65A	GV3 G264	0.150
	3 contactors LC1 D40A...D65A	GV3 G364 (1)	0.250
Set of S-shape busbars	For circuit-breakers GV3 P●● and GV3 L●● and contactors LC1 D40A...D65A	GV3 S	0.111

Protection accessories

Description	Use	Sold in lots of	Reference	Weight kg
Miniature control circuit fuse holder	5 x 20 with 4 A-250 V fuse	1	LA9 D941	0.025
Sealing cover	For LAD T, LAD R	1	LA9 D901	0.005
Safety cover preventing access to the moving contact carrier	LC1 D09...D65A and DT20...DT80A	1	LAD 9ET1	0.026
	LC1 D80 and D95	1	LAD 9ET3	0.004
	LC1 D115 and D150	1	LAD 9ET4	0.004

Marking accessories

Description	Use	Sold in lots of	Unit reference	Weight kg
Sheet of 64 blank legends, self-adhesive, 8 x 33 mm (2)	Contactors (except 4P) LC1 D80...D115, LAD N (4 contacts), LA6 DK	10	LAD 21	0.020
Sheet of 112 blank legends, self-adhesive, 8 x 12 mm (2)	LAD N (2 contacts), LAD T, LAD R, LRD	10	LAD 22	0.020
Sheet of 64 blank legends for marking using plotter or 8 x 33 mm engraver	Contactors (except 4P) LC1 D80...D115, LAD (4 contacts), LA6 DK	10	LAD 23	0.050
Sheet of 440 blank legends for marking using plotter or 8 x 12 mm engraver	All products	35	LAD 24	0.200
Marker holder snap-in, 8 x 22 mm	4-pole contactors, LC1 D80...D115, LA6 DK	100	LA9 D92	0.001
Marker holder snap-in, 8 x 18 mm	LC1 D09...D65A, LC1 DT20...DT80A, LAD N (4 contacts), LAD T, LAD R	100	LAD 90	0.001
Bag of 300 blank legends self-adhesive, 7 x 21 mm	On holder LA9 D92	1	LA9 D93	0.001
"SIS Label" labelling software supplied on CD-Rom	Multi-language version: English, French, German, Italian, Spanish	1	XBY 2U	0.100

Mounting accessories

Retrofit plate for screw fixing	For replacement of LC1 D40 to D65 with LC1 D40A to D65A	1	LAD 7X3	0.150
Mounting plate	For replacement of LC1 F115 or F150 with LC1 D115 or D150	1	LA9 D730	0.360
Set of shims	For fitting side mounting blocks LAD 8N on LC1 D80 and D95	1	LA9 D511	0.020
Size 4 Allen key, insulated, 1000 V	For use on contactors LC1 D40A to LC1 D150	5	LAD ALLEN4	0.026

(1) With this set of busbars, any one contactor can be supplied directly by its EverLink® double cage power terminal block. The other two contactors are supplied by the busbar set. The 115 A limitation is therefore applied to these two contactors. Example: 1 LC1 D65A supplied directly + 1 contactor LC1 D65A and 1 contactor LC1 D50 A supplied via the busbar set = 115 A. This combination is compatible with busbar set GV3 G364.

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

TeSys contactors

a.c. coils

for TeSys D, 3 or 4-pole contactors

For ~ contactors LC1 D09...D38 and LC1 DT20...DT40

Specifications

Average consumption at 20 °C:

- inrush ($\cos \varphi = 0.75$) 70 VA,- sealed ($\cos \varphi = 0.3$) 50 Hz: 7 VA, 60 Hz: 7.5 VAOperating range ($\theta \leq 60$ °C): 50 Hz: 0.8...1.1 Uc, 60 Hz: 0.85...1.1 Uc.

Control circuit voltage Uc	Average resistance at 20 °C ± 10 %	Inductance of closed circuit	Reference (1)	Weight
V	Ω	H	50/60 Hz	kg
12	1.33	0.05	LXD 1J7	0.070
21 (2)	4.17	0.17	LXD 1Z7	0.070
24	5.37	0.22	LXD 1B7	0.070
32	10.1	0.39	LXD 1C7	0.070
36	12.8	0.49	LXD 1CC7	0.070
42	17	0.67	LXD 1D7	0.070
48	21.7	0.87	LXD 1E7	0.070
60	34.6	1.4	LXD 1EE7	0.070
100	100.4	3.8	LXD 1K7	0.070
110	124.1	4.6	LXD 1F7	0.070
115	129.8	5	LXD 1FE7	0.070
120	150.6	5.4	LXD 1G7	0.070
127	158.5	6.1	LXD 1FC7	0.070
200	410.7	15	LXD 1L7	0.070
208	430.4	16	LXD 1LE7	0.070
220	515.4	18	LXD 1M7 (3)	0.070
230	538.6	20	LXD 1P7	0.070
240	562.3	22	LXD 1U7	0.070
277	800.7	29	LXD 1W7	0.070
380	1551	55	LXD 1Q7 (4)	0.070
400	1633	60	LXD 1V7	0.070
415	1694	65	LXD 1N7	0.070
440	1993	73	LXD 1R7	0.070
480	2398	87	LXD 1T7	0.070
500	2499	95	LXD 1S7	0.070
575	3294	125	LXD 1SC7	0.070
600	3810	136	LXD 1X7	0.070
660	4656	165	LXD 1YC7	0.070
690	5020	180	LXD 1Y7	0.070

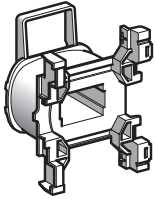
(1) The last 2 digits in the reference represent the voltage code.

(2) Voltage for special coils fitted in contactors with serial timer modules, with 24 V supply.

(3) Suitable for use on 230 V / 50 Hz. In this case, apply a coefficient of 0.6 to the mechanical durability of the contactor (see page 142).

(4) Suitable for use on 400 V / 50 Hz. In this case, apply a coefficient of 0.6 to the mechanical durability of the contactor (see page 142).

537498



LXD 1●●

TeSys contactors

a.c. coils
for TeSys D, 3 or 4-pole contactors

For ~ contactors LC1 D40A...D65A, LC1 DT60A and LC1 DT80A

Specifications

Average consumption at 20 °C:

- inrush ($\cos \varphi = 0.75$) 160 VA.

- sealed ($\cos \varphi = 0.3$) 50 Hz: 15 VA, 60 Hz: 15 VA

Operating range ($\theta \leq 60$ °C): 50 Hz: 0.8...1.1 Uc, 60 Hz: 0.85...1.1 Uc.

