TeSys contactors
Model d

Type of contactor			LC1-D09…D18 DT20 & DT25	LC1-D25…D38 DT32 & DT40	LC1-D40	LC1-D50…D95	LC1-D115 & LC1-D150
Environment							
Rated insulation voltage (Ui)	Conforming to IEC 947-4-1, overvoltage category III, degree of pollution: 3	**V**	690		1000		
	Conforming to UL, CSA	**V**	600				
Rated impulse withstand voltage (Uimp)	Conforming to IEC 947	**kV**	6		8		
Conforming to standards			IEC 947-1, 947-4-1, NFC 63-110, VDE 0660, BS 5424, JEM 1038, EN 60947-1, EN 60947-4-1. GL, DNV, PTB, RINA pending				
Product certifications			UL, CSA Complies with SNCF, Sichere Trennung recommendations				
Separation insulation	Conforming to VDE 0106 parts 101 and A1 (project 2/89)	**V**	400				
Degree of protection (1) (front face only)	Conforming to VDE 0106						
	Power connection		Protection against direct finger contact IP 2X				
	Coil connection		Protection against direct finger contact IP 2X (except **LC1-D40…D80**)				
Protective treatment	Conforming to IEC 68		"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 position	Without derating		± 30° possible, in relation to normal vertical mounting plane				
Flame resistance	Conforming to UL 94		V 1				
	Conforming to IEC 695-2-1	**°C**	960				
Shock resistance (2) 1/2 sine wave = 11ms	Contactor open		10 gn	8 gn	8 gn	8 gn	6 gn
	Contactor closed		15 gn	15 gn	10 gn	10 gn	15 gn
Vibration resistance (2) 5…300 Hz	Contactor open		2 gn				
	Contactor closed		4 gn	4 gn	4 gn	3 gn	4 gn

(1) Protection ensured for the connection cross-sections shown on the next page and for connection via cable.
(2) In the least favourable direction, without change of contact state (coil supplied at Ue).

Selection : pages 24565/2 to 24572/5
References : pages 24501/2 to 24502/3
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors

Model d

Connections for power and control circuits

Type of contactor		LC1-	D09 & D12 DT20 & DT25	D18 (3P)	D25	D32	D38	D18 & D25 (4P) DT32 & DT40	D40	D50 & D65	D80 & D95	D115 & D150
Power circuit connections												
Connection via cable												
Tightening			Screw clamps					2-input connector	Screw clamps	1-input connector		2-input connector
Flexible cable without cable end	1 conductor	mm²	1…4	1.5…6	1.5…10	2.5…10		2.5…10	2.5…25	2.5…25	4…50	10…120
	2 conductors	mm²	1…4	1.5…6	1.5…6	2.5…10		2.5…10	2.5…16	2.5…16	4…25	10…120 + 10…50
Flexible cable with cable end	1 conductor	mm²	1…4	1…6	1…6	1…10		2.5…10	2.5…25	2.5…25	4…50	10…120
	2 conductors	mm²	1…2.5	1…4	1…4	1.5…6		2.5…10	2.5…10	2.5…10	4…16	10…120 + 10…50
Solid cable without cable end	1 conductor	mm²	1…4	1.5…6	1.5…6	1.5…10		2.5…16	2.5…25	2.5…25	4…50	10…120
	2 conductors	mm²	1…4	1.5…6	1.5…6	2.5…10		2.5…16	2.5…16	2.5…16	4…25	10…120 + 10…50
Screwdriver	Phillips head		N° 2	N° 2	N° 2	N° 2		N° 2	–	–	–	–
	Ø flat screwdriver		Ø 6	Ø 6	Ø 6	Ø 6		Ø 6	Ø 6…Ø 8	Ø6…Ø8	Ø6…Ø8	–
6 sided key			–	–	–	–		–	–	–	4	4
Tightening torque		N.m	1.7	1.7	2.5	2.5		1.8	5	5	9	12
Connection via spring terminals (2)												
Flexible cable without cable end	1 conductor	mm²	2.5 (4: DT25)	4	4	4	–	10	–	–	–	
	2 conductors	mm²	2.5 (except DT25: –)	4	4	4	–	–	–	–	–	
Connection via bars or lugs												
Bar cross-section			–	–	–	–		–	–	–	3 x 16	5 x 25
Lug external Ø		mm	8	8	10	10		8 (1)	13	16	17	25
Ø of screw		mm	M3.5	M3.5	M4	M4		M3.5	M5	M6	M6	M8
Screwdriver	Phillips head		N° 2	N° 2	N° 2	N° 2		N° 2	N° 2	N° 3	–	–
	Ø flat screwdriver		Ø 6	Ø 6	Ø 6	Ø 6		Ø 6	Ø 8	Ø 8	Ø 8	–
Key for hexagonal headed screw			–	–	–	–		–	–	–	10	13
Tightening torque		N.m	1.7	1.7	2.5	2.5		1.8	5	5	9	12
Control circuit connections												
Connection via cable (tightening via screw clamps)												
Flexible cable without cable end	1 conductor	mm²	1…4	1…4	1…4	1…4		1…4	1…4	1…4	1…4	1…2.5
	2 conductors	mm²	1…4	1…4	1…4	1…4		1…4	1…4	1…4	1…4	1…2.5
Flexible cable with cable end	1 conductor	mm²	1…4	1…4	1…4	1…4		1…4	1…2.5	1…2.5	1…2.5	1…2.5
	2 conductors	mm²	1…2.5	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	mm²	1…4	1…4	1…4	1…4		1…4	1…4	1…4	1…4	1…2.5
	2 conductors	mm²	1…4	1…4	1…4	1…4		1…4	1…4	1…4	1…4	1…2.5
Screwdriver	Phillips head		N° 2	N° 2	N° 2	N° 2		N° 2	N° 2	N° 2	N° 2	N° 2
	Ø flat screwdriver		Ø 6	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	1.2	1.2	1.2	1.2
Connection via spring terminals (2)												
Flexible cable without cable end	1 conductor	mm²	2.5	2.5	2.5	2.5	–	2.5	–	–	–	–
	2 conductors	mm²	2.5	2.5	2.5	2.5	–	2.5	–	–	–	–
Connection via bars or lugs												
Lug external Ø		mm	8	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	M3.5
Screwdriver	Phillips head	N° 2	N° 2	N° 2	N° 2	N° 2		N° 2	N° 2	N° 2	N° 2	N° 2
	Ø flat screwdriver		Ø 6	Ø 6	Ø 6	Ø 6		Ø 6	Ø 6	Ø 6	Ø 6	N°6
Tightening torque		N.m	1.7	1.7	1.7	1.7		1.7	1.2	1.2	1.2	1.2

(1) To connect cables with a c.s.a. > 4mm² and up to 10 mm², it is essential to use special connectors, sold in bags of 100 (reference: **LAD-96180**).

(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.

Selection : pages 24565/2 to 24572/5 **References :** pages 24501/2 to 24502/3 **Dimensions :** pages 24531/2 to 24531/5 **Schemes :** pages 24532/2 and 24532/3

TeSys contactors
Model d

Type of contactor			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 operating 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 947			250		250		300		450	
Rated breaking capacity (440 V)	Conforming to IEC 947			250		250		300		450	
Permissible short-time rating No current flowing for preceding 15 minutes at 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	
Protection by fuse against short-circuits (U ≤ 690 V)	Without thermal overload relay, fuse gG	type 1	**A**	25		40		50		63	
		type 2	**A**	20		25		35		40	
	With thermal overload relay		**A**	See pages 24514/2 and 24514/3, 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 operating currents	AC-3		**W**	0.20		0.36		0.8		1.25	
	AC-1		**W**	1.56		1.56		2.5		3.2	
a.c. control circuit characteristics											
Rated control circuit voltage (Uc)	50/60 Hz		**V**	12…690							
Control voltage limits											
50 or 60 Hz coils	Operational			–							
	Drop-out			–							
50/60 Hz coils	Operational			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							
		50/60 Hz coil	**VA**	70							
	Sealed	50 Hz coil	**VA**	–							
		Cos φ		0.3							
		50/60 Hz coil	**VA**	7							
∿ 60 Hz	Inrush	60 Hz coil	**VA**	–							
		Cos φ		0.75							
		50/60 Hz coil	**VA**	70							
	Sealed	60 Hz coil	**VA**	–							
		Cos φ		0.3							
		50/60 Hz coil	**VA**	7.5							
Heat dissipation 50/60 Hz			**W**	2…3							
Operating time (2)	Closing “C”		**ms**	12…22							
	Opening “O”		**ms**	4…19							
Mechanical life 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 : 20 A for LC1-D093 and LC1-D123, 25 A for LC1-D183 to LC1-D323, 32 A for LC1-D183 connected with 2 x 4mm² cables in parallel, 40 A for LC1-D253 and LC1-D323 connected with 2 x 4mm² cables in parallel.
(2) The closing time “C” is measured from the moment the coil supply is switched on to initial contact of the main poles. The opening time “O” is measured from the moment the coil supply is switched off to the moment the main poles separate.

Selection : pages 24565/2 to 24572/5
References : pages 24501/2 to 24502/3
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

D32	D38	D40	D50	D65	D80	D95	D115	D150
32	38	40	50	65	80	95	115	150
50 (1)	50	60	80	80	125	125	200	200
690	690	1000	1000	1000	1000	1000	1000	1000
25…400	25…400	25…400	25…400	25…400	25…400	25…400	25…400	25…400
50	50	60	80	80	125	125	200	200
550	550	800	900	1000	1100	1100	1260	1660
550	550	800	900	1000	1100	1100	1100	1400
430	430	720	810	900	990	1100	1100	1400
260	310	320	400	520	640	800	950	1200
138	150	165	208	260	320	400	550	580
60	60	72	84	110	135	135	250	250
63	63	80	100	160	200	200	250	315
63	63	80	100	125	160	160	200	250
See pages 24514/2 and 24514/3, for aM or gG fuse ratings corresponding to the associated thermal overload relay								
2	2	1.5	1.5	1	0.8	0.8	0.6	0.6
2	3	2.4	3.7	4.2	5.1	7.2	7.9	13.5
5	5	5.4	9.6	6.4	12.5	12.5	24	24
12…690	24…660						24…500	
–	0.85…1.1 Uc at 55 °C						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 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 55 °C						0.3…0.5 Uc at 55 °C	
–	200						300	–
0.75	0.75						0.8	0.9
70	245						280…350	280…350
–	20						22	–
0.3	0.3						0.3	0.9
7	26						2…18	2…18
–	220						300	–
0.75	0.75						0.8	0.9
70	245						280…350	280…350
–	22						22	–
0.3	0.3						0.3	0.9
7.5	26						2…18	2…18
2…3	6…10						3…8	3…4.5
12…22	20…26	20…26	20…26	20…35	20…35		20…50	20…35
4…19	8…12	8…12	8…12	6…20	6…20		6…20	40…75
–	16	16	16	10	10		8	–
15	6	6	6	4	4		8	8
3600	3600	3600	3600	3600	3600		2400	1200

(1) Versions with spring terminal connections : 20 A for LC1-D093 and LC1-D123, 25 A for LC1-D183 to LC1-D323, 32 A for LC1-D183 connected with 2 x 4mm^2 cables in parallel, 40 A for LC1-D253 and LC1-D323 connected with 2 x 4mm^2 cables in parallel.

