TeSys contactors

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

LC1-D09●●

LC1-D25●●

LC1-D95●●

LC1-D115●●

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

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

3-pole contactors for connection by lugs or bars

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

Accessories

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

(1) LC1-D09 to D38: clip-on mounting on 35 mm ⊐ rail AM1-DP or screw fixing.
LC1-D40 to D95 ~: clip-on mounting on 35 mm or 75 mm ⊐ rail AM1-DL or screw fixing.
LC1-D40 to D95 ⎓: clip-on mounting on 75 mm ⊐ rail AM1-DL or screw fixing.
LC1-D115 and D150: clip-on mounting on 2 x 35 mm ⊐ rails AM1-DP or screw fixing.
(2) Standard control circuit voltages.

a.c. supply													
Volts	**24**	**42**	**48**	**110**	**115**	**220**	**230**	**240**	**380**	**400**	**415**	**440**	**500**
LC1-D09...D150 (D115 and D150 coils with integral suppression device fitted as standard)													
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7	–
LC1-D40...D115													
50 Hz	B5	D5	E5	F5	FE5	M5	P5	U5	Q5	V5	N5	R5	S5
60 Hz	B6	–	E6	F6	–	M6	–	U6	Q6	–	–	R6	–
d.c. supply													
Volts	**12**	**24**	**36**	**48**	**60**	**72**	**110**	**125**	**220**	**250**	**440**		
LC1-D09...D38 (coils with integral suppression device fitted as standard)													
U 0.7…1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
LC1-D40...D95													
U 0.85…1.1 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD		
U 0.75…1.2 Uc	JW	BW	CW	EW	–	SW	FW	–	MW	–	–		
LC1-D115 and **D150** (coils with integral suppression device fitted as standard)													
U 0.75…1.2 Uc	–	BD	–	ED	ND	SD	FD	GD	MD	UD	RD		
Low consumption													
Volts ⎓	**5**	**12**	**20**	**24**	**48**	**110**	**220**	**250**					
LC1-D09...D38 (coils with integral suppression device fitted as standard)													
U 0.7…1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL					

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

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

TeSys contactors

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

LC1-D123●●

LC1-D129●●

3-pole contactors for connection by spring terminals

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

3-pole contactors for connection by Faston connectors

These contactors are fitted with Faston connectors: 2 x 6.35 mm on the power poles and 1 x 6.35 mm on the coil and auxiliary terminals. It is possible to make 2 x 6.35 mm connections to the coil terminals by using a double Faston connector, reference: LA9-6180, to be ordered separately (sold in lots of 100).
For contactors LC1-D09 and LC1-D12 only, replace the digit 3 with a **9** in the references selected above.
Example: **LC1-D093●●** becomes **LC1-D099●●**.

Accessories

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

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

a.c. supply												
Volts	**24**	**42**	**48**	**110**	**115**	**220**	**230**	**240**	**380**	**400**	**415**	**440**
LC1-D09...D32												
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7
d.c. supply												
Volts	**12**	**24**	**36**	**48**	**60**	**72**	**110**	**125**	**220**	**250**	**440**	
LC1-D09...D32 (coils with integral suppression device fitted as standard)												
U 0.7…1.25 Uc	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD	
Low consumption												
Volts ⎓	**5**	**12**	**20**	**24**	**48**	**110**	**220**	**250**				
LC1-D09...D32 (coils with integral suppression device fitted as standard)												
U 0.7…1.25 Uc	AL	JL	ZL	BL	EL	FL	ML	UL				