Control circuit voltage Uc	Average resistance at 20 °C ± 10%	Inductance of closed circuit	Reference (1)	Weight
V	Ω	H	50/60 Hz	kg
12	0.49	0.03	LXD 3J5 (2)	0.070
24	1.98	0.12	LXD 3B7	0.070
32	3.76	0.22	LXD 3C7	0.070
42	6.18	0.37	LXD 3D7	0.070
48	7.97	0.48	LXD 3E7	0.070
100	37.63	2.07	LXD 3K7	0.070
110	42.28	2.50	LXD 3F7	0.070
115	48.76	2.74	LXD 3FE7	0.070
120	37.63	2.07	LXD 3G7	0.070
127	60.29	3.34	LXD 3FC7	0.070
200	149	8.27	LXD 3L7	0.070
208	105	6.22	LXD 3LE7	0.070
220	182	10	LXD 3M7 (3)	0.070
230	192	10.9	LXD 3P7	0.070
240	202	11.9	LXD 3U7	0.070
277	193	11	LXD 3W7	0.070
380	512	29.9	LXD 3Q7 (4)	0.070
400	607	33.1	LXD 3V7	0.070
415	635	35.6	LXD 3N7	0.070
440	682	40.1	LXD 3R7	0.070
480	607	33.1	LXD 3T7	0.070
500	878	51.7	LXD 3S7	0.070
575	1238	68.4	LXD 3SC7	0.070
600	1304	74.5	LXD 3X7	0.070
660	1593	90.1	LXD 3YC7	0.070
690	1683	98.5	LXD 3Y7	0.070

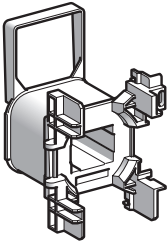
(1) The last 2 digits in the reference represent the voltage code.

(2) This coil can only be used on 50 Hz.

(3) Suitable for use on 230 V / 50 Hz. In this case, apply a coefficient of 0.6 to the mechanical durability of the contactor (see page 142).

(4) Suitable for use on 400 V / 50 Hz. In this case, apply a coefficient of 0.6 to the mechanical durability of the contactor (see page 142).

503894



LXD 3●●

TeSys contactors

a.c. coils for TeSys D, 3 or 4-pole contactors

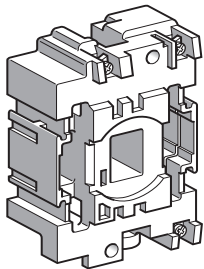
For 3 or 4-pole contactors LC1D40, D50, D65, D80, D95

Specifications

Average consumption at 20 °C:
 - inrush ($\cos \varphi = 0.75$) 50 Hz: 200 VA, 60 Hz: 220 VA,
 - sealed ($\cos \varphi = 0.3$) 50 Hz: 20 VA, 60 Hz: 22 VA
 Operating range ($\theta \leq 55$ °C): 0.85...1.1 Uc.

Control circuit voltage Uc	Average resistance at 20°C ± 10 %	Inductance of closed circuit	Reference (1)	Average resistance at 20°C ± 10 %		Inductance of closed circuit		Reference (1)	Weight
				Ω	H	Ω	H		
			50 Hz		60 Hz				
24	1.4	0.09	LX1 D6B5	1.05	0.06	LX1 D6B6	0.280		0.280
32	2.6	0.16	LX1 D6C5	—	—	—	0.280		0.280
42	4.4	0.27	LX1 D6D5	—	—	—	0.280		0.280
48	5.5	0.35	LX1 D6E5	4.2	0.23	LX1 D6E6	0.280		0.280
110	31	1.9	LX1 D6F5	22	1.2	LX1 D6F6	0.280		0.280
115	31	1.9	LX1 D6FE5	—	—	—	0.280		0.280
120	—	—	—	28	1.5	LX1 D6G6	0.280		0.280
127	41	2.4	LX1 D6G5	—	—	—	0.280		0.280
208	—	—	—	86	4.3	LX1 D6L6	0.280		0.280
220	—	—	—	98	4.8	LX1 D6M6	0.280		0.280
220/230	127	7.5	LX1 D6M5	—	—	—	0.280		0.280
230	133	8.1	LX1 D6P5	—	—	—	0.280		0.280
240	152	8.7	LX1 D6U5	120	5.7	LX1 D6U6	0.280		0.280
256	166	10	LX1 D6W5	—	—	—	0.280		0.280
277	—	—	—	157	8	LX1 D6W6	0.280		0.280
380	—	—	—	300	14	LX1 D6Q6	0.280		0.280
380/400	381	22	LX1 D6Q5	—	—	—	0.280		0.280
400	411	25	LX1 D6V5	—	—	—	0.280		0.280
415	463	26	LX1 D6N5	—	—	—	0.280		0.280
440	513	30	LX1 D6R5	392	19	LX1 D6R6	0.280		0.280
480	—	—	—	480	23	LX1 D6T6	0.280		0.280
500	668	38	LX1 D6S5	—	—	—	0.280		0.280
575	—	—	—	675	33	LX1 D6S6	0.280		0.280
600	—	—	—	775	36	LX1 D6X6	0.280		0.280
660	1220	67	LX1 D6Y5	—	—	—	0.280		0.280

537457



LX1 D6●●

Specifications

Average consumption at 20 °C:
 - inrush ($\cos \varphi = 0.75$) 50/60 Hz: 245 VA at 50 Hz,
 - sealed ($\cos \varphi = 0.3$) 50/60 Hz: 26 VA at 50 Hz.
 Operating range ($\theta \leq 55$ °C): 0.85...1.1 Uc.

				50/60 Hz			
24	—	—	—	1.22	0.08	LX1 D6B7	0.280
42	—	—	—	3.5	0.25	LX1 D6D7	0.280
48	—	—	—	5	0.32	LX1 D6E7	0.280
110	—	—	—	26	1.7	LX1 D6F7	0.280
115	—	—	—	—	—	LX1 D6FE7	0.280
120	—	—	—	32	2	LX1 D6G7	0.280
220/230 (2)	—	—	—	102	6.7	LX1 D6M7	0.280
230	—	—	—	115	7.7	LX1 D6P7	0.280
230/240 (3)	—	—	—	131	8.3	LX1 D6U7	0.280
380/400 (4)	—	—	—	310	20	LX1 D6Q7	0.280
400	—	—	—	349	23	LX1 D6V7	0.280
415	—	—	—	390	24	LX1 D6N7	0.280
440	—	—	—	410	27	LX1 D6R7	0.280

(1) The last 2 digits in the reference represent the voltage code.

(2) For use on 230 V / 50 Hz, apply a coefficient of 0.6 to the mechanical durability of the contactor, see pages 142 and 143.
 This coil can be used on 240 V at 60 Hz.

(3) This coil can be used on 220/240 V at 50 Hz and on 240 V only at 60 Hz.

(4) For use on 400 V / 50 Hz, apply a coefficient of 0.6 to the mechanical durability of the contactor, see pages 142 and 143.

TeSys contactors

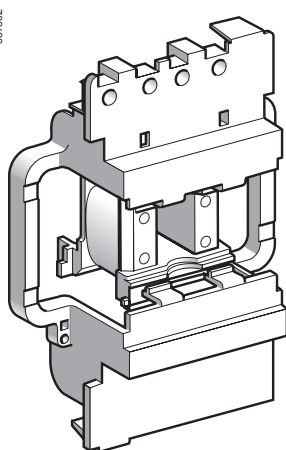
a.c. coils
for TeSys D, 3 or 4-pole contactors

For 3 or 4-pole contactors LC1 D115

Specifications

Average consumption at 20 °C:
 - inrush ($\cos \varphi = 0.8$) 50 or 60 Hz: 300 VA,
 - sealed ($\cos \varphi = 0.3$) 50 or 60 Hz: 22 VA
 Operating range ($\theta \leq 55$ °C): 0.85...1.1 Uc.