TeSys contactors
Model d

d.c. control circuit characteristics

Type of contactor				LC1-D09…D38 DT20…DT40	LC1- or LP1-D40…D65	LC1 or LP1-D80	LC1-D115 & LC1-D150
Rated control circuit voltage (Uc)	⎓		**V**	12…440	12…440		24…440
Rated insulation voltage	Conforming to IEC 947-1		**V**	690			
	Conforming to UL, CSA		**V**	600			
Control voltage limits	Operational	Standard coil		0.7…1.25 Uc at 60 °C	0.85…1.1 Uc at 55 °C		0.75…1.2 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 55 °C		0.15…0.4 Uc at 55 °C
Average consumption at 20 °C and at Uc	⎓	Inrush	**W**	5.4	22	22	270 to 365
		Sealed	**W**	5.4	22	22	2.4…5.1
Average operating time (1) **at Uc**	Closing	"C"	**ms**	55	85…110	95…130	20…35
	Opening	"O"	**ms**	20	20…35	20…35	40…75
	Note: The arcing time depends on the circuit switched by the poles. For normal 3-phase applications, the arcing time is usually less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.						
Time constant (L/R)			**ms**	28	65	75	25
Mechanical life at Uc	In millions of operating cycles			30	20	20	8
Maximum operating rate at ambient temperature ≤ 60 °C	In operating cycles per hour			3600	3600	3600	1200

Low consumption control circuit characteristics

Rated insulation voltage	Conforming to IEC 947-1		**V**	690	–
	Conforming to UL, CSA		**V**	600	–
Maximum voltage	Of the control circuit on ⎓			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**	70	–
	Opening	"O"	**ms**	25	–
Voltage limits (θ ≤ 60 °C) **of the control circuit**	Operational			0.7 to 1.25 Uc	–
	Drop-out			0.1…0.3 Uc	–
Time constant (L/R)			**ms**	40	–
Mechanical life	In millions of operating cycles			30	–
Maximum operating rate	At ambient temperature ≤ 60 °C		**ops/h**	3600	–

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

Selection : pages 24565/2 to 24572/5
References : pages 24501/2 to 24502/3
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors
Model d

Contactor integral auxiliary contact characteristics

Linked contacts conforming to draft standard IEC 947-4-5	Each contactor has 2 N/O and N/C contacts mechanically linked on the same movable contact holder			
Mirror contact	The N/C contact on each contactor represents the state of the power contacts and can be connected to a PREVENTA safety module			
Rated operational voltage (Ue)	Up to		**V**	690
Rated insulation voltage (Ui)	Conforming to IEC 947-1		**V**	690
	Conforming to UL, CSA		**V**	600
Conventional thermal current (Ith)	For ambient temperature ≤ 60 °C		**A**	10
Operating current frequency			**Hz**	25…400
Minimum switching capacity $\lambda = 10^{-8}$	U min.		**V**	17
	I min.		**mA**	5
Short-circuit protection	Conforming to IEC 947-5-1			gG fuse: 10 A
Rated making capacity	Conforming to IEC 947-5-1, 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

Contact operating power

conforming to IEC 947-5-1

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

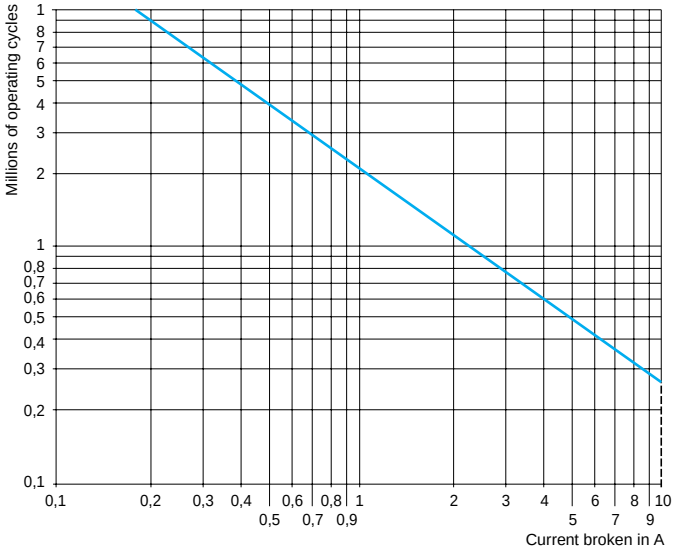
d.c. supply category DC-13
Electrical life (valid for up to 1200 operating cycles/hour)

on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the load.

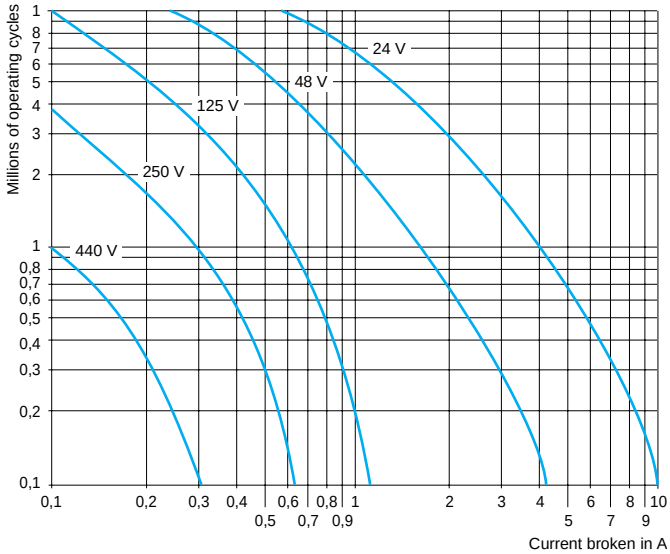
	V	**24**	**48**	**115**	**230**	**400**	**440**	**600**
1 million operating cycles	**VA**	60	120	280	560	960	1050	1440
3 million operating cycles	**VA**	16	32	80	160	280	300	420
10 million operating cycles	**VA**	4	8	20	40	70	80	100

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



Selection : pages 24565/2 to 24572/5
References : pages 24501/2 to 24502/3
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors

Auxiliary contact blocks without dust and damp protected contacts for model d contactors

Contact block type			LAD-N or C	LAD-T & S	LAD-R	LAD-8
Environment						
Conforming to standards			IEC 947-5-1, NF C 63-140, VDE 0660, BS 4794, EN 60947-5-1			
Product certifications			UL, CSA			
Protective treatment	Conforming to IEC 68		"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			
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end	mm^2	Min.: 1 x 1; max.: 2 x 2.5			
Connection by spring terminals	Flexible or solid cable without cable end	mm^2	Max.: 2 x 2.5			
Instantaneous and time delay contact characteristics						
Number of contacts			1, 2 or 4	2	2	2
Rated operational voltage (Ue)	Up to	V	690			
Rated insulation voltage (Ui)	Conforming to IEC 947-5-1	V	690			
	Conforming to UL, CSA	V	600			
Conventional thermal current (Ith)	For ambient temperature ≤ 60 °C	A	10			
Frequency of operational current		Hz	25…400			
Minimum switching capacity	U min.	V	17			
	I min.	mA	5			
Short-circuit protection	Conforming to IEC 947-5-1 and VDE 0660. gG fuse	A	10			
Rated making capacity	Conforming to IEC 947-5-1, 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)			
Overlap time	Guaranteed between N/C and N/O on **LAD-C22**	ms	1.5	–	–	–
Time delay (LAD-T, 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 24506/4			

References: pages 24511/3 and 24511/4
Dimensions: pages 24531/2 and 24531/3
Schemes: pages 24532/2 and 24532/3

TeSys contactors

Auxiliary contact blocks with
dust and damp protected contacts
for model d contactors

Contact block type			LA1-DX	LA1-DZ protected	LA1-DZ non protected	LA1-DY
Environment						
Conforming to standards			IEC 947-5-1, VDE 0660			
Product certifications			UL, CSA			
Protective treatment	Conforming to IEC 68		"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 cable with or without cable end	**mm²**	Min.: 1 x 1 Max.: 2 x 2.5			
Number of contacts			2	2	2	2
Contact characteristics						
Rated operational voltage (Ue)	Up to	**V**	50	50	690	24
Rated insulation voltage (Ui)	Conforming to IEC 947-5-1	**V**	250	250	690	250
	Conforming to UL, CSA	**V**	–	–	600	–
Conventional thermal current (Ith)	For ambient temperature ≤ 40 °C	**A**	–	–	10	–
Maximum operational current (Ie)		**mA**	500	500	–	50
Frequency of operational current		**Hz**	–	–	25…400	–
Minimum switching capacity	U min.	**V**	17	17	17	3
	I min.	**mA**	4	4	5	0.3
Short-circuit protection	Conforming to IEC 947-5-1. gG fuse	**A**	–	–	10	–
Rated making capacity	Conforming to IEC 947-5-1, 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

References: page 24511/3
Dimensions: pages 24531/2 and 24531/3
Schemes: pages 24532/2 and 24532/3

TeSys contactors

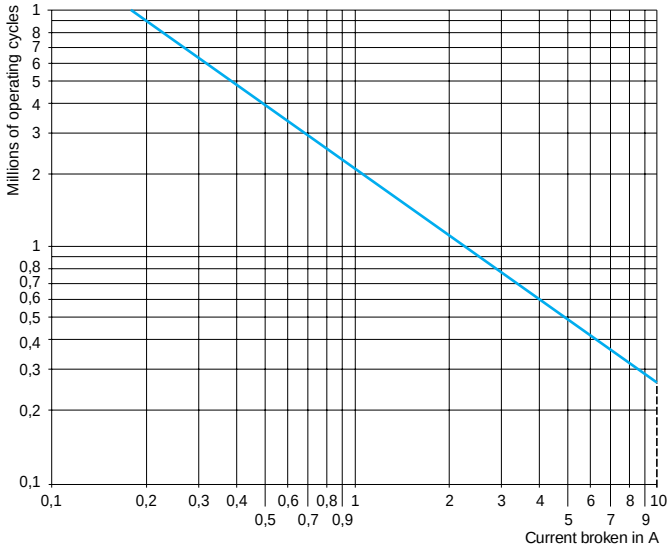
Auxiliary contact blocks with
dust and damp protected contacts
for model d contactors