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

TeSys contactors
Model d

Type of contactor			LC1-D09…D18 DT20 & DT25	LC1-D25…D38 DT32 & DT40	LC1-D40	LC1-D50…D95	LC1-D115 & LC1-D150
Environment							
Rated insulation voltage (Ui)	Conforming to IEC 947-4-1, overvoltage category III, degree of pollution: 3	**V**	690		1000		
	Conforming to UL, CSA	**V**	600				
Rated impulse withstand voltage (Uimp)	Conforming to IEC 947	**kV**	6		8		
Conforming to standards			IEC 947-1, 947-4-1, NFC 63-110, VDE 0660, BS 5424, JEM 1038, EN 60947-1, EN 60947-4-1. GL, DNV, PTB, RINA pending				
Product certifications			UL, CSA Complies with SNCF, Sichere Trennung recommendations				
Separation insulation	Conforming to VDE 0106 parts 101 and A1 (project 2/89)	**V**	400				
Degree of protection (1) (front face only)	Conforming to VDE 0106 — Power connection		Protection against direct finger contact IP 2X				
	Coil connection		Protection against direct finger contact IP 2X (except **LC1-D40…D80**)				
Protective treatment	Conforming to IEC 68		"TH"				
Ambient air temperature around the device	Storage	**°C**	- 60…+ 80				
	Operation	**°C**	- 5…+ 60				
	Permissible	**°C**	- 40…+ 70, for operation at Uc				
Maximum operating altitude	Without derating	**m**	3000				
Operating position	Without derating		± 30° possible, in relation to normal vertical mounting plane				
Flame resistance	Conforming to UL 94		V 1				
	Conforming to IEC 695-2-1	**°C**	960				
Shock resistance (2) 1/2 sine wave = 11ms	Contactor open		10 gn	8 gn	8 gn	8 gn	6 gn
	Contactor closed		15 gn	15 gn	10 gn	10 gn	15 gn
Vibration resistance (2) 5…300 Hz	Contactor open		2 gn				
	Contactor closed		4 gn	4 gn	4 gn	3 gn	4 gn