Control circuit voltage Uc	Average resistance at 20°C ± 10 %	Inductance of closed circuit	Reference (1)	Average resistance at 20°C ± 10 %		Reference (1)	Weight
				Ω	H		
V	Ω	H		Ω	H		kg
			50 Hz			60 Hz	
24	1.24	0.09	LX1 D8B5	0.87	0.07	LX1 D8B6	0.260
32	2.14	0.17	LX1 D8C5	–	–	–	0.260
42	3.91	0.28	LX1 D8D5	–	–	–	0.260
48	4.51	0.36	LX1 D8E5	3.91	0.28	LX1 D8E6	0.260
110	26.53	2.00	LX1 D8F5	19.97	1.45	LX1 D8F6	0.260
115	26.53	2.00	LX1 D8FE5	–	–	–	0.260
120	–	–	–	24.02	1.70	LX1 D8G6	0.260
127	32.75	2.44	LX1 D8FC5	–	–	–	0.260
208	–	–	–	67.92	5.06	LX1 D8L6	0.260
220	104.77	7.65	LX1 D8M5	79.61	5.69	LX1 D8M6	0.260
230	104.77	8.29	LX1 D8P5	–	–	–	0.260
240	125.25	8.89	LX1 D8U5	97.04	6.75	LX1 D8U6	0.260
277	–	–	–	125.75	8.89	LX1 D8W6	0.260
380	338.51	22.26	LX1 D8Q5	243.07	17.04	LX1 D8Q6	0.260
400	368.43	25.55	LX1 D8V5	–	–	–	0.260
415	368.43	27.65	LX1 D8N5	–	–	–	0.260
440	441.56	30.34	LX1 D8R5	338.51	22.26	LX1 D8R6	0.260
480	–	–	–	368.43	25.55	LX1 D8T6	0.260
500	566.62	38.12	LX1 D8S5	–	–	–	0.260



LX1 D8●●

For 3 or 4-pole contactors LC1 D115, LC1 D150

Specifications

Average consumption at 20 °C:
 - inrush: $\cos \varphi = 0.9$ - 280 to 350 VA,
 - sealed: $\cos \varphi = 0.9$ - 2 to 18 VA.
 Operating range ($\theta \leq 55$ °C): 0.8...1.15 Uc.
 Coils with integral suppression device fitted as standard, class B.

Control circuit voltage Uc	Average resistance at 20°C ± 10 %	Inductance of closed circuit	Reference (1)	Average resistance at 20°C ± 10 %		Reference (1)	Weight
				Ω	H		
V	Ω	H		Ω	H		kg
				50/60 Hz			
24	–	–	–	147	3.03	LX1 D8B7	0.290
32	–	–	–	301	8.28	LX1 D8C7	0.290
42	–	–	–	498	13.32	LX1 D8D7	0.290
48	–	–	–	1061	24.19	LX1 D8E7	0.290
110	–	–	–	4377	109.69	LX1 D8F7	0.290
115	–	–	–	4377	109.69	LX1 D8FE7	0.290
120	–	–	–	4377	109.69	LX1 D8G7	0.290
127	–	–	–	6586	152.65	LX1 D8FC7	0.290
208	–	–	–	10 895	260.15	LX1 D8LE7	0.290
220	–	–	–	9895	210.72	LX1 D8M7	0.290
230	–	–	–	9895	210.72	LX1 D8P7	0.290
240	–	–	–	9895	210.72	LX1 D8U7	0.290
277	–	–	–	21 988	533.17	LX1 D8UE7	0.290
380	–	–	–	21 011	482.42	LX1 D8Q7	0.290
400	–	–	–	21 011	482.42	LX1 D8V7	0.290
415	–	–	–	21 011	482.42	LX1 D8N7	0.290
440	–	–	–	21 501	507.47	LX1 D8R7	0.290
480	–	–	–	32 249	938.41	LX1 D8T7	0.290
500	–	–	–	32 249	938.41	LX1 D8S7	0.290

(1) The last 2 digits in the reference represent the voltage code.

TeSys contactors

d.c. coils

for TeSys D, 3 or 4-pole contactors

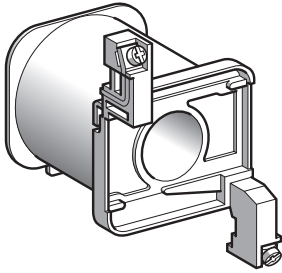
For 3-pole contactors LC1 D80 or 4-pole contactors LP1 D80

Specifications

Average consumption: 22 W.

Operating range: 0.85...1.1 U_c.

537903



LX4 D7•D

Control circuit voltage U _c	Average resistance at 20 °C ± 10%	Inductance of closed circuit	Reference (1)	Weight
V	Ω	H		kg
12	6.6	0.46	LX4 D7JD	0.680
24	27	1.89	LX4 D7BD	0.680
36	57	4	LX4 D7CD	0.680
48	107	7.5	LX4 D7ED	0.680
60	170	11.9	LX4 D7ND	0.680
72	230	16.1	LX4 D7SD	0.680
110	564	39.5	LX4 D7FD	0.680
125	718	50.3	LX4 D7GD	0.680
220	2215	155	LX4 D7MD	0.680
250	2850	200	LX4 D7UD	0.680
440	9195	640	LX4 D7RD	0.680

(1) The last 2 digits in the reference represent the voltage code.

TeSys contactors

d.c. coils for TeSys D, 3 or 4-pole contactors

For contactors LC1 D115, D150

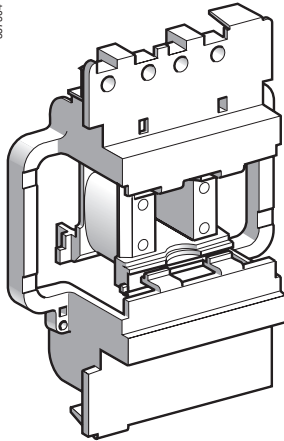
Specifications

Consumption: inrush 270 to 365 W, sealed 2.4 to 5.1 W.

Operating range: 0.75...1.2 Uc.

Coils with integral suppression device fitted as standard, class B.

Control circuit voltage Uc	Average resistance at 20 °C ± 10 %	Inductance of closed circuit	Reference (1)	Weight
V	Ω	H		kg
24	147	3.03	LX4 D8BD	0.300
48	1061	24.19	LX4 D8ED	0.300
60	1673	38.44	LX4 D8ND	0.300
72	2500	56.27	LX4 D8SD	0.300
110	4377	109.69	LX4 D8FD	0.300
125	6586	152.65	LX4 D8GD	0.300
220	9895	210.72	LX4 D8MD	0.300
250	18 022	345.40	LX4 D8UD	0.300
440	21 501	684.66	LX4 D8RD	0.300



LX4 D8●D

For 3-pole contactors LC1 D80 or 4-pole contactors LP1 D80

Specifications

Wide range coils for specific applications

Average consumption: 23 W.

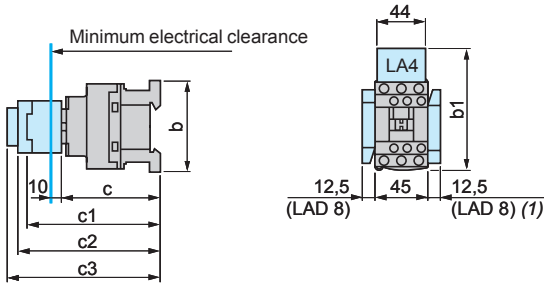
Operating range: 0.75 to 1.2 Uc.

Coils with "TH" treatment as standard.