Operational power of contacts (conforming to IEC 947-5-1)

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

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

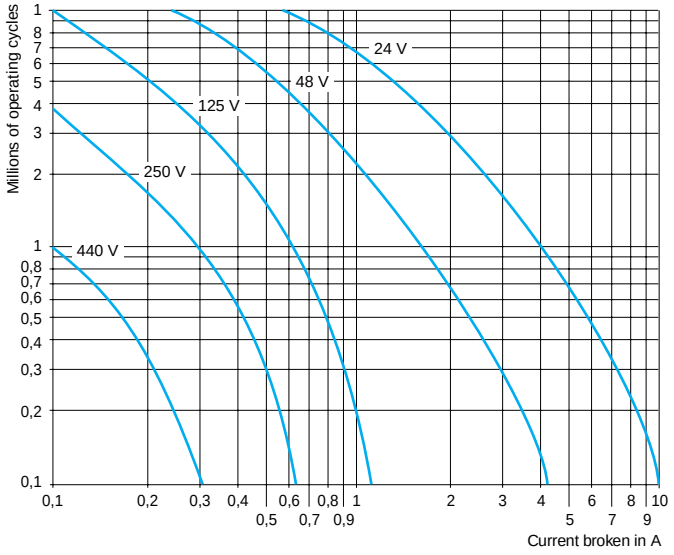
	V	24	48	115	230	400	440	600
1 million operating cycles	VA	60	120	280	560	960	1050	1440
3 million operating cycles	VA	16	32	80	160	280	300	420
10 million operating cycles	VA	4	8	20	40	70	80	100



d.c. supply, category DC-13

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

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



References: pages 24511/3 and 24511/4
Dimensions: pages 24531/2 and 24531/3
Schemes: pages 24532/2 and 24532/3

TeSys contactors

Control modules, coil suppressor modules
and mechanical latch blocks
for model d contactors

Environment

Conforming to standards			IEC 947-5-1
Product certifications			UL, CSA
Protective treatment	Conforming to IEC 68		"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 Uc	**°C**	- 25…+ 70

"Auto - Man - Stop" control modules

Recommendation	The Auto - Man selector switch must only be operated with the Start - Stop ("O" "I") switch in position "O"		
Rated insulation voltage	Conforming to IEC 947-5-1	**V**	250
Rated operational voltage	Conforming to IEC 947-5-1	**V**	250
Protection	Against electric shocks	**kV**	2
Built-in protection	Contactor coil suppression		By varistor
Indication	By integral LED		Illuminates when the contactor coil is energised
Electrical durability	In operating cycles		20,000

Coil suppressor modules

Module type				**LA4-DA LAD-4RC**	**LA4-DB LAD-4T**	**LA4-DC**	**LA4-DE LAD-4V**
Type of protection				RC circuit	Bidirectional peak limiting diode	Diode	Varistor
Rated control circuit voltage (Uc)			**V**	∼ 24…415	∼ or ⎓ 24…72	⎓ 12…250	∼ or ⎓ 24…250
Maximum peak voltage				3 Uc	2 Uc	Uc	2 Uc
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				**LA6-DK10**	**LAD-6K10**	**LA6-DK20**
For mounting on contactor				**LC1D40…D65, LP1-D65**	**LC1-D09…D38, DT20…DT40**	**LC1-D80…D150 LP1-D80 and LC1-D115**
Certification				UL, CSA		UL, CSA
Rated insulation voltage	Conforming to IEC 947-5-1		**V**	690		690
Rated control circuit voltage	∼ 50/60 Hz and ⎓		**V**	24…415		24…415
Power required	For unlatching	∼	**VA**	25		25
		⎓	**W**	30		30
Maximum operating rate	In operating cycles/hour			1200		1200
On-load factor				10 %		10 %
Mechanical durability at Uc	In millions of operating cycles			0.5		0.5

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

References: pages 24511/4 to 24511/7
Dimensions: pages 24531/2 and 24531/3
Schemes: pages 24532/2 and 24532/3

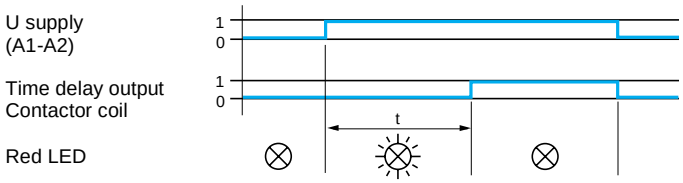
TeSys contactors

Electronic serial timer modules
for model d contactors

Module type			**LA4-DT** (On-delay)
Environment			
Conforming to standards			IEC 255-5
Product certifications			UL, CSA
Protective treatment	Conforming to IEC 68		"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 Uc	**°C**	- 25…+ 70
Rated insulation voltage (Ui)	Conforming to IEC 947-5-1	**V**	250
Cabling	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end	**mm²**	Min.: 1 x 1 Max.: 2 x 2.5
Control circuit characteristics			
Built-in protection	On input		By varistor
	Suppression of contactor		By varistor
Rated control circuit voltage (Uc)		**V**	∿ or ⎓ 24…250
Permissible variation			0.8…1.1 Uc
Type of control			By mechanical contact only
Time delay characteristics			
Timing ranges		**s**	0.1…2; 1.5…30; 25…500
Repeat accuracy	0…40 °C		± 3 % (10 ms minimum)
Reset time	During the time delay period	**ms**	150
	After the time delay period	**ms**	50
Immunity to micro-breaks	During the time delay period	**ms**	10
	After the time delay period	**ms**	2
Minimum control pulse duration		**ms**	–
Indication of time delay	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

Operating diagram

LA4-DT "On-delay" electronic timers



References: page 24511/7
Dimensions: pages 24531/2 and 24531/3
Schemes: pages 24532/2 and 24532/3

TeSys contactors

Interface modules
for model d contactors

Environment

Conforming to standards			IEC 255-5
Product certifications			UL, CSA
Protective treatment	Conforming to IEC 68		"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 Uc	**°C**	- 25…+ 70

Other characteristics

Module type			**LA4-DFBQ** With relay	**LA4-DFB** With relay	**LA4-DFE** With relay	**LA4-DLB** With relay + override	**LA4-DLE**	**LA4-DWB** Solid state
Rated insulation voltage	Conforming to IEC 947-5-1	**V**	5	250				
Rated operational voltage	Conforming to IEC 947-5-1	**V**	415	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	⎓ 48	⎓ 24	⎓ 48	⎓ 24
	Permissible variation	**V**	17…30	17…30	33…60	17…30	33…60	5…30
	Current consumption at 20 °C	**mA**	25	25	15	25	15	8.5 for 5 V 15 for 24 V
	State "0" guaranteed for U	**V**	< 2.4	< 2.4	< 4.8	< 2.4	< 4.8	< 2.4
	I	**mA**	< 2	< 2	< 1.3	< 2	< 1.3	< 2
	State "1" guaranteed for U	**V**	17	17	33	17	33	5
Built-in protection	Against reverse polarity		By diode					
	Of the input		By diode					
Electrical durability at 220/240 V	In millions of operating cycles		3	10	10	3	3	20
Maximum immunity time to micro-breaks		**ms**	4	4	4	4	4	1
Power dissipated	At 20 °C	**W**	0.6	0.6	0.6	0.6	0.6	0.4
Direct mounting without contactor	With coil: ∿ 24…250 V		–	**LC1-D40…D150**				–
	∿ 100…250 V		–	–				**LC1-D40…D115**
	∿ 380…415 V		**LC1-D40…D150**	–				–
Mounting with cabling adaptor LAD-4BB	With coil: ∿ 24…250 V		–	**LC1-D09…D38, DT20…DT40**				**LC1-D09…D38, DT20…DT40**
	∿ 380…415 V		**LC1-D09…D38, DT20…DT40**	–				–

Total operating time at Uc (of the contactor)

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

			LC1-D09…D38, DT20…DT40	**LC1-D40…D65**	**LC1-D80 and D95**
With **LA4-DF, DL**	N/O	**ms**	20…30	28…34	28…43
	N/C	**ms**	16…24	20…24	18…32

Cabling	Phillips N° 2 and Ø 6 mm	**mm²**	Min.: 1 x 1
	Flexible or solid cable with or without cable end	**mm²**	Min.: 2 x 2.5

References: page 24511/7 Dimensions: pages 24531/2 and 24531/3 Schemes: pages 24532/2 and 24532/3

TeSys contactors

For motor control up to 75 kW at 400 V,
in category AC-3
Control circuit: a.c., d.c. or low consumption



LC1-D09●●



LC1-D25●●



LC1-D95●●



LC1-D115●●

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

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3 (θ ≤ 60 °C)							Rated operational current in AC-3	Instantaneous auxiliary contacts		Basic reference. Complete with code indicating control circuit voltage (2) Fixing (1)	Standard voltages				Weight (4)
220V 230V	380V 400V	415V	440V	500V	660V 690V	1000V	440 V up to				~		⎓	LC(3)	
kW	kW	kW	kW	kW	kW	kW	A								kg
2.2	4	4	4	5.5	5.5	–	**9**	1	1	**LC1-D09●●**	**B7**	**P7**	**BD**	**BL**	0.320
3	5.5	5.5	5.5	7.5	7.5	–	**12**	1	1	**LC1-D12●●**	**B7**	**P7**	**BD**	**BL**	0.325
4	7.5	9	9	10	10	–	**18**	1	1	**LC1-D18●●**	**B7**	**P7**	**BD**	**BL**	0.330
5.5	11	11	11	15	15	–	**25**	1	1	**LC1-D25●●**	**B7**	**P7**	**BD**	**BL**	0.370
7.5	15	15	15	18.5	18.5	–	**32**	1	1	**LC1-D32●●**	**B7**	**P7**	**BD**	**BL**	0.375
9	18.5	18.5	18.5	18.5	18.5	–	**38**	1	1	**LC1-D38●●**	**B7**	**P7**	**BD**	**BL**	0.380
11	18.5	22	22	22	30	22	**40**	1	1	**LC1-D40●●**	**B7**	**P7**	**BD**	–	1.400
15	22	25	30	30	33	30	**50**	1	1	**LC1-D50●●**	**B7**	**P7**	**BD**	–	1.400
18.5	30	37	37	37	37	37	**65**	1	1	**LC1-D65●●**	**B7**	**P7**	**BD**	–	1.400
22	37	45	45	55	45	45	**80**	1	1	**LC1-D80●●**	**B7**	**P7**	**BD**	–	1.590
25	45	45	45	55	45	45	**95**	1	1	**LC1-D95●●**	**B7**	**P7**	**BD**	–	1.610
30	55	59	59	75	80	75	**115**	1	1	**LC1-D115●●**	**B7**	**P7**	**BD**	–	2.500
40	75	80	80	90	100	90	**150**	1	1	**LC1-D150●●**	**B7**	**P7**	**BD**	–	2.500

3-pole contactors for connection by lugs or bars

Insert the digit **6** before the voltage code in the references selected above.
Example: **LC1-D09●●** becomes **LC1-D096●●**.

