Issued November 2009 12490

DATA SHEET

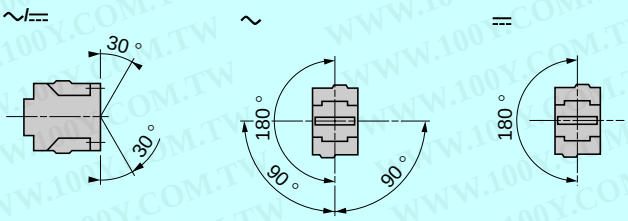
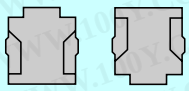
Schneider Electric

LC-D CONTACTORS

Based on Schneider MKTED205103EN Catalogue

Characteristics

TeSys contactors
TeSys d

Contactor type		LC1		D09…D18 DT20 and DT25	D25…D38 DT32 and DT40	D40	D50…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 60947-1, 60947-4-1, NFC 63-110, VDE 0660, BS 5424, JEM 1038. EN 60947-1, EN 60947-4-1. GL, DNV, PTB, RINA				
Product certifications				UL, CSA Complies with SNCF, Sichere Trennung recommendations				
Separation insulation	Conforming to VDE 0106 part 101 and A1 (draft 2/89)		V	400				
Degree of protection *(1)* (front face only)	Conforming to VDE 0106 and IEC 60529							
	Power connection			Protection against direct finger contact IP 2X				
	Coil connection			Protection against direct finger contact IP 2X				
Protective treatment	Conforming to IEC 60068			"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 *(2)*	Without derating in the following positions							
	Positions that are not permissible			For ⎓ contactors LC1 D09 to D38 				
Flame resistance	Conforming to UL 94			V1				
	Conforming to IEC 60695-2-1		°C	960				
Shock resistance *(3)* 1/2 sine wave = 11 ms	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 *(3)* 5…300 Hz	Contactor open			2 gn				
	Contactor closed			4 gn	4 gn	4 gn	3 gn	4 gn

(1) Protection provided for the cabling c.s.a.'s indicated on the next page and for connection by cable.
(2) For other operating positions, please consult your Regional Sales Office.
(3) Without change of contact states, in the most unfavourable direction (coil energised at Ue).

Characteristics (continued)

TeSys contactors
TeSys d

Contactor type		LC1		D09 and D12 DT20 and DT25	D18 (3P)	D25 (3P)	D32	D38	D18 and D25 (4P) DT32 and DT40	D40	D50 and D65	D80 and D95	D115 and D150
Power circuit connections													
Connection by cable													
Tightening torque				Screw clamp terminals					Connector 2 inputs	Screw clamp terminals	Connector 1 input		Connector 2 inputs
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	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 6...Ø 8	Ø 6...Ø 8	Ø 6...Ø 8	–
Key for hexagonal headed screw				–	–	–	–		–	–	–	4	4
Tightening torque			N.m	1.7	1.7	2.5	2.5		1.8	5	5	9	12
Spring terminal connections *(1)*													
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 by bars or lugs													
Bar cross-section				–	–	–	–		–	–	–	3 x 16	5 x 25
Lug external Ø			mm	8	8	10	10		8 *(2)*	13	16	17	25
Ø of screw			mm	M3.5	M3.5	M4	M4		M3.5	M5	M6	M6	M8
Screwdriver	Philips			N° 2	N° 2	N° 2	N° 2		N° 2	N° 2	N° 3	–	–
	Flat screwdriver Ø			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	Philips			N° 2	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	Ø 6
Tightening torque			N.m	1.7	1.7	1.7	1.7		1.7	1.2	1.2	1.2	1.2
Spring terminal connections *(1)*													
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 by 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	Philips			N° 2	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	Ø 6
Tightening torque			N.m	1.7	1.7	1.7	1.7		1.7	1.2	1.2	1.2	1.2

(1) 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.
*(2) 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**).*

Characteristics (continued)

TeSys contactors
TeSys d

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 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 60947				250		250		300		450	
Rated breaking capacity (440 V)	Conforming to IEC 60947				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	
Protection by fuses 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 6/16 and 6/17, 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	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 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 cables 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 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.

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

Contactor type				LC1 D09…D38 LC1 DT20…DT40	LC1 or LP1 D40…D65	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	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 at Uc *(1)*	Closing	"C"	ms	63 ± 15 %	85…110	95…130	20…35
	Opening	"O"	ms	20 ± 20 %	20…35	20…35	40…75
				Nota : *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.*			
Time constant L/R (L/R)			ms	28	65	75	25
Mechanical durability 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 60947-1		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	77 ± 15 %	–		
	Opening	"O"	ms	25 ± 20%	–		
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 (L/R)			ms	40	–		
Mechanical durability	In millions of operating cycles			30	–		
Maximum operating rate	At ambient temperature ⩽ 60 °C		ops/h	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 IEC60947-5-1			Each contactor has 2 N/O and N/C contacts mechanically linked on the same movable contact holder
Mirror contact	Conforming to IEC60947-4-1			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 (Ue)	Up to		**V**	690
Rated insulation voltage (Ui)	Conforming to IEC 60947-1		**V**	690
	Conforming to UL, CSA		**V**	600
Conventional thermal current (Ith)	For ambient temperature ≤ 60 °C		**A**	10
Frequency of the operational current			**Hz**	25…400
Minimum switching capacity λ = 10^{-8}	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

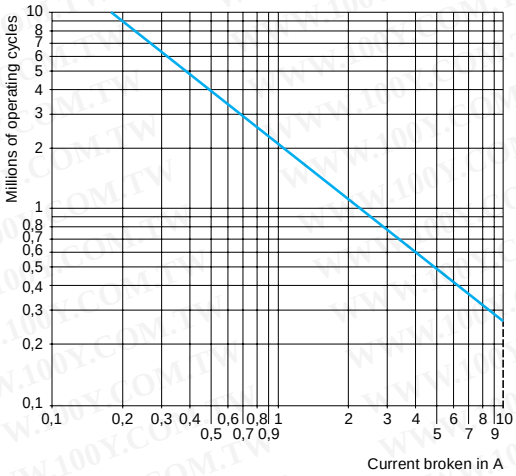
a.c. supply, categories AC-14 and AC-15
Electrical durability (valid for up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making current (cos φ 0.7) = 10 times the power broken (cos φ 0.4).

	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

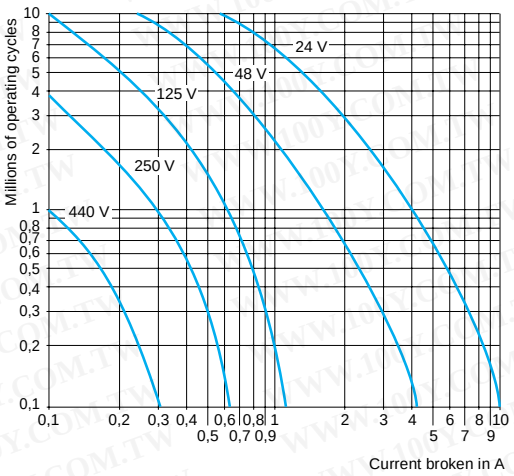
d.c. supply, category DC-13
Electrical durability (valid for up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the load.

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

AC-15



DC-13



TeSys contactors

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

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	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 contacts 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 9			

Characteristics (continued)

TeSys contactors

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

Contact block type				LA1 DX	LA1 DZ		LA1 DY
					Protected	Non protected	
Environment							
Conforming to standards				IEC 60947-5-1, VDE 0660			
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			
Connection	Phillips N° 2 and Ø 6 mm Flexible or solid cable with or without cable end		mm^2	Min: 1 x 1, max: 2 x 2.5			
Number of contacts				2	2	2	2
Contact characteristics							
Rated operational voltage (Ue)	Up to		V	50	50	690	24
Rated insulation voltage (Ui)	Conforming to IEC 60947-5-1		V	250	250	690	250
	Conforming to UL, CSA		V	–	–	600	–
Conventional thermal current (Ith)	For ambient temperature ⩽ 40 °C		A	–	–	10	–
Maximum operational current (Ie)			mA	500	500	–	50
Frequency of the 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 609475-1 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

TeSys contactors

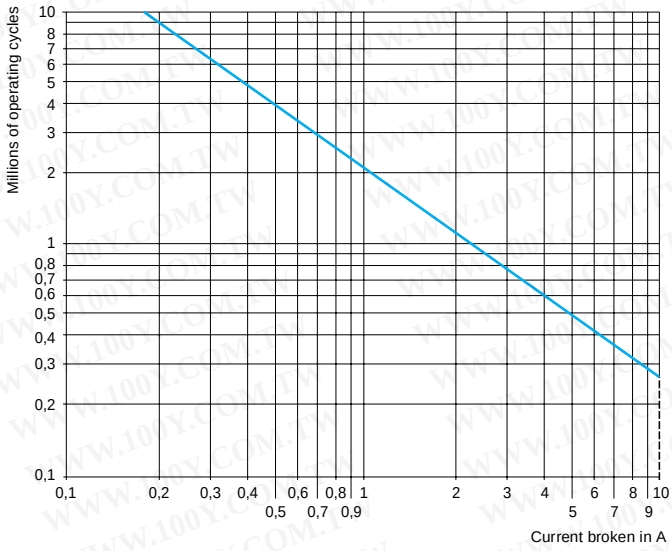
Auxiliary contact blocks with
dust and damp protected contacts
for TeSys d contactors

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 φ 0.7) = 10 times the power broken (cos φ 0.4).