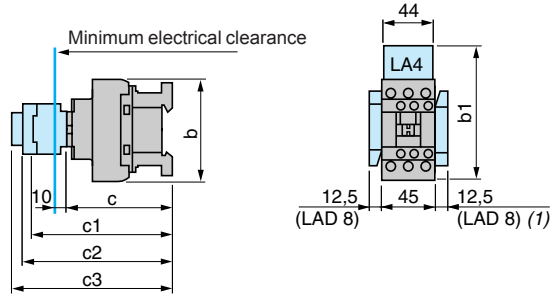
Control circuit voltage Uc	Average resistance at 20 °C ± 10 %	Inductance of closed circuit	Reference (1)	Weight
V	Ω	H		kg
12	6.2	0.49	LX4 D7JW	0.680
24	23.5	1.75	LX4 D7BW	0.680
36	51.9	4.18	LX4 D7CW	0.680
48	94.2	7	LX4 D7EW	0.680
72	204	15.7	LX4 D7SW	0.680
110	483	36	LX4 D7FW	0.680
220	1922	144	LX4 D7MW	0.680

(1) The last 2 digits in the reference represent the voltage code.

LC1 D09...D18 (3-pole)



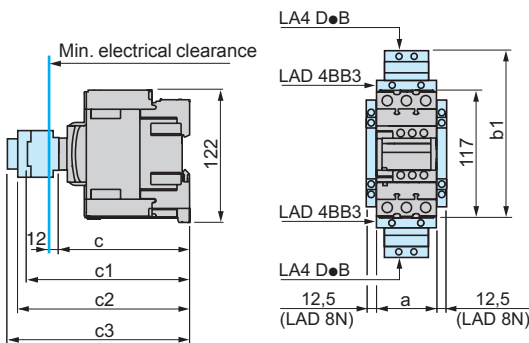
LC1 D25...D38 (3-pole), LC1 DT20...DT40 (4-pole)



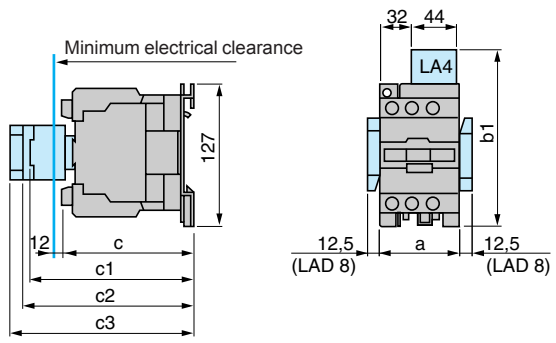
LC1	D09...D18	D093... D123	D099... D129	D25... D38	D183... D323	D098, D128, DT20 and DT25	DT203 and DT253	DT32 and DT40	D188, D258, DT323 and DT403
b without add-on blocks	77	99	80	85	99	85	99	91	105
b1 with LAD 4BB	94	107	95,5	98	107	98	-	-	-
with LA4 D●2	110 (1)	123 (1)	111,5 (1)	114 (1)	123 (1)	114	-	-	-
with LA4 DF, DT	119 (1)	132 (1)	120,5 (1)	123 (1)	132 (1)	129	-	-	-
with LA4 DW, DL	126 (1)	139 (1)	127,5 (1)	130 (1)	139 (1)	190	-	-	-
c without cover or add-on blocks	84	84	84	90	90	90	90	97	97
with cover, without add-on blocks	86	86	86	92	92	92	92	99	99
c1 with LAD N or C (2 or 4 contacts)	117	117	117	123	123	123	123	131	131
c2 with LA6 DK10, LAD 6K10	129	129	129	135	135	135	135	143	143
c3 with LAD T, R, S	137	137	137	143	143	143	143	151	151
with LAD T, R, S and sealing cover	141	141	141	147	147	147	147	155	155

(1) Including LAD 4BB.

LC1 D40A...D65A (3-pole), LC1 DT60A...DT80A (4-pole)



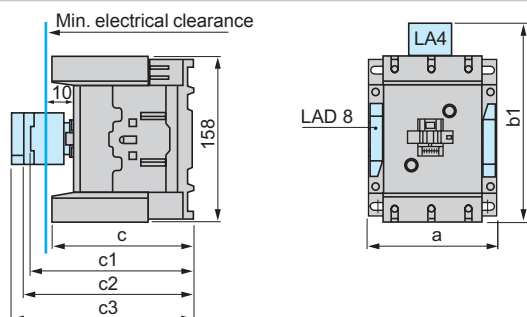
LC1 D80 and D95 (3-pole), LC1 D80004 and D80008 (4-pole), D40008 and D65008 (4-pole)



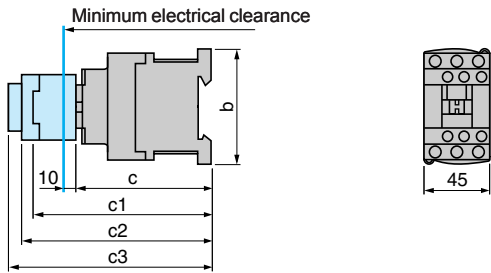
LC1	D40A...D65A	DT60A...DT80A	D40008	D80	D95, D65008	D80004	D80008
a	55	70	85	85	85	96	96
b1 with LA4 D●2	-	-	135	135	135	135	135
with LA4 DB3 or LAD 4BB3	136	-	-	135	-	-	-
with LA4 DF, DT	157	-	142	142	142	142	142
with LA4 DM, DW, DL	166	-	150	150	150	150	150
c without cover or add-on blocks	118	118	125	125	125	125	140
with cover, without add-on blocks	120	120	-	130	130	-	-
c1 with LAD N (1 contact)	-	-	139	150	150	150	150
with LAD N or C (2 or 4 contacts)	150	150	147	158	158	158	158
c2 with LAD 6K10 or LA6 DK	163	163	159	170	170	170	170
c3 with LAD T, R, S	171	171	167	178	178	178	178
with LAD T, R, S and sealing cover	175	175	171	182	182	182	182

LC1 D115 and D150 (3-pole), LC1 D115004 (4-pole)

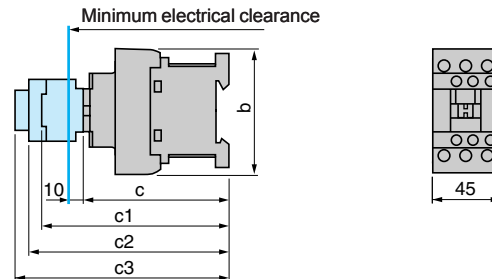
LC1	D115, D150	D115004	D1150046
a	120	150	155
b1 with LA4 DA2	174	174	174
with LA4 DF, DT	185	185	185
with LA4 DM, DL	188	188	188
with LA4 DW	188	188	188
c without cover or add-on blocks	132	132	115
with cover, without add-on blocks	136	-	-
c1 with LAD N or C (2 or 4 contacts)	150	150	150
c2 with LA6 DK20	155	155	155
c3 with LAD T, R, S	168	168	168
with LAD T, R, S and sealing cover	172	172	172



LC1 D09...D18 (3-pole)

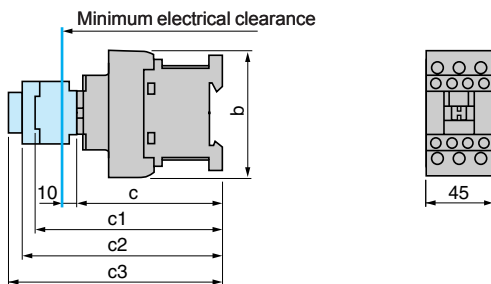


LC1 D25...D38 (3-pole)