Accessories

Auxiliary contact blocks and modules: see pages 24511/2 to 24511/9.

(1) LC1-D09 to D38: clip-on mounting on 35 mm ⊐ rail AM1-DP or screw fixing.
LC1-D40 to D95 ~: clip-on mounting on 35 mm or 75 mm ⊐ rail AM1-DL or screw fixing.
LC1-D40 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.

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	–
LC1-D40...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...D38 (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-D40...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					

For other voltages between 5 and 690 V, see pages 24507/2 to 24507/7.
(3) LC: low consumption.
(4) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg for contactors LC1-D09 to D38, 0.785 kg for contactors LC1-D40 to D65 and 1 kg for contactors LC1-D80 and D95.

Selection : pages 24565/2 to 24572/5
Characteristics : pages 24505/2 to 24505/7
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors

For motor control up to 15 kW at 400 V,
in category AC-3
Control circuit: a.c., d.c. or low consumption



LC1-D123●●



LC1-D129●●

3-pole contactors for connection by spring terminals

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3 (θ ≤ 60 °C)						Rated operational current in AC-3	Instantaneous auxiliary contacts		Basic reference. Complete with code indicating control circuit voltage (2) Fixing (1)	Standard voltages				Weight (4)
220V 230V	380V 400V	415V	440V	500V	660V 690V	440 V up to				~		⎓	LC(3)	
kW	**kW**	**kW**	**kW**	**kW**	**kW**	**A**								kg
2.2	4	4	4	5.5	5.5	**9**	1	1	**LC1-D093●●**	**B7**	**P7**	**BD**	**BL**	0.320
3	5.5	5.5	5.5	7.5	7.5	**12**	1	1	**LC1-D123●●**	**B7**	**P7**	**BD**	**BL**	0.325
4	7.5	9	9	10	10	**18**	1	1	**LC1-D183●●**	**B7**	**P7**	**BD**	**BL**	0.330
5.5	11	11	11	15	15	**25**	1	1	**LC1-D253●●**	**B7**	**P7**	**BD**	**BL**	0.370
7.5	15	15	15	18.5	18.5	**32** (5)	1	1	**LC1-D323●●**	**B7**	**P7**	**BD**	**BL**	0.375

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 and auxiliary terminals. It is possible to make 2 x 6.35 mm connections to the coil terminals by using a double Faston connector, reference: LA9-6180, to be ordered separately (sold in lots of 100).
For contactors LC1-D09 and LC1-D12 only, replace the digit 3 with a **9** in the references selected above.
Example: **LC1-D093●●** becomes **LC1-D099●●**.

Accessories

Auxiliary contact blocks and modules: see pages 24511/2 to 24511/9.

(1) LC1-D09 to D32: clip-on mounting on 35 mm ⊓ rail AM1-DP or screw fixing.
(2) Standard control circuit voltages.

a.c. supply												
Volts	**24**	**42**	**48**	**110**	**115**	**220**	**230**	**240**	**380**	**400**	**415**	**440**
LC1-D09...D32												
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...D32 (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**				
LC1-D09...D32 (coils with integral suppression device fitted as standard)												
U 0.7…1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL				

For other voltages between 5 and 690 V, see pages 24507/2 to 24507/7.
(3) LC: low consumption.
(4) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg for contactors LC1-D09 to D32.
(5) Must be wired with 2 x 4 mm² cables in parallel on the upstream side. On the downstream side, outgoing terminal block LAD-33 may be used (Quickfit technology, see page 15021/5).

TeSys contactors

For control in category AC-1, 25 to 200 A
Control circuit: a.c., d.c. or low consumption



LC1-D129●●

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

Non inductive loads maximum current (θ ≤ 60 °C) utilisation category AC-1	Number of poles	Instantaneous auxiliary contacts		Basic reference. Complete with code indicating control circuit voltage (2) Fixing (1)	Standard voltages ~	⎓	LC (3)		Weight (4)
A									kg
25	3	1	1	**LC1-D09●●**	**B7**	**P7**	**BD**	**BL**	0.320
				or **LC1-D12●●**	**B7**	**P7**	**BD**	**BL**	0.325
32	3	1	1	**LC1-D18●●**	**B7**	**P7**	**BD**	**BL**	0.330
40	3	1	1	**LC1-D25●●**	**B7**	**P7**	**BD**	**BL**	0.370
50	3	1	1	**LC1-D32●●**	**B7**	**P7**	**BD**	**BL**	0.375
				or **LC1-D38●●**	**B7**	**P7**	**BD**	**BL**	0.380
60	3	1	1	**LC1-D40●●**	**B7**	**P7**	**BD**	–	1.400
80	3	1	1	**LC1-D50●●**	**B7**	**P7**	**BD**	–	1.400
				or **LC1-D65●●** (5)	**B7**	**P7**	**BD**	–	1.400
125	3	1	1	**LC1-D80●●**	**B7**	**P7**	**BD**	–	1.590
				or **LC1-D95●●** (5)	**B7**	**P7**	**BD**	–	1.610
200	3	1	1	**LC1-D115●●**	**B7**	**P7**	**BD**	–	2.500
				or **LC1-D150●●** (6)	**B7**	**P7**	**BD**	–	2.500



LC1-D123●●

3-pole contactors for connection by lugs or bars

Insert the digit **6** before the voltage code in the references selected above.
Example: **LC1-D09●●** becomes **LC1-D096●●**.

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. It is possible to make 2 x 6.35 mm connections to the coil terminals by using a double Faston connector, reference: LAD-99635, to be ordered separately (sold in lots of 100).
For contactors LC1-D09 and LC1-D12 only, insert the digit **9** before the voltage code in the references selected above.
Example: **LC1-D09●●** becomes **LC1-D099●●**.

3-pole contactors for connection by spring terminals

20	3	1	1	**LC1-D093●●**	**B7**	**P7**	**BD**	**BL**	0.320
				or **LC1-D123●●**	**B7**	**P7**	**BD**	**BL**	0.325
25	3	1	1	**LC1-D183●●** (6)	**B7**	**P7**	**BD**	**BL**	0.335
				or **LC1-D253●●** (7)	**B7**	**P7**	**BD**	**BL**	0.325
				or **LC1-D323●●** (7)	**B7**	**P7**	**BD**	**BL**	0.325

Accessories

Auxiliary contact blocks and modules: see pages 24511/2 to 24511/9.

(1) LC1-D09 to D38 and LC1-DT20 to DT40: clip-on mounting on 35 mm ⊓ rail AM1-DP or screw fixing.
LC1-D40 to D95 ~: clip-on mounting on 35 mm or 75 mm ⊓ rail AM1-DL or screw fixing.
LC1 or LP1-D40 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) See note (2) page 24502/3.
(3) LC: low consumption.
(4) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.160 kg for contactors LC1-D09 to D38, 0.785 kg for contactors LC1-D40 to D65 and 1 kg for contactors LC1-D80 and D95.
(5) Selection according to the number of operating cycles, see AC-1 curve, page 24561/2.
(6) 32 A with 2 x 4 mm² cables connected in parallel.
(7) 40 A with 2 x 4 mm² cables connected in parallel.

Selection : pages 24565/2 to 24572/5
Characteristics : pages 24505/2 to 24505/7
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors

For control in category AC-1, 20 to 200 A
Control circuit: a.c., d.c. or low consumption



LC1-DT20

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

Non inductive loads maximum current ($\theta \leq 60$ °C) utilisation category AC-1	Number of poles		Instantaneous auxiliary contacts		Basic reference. Complete with code indicating control circuit voltage (2) Fixing (1)	Standard voltages ~		⎓	LC(3)	Weight (4)
A										kg
20	4	–	1	1	**LC1-DT20●●**	**B7**	**P7**	**BD**	**BL**	0.365
	2	2	1	1	**LC1-D098●●**	**B7**	**P7**	**BD**	**BL**	0.365
25	4	–	1	1	**LC1-DT25●●**	**B7**	**P7**	**BD**	**BL**	0.365
	2	2	1	1	**LC1-D128●●**	**B7**	**P7**	**BD**	**BL**	0.365
32	4	–	1	1	**LC1-DT32●●**	**B7**	**P7**	**BD**	**BL**	0.425
	2	2	1	1	**LC1-D188●●**	**B7**	**P7**	**BD**	**BL**	0.425
40	4	–	1	1	**LC1-DT40●●**	**B7**	**P7**	**BD**	**BL**	0.425
	2	2	1	1	**LC1-D258●●**	**B7**	**P7**	**BD**	**BL**	0.425
60	4	–	–	–	**LC1-D40004●●**	**B7**	**P7**	–	–	1.440
					or **LP1-D40004●●**			**BD**		2.210
	2	2	–	–	**LC1-D40008●●**	**B7**	**P7**	–	–	1.440
					or **LP1-D40008●●**	–	–	**BD**	–	2.210
80	4	–	–	–	**LC1-D65004●●**	**B7**	**P7**	–	–	1.440
					or **LP1-D65004●●**	–	–	**BD**	–	2.210
	2	2	–	–	**LC1-D65008●●**	**B7**	**P7**	–	–	1.450
					or **LP1-D65008●●**	–	–	**BD**	–	2.220
125	4	–	–	–	**LC1-D80004●●**	**B7**	**P7**	–	–	1.760
					or **LP1-D80004●●**	–	–	**BD**	–	2.685
	2	2	–	–	**LC1-D80008●●**	**B7**	**P7**	–	–	1.840
					or **LP1-D80008●●**	–	–	**BD**	–	2.910
200	4	–	–	–	**LC1-D115004●●**	**B7**	**P7**	–	–	2.860

4-pole contactors for connection by lugs or bars

Insert the digit **6** before the voltage code in the references selected above.
Example: **LC1-DT20●●** becomes **LC1-DT206●●**.