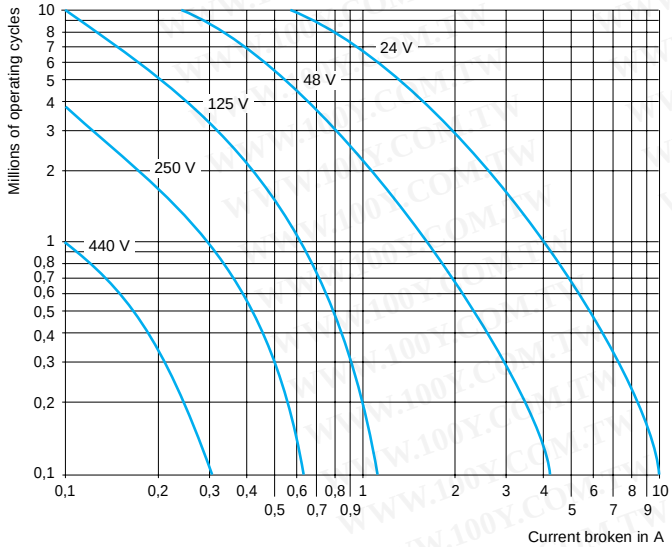
	V	24	48	115	230	400	440	600
1 million operating cycles	VA	60	120	280	560	960	1050	1440
3 million operating cycles	VA	16	32	80	160	280	300	420
10 million operating cycles	VA	4	8	20	40	70	80	100



d.c. supply, category DC 13

Electrical durability (valid 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



TeSys contactors

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

Environment

Conforming to standards			IEC 60947-5-1
Product certifications			UL, CSA
Protective treatment	Conforming to IEC 60068		"TH"
Degree of protection	Conforming to VDE 0106		Protection against direct finger contact IP 2X
Ambient air temperature around the device	Storage	°C	– 40…+ 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 60947-5-1	V	250
Rated operational voltage	Conforming to IEC 60947-5-1	V	250
Protection	Against electric shocks	kV	2
Built-in protection	Contactor coil suppression		By varistor
Indication	By integral LED		Illuminates when the contactor coil is energised
Electrical durability	In operating cycles		20 000

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			**LC1 D40…D65, LP1 D65**	**LC1 D09…D38, DT20…DT40**	**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		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

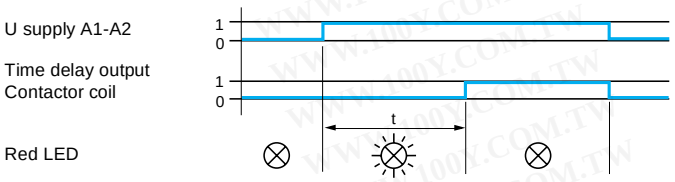
(1) Unlatching can be manually operated or electrically controlled (pulsed).
*The **LA6 DK** or **LAD 6K** latch coil and the **LC1 D** operating coil must not be energised simultaneously. The duration of the **LA6 DK** or **LAD 6K** and **LC1 D** control signals must be ⩾100 ms.*

TeSys contactors
Electronic serial timer module for TeSys d contactors

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 Uc	°C	– 25…+ 70
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	250
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
Control circuit characteristics			
Built-in protection	On input		By varistor
	Contactor coil suppression		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
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	–
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

Function diagram

LA4 DT "On-delay" electronic timers



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 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 60947-5-1		**V**	5	250				
Rated operational voltage	Conforming to IEC 60947-5-1		**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 A/240 V	In millions of operating cycles			3	10	10	3	3	20
Maximum immunity to microbreaks			**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 adapter 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)				
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, DT20…DT40	**LC1 D40…D65**	**LC1 D80 and D95**
With **LA4 DF, LA4 DL**	"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	**mm²**	Min: 1 x 1; max: 2 x 2.5

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●●

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-3 440 V up to	Instantaneous auxiliary contacts		Basic reference, to be completed by adding the voltage code *(2)*	Weight *(3)*
220 V 380 V					660 V					Fixing *(1)*	
230 V	400 V	415 V	440 V	500 V	690 V	1000 V					
kW	kW	kW	kW	kW	kW		A				kg
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
11	18.5	22	22	22	30	22	**40**	1	1	**LC1 D40●●**	1.400
15	22	25	30	30	33	30	**50**	1	1	**LC1 D50●●**	1.400
18.5	30	37	37	37	37	37	**65**	1	1	**LC1 D65●●**	1.400
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

3-pole contactors for connection by lugs or bars

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

LC1 D95●●

Accessories

Auxiliary contact blocks and add-on modules: see pages 23 to 30.

LC1 D115●●

(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 ⊥ rail AM1 DP 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 (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	–
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 31 to 36.

(3) 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.

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●●

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-3 440 V up to	Instantaneous auxiliary contacts		Basic reference, to be completed by adding the voltage code (2)	Weight (3)
220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V				Fixing (1)	
kW	kW	kW	kW	kW	kW	A				kg
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

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, in the references selected above, replace the figure **3** before the voltage code with a figure **9**. Example: **LC1 D093●●** becomes **LC1 D099●●**.

Accessories

Auxiliary contact blocks and add-on modules: see pages 23 to 30.

(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…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 31 to 36.
(3) 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.
(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).

TeSys contactors

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

LC1 D12●●

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, to be completed by adding the voltage code (1) Fixing (2)	Weight (3)
A					kg
25	3	1	1	LC1 D09●●	0.320
			or	LC1 D12●●	0.325
32	3	1	1	LC1 D18●●	0.330
40	3	1	1	LC1 D25●●	0.370
50	3	1	1	LC1 D32●●	0.375
			or	LC1 D38●●	0.380
60	3	1	1	LC1 D40●●	1.400
80	3	1	1	LC1 D50●●	1.400
			or	LC1 D65●● (4)	1.400
125	3	1	1	LC1 D80●●	1.590
			or	LC1 D95●● (4)	1.610
200	3	1	1	LC1 D115●●	2.500
			or	LC1 D150●● (5)	2.500

3-pole contactors for connection by lugs or bars

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

3-pole contactors for connection by Faston connectors

LC1 D123●●

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, in the references selected above, insert a figure **9** before the voltage code.
Example: **LC1 D09●●** becomes **LC1 D099●●**.

3-pole contactors for connection by spring terminals

16	3	1	1	LC1 D093●● (6)	0.320
			or	LC1 D123●● (6)	0.325
25	3	1	1	LC1 D183●● (5)	0.335
			or	LC1 D253●● (7)	0.325
			or	LC1 D323●● (7)	0.325

Accessories

Auxiliary contact blocks and add-on modules: see pages 23 to 30.

(1) See note (1) page 16.
(2) 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 ⊐ rail AM1 DP 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.
(3) 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.
(4) Selection according to the number of operating cycles.
(5) 32 A with 2 x 4 mm² cables connected in parallel.
(6) 20 A with 2 x 2.5 mm² cables connected in parallel.
(7) 40 A with 2 x 4 mm² cables connected in parallel.

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, to be completed by adding the voltage code *(1)* Fixing *(2)*	Weight *(3)*
A						kg
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
60	4	–	–	–	**LC1 D40004●●**	1.440
					or **LP1 D40004●●**	2.210
	2	2	–	–	**LC1 D40008●●**	1.440
					or **LP1 D40008●●**	2.210
80	4	–	–	–	**LC1 D65004●●**	1.440
					or **LP1 D65004●●**	2.210
	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 (except LC1 D65●●● and LP1 D65●●●).
Example: **LC1 DT20●●** becomes **LC1 DT206●●**.

4-pole contactors for 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

Accessories

Auxiliary contact blocks and add-on modules: see pages 23 to 30.

(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...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 (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 0.7…1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL

For other voltages between 5 and 690 V, see pages 31 to 36.

(2) See note (2) page 15

*(3) 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.*

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 D12●●

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

Pre-wired power connections

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Operational current in AC-3 (θ ≤ 60 °C) 440 V up to	Instantaneous auxiliary contacts per contactor		Contactors supplied with coils Basic reference, to be completed by adding the voltage code *(2)* Fixing *(1)*	Weight *(3)*
220 V	380 V				660 V						
230 V	400 V	415 V	440 V	500 V	690 V	1000 V					
kW	kW	kW	kW	kW	kW	kW	A				kg
With mechanical interlock, without electrical interlocking											
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 D40●●**	2.400
15	22	25	30	30	33	–	**50**	1	1	**LC2 D50●●**	2.400
18.5	30	37	37	37	37	–	**65**	1	1	**LC2 D65●●**	2.400
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											
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

LC2 D50●●

3-pole reversing contactors for 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●●**.

Accessories

Auxiliary contact blocks and add-on modules: see pages 23 to 30.

(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 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**
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 31 to 36.

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

*(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**.*

TeSys contacts

Reversing contacts 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 contacts 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						Operational current in AC-3 (θ ≤ 60 °C) 440 V up to	Instantaneous auxiliary contacts per contactor		Contactors supplied with coils Basic reference, to be completed by adding the voltage code *(2)* Fixing *(1)*	Weight *(3)*
220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V					
kW	kW	kW	kW	kW	kW	A				kg
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**	1	1	**LC2 D323●●**	0.797

3-pole reversing contacts 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. 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 LC2 D09 and LC2 D12 only, replace the digit **3** with a **9** in the references selected above.

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

Accessories

Auxiliary contact blocks and add-on modules: see pages 23 to 30.

(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**
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 31 to 36.

(3) The weights indicated are for reversing contacts with a.c. control circuit. For d.c. or low consumption control circuit, add 0.330 kg.

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

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 D40 to LC2 D80: order separately 2 auxiliary contact blocks LAD N●1 to obtain electrical interlocking between the 2 contactors (see page 24). 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 coil Basic reference, to be completed by adding the voltage code *(1)* Fixing *(2)*	Weight
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
60	–	–	LC2 D40004●●	3.200
80	–	–	LC2 D65004●●	3.200
125	–	–	LC2 D80004●●	3.200
200	–	–	LC2 D115004●●	7.400

4-pole changeover contactor pairs 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
60	–	–	LC2 D400046	2.400
80	–	–	LC2 D650046●●	3.200
125	–	–	LC2 D800046●●	3.200
200	–	–	LC2 D1150046●●	7.400

Accessories

Auxiliary contact blocks and add-on modules, see pages **23** to **30**.

(1) See note (1) on next page.
(2) 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 ⊐ rail AM1 DP 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.