LC1	D09...D18	D093...D123	D099...D129	D25...D38	D183...D323
b	77	99	80	85	99
c without cover or add-on blocks	93	93	93	99	99
with cover, without add-on blocks	95	95	95	101	101
c1 with LAD N or C (2 or 4 contacts)	126	126	126	132	132
c2 with LA6 DK10	138	138	138	144	144
c3 with LAD T, R, S	146	146	146	152	152
with LAD T, R, S and sealing cover	150	150	150	156	156

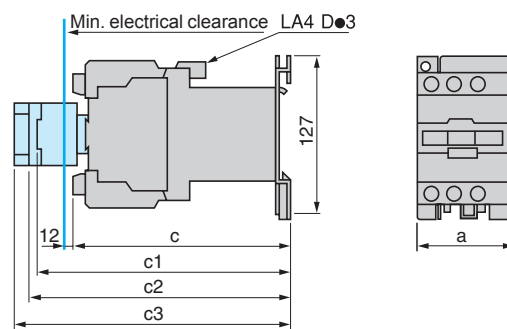
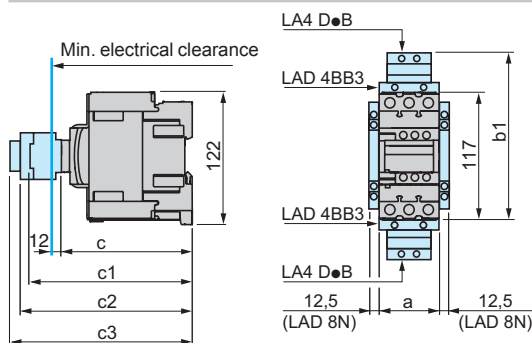
LC1 DT20...DT40 (4-pole)



LC1	DT20 and DT25 D098 and D128	DT203 and DT253 D0983 and D1283	DT32 and DT40 D188...D258	DT323 and DT403 D1883 and D2583
b	85	99	91	105
c with cover	99	99	107	107
c1 with LAD N or C (2 or 4 contacts)	123	123	131	131
c2 with LA6 DK10	135	135	143	143
c3 with LAD T, R, S	143	143	151	151
with LAD T, R, S and sealing cover	147	147	155	155

LC1 D40A...D65A (3-pole), LC1 DT60A...DT80A (4-pole)

LC1 D80 and D95 (3-pole), LP1 D80004, LP1 D80008 (4-pole), LP1 D40008 and D65008 (4-pole)

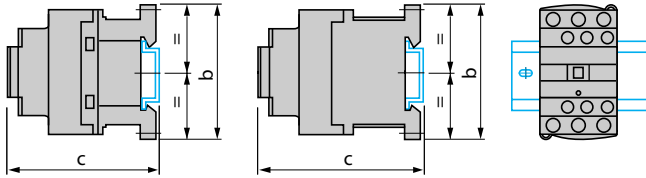


	LC1 D40A ... D65A	LC1 DT60A...DT80A	LP1 D40008 and D65008	LC1 D80 and D95	LP1 D80004	LP1 D80008
a	55	70	85	96	96	96
b1 with LAD 4BB3	136	136	-	-	-	-
with LA4 DF, DT	157	157	-	-	-	-
c without cover or add-on blocks	118	118	182	181	181	196
with cover, without add-on blocks	120	120	-	186	-	-
c1 with LAD N (1 contact)	-	-	196	204	204	204
with LAD N or C (2 or 4 contacts)	150	150	202	210	210	210
c2 with LA6 DK10	163	163	213	221	221	221
c3 with LAD T, R, S	171	171	221	229	229	229
with LAD T, R, S and sealing cover	175	175	225	233	233	233

LC1 D115●●● and LC1 D150●●● with ∴ coil: see page 182

LC1 D09...D38, DT20...DT40

On mounting rail AM1 DP200, DR200 or AM1 DE200 (width 35 mm)



Control circuit: a.c.

LC1	D09... D18	D25... D38	DT20 and DT25	DT32 and DT40
b	77	85	85	100
c (AM1 DP200 or DR200) (1)	88	94	94	109
c (AM1 DE200) (1)	96	102	102	117

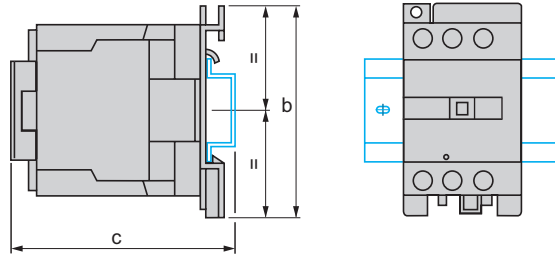
Control circuit: d.c.

LC1	D09... D18	D25... D38	DT20 and DT25	DT32 and DT40
b	77	85	94	109
c (AM1 DP200 or DR200) (1)	97	103	103	118
c (AM1 DE200) (1)	105	110	111	1236

(1) with safety cover.

LC1 D40A...D65A, LC1 DT60A and DT80A, LC1 D80 and D95, LC1 D40008 and D65008

On mounting rail AM1 DL200 or DL201 (width 75 mm)
On mounting rail AM1 ED●●● or AM1 DE200 (width 35 mm)



Control circuit: a.c.

LC1	D40A...D65A DT60A...DT80A	D80 and D95	D40008 and D65008
b	122	127	127
c (AM1 DL200) (1)	–	147	143
c (AM1 DL201) (1)	–	137	133
c (AM1 ED●●● or DE200) (1)	128	137	133

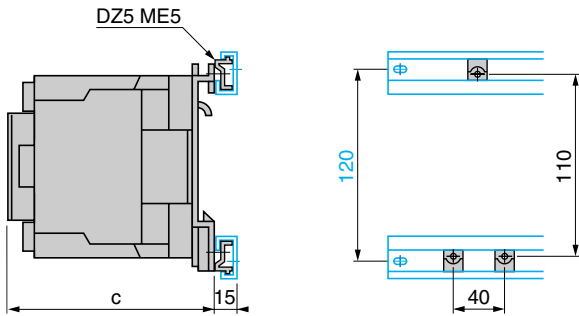
Control circuit: d.c.

LC1	D40A...D65A DT60A...DT80A	D80 and D95	D40008 and D65008
c (AM1 DL200) (1)	–	205	200
c (AM1 DL201) (1)	–	195	190
c (AM1 ED●●● or DE200) (1)	128	128	190

(1) with safety cover.

LC1 D80 and D95, LP1 D80

On 2 mounting rails DZ5 MB on 120 mm centres



Control circuit: a.c.

LC1	D80 and D95
c with cover	130

Control circuit: d.c.

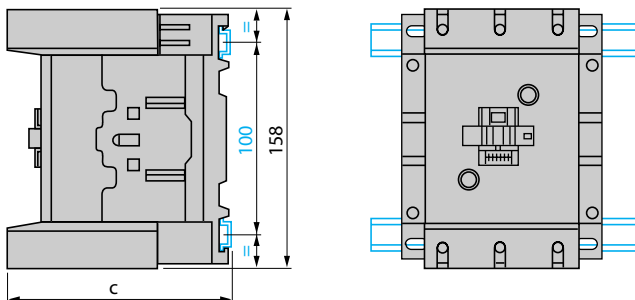
LC1	D80 and D95
c with cover	186

LP1

LP1	D80
c	181

LC1 D115, D150

On 2 mounting rails DZ5 MB on 120 mm centres

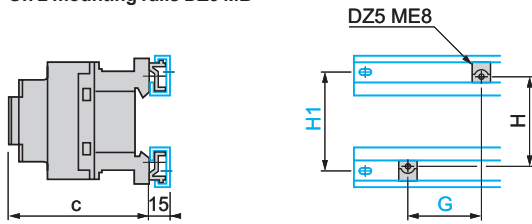


Control circuit: a.c. or d.c.