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

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

TeSys contactors

Model d

Connections for power and control circuits

Type of contactor		LC1-	D09 & D12 DT20 & DT25	D18 (3P)	D25	D32	D38	D18 & D25 (4P) DT32 & DT40	D40	D50 & D65	D80 & D95	D115 & D150
Power circuit connections												
Connection via cable												
Tightening			Screw clamps					2-input connector	Screw clamps	1-input connector		2-input connector
Flexible cable without cable end	1 conductor	mm²	1…4	1.5…6	1.5…10	2.5…10		2.5…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
Flexible cable with cable end	1 conductor	mm²	1…4	1…6	1…6	1…10		2.5…10	2.5…25	2.5…25	4…50	10…120
	2 conductors	mm²	1…2.5	1…4	1…4	1.5…6		2.5…10	2.5…10	2.5…10	4…16	10…120 + 10…50
Solid cable without cable end	1 conductor	mm²	1…4	1.5…6	1.5…6	1.5…10		2.5…16	2.5…25	2.5…25	4…50	10…120
	2 conductors	mm²	1…4	1.5…6	1.5…6	2.5…10		2.5…16	2.5…16	2.5…16	4…25	10…120 + 10…50
Screwdriver	Phillips head		N° 2	N° 2	N° 2	N° 2		N° 2	–	–	–	–
	Ø flat screwdriver		Ø 6	Ø 6	Ø 6	Ø 6		Ø 6	Ø 6…Ø 8	Ø6…Ø8	Ø6…Ø8	–
6 sided key			–	–	–	–		–	–	–	4	4
Tightening torque		N.m	1.7	1.7	2.5	2.5		1.8	5	5	9	12
Connection via spring terminals (2)												
Flexible cable without cable end	1 conductor	mm²	2.5 (4: DT25)	4	4	4	–	10	–	–	–	
	2 conductors	mm²	2.5 (except DT25: –)	4	4	4	–	–	–	–	–	
Connection via bars or lugs												
Bar cross-section			–	–	–	–		–	–	–	3 x 16	5 x 25
Lug external Ø		mm	8	8	10	10		8 (1)	13	16	17	25
Ø of screw		mm	M3.5	M3.5	M4	M4		M3.5	M5	M6	M6	M8
Screwdriver	Phillips head		N° 2	N° 2	N° 2	N° 2		N° 2	N° 2	N° 3	–	–
	Ø flat screwdriver		Ø 6	Ø 6	Ø 6	Ø 6		Ø 6	Ø 8	Ø 8	Ø 8	–
Key for hexagonal headed screw			–	–	–	–		–	–	–	10	13
Tightening torque		N.m	1.7	1.7	2.5	2.5		1.8	6	6	8	14
Control circuit connections												
Connection via cable (tightening via screw clamps)												
Flexible cable without cable end	1 conductor	mm²	1…4	1…4	1…4	1…4		1…4	1…4	1…4	1…4	1…2.5
	2 conductors	mm²	1…4	1…4	1…4	1…4		1…4	1…4	1…4	1…4	1…2.5
Flexible cable with cable end	1 conductor	mm²	1…4	1…4	1…4	1…4		1…4	1…2.5	1…2.5	1…2.5	1…2.5
	2 conductors	mm²	1…2.5	1…2.5	1…2.5	1…2.5		1…2.5	1…2.5	1…2.5	1…2.5	1…2.5
Solid cable without cable end	1 conductor	mm²	1…4	1…4	1…4	1…4		1…4	1…4	1…4	1…4	1…2.5
	2 conductors	mm²	1…4	1…4	1…4	1…4		1…4	1…4	1…4	1…4	1…2.5
Screwdriver	Phillips head		N° 2	N° 2	N° 2	N° 2		N° 2	N° 2	N° 2	N° 2	N° 2
	Ø flat screwdriver		Ø 6	Ø 6	Ø 6	Ø 6		Ø 6	Ø 6	Ø 6	Ø 6	Ø 6
Tightening torque		N.m	1.7	1.7	1.7	1.7		1.7	1.2	1.2	1.2	1.2
Connection via spring terminals (2)												
Flexible cable without cable end	1 conductor	mm²	2.5	2.5	2.5	2.5	–	2.5	–	–	–	–
	2 conductors	mm²	2.5	2.5	2.5	2.5	–	2.5	–	–	–	–
Connection via bars or lugs												
Lug external Ø		mm	8	8	8	8		8	8	8	8	8
Ø of screw		mm	M3,5	M3,5	M3,5	M3,5		M3,5	M3,5	M3,5	M3,5	M3,5
Screwdriver	Phillips head	N° 2	N° 2	N° 2	N° 2	N° 2		N° 2	N° 2	N° 2	N° 2	N° 2
	Ø flat screwdriver		Ø 6	Ø 6	Ø 6	Ø 6		Ø 6	Ø 6	Ø 6	Ø 6	N°6
Tightening torque		N.m	1,7	1,7	1,7	1,7		1,7	1,2	1,2	1,2	1,2