TeSys contactors

Changeover contactor pairs for control in category AC-1, 20 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

Utilisation category AC-1 Non inductive loads Maximum rated operational current (θ ≤ 60 °C)	Instantaneous auxiliary contacts per contactor		Contactors supplied with coil Basic reference, to be completed by adding the voltage code *(1)* Fixing *(2)*	Weight
A				kg
20	1	1	LC2 DT203●●	0.760

Accessories

Auxiliary contact blocks and add-on modules, see pages 23 to 30.

(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													
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

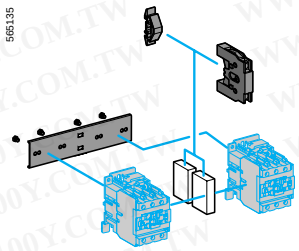
Low consumption								
Volts ⎓	**5**	**12**	**20**	**24**	**48**	**110**	**220**	**250**
LC2 DT20...DT40 (coils with integral suppression device fitted as standard)								
U 0.7…1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL

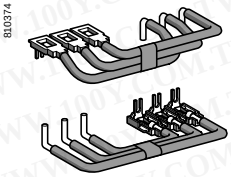
For other voltages between 5 and 690 V, see pages 31 to 36.

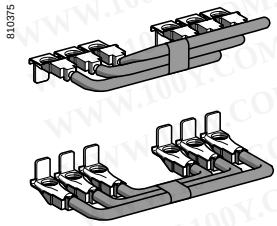
(2) Clip-on mounting on 35 mm ⊐⊏ rail AM1 DP or screw fixing.

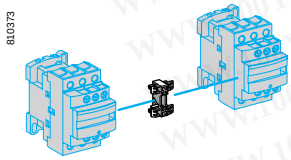
TeSys contacts

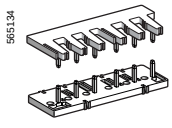
Component parts for assembling reversing contactors for motor control or low speed - high speed starters


LA9 D4002


LA9 D6569


LA9 D8069


LA9 D50978


LA9 D80978

LAD 9R1

For 3-pole reversing contactors for motor control

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

Using 2 identical contactors *(1)*	Set of power connections		Mechanical interlock	
	Reference	Weight kg	Kit reference	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

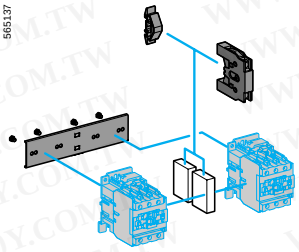
For low speed - high speed starter

Description	For contactors with connections	Reference	Weight kg
Connection kit enabling reversing of low 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

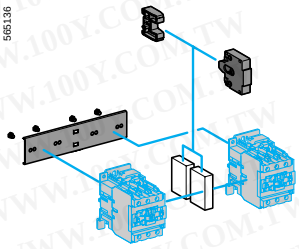
(1) To order the 2 contactors: see pages 13 and 14.
(2) Including mechanical interlock.
(3) To build a reversing contactor with spring terminal connections, the following components must be ordered:
*- 1 mechanical interlock **LAD 9V2**,*
- 1 upstream power connection kit and 1 downstream power connection kit.
*Upstream power connection kit **LAD 9V10**: installed in the Quickfit system with power connection module **LAD 34**.*
*(If module **LAD 34** 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 module **LAD 331** is not used, replace **LAD 9V11** with **LAD 9V13**).*

TeSys contacts

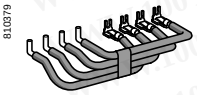
Component parts for assembling changeover contactor pairs for distribution



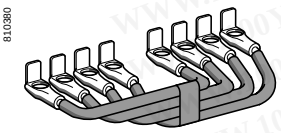
LA9 D4002



LA9 D50978



LA9 D6570



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		Mechanical interlock	
	Reference	Weight kg	Kit reference	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	*(3)*	–	–	–
LC1 or LP1 D65004	**LA9 D6570** *(4)*	0.150	**LA9 D50978**	0.155
LC1 D80004	**LA9 D8070** *(4)*	0.280	**LA9 D50978**	0.155
LP1 D80004	**LA9 D8070** *(4)*	0.280	**LA9 D80978**	0.180

For 3-pole changeover contactor pairs

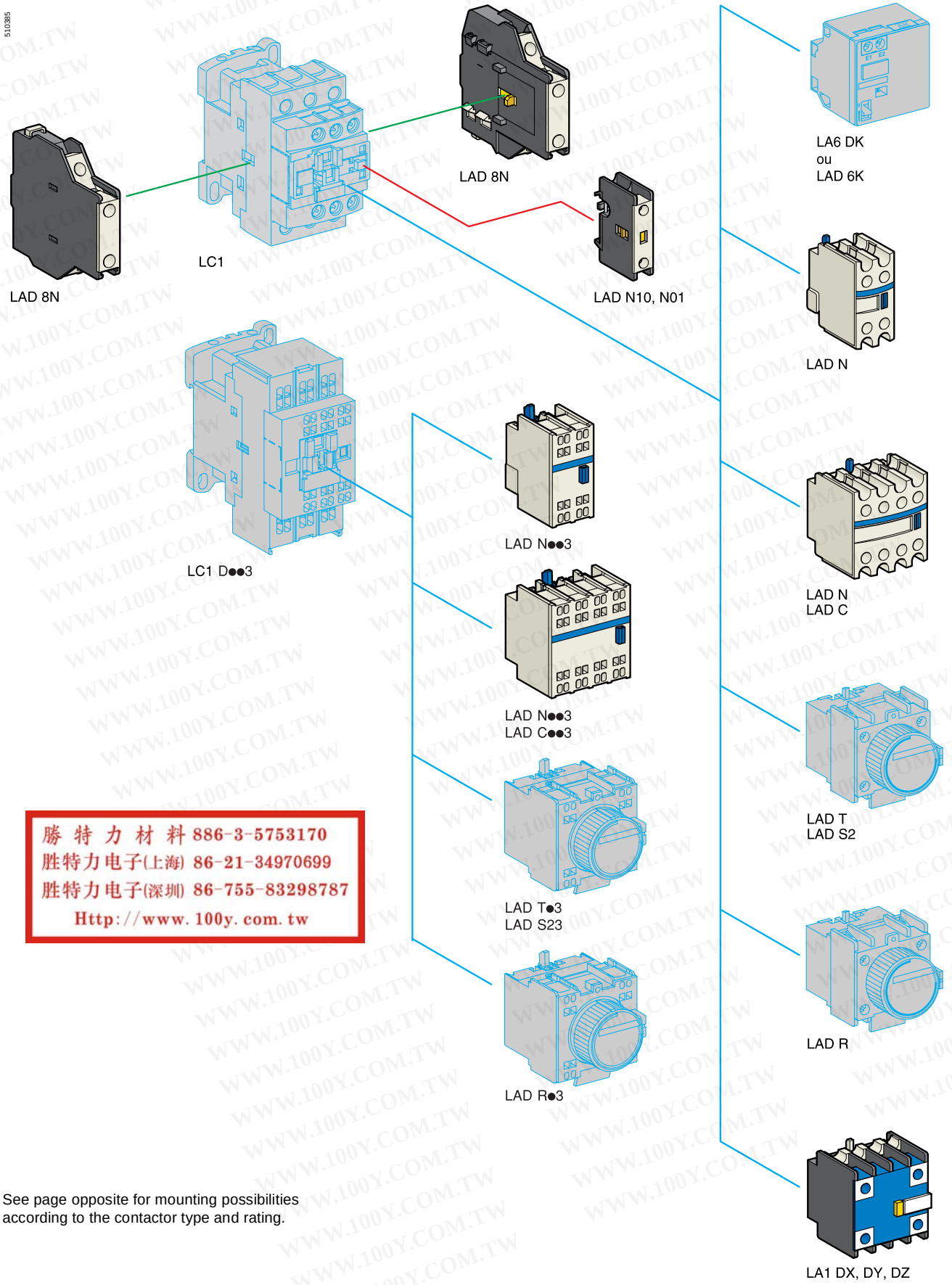
Including mechanical interlock with integral electrical interlocking				
LC1 D115 and D150	**LA9 D11571**	0.960	**LA9 D11502**	0.280

(1) To order the 2 contactors: see pages 16 and 17.
(2) Including mechanical interlock.
(3) To build a changeover contactor pair 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**.*
*(4) Order 2 contact blocks **LAD N●1** to build the electrical interlock, see page 24.*

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 30

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**.

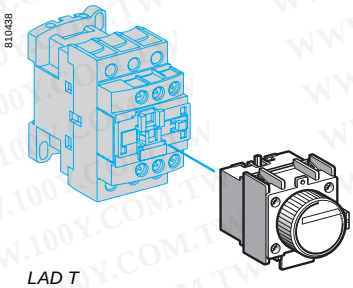
(1) Maximum number of auxiliary contacts that can be fitted

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	–	–

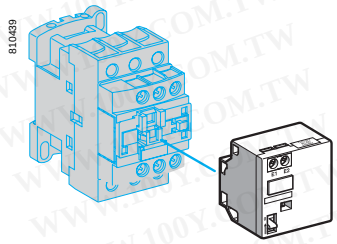
(2) Device fitted with 4 earth screen continuity terminals.
(3) LC: low consumption.