LC1	D115 and D150	D1156 and D1506
c (AM1 DP200 or DR200)	134,5	117,5
c (AM1 DE200 or ED●●●)	142,5	125,5

LC1 D09...D38 and LC1 DT20...DT40

On 2 mounting rails DZ5 MB



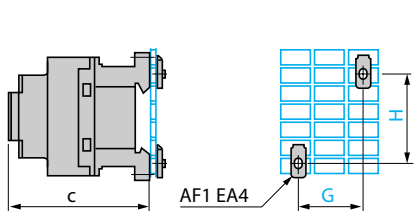
Control circuit:	a.c.		d.c.	
	D09...D18	D25...D38	D09...D18	D25...D38
LC1	D09...D18	D25...D38	D09...D18	D25...D38
c with cover	86	92	95	101
G	35	35	35	35
H	60	60	70	70
H1	70	70	70	70

4-pole contactors

LC1	DT20 and DT25	DT32 and DT40	DT20 and DT25	DT32 and DT40
	c with cover	92	100	101
G	35	35	35	35
H	60	60	70	70
H1	70	70	70	70

LC1 D09...D38 and LC1 DT20...DT40

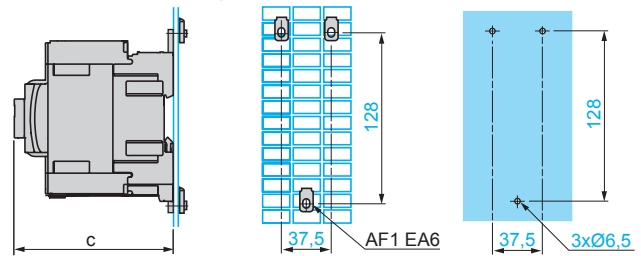
On pre-slotted mounting plate AM1 PA, PB, PC



Control circuit:	a.c.		d.c.	
	D09...D18	D25...D38	D09...D18	D25...D38
LC1	D09...D18	D25...D38	D09...D18	D25...D38
c with cover	86	92	95	101
G	35	35	35	35
H	60/70	60/70	70	70
LC1	DT20 and DT25	DT32 and DT40	DT20 and DT25	DT32 and DT40
c with cover	80	93	118	132
G	35	35	35	35
H	60	60	70	70

LC1 D40A...D65A, LC1 DT60A...DT80A

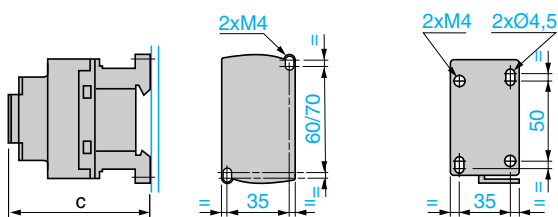
On pre-slotted mounting plate AM1 PA, PB, PC and panel mounted



Control circuit:	a.c.		d.c.	
	D40A...65A, DT60A...DT80A	D40A...65A, DT60A...DT80A	D40A...65A, DT60A...DT80A	D40A...65A, DT60A...DT80A
LC1	D40A...65A, DT60A...DT80A	D40A...65A, DT60A...DT80A	D40A...65A, DT60A...DT80A	D40A...65A, DT60A...DT80A
c with cover	120	120	120	120

LC1 D09...D38, LC1 DT20...DT40

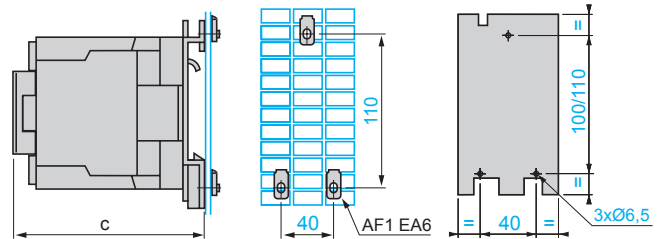
Panel mounted



Control circuit:	a.c.		d.c.	
	D09...D18	D25...D38	D09...D18	D25...D38
LC1	D09...D18	D25...D38	D09...D18	D25...D38
c with cover	86	92	95	101
4-pole contactors				
LC1	DT20 and DT25	DT32 and DT40	DT20 and DT25	DT32 and DT40
c with cover	90	98	90	98

LC1 D80 and D95, LC1 D40008 and D65008, LP1 D80

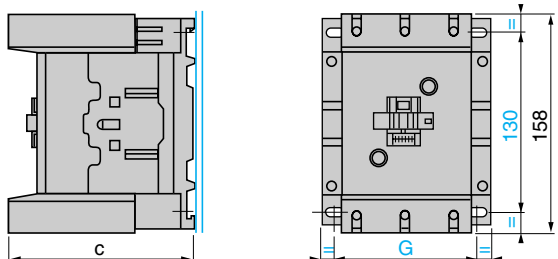
On pre-slotted mounting plate AM1 PA, PB, PC and panel mounted



Control circuit:	a.c.		d.c.	
	D80 and D95, D40008 and D65008	D80 and D95, D40008 and D65008	D80 and D95, D40008 and D65008	D80 and D95, D40008 and D65008
LC1	D80 and D95, D40008 and D65008	D80 and D95, D40008 and D65008	D80 and D95, D40008 and D65008	D80 and D95, D40008 and D65008
c with cover	130	130	186	186
LP1	-	-	D80	D80
c without cover	-	-	181	181

LC1 D115, D150

Panel mounted

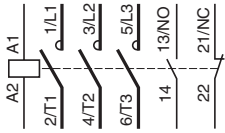


LC1	D115	D1156	D150	D1506
c	132	115	132	115
G (3-pole)	96/110	96/110	96/110	96/110
G (4-pole)	130/144	130/144	-	-

Contactors

3-pole contactors (References: pages 152 to 155)

LC1 D09 to D150



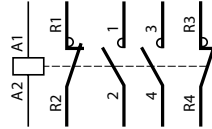
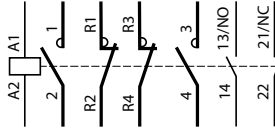
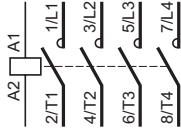
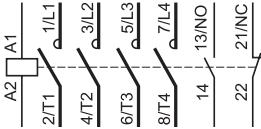
4-pole contactors (References: pages 154 and 155)

LC1 DT20 to DT80A

LC1 D115004

LC1 D098 to D258

LC1 and LP1 D40008 to D80008



Front mounting add-on contact blocks

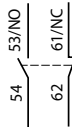
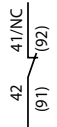
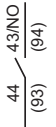
Instantaneous auxiliary contacts (References: page 169)

1 N/O LAD N10 (1)

1 N/C LAD N01 (1)

1 N/O + 1 N/C LAD N11

2 N/O LAD N20

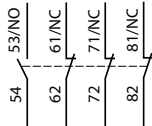
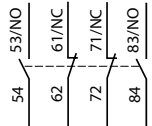
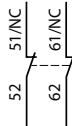