4-pole contactors for connection by spring terminals

20	4	–	1	1	**LC1-DT203**	**B7**	**P7**	**BD**	**BL**	0.380
	2	2	1	1	**LC1-D0983**	**B7**	**P7**	**BD**	**BL**	0.380
25	4	–	1	1	**LC1-DT253**	**B7**	**P7**	**BD**	**BL**	0.380
	2	2	1	1	**LC1-D1283**	**B7**	**P7**	**BD**	**BL**	0.380
32	4	–	1	1	**LC1-DT323**	**B7**	**P7**	**BD**	**BL**	0.425
	2	2	1	1	**LC1-D1883**	**B7**	**P7**	**BD**	**BL**	0.425
40	4	–	1	1	**LC1-DT403**	**B7**	**P7**	**BD**	**BL**	0.425
	2	2	1	1	**LC1-D2583**	**B7**	**P7**	**BD**	**BL**	0.425

Accessories

Auxiliary contact blocks and modules: see pages 24511/2 to 24511/9.

(1) See note page 24502/2.

(2) Standard control circuit voltages.

a.c. supply													
Volts	**24**	**42**	**48**	**110**	**115**	**220**	**230**	**240**	**380**	**400**	**415**	**440**	**500**
LC1-D09...D150 and LC1-DT20...DT40 (coils with integral suppression device fitted as standard)													
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	–
LC1-D40...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...D38 and LC1-DT20...DT40 (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-D40...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 (coil 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 0.7…1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL

For other voltages between 5 and 690 V, see pages 24507/2 to 24507/7.

(3) LC: low consumption.

(4) The weights indicated are for contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.165 kg and for contactors **LC1-D80**, 1 kg.

Selection : pages 24565/2 to 24572/5
Characteristics : pages 24505/2 to 24505/7
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors

Reversing contactors for motor control up to 75 kW at 400 V in category AC-3, horizontally mounted, pre-assembled
Control circuit: a.c., d.c. or low consumption



LC2-D50●●

3-pole reversing contactors for connection by screw clamp terminals or connectors

Pre-wired power connections
Mechanical interlock without electrical interlocking.

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Rated operational current in AC-3 (θ ≤ 60°C)	Instantaneous auxiliary contacts per contactor		Contactors supplied with coil Basic reference. Complete with code indicating control circuit voltage (2) Fixing (1)	Standard voltages				Weight (4)
220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V	440 V up to				~		⎓	LC (3)	
kW	**kW**	**kW**	**kW**	**kW**	**kW**	**kW**	**A**								kg
2.2	4	4	4	5.5	5.5	–	**9**	1	1	**LC2-D09●●** (5)	**B7**	**P7**	**BD**	**BL**	0.687
3	5.5	5.5	5.5	7.5	7.5	–	**12**	1	1	**LC2-D12●●** (5)	**B7**	**P7**	**BD**	**BL**	0.697
4	7.5	9	9	10	10	–	**18**	1	1	**LC2-D18●●** (5)	**B7**	**P7**	**BD**	**BL**	0.707
5.5	11	11	11	15	15	–	**25**	1	1	**LC2-D25●●** (5)	**B7**	**P7**	**BD**	**BL**	0.787
7.5	15	15	15	18.5	18.5	–	**32**	1	1	**LC2-D32●●** (5)	**B7**	**P7**	**BD**	**BL**	0.797
9	18.5	18.5	18.5	18.5	18.5	–	**38**	1	1	**LC2-D38●●** (5)	**B7**	**P7**	**BD**	**BL**	0.807
11	18.5	22	22	22	30	–	**40**	1	1	**LC2-D40●●**	**B7**	**P7**	–	–	2.400
15	22	25	30	30	33	–	**50**	1	1	**LC2-D50●●**	**B7**	**P7**	–	–	2.400
18.5	30	37	37	37	37	–	**65**	1	1	**LC2-D65●●**	**B7**	**P7**	–	–	2.400
22	37	45	45	55	45	–	**80**	1	1	**LC2-D80●●**	**B7**	**P7**	–	–	3.200
25	45	45	45	55	45	–	**95**	1	1	**LC2-D95●●**	**B7**	**P7**	–	–	3.200
30	55	59	59	75	80	75	**115**	1	1	**LC2-D115●●**	**B7**	**P7**	–	–	6.350
40	75	80	80	90	100	90	**150**	1	1	**LC2-D150●●**	**B7**	**P7**	–	–	6.400



LC2-D12●●

3-pole reversing contactors for connection by lugs or bars

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

Accessories

Auxiliary contact blocks and modules: see pages 24511/2 to 24511/9.

(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 or 75 mm ⊓ rail AM1-DL or screw fixing.
LC2-D115 and D150: clip-on mounting on 2 x 35 mm ⊓ rails AM1-DP or screw fixing.
(2) Standard control circuit voltages.

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	–
LC2-D40...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...D38 (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-D09…D38 (coils with integral suppression device fitted as standard)													
U 0.7…1.25 Uc		AL	JL	ZL	BL	EL	FL	ML	UL				

For other voltages between 5 and 690 V, see pages 24507/2 to 24507/7.
(3) LC: low consumption.
(4) The weights indicated are for reversing contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.330 kg.
(5) 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**.

Selection : pages 24565/2 to 24572/5
Characteristics : pages 24505/2 to 24505/7
Dimensions, schemes : pages 24533/2 and 24533/3

TeSys contactors

Reversing contactors for motor control up to 15 kW at 400 V in category AC-3, horizontally mounted, pre-assembled
Control circuit: a.c., d.c. or low consumption



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						Rated operational current in AC-3 (θ ≤ 60°C)	Instantaneous auxiliary contacts per contactor		Contactors supplied with coil Basic reference. Complete with code indicating control circuit voltage (2) Fixing (1)	Standard voltages				Weight (4)
220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	440 V up to				~		⎓	LC (3)	
kW	**kW**	**kW**	**kW**	**kW**	**kW**	**A**								kg
2.2	4	4	4	5.5	5.5	**9**	1	1	**LC2-D093●●**	**B7**	**P7**	**BD**	**BL**	0.687
3	5.5	5.5	5.5	7.5	7.5	**12**	1	1	**LC2-D123●●**	**B7**	**P7**	**BD**	**BL**	0.697
4	7.5	9	9	10	10	**18**	1	1	**LC2-D183●●**	**B7**	**P7**	**BD**	**BL**	0.707
5.5	11	11	11	15	15	**25**	1	1	**LC2-D253●●**	**B7**	**P7**	**BD**	**BL**	0.787
7.5	15	15	15	18.5	18.5	**32**	1	1	**LC2-D323●●**	**B7**	**P7**	**BD**	**BL**	0.797

3-pole reversing 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. It is possible to make 2 x 6.35 mm connections to the coil terminals by using a double Faston connector, reference: LAD-99635, to be ordered separately (sold in lots of 100).
For reversing contactors LC2-D09 and LC2-D12 only, insert the digit **9** before the voltage code in the references selected from the page opposite. Example: **LC1-D09●●** becomes **LC1-D099●●**.

Accessories

Auxiliary contact blocks and modules: see pages 24511/2 to 24511/9.

(1) LC2-D09 to D38: clip-on mounting on 35 mm ⊓ rail AM1-DP or screw fixing.
(2) Standard control circuit voltages.

a.c. supply												
Volts	**24**	**42**	**48**	**110**	**115**	**220**	**230**	**240**	**380**	**400**	**415**	**440**
LC2-D09...D32												
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**
LC2-D09...D32 (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-D09...D32 (coils with integral suppression device fitted as standard)												
U 0.7…1.25 Uc		AL	JL	ZL	BL	EL	FL	ML	UL			

For other voltages between 5 and 690 V, see pages 24507/2 to 24507/5.
(3) LC: low consumption.
(4) The weights indicated are for reversing contactors with a.c. control circuit. For d.c. or low consumption control circuit, add 0.330 kg.

Selection : pages 24565/2 to 24572/5
Characteristics : pages 24505/2 to 24505/7
Dimensions, schemes : pages 24533/2 and 24533/3

TeSys contactors

Changeover contactor pairs for control in category AC-1, 20 to 200 A, horizontally mounted, pre-assembled
Control circuit: a.c., d.c. or low consumption

105702_1



LC2-DT20

4-pole changeover contactor pairs for connection by screw clamp terminals or connectors

Pre-wired power connections

LC2-DT20 to LC2-DT40 mechanical interlock without electrical interlocking. LC2-D65 and LC2-D80 : order separately 2 auxiliary contact blocks LAD-N●1 to obtain electrical interlocking between the 2 contactors (see page 24511/3). For electrical interlocking incorporated in the mechanical interlock, please consult your Regional Sales Office.
LC2-D115 mechanical interlock with integral, pre-wired electrical interlocking.

Utilisation category AC-1 Non-inductive loads Maximum rated operational current (θ < 60 °C)	Instantaneous auxiliary contacts per contactor		Contactors supplied with coils Basic reference. Complete with code indicating control circuit voltage (2) Fixing (1)	Standard voltages ~		⎓	LC(3)	Weight
A								kg
20	1	1	**LC2-DT20●●**	**B7**	**P7**	**BD**	**BL**	0.730
25	1	1	**LC2-DT25●●**	**B7**	**P7**	**BD**	**BL**	0.730
32	1	1	**LC2-DT32●●**	**B7**	**P7**	**BD**	**BL**	0.850
40	1	1	**LC2-DT40●●**	**B7**	**P7**	**BD**	**BL**	0.850
60	–	–	**LC2-D40004●●**	**B7**	**P7**	–	–	3.200
80	–	–	**LC2-D65004●●**	**B7**	**P7**	–	–	3.200
125	–	–	**LC2-D80004●●**	**B7**	**P7**	–	–	3.200
200	–	–	**LC2-D115004●●**	**B7**	**P7**	–	–	7.400

4-pole changeover contactor pairs for connection by lugs or bars

20	1	1	**LC2-DT206●●**	**B7**	**P7**	**BD**	**BL**	0.730
25	1	1	**LC2-DT256●●**	**B7**	**P7**	**BD**	**BL**	0.730
32	1	1	**LC2-DT326●●**	**B7**	**P7**	**BD**	**BL**	0.850
40	1	1	**LC2-DT406●●**	**B7**	**P7**	**BD**	**BL**	0.850
60	–	–	**LC2-D400046**	**B7**	**P7**	–	–	2.400
80	–	–	**LC2-D650046●●**	**B7**	**P7**	–	–	3.200
125	–	–	**LC2-D800046●●**	**B7**	**P7**	–	–	3.200
200	–	–	**LC2-D1150046●●**	**B7**	**P7**	–	–	7.400

Accessories

Auxiliary contact blocks and add-on modules: see pages 24511/2 to 24511/9.