TeSys contactors

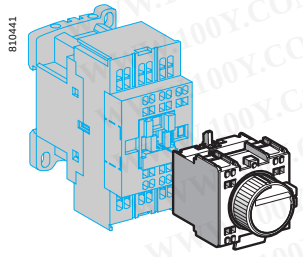
TeSys d contactors and reversing contactors
Time delay auxiliary contact blocks
Mechanical latch blocks



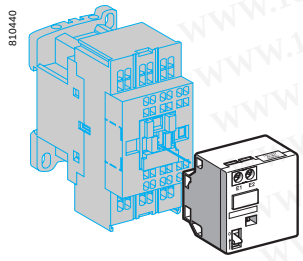
LAD T



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 24.
Sealing cover to be ordered separately, see page 30.
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

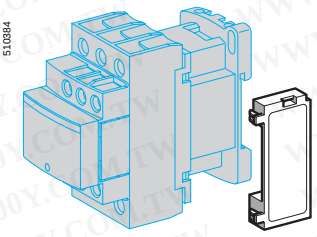
(1) The mechanical latch block must not be powered up at the same time as the contactor. The duration of the control signal for the mechanical latch block and the contactor should be:
⩾ 100 ms for a contactor operating on an a.c. supply
⩾ 250 ms for a contactor operating on a d.c. supply
(2) Standard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

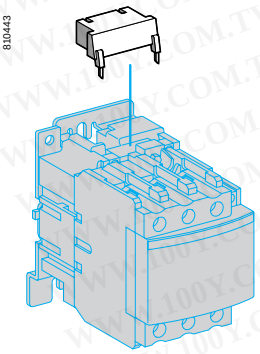
TeSys contactors

TeSys d contactors and reversing contactors

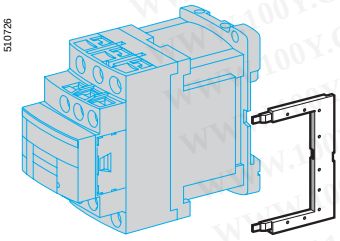
Suppressor modules



LAD 4●●



LA4 D●●



LAD 4DDL or LAD 4T●DL

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

Flywheel diodes

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

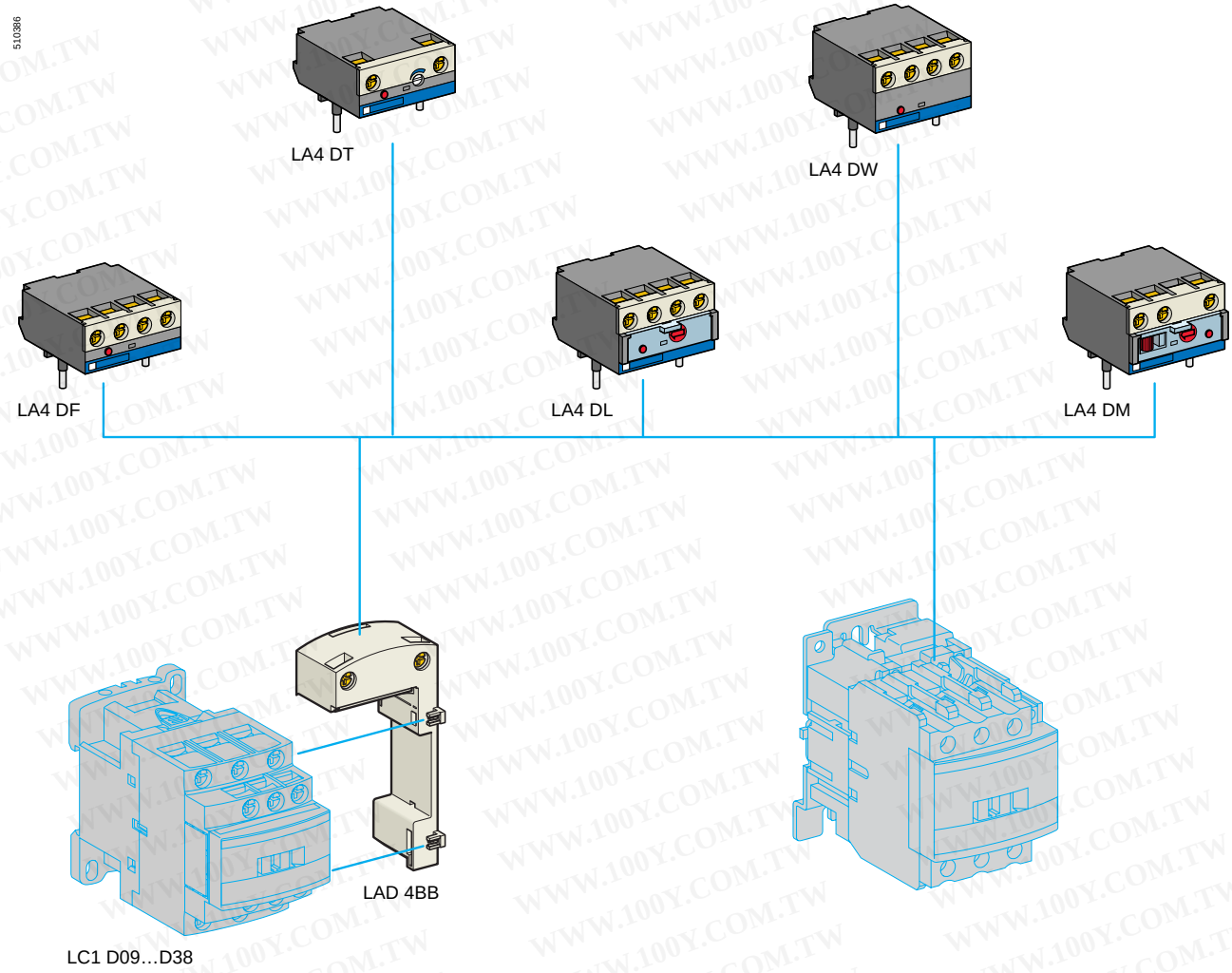
Clip-on *(5)*	D09…D38 (3P) DT20…DT40	–	24…250	**LAD 4DDL**	0.012
Screw mounting *(4)*	D40…D95 (3P) D40…D80 (4P)	–	24…250	**LA4 DC3U**	0.018

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

(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.



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

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 30.
- 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 30.
- 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 30.
- 3-pole contactors LC1 D40 to D150 and 4-pole contactors LC1 D40 to D115: mounted directly across terminals A1 and A2 of contactor.

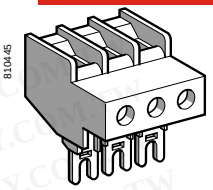
Operational voltage ∿		Reference	Weight
24…100 V	100…250 V		kg
LC1 D09…D150 (3P) and DT20…DT40 (4P)	–	**LA4 DMK**	0.040
–	LC1 D40…D150 (3P)	**LA4 DMU**	0.040

(1) For 24 V operation, the contactor must be fitted with a 21 V coil (code Z). See pages 31 to 36

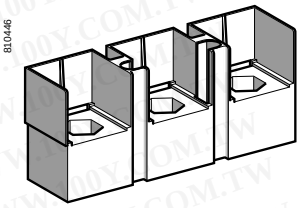
TeSys contactors

TeSys d contactors and reversing contactors

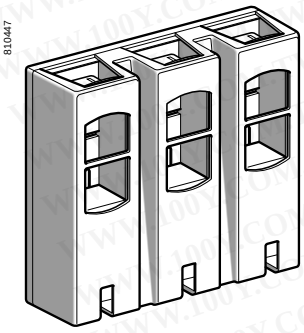
Accessories



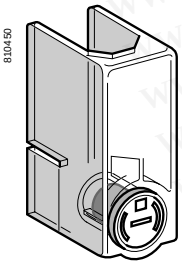
LA9 D3260



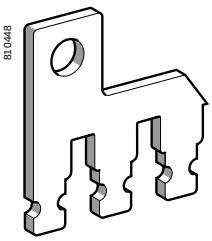
LA9 D11550●



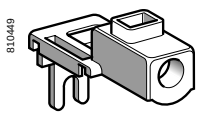
LA9 D11560●



LA9 D11570●



LA9 D80962



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

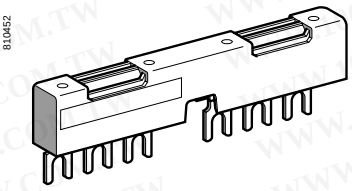
(1) For 3-pole contactors: 1 set of 6 covers, for 4-pole contactors: 1 set of 8 covers.
(2) Separate connecting bar for connecting 2 poles in parallel.

References

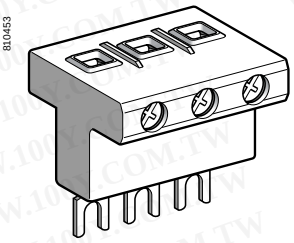
TeSys contacts

TeSys d contactors and reversing contactors

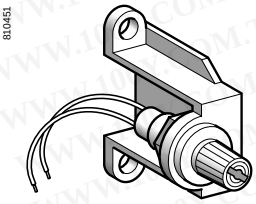
Accessories



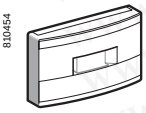
GV2 G245



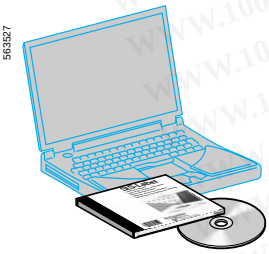
GV1 G09



LA9 D941



LAD 9ET●



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.

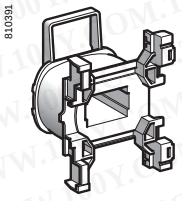
TeSys contactors
a.c. coils
for 3 or 4-pole contactors LC1 D

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

Specifications

Average consumption at 20 °C:
- inrush (cos φ = 0.75) 70 VA,
- sealed (cos φ = 0.3) 50 Hz: 7 VA, 60 Hz: 7.5 VA

Operating range (θ ≤ 60 °C): 50 Hz: 0.8…1.1 Uc, 60 Hz: 0.85…1.1 Uc.