2 N/C LAD N02

2 N/O + 2 N/C LAD N22

1 N/O + 3 N/C LAD N13

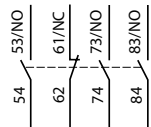
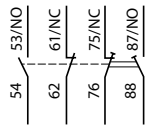
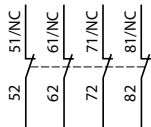
4 N/O LAD N40



4 N/C LAD N04

2 N/O + 2 N/C including 1 N/O + 1 N/C make before break LAD C22

3 N/O + 1 N/C LAD N31



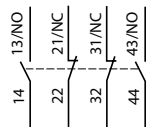
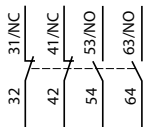
Instantaneous auxiliary contacts conforming to standard EN 50012 (References: page 169)

1 N/O + 1 N/C LAD N11G

1 N/O + 1 N/C LAD N11P

2 N/O + 2 N/C LAD N22G

2 N/O + 2 N/C LAD N22P

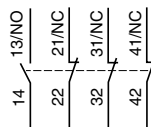
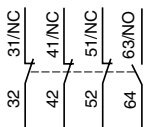
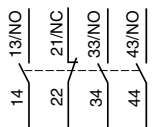
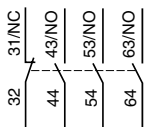


3 N/O + 1 N/C LAD N31G

3 N/O + 1 N/C LAD N31P

1 N/O + 3 N/C LAD N13G

1 N/O + 3 N/C LAD N13P

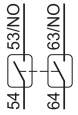


(1) Items in brackets refer to blocks mounted on right-hand side of contactor.

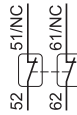
Front mounting add-on contact blocks

Dust and damp protected instantaneous auxiliary contacts (References: page 169)

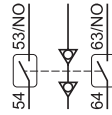
2 N/O (24-50 V)
LA1 DX20



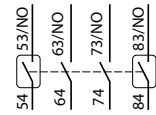
2 N/C (24-50 V)
LA1 DX02



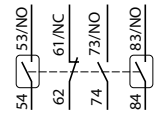
2 N/O (5-24 V)
LA1 DY20



2 N/O protected (24-50 V)
2 N/O standard LA1 DZ40

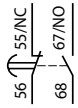


2 N/O protected (24-50 V)
+ 1 N/O + 1 N/C standard LA1 DZ31

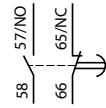


Time delay auxiliary contacts (References: page 170)

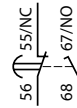
On-delay 1 N/O + 1 N/C LAD T



Off-delay 1 N/O + 1 N/C LAD R

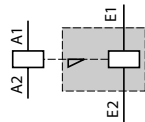


On-delay 1 N/C + 1 N/O break before make LAD S



Mechanical latch blocks (References: page 170)

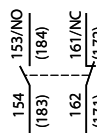
LAD 6K10 and LA6 DK20



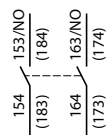
Side mounting add-on contact blocks

Instantaneous auxiliary contacts (References: page 169)

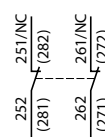
1 N/O + 1 N/C LAD 8N11 (1)



2 N/O LAD 8N20 (1)



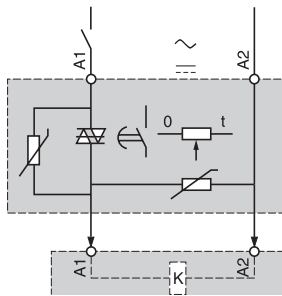
2 N/O LAD 8N02 (1)



(1) Items in brackets refer to blocks mounted on right-hand side of contactor.

Electronic serial timer module

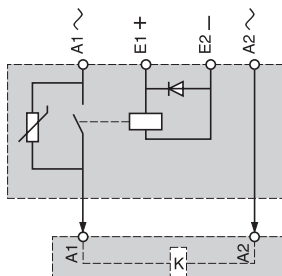
On-delay LA4 DT•U



Interface modules

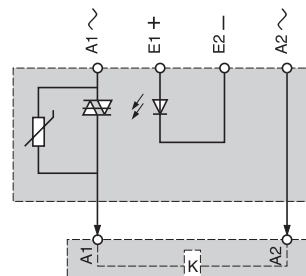
Relay output

LA4 DFB



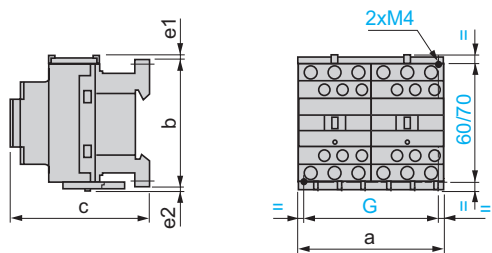
Solid state

LA4 DWB



References: page 173.

LC2 D09 to D38
2 x LC1 D09 to D38

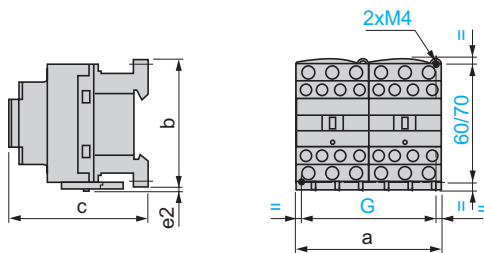


LC2 or 2 x LC1	a	b	c (1)	e1	e2	G
D09 to D18 ~	90	77	86	4	1.5	80
D093 to D123 ~	90	99	86	-	-	80
D09 to D18 ...	90	77	95	4	1.5	80
D093 to D123 ...	90	99	95	-	-	80
D25 to D38 ~	90	85	92	9	5	80
D183 to D383 ~	90	99	92	-	-	80
D25 to D32 ...	90	85	101	9	5	80
D183 to D383 ...	90	99	101	-	-	80

e1 and e2: including cabling.

(1) With safety cover, without add-on block.

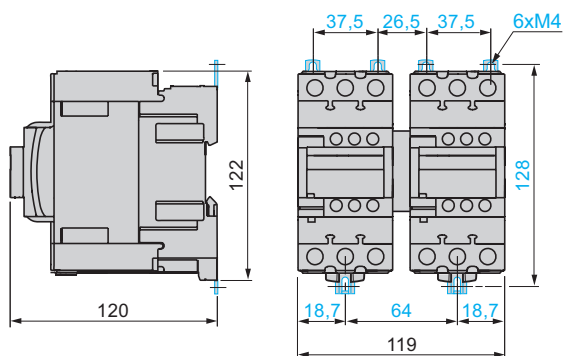
LC2 DT20 to DT40
2 x LC1 DT20 to DT40



LC2 or 2 x LC1	a	b	c	G
DT20 and DT25	90	85	90	80
DT32 and DT40	90	91	98	80

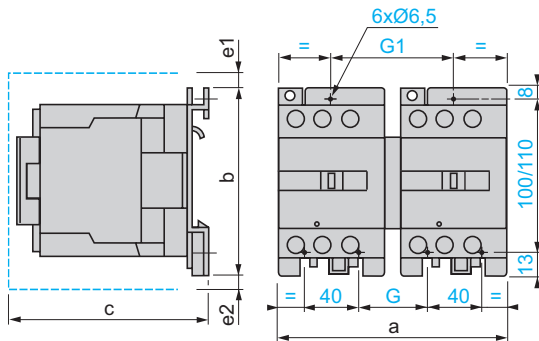
c, e: including cabling.