(1) LC2-DT20 to DT40: clip-on mounting on 35 mm ⊓ rail AM1-DP or screw fixing.
LC2-D65 and D80: clip-on mounting on 35 mm or 75 mm ⊓ rail AM1-DL or screw fixing.
LC2-D115: clip-on mounting on 2 x 35 mm ⊓ rails AM1-DP or screw fixing.
(2) See note (2) next page.
(3) LC: low consumption.

TeSys contactors

Changeover contactor pairs for control in category AC-1, 20 and 25 A, horizontally mounted, pre-assembled
Control circuit: a.c., d.c. or low consumption

4-pole changeover contactor pairs for connection by spring terminals

Pre-wired power connections

With mechanical interlock without electrical interlocking

Utilisation category AC-1 Non-inductive loads Maximum rated operational current (θ < 60 °C)	Instantaneous auxiliary contacts per contactor		Contactors supplied with coils Basic reference. Complete with code indicating control circuit voltage (2) Fixing (1)	Standard voltages ~	Standard voltages ⎓	Standard voltages LC (3)	Weight
A							kg
20	1	1	**LC2-DT203●●**	**B7**	**P7**	**BD**	**BL**	0.760

Accessories

Auxiliary contact blocks and add-on modules: see pages 24511/2 to 24511/9.

(1) Clip-on mounting on 35 mm ⊓ rail AM1-DP or screw fixing.
(2) Standard control circuit voltages.

a.c. supply													
Volts	**24**	**42**	**48**	**110**	**115**	**220**	**230**	**240**	**380**	**400**	**415**	**440**	**500**
LC2-DT20…DT40													
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	–
LC2-D65…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-DT20…DT40 (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

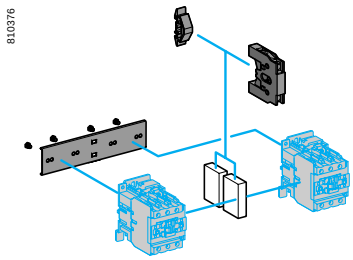
Low consumption								
Volts ⎓	**5**	**12**	**20**	**24**	**48**	**110**	**220**	**250**
LC2-DT20...DT40 (coils with integral suppression device fitted as standard)								
U 0.7…1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL

For other voltages between 5 and 690 V, see pages 24507/2 to 24507/7.
(3) LC : low consumption.

TeSys contactors

Component parts for assembling reversing contactors for motor control or low speed - high speed starters

For 3-pole motor reversing contactors



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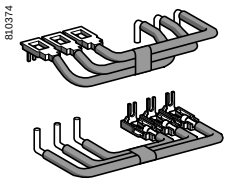

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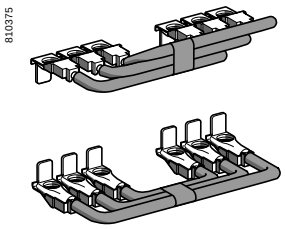

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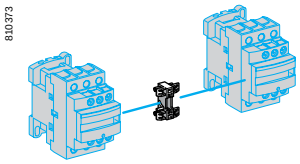
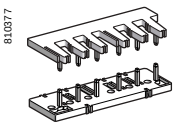




LAD-9R1

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

Using 2 identical contactors (1)	Set of power connections Reference	Weight kg	Mechanical interlock Reference of kit	Weight kg
Including mechanical interlock and an electrical interlocking kit for the contactors				
LC1-D09…D38	**LAD-9R1V** (2)	0.045	–	–
Including mechanical interlock with integral electrical interlocking				
LC1-D40…D65	**LA9-D6569**	0.290	**LA9-D4002**	0.170
LC1-D80 and D95 (~)	**LA9-D8069**	0.290	**LA9-D4002**	0.170
LC1-D80 and D95 (⎓)	**LA9-D8069**	0.490	**LA9-D8002**	0.170
LC1-D115 and D150	**LA9-D11569**	1.450	**LA9-D11502**	0.290
Including mechanical interlock without electrical interlocking				
LC1-D09…D38 with screw clamp terminals or connectors	**LAD-9R1** (2)	0.045	–	–
LC1-D09…D32 with spring terminal connections	(3)	–	–	–
LC1-D40…D65	**LA9-D6569**	0.290	**LA9-D50978**	0.170
LC1-D80 and D95 (~)	**LA9-D8069**	0.490	**LA9-D50978**	0.170
LC1-D80 and D95 (⎓)	**LA9-D8069**	0.490	**LA9-D80978**	0.170

For low speed - high speed starter

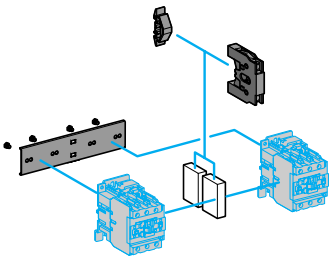
Description	For contactors with connections	Reference	Weight kg
Connection kit enabling reversing of slow and high speed directions, using a reversing contactor and a 2N/O + 2N/C main pole contactor	Screw clamps or connectors	**LAD-9PVGV**	0.016
	Power connection module with spring terminal connections	**LAD-3PVGV**	0.034
	Outgoing terminal block with spring terminal connections	**LAD-3PVGV10**	0.034

(1) To order the 2 contactors: see pages 24501/2 and 24501/3.
(2) Including mechanical interlock.
(3) To build 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** i 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-33**
(If **LAD-33** is not used, replace **LAD-9V11** with **LAD-9V13**).

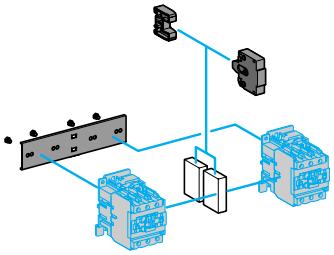
Selection : pages 24565/2 to 24565/5
Characteristics : pages 24505/2 to 24505/7
Dimensions, schemes : pages 24533/2 and 24533/

TeSys contactors

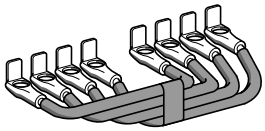
Component parts for assembling changeover contactor pairs for distribution



LA9-D4002



LA9-D50978



LA9-D8070

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

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

Using 2 identical contactors (1)	Set of power connections Reference	Weight kg	Mechanical interlock Reference of kit	Weight kg
Including mechanical interlock and an electrical interlocking kit for the contactors				
LC1-DT20…DT40	**LAD-T9R1V** (2)	0.040	–	–
Including mechanical interlock with integral electrical interlocking				
LC1-D65004	**LA9-D6570**	0.150	**LA9-D4002**	0.170
LC1-D80004	**LA9-D8070**	0.280	**LA9-D4002**	0.170
LP1-D80004	**LA9-D8070**	0.280	**LA9-D8002**	0.170
LC1-D115004	**LA9-D11570**	1.100	**LA9-D11502**	0.280
Including mechanical interlock without electrical interlocking				
LC1-DT20…DT40 with screw clamp terminals or connectors	**LAD-T9R1** (2)	0.035	–	–
LC1-DT203…DT403 with spring terminal connections	(4)	–	–	–
LC1 or LP1-D65004	**LA9-D6570** (3)	0.150	**LA9-D50978**	0.155
LC1-D80004	**LA9-D8070** (3)	0.280	**LA9-D50978**	0.155
LP1-D80004	**LA9-D8070** (3)	0.280	**LA9-D80978**	0.180

For 3-pole changeover contactor pairs

Including mechanical interlock with integral electrical interlocking

LC1-D115 and D150	**LA9-D11571**	0.960	**LA9-D11502**	0.280

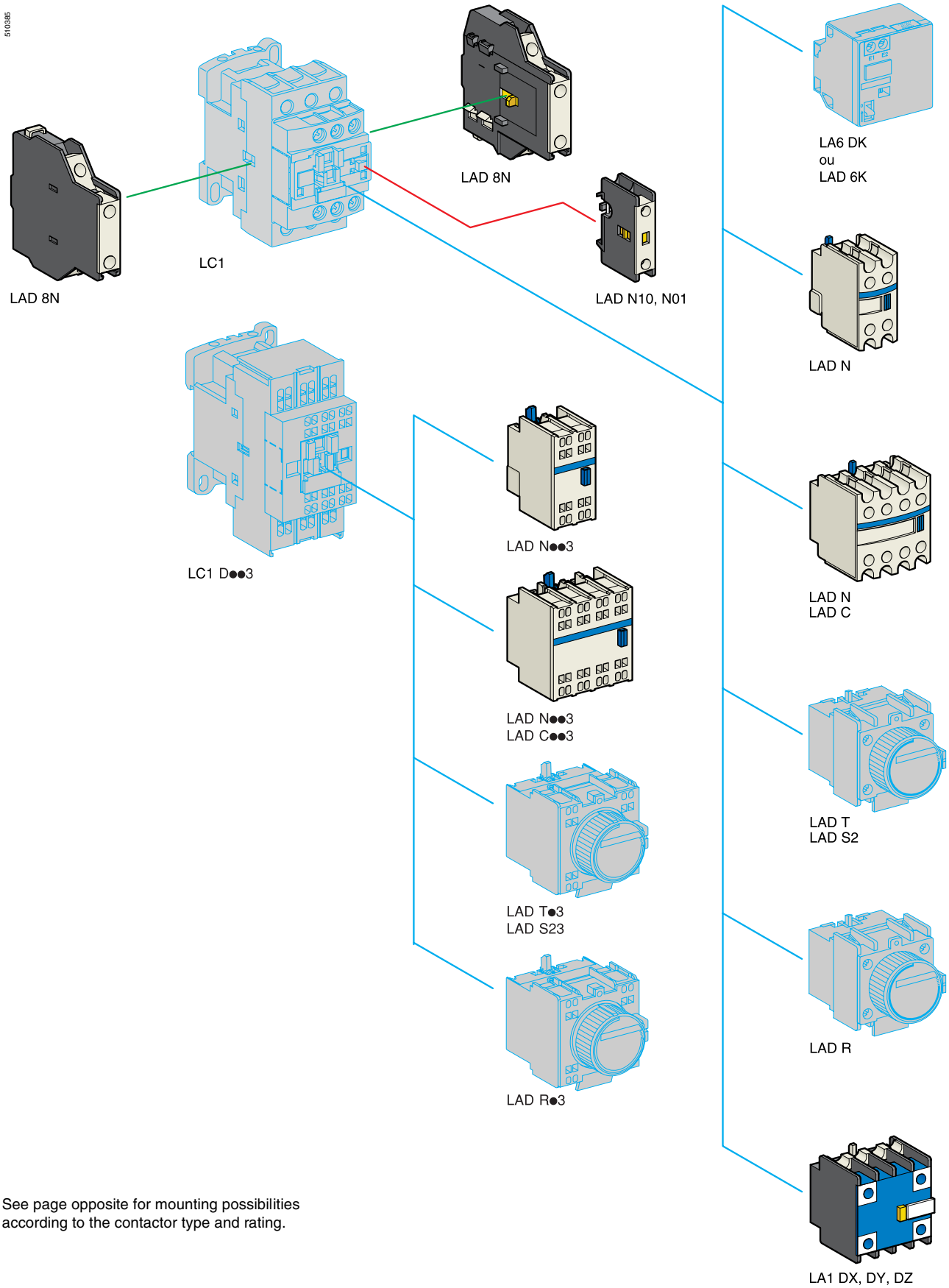
(1) To order the 2 contactors: see pages 24502/3 and 24503/2.
(2) Including mechanical interlock.
(3) Order 2 contact blocks **LAD-N●1** to obtain electrical interlocking between the contactors, see page 24511/3.
(4) To build a reversing contactor with spring terminal connections, the following components must be ordered in addition to the 2 contactors:
- 1 mechanical interlock **LAD-9V2**,
- 1 downstream power connection kit **LAD-9V9**.