LXD 1●●

Control circuit voltage Uc	Average resistance at 20 °C ± 10 %	Inductance of closed circuit	Reference *(1)*	Weight
V	Ω	H		kg
			50/60 Hz	
12	6.3	0.26	LXD 1J7	0.070
21 *(2)*	5.6	0.24	LXD 1Z7	0.070
24	6.19	0.26	LXD 1B7	0.070
32	12.3	0.48	LXD 1C7	0.070
36	–	–	LXD 1CC7	0.070
42	19.15	0.77	LXD 1D7	0.070
48	25	1	LXD 1E7	0.070
60	–	–	LXD 1EE7	0.070
100	–	–	LXD 1K7	0.070
110	130	5.5	LXD 1F7	0.070
115	–	–	LXD 1FE7	0.070
120	159	6.7	LXD 1G7	0.070
127	192.5	7.5	LXD 1FC7	0.070
200	–	–	LXD 1L7	0.070
208	417	16	LXD 1LE7	0.070
220	539	22	LXD 1M7	0.070
230	595	21	LXD 1P7	0.070
240	645	25	LXD 1U7	0.070
277	781	30	LXD 1W7	0.070
380	1580	60	LXD 1Q7	0.070
400	1810	64	LXD 1V7	0.070
415	1938	74	LXD 1N7	0.070
440	2242	79	LXD 1R7	0.070
480	2300	85	LXD 1T7	0.070
500	2499	–	LXD 1S7	0.070
575	3432	119	LXD 1SC7	0.070
600	3600	135	LXD 1X7	0.070
690	5600	190	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.

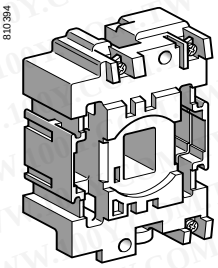
TeSys contactors
a.c. coils
for 3 or 4-pole contactors LC1 D

For 3 or 4-pole contactors LC1 D40, D50, D65, D80, D95

Specifications

Average consumption at 20 °C:
- inrush (cos φ = 0.75) 50 Hz: 200 VA, 60 Hz: 220 VA,
- sealed (cos φ = 0.3) 50 Hz: 20 VA, 60 Hz: 22 VA

Operating range (θ ≤ 55 °C): 0.85…1.1 Uc.



LX1 D6●●

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

Specifications

Average consumption at 20 °C:
- inrush (cos φ = 0.75) 50/60 Hz: 245 VA at 50 Hz,
- sealed (cos φ = 0.3) 50/60 Hz: 26 VA at 50 Hz,

Operating range (θ ≤ 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 3 and 4. 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 3 and 4.

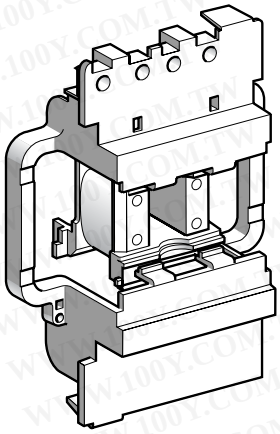
TeSys contactors
a.c. coils
for 3 or 4-pole contactors LC1 D

For 3 or 4-pole contactors LC1 D115

Specifications

Average consumption at 20 °C:
- inrush (cos φ = 0.8) 50 or 60 Hz: 300 VA,
- sealed (cos φ = 0.3) 50 or 60 Hz: 22 VA

Operating range (θ ≤ 55 °C): 0.85…1.1 Uc.



LX1 D8●●

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
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

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

Specifications

Average consumption at 20 °C:
- inrush cos φ = 0.9 - 280 to 350 VA,
- sealed cos φ = 0.9 - 2 to 18 VA.

Operating range (θ ≤ 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 %	Inductance of closed circuit	Reference (1)	Weight
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

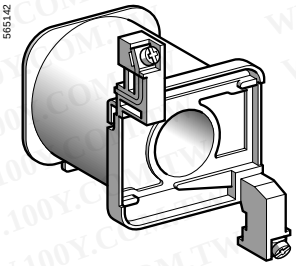
(1) The last 2 digits in the reference represent the voltage code.

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

For 3-pole contactors LC1 D40…D65 or 4-pole contactors LP1 D40…D65

Specifications

Average consumption: 22 W.
Operating range: 0.85…1.1 Uc.



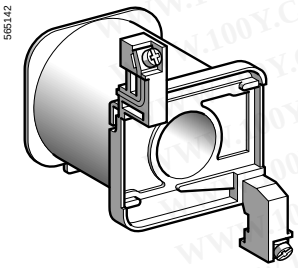
LX4 D6●D

Control circuit voltage Uc	Average resistance at 20 °C ± 10 %	Inductance of closed circuit	Reference *(1)*	Weight
V	Ω	H		kg
12	7.1	0.44	**LX4 D6JD**	0.415
24	26.8	1.69	**LX4 D6BD**	0.415
36	58	3.55	**LX4 D6CD**	0.415
48	109	6.86	**LX4 D6ED**	0.415
60	173	10.9	**LX4 D6ND**	0.415
72	234	14.7	**LX4 D6SD**	0.415
110	560	35.28	**LX4 D6FD**	0.415
125	717	45.2	**LX4 D6GD**	0.415
220	2255	142	**LX4 D6MD**	0.415
250	2940	185	**LX4 D6UD**	0.415
440	9080	572	**LX4 D6RD**	0.415

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

Specifications

Average consumption: 22 W.
Operating range: 0.85…1.1 Uc.

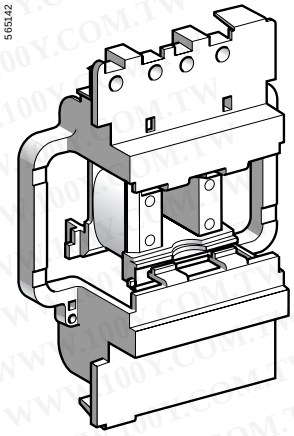


LX4 D7●D

Control circuit voltage Uc	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 3 or 4-pole contactors LC1 D



LX4 D8●D

For contactors LC1 D115, D150

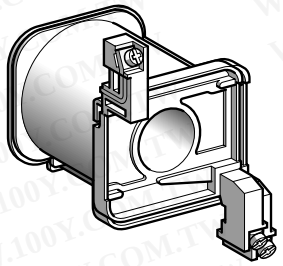
Specifications

Consumption: inrush 270 to 365 W, sealed 2.4 to 5.1 W.
Operating range: 0.7…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

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

TeSys contactors
Wide range d.c. coils
(for specific applications)
for 3 or 4-pole contactors



LX4 D6●W

For 3-pole contactors LC1 D40…D65 or 4-pole contactors LP1 D40…D65

Specifications

Average consumption: 22 W.
Operating range: 0.75…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	6.8	0.45	**LX4 D6JW**	0.415
24	30	1.9	**LX4 D6BW**	0.415
36	53	3.5	**LX4 D6CW**	0.415
48	110	7.2	**LX4 D6EW**	0.415
72	215	14.2	**LX4 D6SW**	0.415
110	580	38.3	**LX4 D6FW**	0.415
220	2120	140	**LX4 D6MW**	0.415

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

Specifications

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.

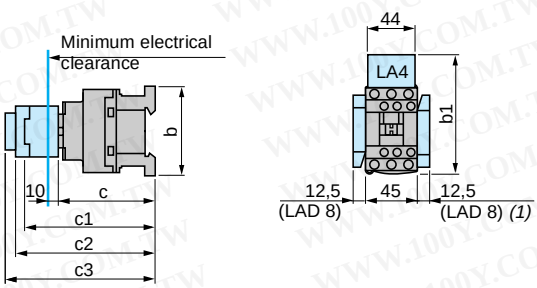
Dimensions

TeSys contactors

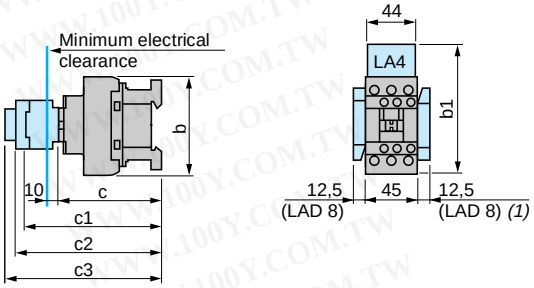
TeSys d contactors

Control circuit: a.c.

LC1 D09…D18 (3-pole)



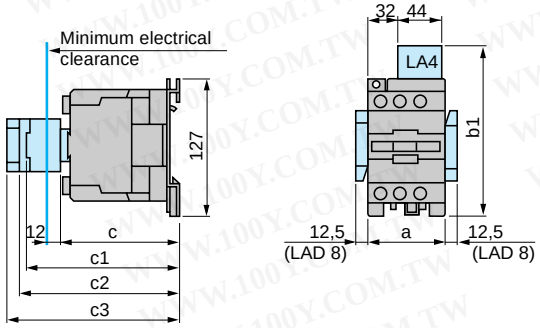
LC1 D25…D38 (3-pole), **LC1 DT20…DT40** (4-pole)



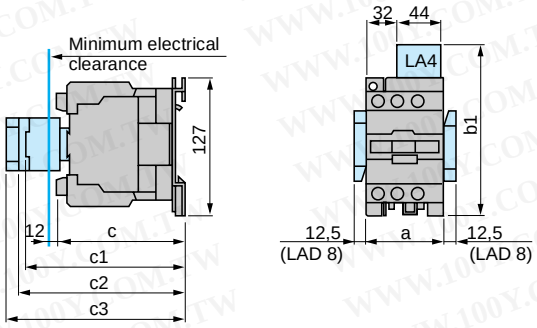
LC1		D09…D18	D093… D123	D099… D129	D25… D38	D183… D323	DT20 & DT25	DT203 & DT253	DT32 & DT40	DT323 & DT403
b	without add-on blocks	77	99	80	85	99	85	99	91	105
b1	with LAD 4BB	94	107	95.5	98	107	98	–	–	–
	with LA4 D●2	110 *(1)*	123 *(1)*	111.5 *(1)*	114 *(1)*	123 *(1)*	114	–	–	–
	with LA4 DF, DT	119 *(1)*	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 D40…D65 (3-pole), **LC1 D65004, D40008** & **D65008** (4-pole)