LC2 D40A to D65A
2 x LC1 D40A to D65A

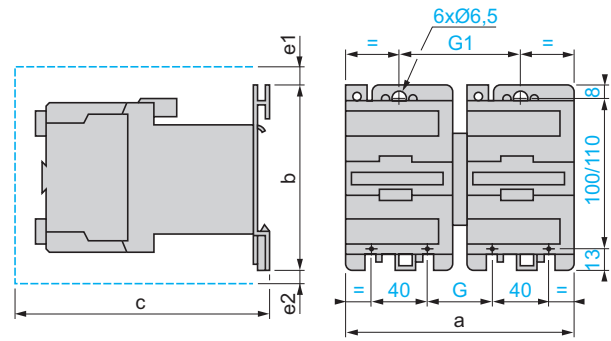


LC2 D80 and D95

2 x LC1 D80 and D95 ~



2 x LC1 D80 and D95 ...



LC2 or 2 x LC1	a	b	c	e1	e2	G	G1
D80 and D95 ~	182	127	158	13	-	57	96
D80004 ~	207	127	158	-	20	71	111

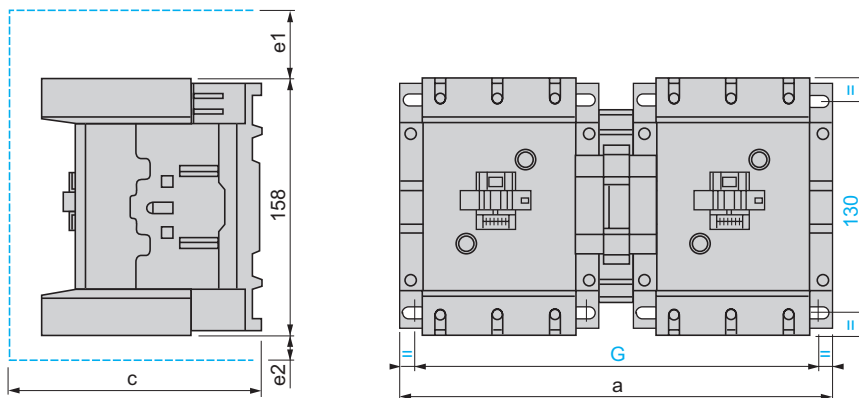
c, e1 and e2: including cabling.

2 x LC1	a	b	c	e1	e2	G	G1
D80 and D95	207	127	215	13	20	96	111

c, e1 and e2: including cabling.

LC2 D115 and D150

2 x LC1 D115 and D150



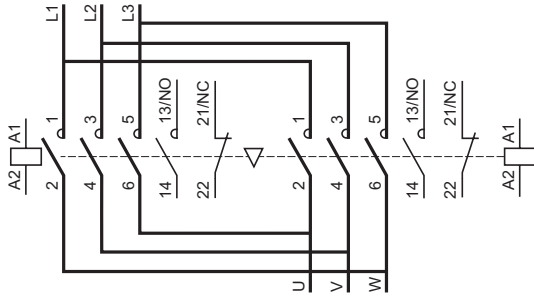
LC2 or 2 x LC1	a	c	e1	e2	G
D115 and D150	266	148	56	18	242/256
D115004	334	148	-	60	310/324

c, e1 and e2: including cabling.

Reversing contactors for motor control

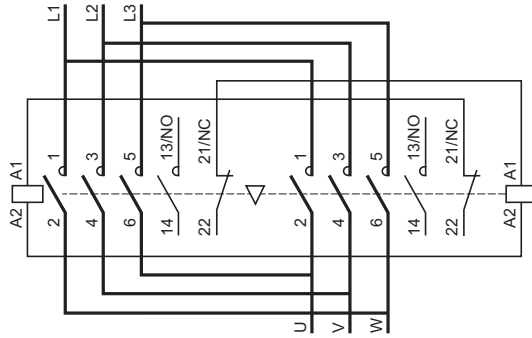
LC2 D09...D150

Horizontally mounted



LAD 9R1V

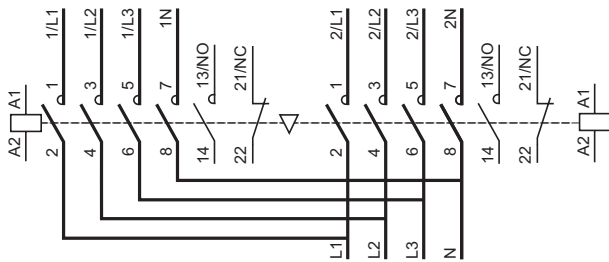
With integral electrical interlocking



Changeover contactor pairs

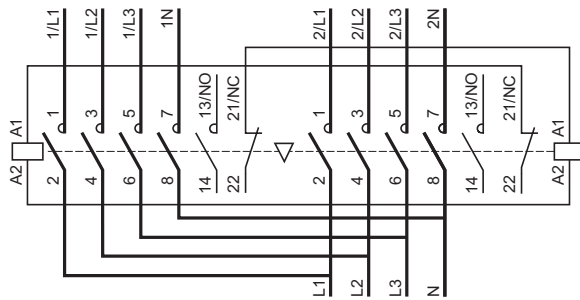
LC2 DT20...DT40

Horizontally mounted



LAD T9R1V

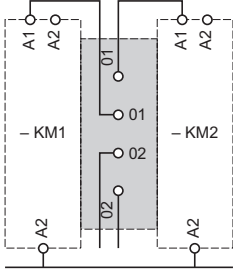
With integral electrical interlocking



Electrical interlocking of reversing contactors fitted with:

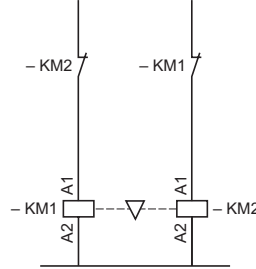
Mechanical interlock with integral electrical contacts

LA9 D4002, LA9 D8002 and LA9 D11502

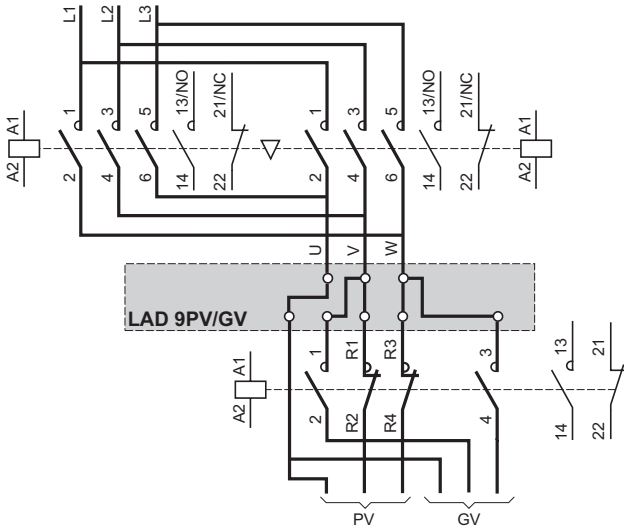


Mechanical interlock without integral electrical contacts

LAD 9V2, LAD 4CM, LA9 D50978 and LA9 D80978



Low speed-High speed cabling kit, screw clamp terminals



Low speed-High speed cabling kit, spring terminals