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

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

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

TeSys contactors
Model d

Type of contactor			LC1-	D09 (3P)	DT20 D098	D12 (3P)	DT25 D128	D18 (3P)	DT32 D188	D25 (3P)	DT40 D258
Pole characteristics											
Rated operational current (Ie) (Ue ≤ 440 V)	In AC-3, θ ≤ 60 °C		**A**	9		12		18		25	
	In AC-1, θ ≤ 60 °C		**A**	25 (1)	20	25 (1)	25	32 (1)	32	40 (1)	40
Rated operational voltage (Ue)	Up to		**V**	690		690		690		690	
Frequency limits	Of the operating current		**Hz**	25…400		25…400		25…400		25…400	
Conventional thermal current (Ith)	θ ≤ 60 °C		**A**	25 (1)	20	25 (1)	25	32 (1)	32	40 (1)	40
Rated making capacity (440 V)	Conforming to IEC 947			250		250		300		450	
Rated breaking capacity (440 V)	Conforming to IEC 947			250		250		300		450	
Permissible short-time rating No current flowing for preceding 15 minutes at θ ≤ 40 °C	For 1 s		**A**	210		210		240		380	
	For 10 s		**A**	105		105		145		240	
	For 1 min		**A**	61		61		84		120	
	For 10 min		**A**	30		30		40		50	
Protection by fuse against short-circuits (U ≤ 690 V)	Without thermal overload relay, fuse gG	type 1	**A**	25		40		50		63	
		type 2	**A**	20		25		35		40	
	With thermal overload relay		**A**	See pages 24514/2 and 24514/3, for aM or gG fuse ratings corresponding to the associated thermal overload relay							
Average impedance per pole	At Ith and 50 Hz		**mΩ**	2.5		2.5		2.5		2	
Power dissipation per pole for the above operating currents	AC-3		**W**	0.20		0.36		0.8		1.25	
	AC-1		**W**	1.56		1.56		2.5		3.2	
a.c. control circuit characteristics											
Rated control circuit voltage (Uc)	50/60 Hz		**V**	12…690							
Control voltage limits											
50 or 60 Hz coils	Operational			–							
	Drop-out			–							
50/60 Hz coils	Operational			0.8…1.1 Uc on 50 Hz and 0.85…1.1 Uc on 60 Hz at 60 °C							
	Drop-out			0.3…0.6 Uc at 60 °C							
Average consumption at 20 °C and at Uc ∿ 50 Hz	Inrush	50 Hz coil	**VA**	–							
		Cos φ		0.75							
		50/60 Hz coil	**VA**	70							
	Sealed	50 Hz coil	**VA**	–							
		Cos φ		0.3							
		50/60 Hz coil	**VA**	7							
∿ 60 Hz	Inrush	60 Hz coil	**VA**	–							
		Cos φ		0.75							
		50/60 Hz coil	**VA**	70							
	Sealed	60 Hz coil	**VA**	–							
		Cos φ		0.3							
		50/60 Hz coil	**VA**	7.5							
Heat dissipation 50/60 Hz			**W**	2…3							
Operating time (2)	Closing “C”		**ms**	12…22							
	Opening “O”		**ms**	4…19							
Mechanical life in millions of operating cycles	50 or 60 Hz coil			–							
	50/60 Hz coil on 50 Hz			15							
Maximum operating rate at ambient temperature ≤ 60 °C	In operating cycles per hour			3600							

(1) Versions with spring terminal connections : 20 A for LC1-D093 and LC1-D123, 25 A for LC1-D183 to LC1-D323, 32 A for LC1-D183 connected with 2 x 4mm² cables in parallel, 40 A for LC1-D253 and LC1-D323 connected with 2 x 4mm² cables in parallel.
(2) The closing time “C” is measured from the moment the coil supply is switched on to initial contact of the main poles. The opening time “O” is measured from the moment the coil supply is switched off to the moment the main poles separate.