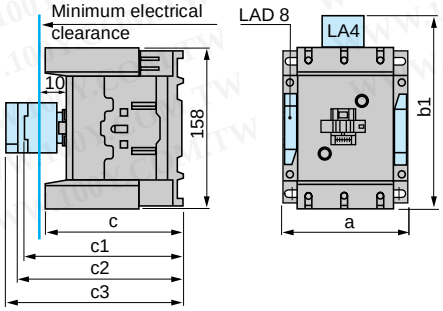
LC1 D80 & D95 (3-pole), **LC1 D80004** & **D80008** (4-pole)



LC1		D40…D65	D40008	D80, D65004	D95, D65008	D80004	D80008
a		75	85	85	85	96	96
b1	with LA4 D●2	135	135	135	135	135	135
	with LA4 DB3	–	–	135	–	–	–
	with LA4 DF, DT	142	142	142	142	142	142
	with LA4 DM, DW, DL	150	150	150	150	150	150
c	without cover or add-on blocks	114	125	125	125	125	140
	with cover, without add-on blocks	119	–	130	130	–	–
c1	with LAD N (1 contact)	139	139	150	150	150	150
	with LAD N or C (2 or 4 contacts)	147	147	158	158	158	158
c2	with LA6 DK	159	159	170	170	170	170
c3	with LAD T, R, S	167	167	178	178	178	178
	with LAD T, R, S and sealing cover	171	171	182	182	182	182

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

LC1		D115, D150	D115004	D115006	D150006	D1150046
a		120	150	120	120	155
b1	with LA4 DA2	174	174	174	174	174
	with LA4 DF, DT	185	185	185	185	185
	with LA4 DM, DL	188	188	188	188	188
	with LA4 DW	188	188	188	–	188
c	without cover or add-on blocks	132	132	115	115	115
	with cover, without add-on blocks	136	–	–	–	–
c1	with LAD N or C (2 or 4 contacts)	150	150	150	150	150
c2	with LA6 DK20	155	155	155	155	155
c3	with LAD T, R, S	168	168	168	168	168
	with LAD T, R, S and sealing cover	172	172	172	172	172

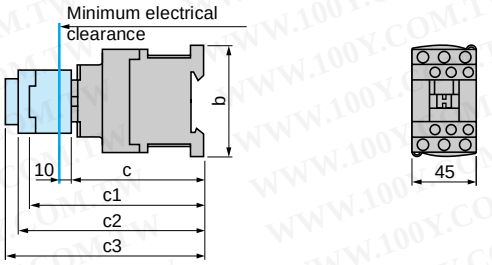


TeSys contactors

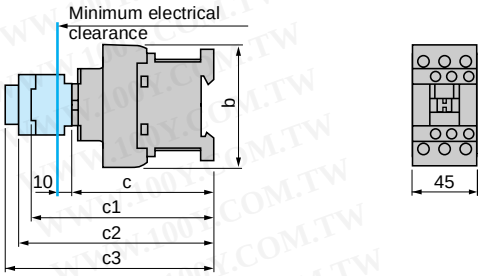
TeSys d contactors

Control circuit: d.c. or low consumption

LC1 D09…D18 (3-pole)

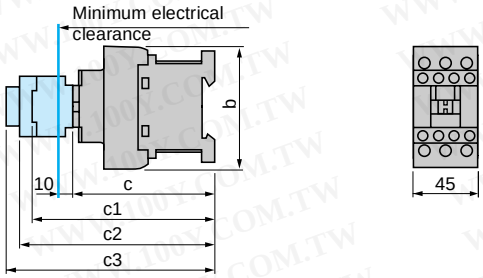


LC1 D25…D38 (3-pole)



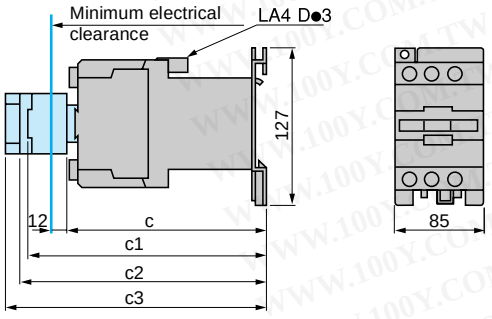
LC1		D09…D18	D093…D123	D099…D129	D25…D38	D183…D323
b		77	99	80	85	99
c	without cover or add-on blocks	93	93	93	99	99
	with cover, without add-on blocks	95	95	95	101	101
c1	with LAD N or C (2 or 4 contacts)	126	126	126	132	132
c2	with LA6 DK10	138	138	138	144	144
c3	with LAD T, R, S	146	146	146	152	152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

LC1 DT20 to DT40 (4-pole)

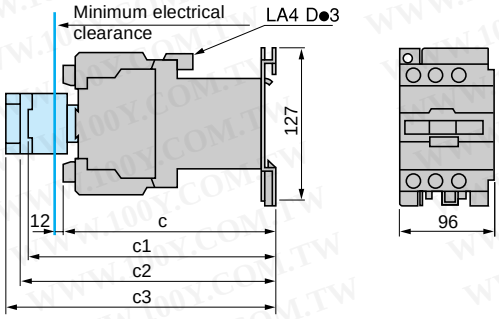


LC1		DT20 & DT25 D098 & D128	DT203 & DT253 D0983 & D1283	DT32 & DT40 D188…D258	DT323 & DT403 D1883 & D2583
b		85	99	91	105
c	with cover	99	99	107	107
c1	with LAD N or C (2 or 4 contacts)	123	123	131	131
c2	with LA6 DK10	135	135	143	143
c3	with LAD T, R, S	143	143	151	151
	with LAD T, R, S and sealing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

LC1 D40…D65 (3-pole)
LC1 D65004, LP1 D40008…D65008 (4-pole)



LC1 D80 & D95 (3-pole)
LP1 D80004, LP1 D80008 (4-pole)



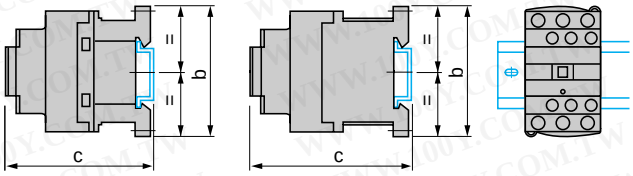
		LC1 D40…D65	LP1 D65004	LP1 D40008 & D65008	LC1 D80 & D95	LP1 D80004	LP1 D80008
c	without cover or add-on blocks	171	171	182	181	181	196
	with cover, without add-on blocks	176	–	–	186	–	–
c1	with LAD N (1 contact)	196	196	196	204	204	204
	with LAD N or C (2 or 4 contacts)	202	202	202	210	210	210
c2	with LA6 DK10	213	213	213	221	221	221
c3	with LAD T, R, S	221	221	221	229	229	229
	with LAD T, R, S and sealing cover	225	225	225	233	233	233

LC1 D115●●● and **LC1 D150●●●** with ⎓ coil: see page 37

TeSys contactors
TeSys d contactors

LC1 D09…D38, DT20…DT40

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

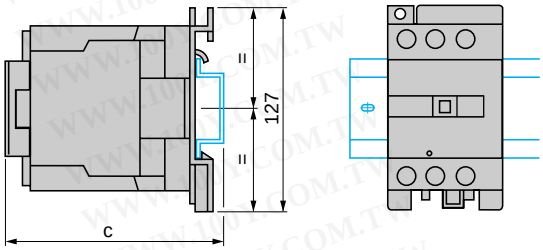


LC1	D09…D18	D25…D38	DT2 & DT25	DT32 & DT40
b	77	85	85	100
c (AM1 DP200 or DR200) *(1)*	88	94	94	109
c (AM1 DE200) *(1)*	96	102	102	117
Control circuit: d.c.				
b	77	85	94	109
c (AM1 DP200 or DR200) *(1)*	97	103	103	118
c (AM1 DE200) *(1)*	105	110	111	1236

(1) with safety cover.

LC1 D40…D95, LP1 D40…D80

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



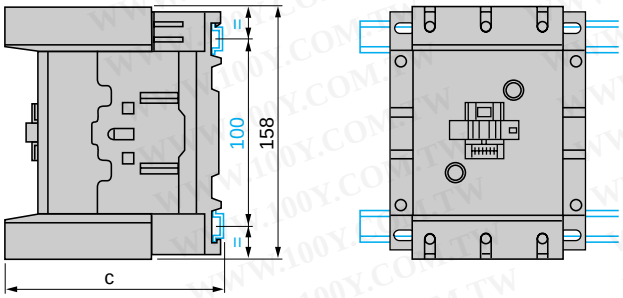
Control circuit: a.c.			
LC1	D40…D65	D80 & D95	
c (AM1 DL200) *(1)*	136	147	
c (AM1 DL201) *(1)*	126	137	
c (AM1 ED●●● or DE200) *(1)*	126	137	
Control circuit: d.c.			
LC1	D40…D65	D80 & D95	
c (AM1 DL200) *(1)*	193	203	
c (AM1 DL201) *(1)*	183	203	

LP1	D40	D65	D80
c (AM1 DL200)	188	188	198
c (AM1 DL201)	178	178	198

(1) with safety cover.