Selection : pages 24565/2 to 24565/5
Characteristics : pages 24505/2 to 24505/7
Dimensions, schemes : pages 24533/2 and 24533/ 3

TeSys contactors

TeSys d contactors and reversing contactors

Instantaneous auxiliary contact blocks



See page opposite for mounting possibilities according to the contactor type and rating.

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 D40 to D95, a set of shims must be ordered separately, see page 24511/9

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 60A	2	–	–	–	1	1	**LAD N11G**	0.030
	4	–	–	–	2	2	**LAD N22G**	0.050
Front, on 4P contactors 80 to 200A	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
	4	–	2	–	2	–	**LA1 DZ40**	0.050
		–	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			Instantaneous auxiliary contacts					Time delay
Type	Number of poles and size		Side mounted		Front mounted			Front mounted
					1 contact	2 contacts	4 contacts	
~	3P	LC1 D09…D38	1 on LH side	**and**	–	1	or 1	or 1
		LC1 D40…D95 (50/60 Hz)	1 on each side	**or**	2	and 1	or 1	or 1
		LC1 D40…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 D40…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 D40…D95	–		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	or 1	or 1
		LC1 D40…D80	–		2	and 1	or 1	or 1
		LC1 D115	1 on each side		–	and 1	or 1	or 1
LC *(3)*	3P	LC1 D09…D38	–		–	1	–	–
	4P	LC1 DT20…DT40	–		–	1	–	–

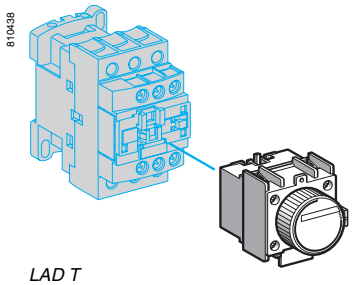
(2) Device fitted with 4 earth screen continuity terminals.

(3) LC: low consumption.

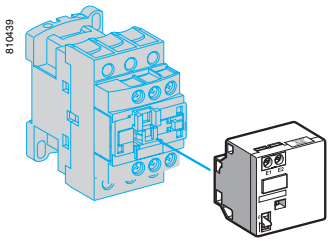
Characteristics : pages 24506/2 to 24506/4
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors

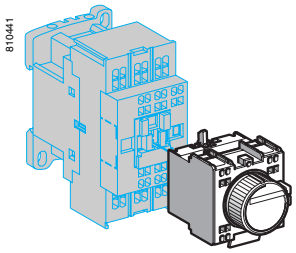
TeSys d contactors and reversing contactors
Time delay auxiliary contact blocks
Mechanical latch blocks



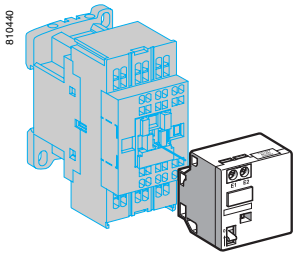
LAD T



LA6 DK



LAD T●3



LA6 DK

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 24511/3.
Sealing cover to be ordered separately, see page 24511/9.
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 per block	Time delay		Reference	Weight
		Type	Setting range		kg
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

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**.

Mechanical latch blocks *(1)*

Clip-on mounting	Unlatching control	For use on contactor	Basic reference, to be completed by adding the voltage code *(2)*	Weight
				kg
Front	Manual or electric	LC1 D40…D65 (3 P ∿ or ⎓) LC1 D40 and D65 (4 P ∿) LP1 D40 and D65 (4 P ⎓)	**LA6 DK10●**	0.070
		LC1 D80…D150 (3 P ∿) LC1 D80 and D115 (3 P ⎓) LC1 D80 (4 P ∿) LC1 D80 & D115 (4 P ∿) LP1 D80 & LC1 D115 (4 P ⎓)	**LA6 DK20●**	0.090
		LC1 D09…D38 (∿ or ⎓) LC1 DT20…DT40 (∿ or ⎓)	**LAD 6K10●**	0.070

(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
(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

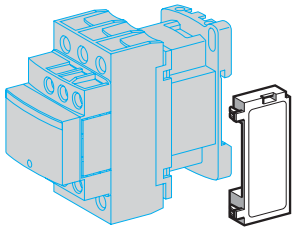
Characteristics : pages 24506/2 to 24506/4
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors

TeSys d contactors and reversing contactors

Suppressor modules

510384



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)*			Reference	Weight
	Rating	Type			
		V ∼	V ⎓		kg
Clip-on *(3)*	D09…D38 (3P) DT20…DT40	24…48	–	**LAD 4RCE**	0.012
		50…127	–	**LAD 4RCG**	0.012
		110…240	–	**LAD 4RCU**	0.012
Screw mounting *(4)*	D40…D150 (3P) and D40…D115 (4P)	24…48	–	**LA4 DA2E**	0.018
		50…127	–	**LA4 DA2G**	0.018
		110…240	–	**LA4 DA2U**	0.018
		380…415	–	**LA4 DA2N**	0.018

Varistors (peak limiting)

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

Clip-on *(3)*	D09…D38 (3P) *(2)* DT20…DT40	24…48	–	**LAD 4VE**	0.012
		50…127	–	**LAD 4VG**	0.012
		110…250	–	**LAD 4VU**	0.012
Screw mounting *(4)*	D40…D115 (3P) and D40…D115 (4P)	24…48	–	**LA4 DE2E**	0.018
		50…127	–	**LA4 DE2G**	0.018
		110…250	–	**LA4 DE2U**	0.018
	D40…D95 (3P) and D40…D80 (4P)	–	24…48	**LA4 DE3E**	0.018
		–	50…127	**LA4 DE3G**	0.018
		–	110…250	**LA4 DE3U**	0.018

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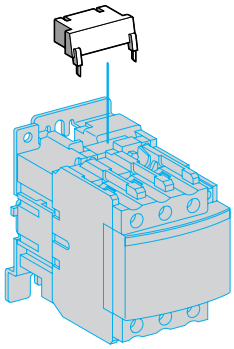


LA4 D●●

Flywheel diodes

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

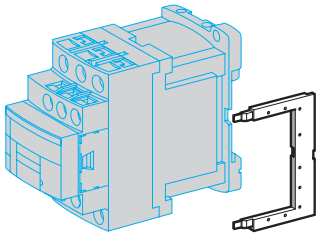
Clip-on *(5)*	D09…D38 (3P) DT20…DT40	–	24…250	**LAD 4DDL**	0.012
Screw mounting *(4)*	D40…D95 (3P) D40…D80 (4P)	–	24…250	**LA4 DC3U**	0.018

Bidirectional peak limiting diode

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

Clip-on *(3) (5)*	D09…D38 (3P) *(2)* DT20…DT40	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
Screw mounting *(4)*	D40…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