LC1 D115, D150

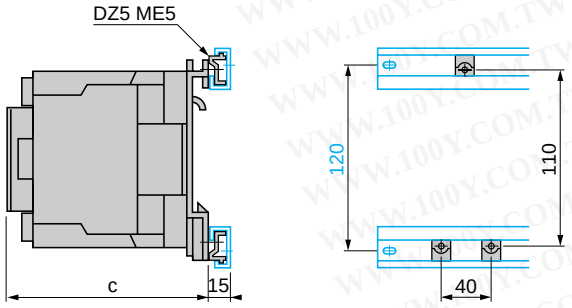
On 2 mounting rails DZ5 MB on 120 mm centres



Control circuit: a.c. or d.c.		
LC1	D115 & D150	D1156 & D1506
c (AM1 DP200 or DR200)	134.5	117.5
c (AM1 DE200 or ED●●●)	142.5	125.5

LC1 D40…D95, LP1 D40…D80

On 2 mounting rails DZ5 MB on 120 mm centres

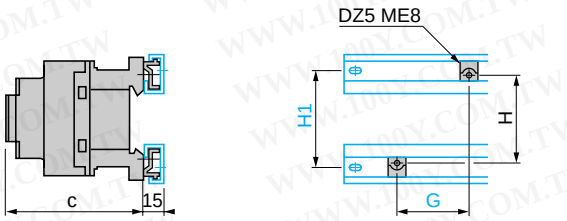


Control circuit: a.c.		
LC1	D40…D65	D80 & D95
c with cover	119	130
Control circuit: d.c.		
LC1	D40…D65	D80 & D95
c with cover	176	186

LP1	D40 & D65	D80
c	171	181

LC1 D09…D38 and LC1 DT20…DT40

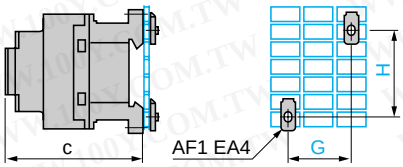
On 2 mounting rails DZ5 MB



Control circuit:	a.c.		d.c.	
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 & DT25**	**DT32 & DT40**	**DT20 & DT25**	**DT32 & DT40**
c	92	100	101	109
G	35	35	35	35
H	60	60	70	70
H1	70	70	70	70

LC1 D09…D38 and LC1 DT20…DT40

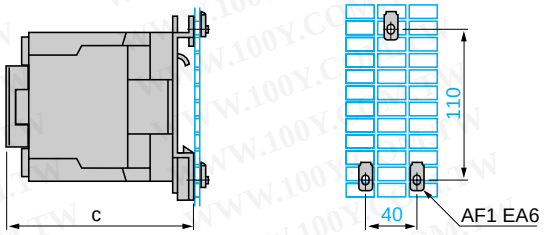
On pre-slotted mounting plate AM1 PA, PB, PC



Control circuit:	a.c.		d.c.	
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 & DT25**	**DT32 & DT40**	**DT20 & DT25**	**DT32 & DT40**
c with cover	80	93	118	132
G	35	35	35	35
H	60	60	60	60

LC1 D40…D95, LP1 D40…D80

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

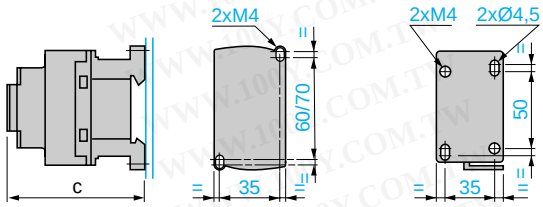


Control circuit:	a.c.		d.c.	
LC1	**D40…D65**	**D80 & D95**	**D40…D65**	**D80 & D95**
c with cover	119	130	176	186
LP1	–	–	**D40 & D65**	**D80**
c without cover	–	–	171	181

LC1 D09…D38

Panel mounted

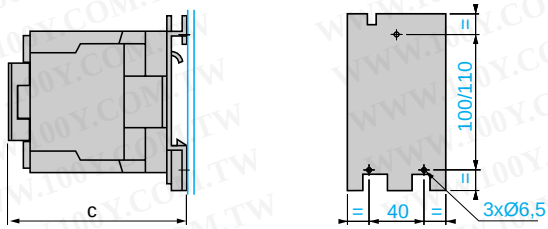
AC DC



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

LC1 D40…D95, LP1 D40 D80

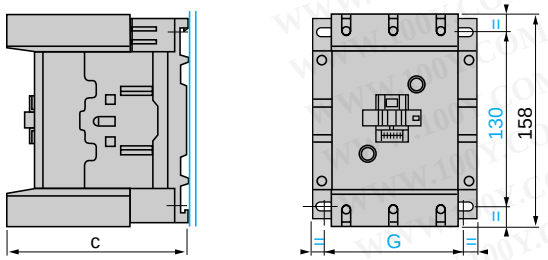
Panel mounted



Control circuit:	a.c.		d.c.	
LC1	**D40…D65**	**D80 & D95**	**D4…D65**	**D80 & D95**
c with cover	119	130	176	186
LP1	–	–	**D40 & D65**	**D80**
c without cover	–	–	171	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	–	–

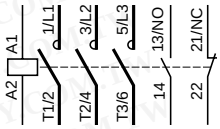
TeSys contactors

TeSys d contactors

Contactors

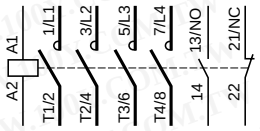
3-pole contactors (References: pages 13 to 16)

LC1 D09 to D150

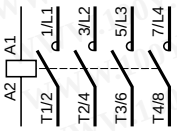


4-pole contactors (References: pages 15 and 16)

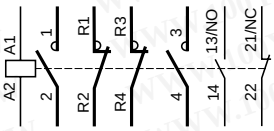
LC1 DT20 to DT40



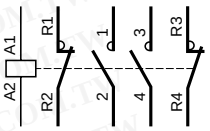
LC1 D115004



LC1 D098 to D258



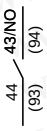
LC1 and LP1 D40008 to D80008



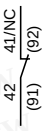
Front mounting add-on contact blocks

Instantaneous auxiliary contacts (References: page 24)

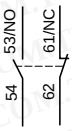
1 N/O LAD N10 *(1)*



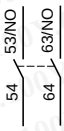
1 N/C LAD N01 *(1)*



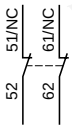
1 N/O + 1 N/C LAD N11



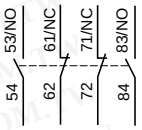
2 N/O LAD N20



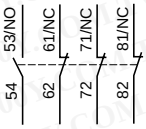
2 N/C LAD N02



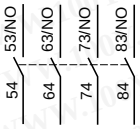
2 N/O + 2 N/C LAD N22



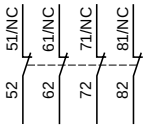
1 N/O + 3 N/C LAD N13



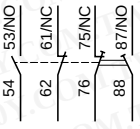
4 N/O LAD N40



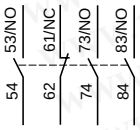
4 N/C LAD N04



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

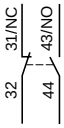


3 N/O + 1 N/C LAD N31

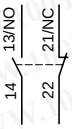


Instantaneous auxiliary contacts conforming to standard EN 50012 (References: page 24)

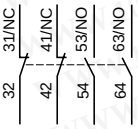
1 N/O + 1 N/C LAD N11G



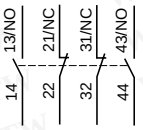
1 N/O + 1 N/C LAD N11P



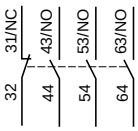
2 N/O + 2 N/C LAD N22G



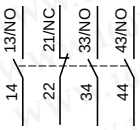
2 N/O + 2 N/C LAD N22P



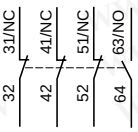
3 N/O + 1 N/C LAD N31G



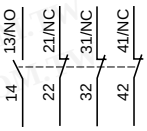
3 N/O + 1 N/C LADN31P



1 N/O + 3 N/C LAD N13G



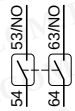
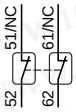
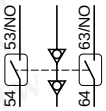
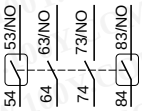
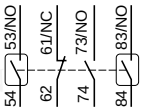
1 N/O + 3 N/C LAD N13P



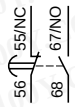
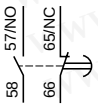
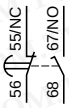
(1) Items in brackets are for blocks mounted on right-hand side of contactor.

Front mounting add-on contact blocks

Dust and damp protected instantaneous auxiliary contacts (References: page 24)

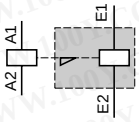
2 N/O (24-50 V) LA1 DX20	2 N/C (24-50 V) LA1 DX02	2 N/O (5-24 V) LA1 DY20	2 N/O protected (24-50 V) 2 N/O standard LA1 DZ40	2 N/O protected (24-50 V) + 1 N/O + 1 N/C standard LA1 DZ31
				

Time delay auxiliary contacts (References: page 25)

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
		

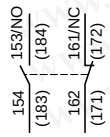
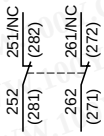
Mechanical latch blocks (References: page 25)

LAD 6K10 and LA6 DK20



Side mounting add-on contact blocks

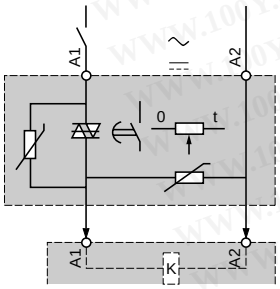
Instantaneous auxiliary contacts (References: page 24)

1 N/O + 1 N/C LAD 8N11 *(1)*	2 N/O LAD 8N20 *(1)*	2 N/C LAD 8N02 *(1)*
		

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

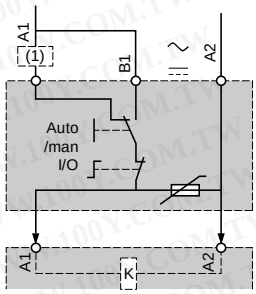
Electronic serial timer modules

On-delay LA4 DT●U



Auto-Man-Stop control modules

LA4 DM●

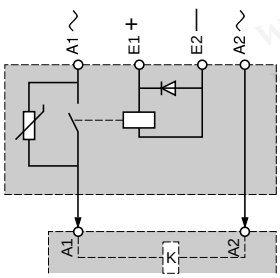


(1) PLC.

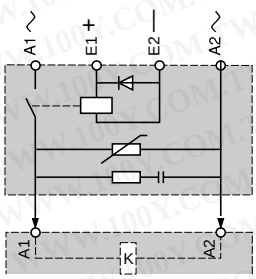
Interface modules

Relay interface

LA4 DF●

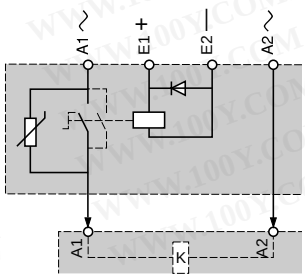


LA4 DFBQ



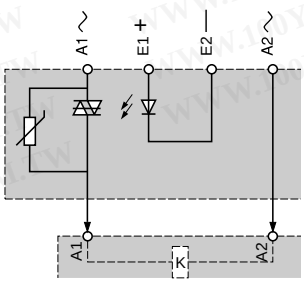
Relay with manual override

LA4 DL●



Solid state

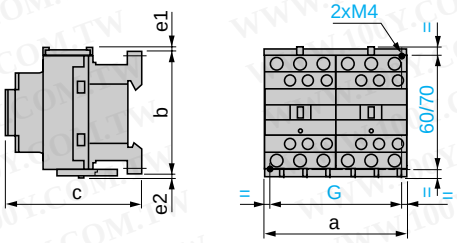
LA4 DWB●



References: page 28.

LC2 D09 to D38

2 x **LC1 D09 to D38**



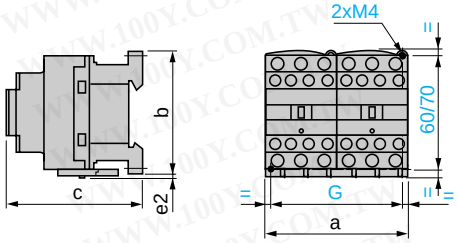
LC1 or 2 x **LC1**	**a**	**b**	**c** *(1)*	**e1**	**e2**	**G**
D09 to D18 ∿	90	77	86	4	1.5	**80**
D093 to D123 ∿	90	99	86	–	–	**80**
D09 to D18 ⎓	90	77	95	4	1.5	**80**
D093 to D123 ⎓	90	99	95	–	–	**80**
D25 to D38 ∿	90	85	92	9	5	**80**
D183 to D383 ∿	90	99	92	–	–	**80**
D25 to D32 ⎓	90	85	101	9	5	**80**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

e1 and e2: including cabling.

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

LC2DT20 to DT40

2 x **LC1 DT20 to DT40**

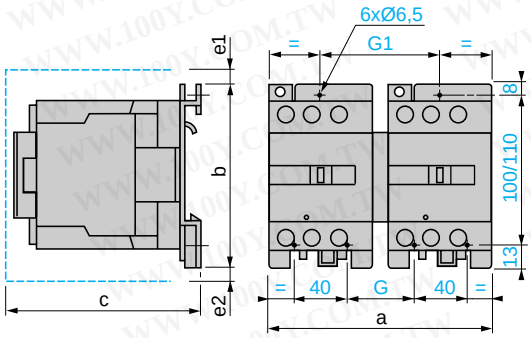


LC2 or 2 x **LC1**	**a**	**b**	**c**	**G**
DT20 and DT25	90	85	90	**80**
DT32 and DT40	90	91	98	**80**

c, e: including cabling.

LC2 D40 to D95

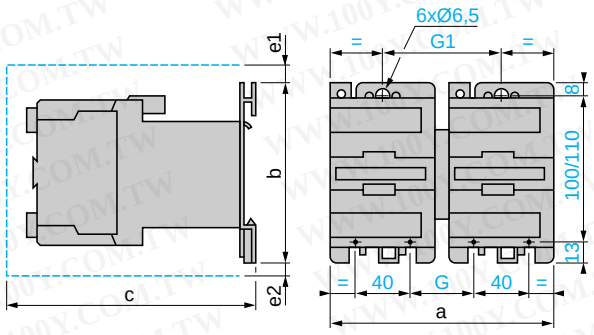
2 x **LC1 D40 to D95** ∿



LC2 or 2 x **LC1**	**a**	**b**	**c**	**e1**	**e2**	**G**	**G1**
D40 to D65 ∿	165	127	142	5	–	**50**	**90**
D65004 ∿	182	127	133	–	11	**57**	**97**
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 D40 to D95** ∿

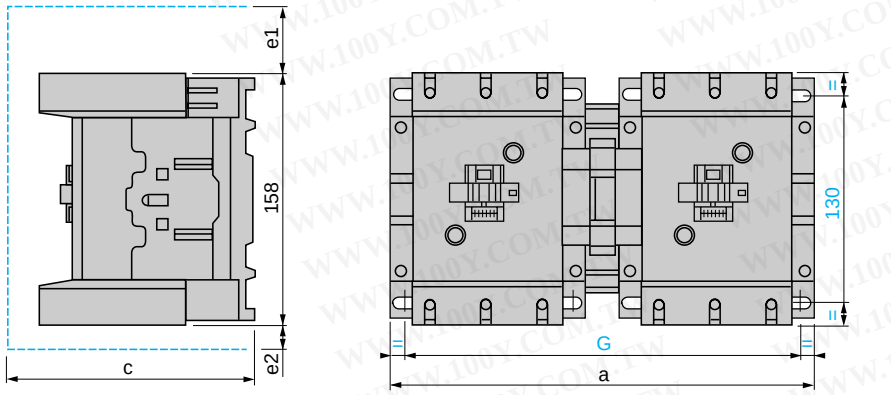


2 x **LC1**	**a**	**b**	**c**	**e1**	**e2**	**G**	**G1**
D40 to D65	182	127	190	5	11	**57**	**97**
D80 and D95	207	127	215	13	20	**96**	**111**

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.

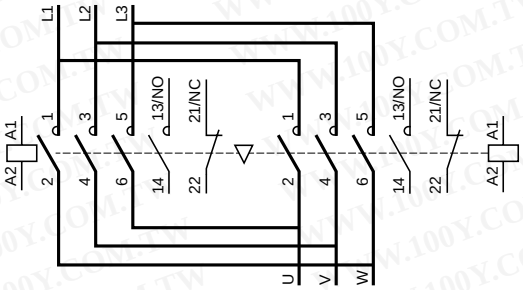
TeSys contactors

TeSys d reversing contactors

Reversing contactors for motor control

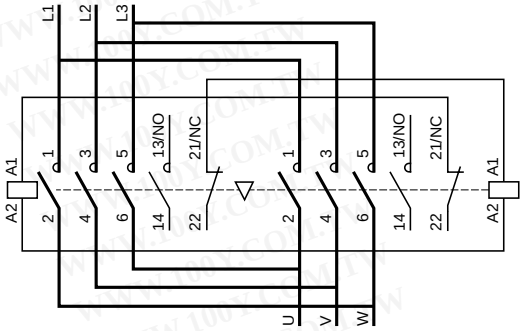
LC2 D09...D150

Horizontally mounted



LAD 9R1V

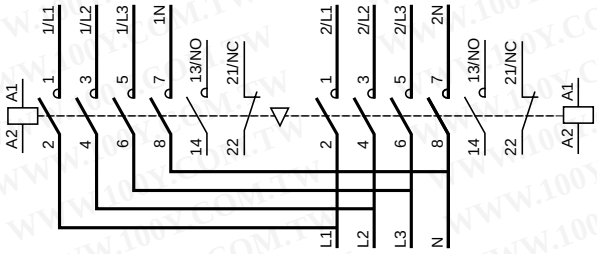
With integral electrical interlocking



Changeover contactor pairs

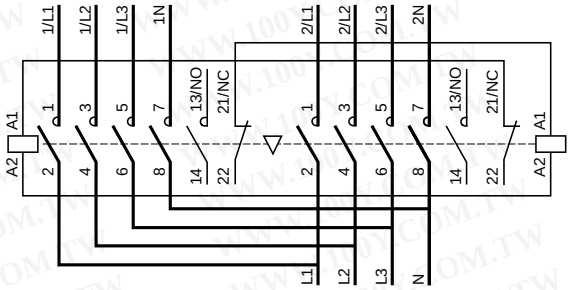
LC2 DT20...DT40

Horizontally mounted



LAD T9R1V

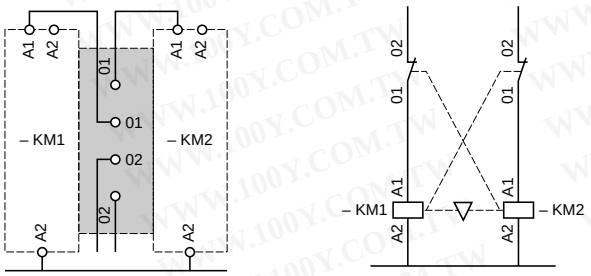
With integral electrical interlocking



Electrical interlocking of reversing contactors fitted with:

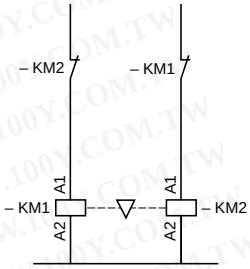
Mechanical interlock with integral electrical contacts

LA9 D●●●02

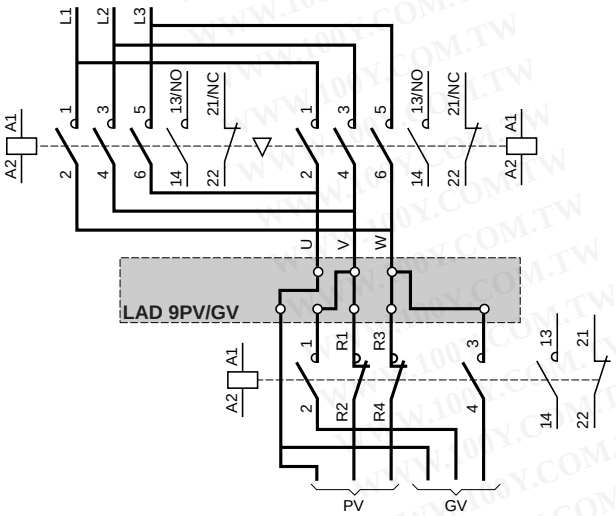


Mechanical interlock without integral electrical contacts

LA9 D●●●78, LAD 9R1



Low speed-High speed cabling kit, screw clamp terminals



Low speed-High speed cabling kit, spring terminals