510726

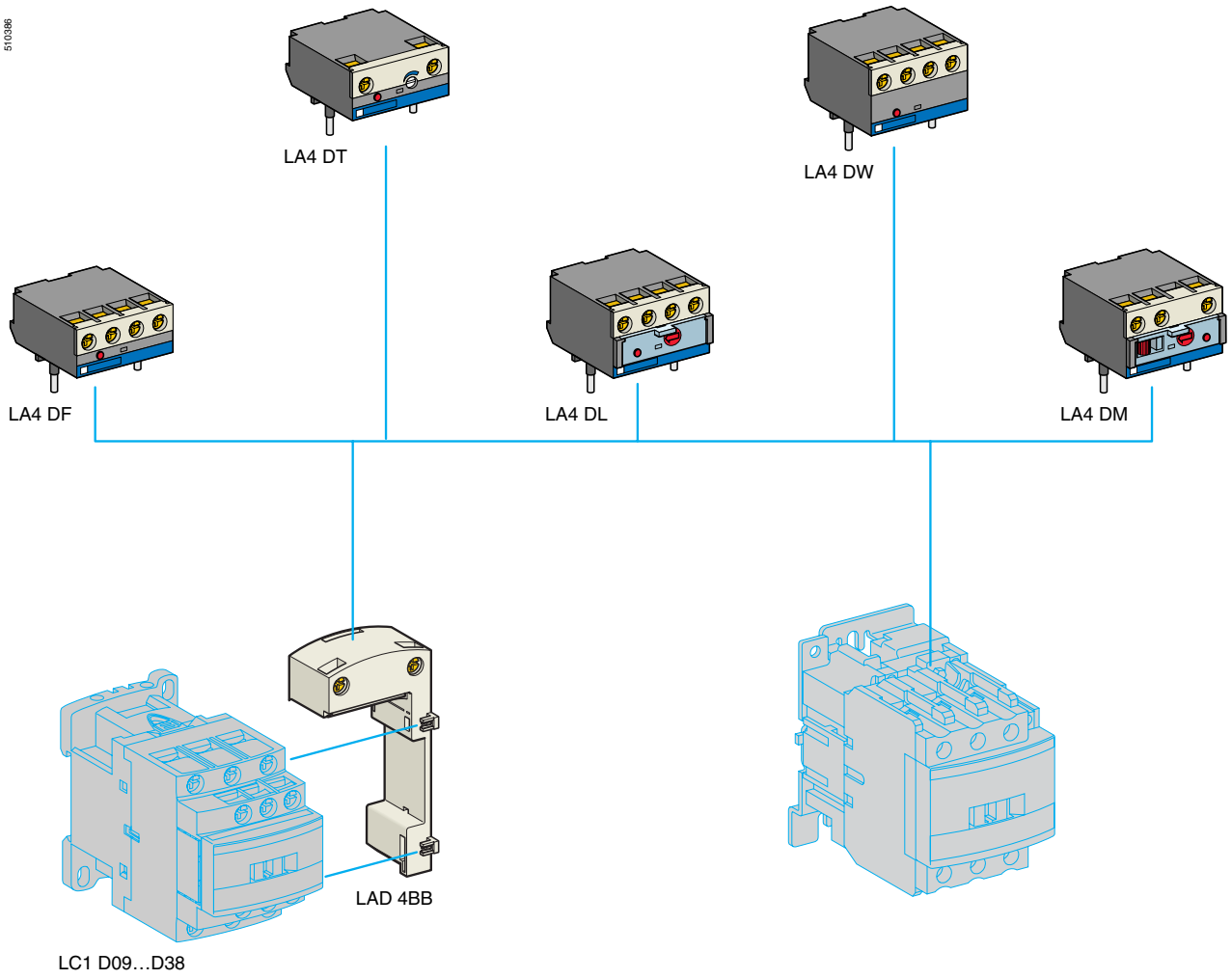


LAD 4DDL or LAD 4T●DL

(1) For satisfactory protection, a suppressor module must be fitted across the coil of each contactor.
(2) From LC1 D09 to D38 and from LC1 DT20 to DT40, d.c. and low consumption 3-pole contactors are fitted with a built-in bidirectional peak limiting diode suppressor as standard. On contactors produced after 15th July 2004, 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)
(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.

Characteristics : pages 24506/2 to 24506/4
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors
TeSys d contactors and reversing contactors



See page opposite for mounting possibilities according to contactor type and rating.

TeSys contactors
TeSys d contactors and reversing contactors
Accessories

Electronic serial timer modules *(1)*

- 3-pole contactors LC1 D09 to D38 and 4-pole contactors LC1 DT20 to DT40: mounted using adapter LAD 4BB, to be ordered separately, see page 24511/9.
- 3-pole contactors LC1 D40 to D150 and 4-pole contactors LC1 D40 to D115: mounted directly across terminals A1 and A2 of contactor.

On-delay type

Operational voltage ∿		Time delay	Reference	Weight
24…250 V	100…250 V			kg
LC1 D09…D38 (3P) and DT20…DT40 (4P)	LC1 D40…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 and 4-pole contactors LC1 DT20 to DT40: mounted using adapter LAD 4BB, to be ordered separately, see page 24511/9.
- 3-pole contactors LC1 D40 to D150 and 4-pole contactors LC1 D40 to D115: mounted directly across terminals A1 and A2 of contactor.

Relay interface

Operational voltage ∿		Supply voltage E1-E2 (⎓)	Reference	Weight
24…250 V	380…415 V			kg
–	LC1 D09…D150 (3P) and DT20…DT40 (4P)	24 V	**LA4 DFBQ**	0.055
LC1 D09…D150 (3P) and DT20…DT40 (4P)	–	24 V	**LA4 DFB**	0.050
		48 V	**LA4 DFE**	0.050

Relay interface with "AUTO-I" manual override switch (output forced “ON”)

Operational voltage ∿		Supply voltage E1-E2 (⎓)	Reference	Weight
24…250 V	100…250 V			kg
LC1 D09…D150 (3P) and DT20…DT40 (4P)	–	24 V	**LA4 DLB**	0.045
		48 V	**LA4 DLE**	0.045

Solid state interface

LC1 D09…D38 (3P) and DT20…DT40 (4P)	LC1 D40…D115 (3P)	24 V	**LA4 DWB**	0.045

Auto-Man-Stop control modules

For local override operation tests with 2-position “Auto-Man” switch and “O-I” switch

- 3-pole contactors LC1 D09 to D38 and 4-pole contactors LC1 DT20 to DT40: mounted using adapter LAD 4BB, to be ordered separately, see page 24511/9.
- 3-pole contactors LC1 D40 to D150 and 4-pole contactors LC1 D40 to D115: mounted directly across terminals A1 and A2 of contactor.

Operational voltage ∿		Reference	Weight
24…100 V	100…250 V		kg
LC1 D09…D150 (3P) and DT20…DT40 (4P)	–	**LA4 DMK**	0.040
–	LC1 D40…D150 (3P)	**LA4 DMU**	0.040

(1) For 24 V operation, the contactor must be fitted with a 21 V coil (code Z). See pages 24507/2 to 24507/7

Characteristics : pages 24506/5 to 24506/7
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors

TeSys d contactors and reversing contactors
Accessories

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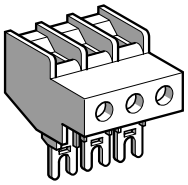
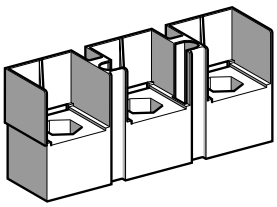


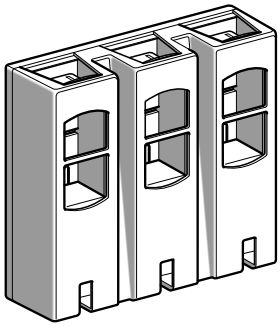
LA9 D3260

810446



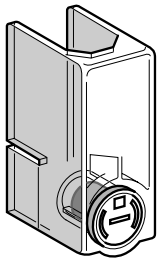
LA9 D11550●

810447



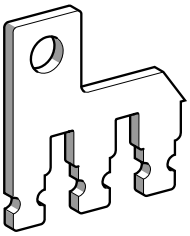
LA9 D11560●

810450



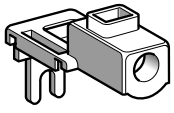
LA9 D11570●

810448



LA9 D80962

810449



LA9 D6567

Accessories for main pole and control connections

Description		For use with contactors LC1 ~	For use with contactors LC1 ⎓	Sold in lots of	Unit reference	Weight kg
Connectors for cable, size (1 connector)	4-pole 10 mm²	DT20, DT25	DT20, DT25	1	**LA D92560**	0.030
	3-pole 25 mm²	D09…D38	D09…D38	1	**LA9 D3260**	0.040
Connectors for cable, size (2 connectors)	3-pole 120 mm²	D115, D150	D115, D150	1	**LA9 D115603**	0.560
	4-pole 120 mm²	D115	D115	1	**LA9 D115604**	0.740
Connectors for lug type terminals (2 connectors)	3-pole	D115, D150	D115, D150	1	**LA9 D115503**	0.300
	4-pole	D115	D115	1	**LA9 D115504**	0.360
Protective covers for connectors for lug type terminals	3-pole *(1)*	D115, D150	D115, D150	1	**LA9 D115703**	0.250
	4-pole *(1)*	D115, D150	D115, D150	1	**LA9 D115704**	0.300
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	**LA D96061**	0.060
		D40…D65	D40…D65	2	**LA9 D40961**	0.021
		D80, D95	D80	2	**LA9 D80961**	0.060
	3 poles (star connection)	D09…D38	D09…D38	10	**LAD 9P3** *(2)*	0.005
		D80, D95	D80, D95	1	**LA9 D80962**	0.080
	4 poles	DT20, DT25	DT20, DT25	2	**LA9 D1263**	0.024
		D40…D65	D40…D65	2	**LA9 D40963**	0.070
		D80, D95	D80	2	**LA9 D80963**	0.100
Staggered coil connection		–	D40…D80	10	**LA9 D09966**	0.006
Control circuit take-off from main pole		D40…D65	D40…D65	10	**LA9 D6567**	0.010
		D80, D95	D80, D95	10	**LA9 D8067**	0.010
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.

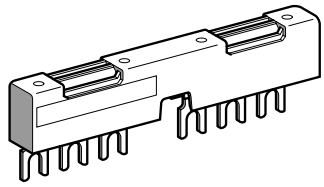
Dimensions :
pages 24531/2 to 24531/5

Schemes :
pages 24532/2 and 24532/3

TeSys contactors

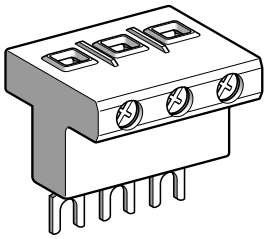
TeSys d contactors and reversing contactors
Accessories

810462



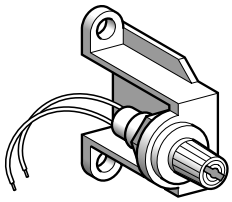
GV2 G245

810453



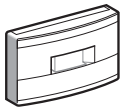
GV1 G09

810451



LA9 D941

810454



LAD 9ET●

563527



XBY 2U

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
Arc chambers	3-pole	LC1 D115	**LA5 D11550**	0.395
		LC1 D150	**LA5 D15050**	0.395
	4-pole	LC1 D115004	**LA5 D115450**	0.470

Connection accessories

For adapting existing wiring to a new product	LC1 D09…D38 LC1 DT20…DT25	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
Set of 63 A busbars for parallelling 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
Terminal block	For supply to one or more GV2 G busbar sets			**GV1 G09**	0.040

Protection accessories

Description	Application	Sold in lots of	Reference	Weight kg
Miniature circuit-breaker	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…D38 and DT20…DT40	1	**LAD 9ET1**	0.026
	LC1 D40…D65	1	**LAD 9ET2**	0.012
	LC1 D80 and D95	1	**LAD 9ET3**	0.004
	LC1 D115 and D150	1	**LAD 9ET4**	0.004

Marking accessories

Description	Application	Sold in lots of	Unit reference	Weight kg
Sheet of 64 blank legends, self-adhesive, 8 x 33 mm (1)	Contactors (except 4P), LC1 D40…D115), LAD N (4 contacts), LA6 DK	10	**LAD 21**	0.020
Sheet of 112 blank legends, self-adhesive, 8 x 12mm *(1)*	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 D40…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 D40...D80, LA6 DK	100	**LA9 D92**	0.001
Marker holder, snap-in 8 x 18 mm	LC1 D09...38, LC1 DT20...40, 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

Mounting plate	For replacement of LC1 F115 or F150 by LC1 D115 or D150	1	**LA9 D730**	0.360
Set of shims	For fitting side mounting blocks LAD 8N on LC1 D40 to D95	1	**LA9 D511**	0.020

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