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

D32	D38	D40	D50	D65	D80	D95	D115	D150
32	38	40	50	65	80	95	115	150
50 (1)	50	60	80	80	125	125	200	200
690	690	1000	1000	1000	1000	1000	1000	1000
25…400	25…400	25…400	25…400	25…400	25…400	25…400	25…400	25…400
50	50	60	80	80	125	125	200	200
550	550	800	900	1000	1100	1100	1260	1660
550	550	800	900	1000	1100	1100	1100	1400
430	430	720	810	900	990	1100	1100	1400
260	310	320	400	520	640	800	950	1200
138	150	165	208	260	320	400	550	580
60	60	72	84	110	135	135	250	250
63	63	80	100	160	200	200	250	315
63	63	80	100	125	160	160	200	250
See pages 24514/2 and 24514/3, for aM or gG fuse ratings corresponding to the associated thermal overload relay								
2	2	1.5	1.5	1	0.8	0.8	0.6	0.6
2	3	2.4	3.7	4.2	5.1	7.2	7.9	13.5
5	5	5.4	9.6	6.4	12.5	12.5	24	24
12…690	24…660						24…500	
–	0.85…1.1 Uc at 55 °C						0.85…1.1 Uc at 55 °C	
–	0.3…0.6 Uc at 55 °C						0.3…0.5 Uc at 55 °C	
0.8…1.1 Uc on 50 Hz and 0.85…1.1 Uc on 60 Hz at 60 °C	0.8…1.1 Uc on 50 Hz and 0.85…1.1 Uc on 60 Hz at 55 °C						0.8…1.15 Uc on 50/60 Hz at 55 °C	
0.3…0.6 Uc at 60 °C	0.3…0.6 Uc at 55 °C						0.3…0.5 Uc at 55 °C	
–	200						300	–
0.75	0.75						0.8	0.9
70	245						280…350	280…350
–	20						22	–
0.3	0.3						0.3	0.9
7	26						2…18	2…18
–	220						300	–
0.75	0.75						0.8	0.9
70	245						280…350	280…350
–	22						22	–
0.3	0.3						0.3	0.9
7.5	26						2…18	2…18
2…3	6…10						3…8	3…4.5
12…22	20…26	20…26	20…26	20…35	20…35		20…50	20…35
4…19	8…12	8…12	8…12	6…20	6…20		6…20	40…75
–	16	16	16	10	10		8	–
15	6	6	6	4	4		8	8
3600	3600	3600	3600	3600	3600		2400	1200

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

d.c. control circuit characteristics

Type of contactor				LC1-D09…D38 DT20…DT40	LC1- or LP1-D40…D65	LC1 or LP1-D80	LC1-D115 & LC1-D150
Rated control circuit voltage (Uc)	⎓		**V**	12…440	12…440		24…440
Rated insulation voltage	Conforming to IEC 947-1		**V**	690			
	Conforming to UL, CSA		**V**	600			
Control voltage limits	Operational	Standard coil		0.7…1.25 Uc at 60 °C	0.85…1.1 Uc at 55 °C		0.75…1.2 Uc at 55 °C
		Wide range coil		–	0.75…1.2 Uc at 55 °C		–
	Drop-out			0.1…0.25 Uc at 60 °C	0.1…0.3 Uc at 55 °C		0.15…0.4 Uc at 55 °C
Average consumption at 20 °C and at Uc	⎓	Inrush	**W**	5.4	22	22	270 to 365
		Sealed	**W**	5.4	22	22	2.4…5.1
Average operating time (1) **at Uc**	Closing	"C"	**ms**	55	85…110	95…130	20…35
	Opening	"O"	**ms**	20	20…35	20…35	40…75
	Note: The arcing time depends on the circuit switched by the poles. For normal 3-phase applications, the arcing time is usually less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.						
Time constant (L/R)			**ms**	28	65	75	25
Mechanical life at Uc	In millions of operating cycles			30	20	20	8
Maximum operating rate at ambient temperature ≤ 60 °C	In operating cycles per hour			3600	3600	3600	1200

Low consumption control circuit characteristics

Rated insulation voltage	Conforming to IEC 947-1		**V**	690	–
	Conforming to UL, CSA		**V**	600	–
Maximum voltage	Of the control circuit on ⎓			250	–
Average consumption d.c. at 20 °C and at Uc	Wide range coil (0.7…1.25 Uc)	Inrush	**W**	2.4	–
		Sealed	**W**	2.4	–
Operating time (1) at Uc and at 20 °C	Closing	"C"	**ms**	70	–
	Opening	"O"	**ms**	25	–
Voltage limits (θ ≤ 60 °C) **of the control circuit**	Operational			0.7 to 1.25 Uc	–
	Drop-out			0.1…0.3 Uc	–
Time constant (L/R)			**ms**	40	–
Mechanical life	In millions of operating cycles			30	–
Maximum operating rate	At ambient temperature ≤ 60 °C		**ops/h**	3600	–

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

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

TeSys contactors
Model d

Contactor integral auxiliary contact characteristics

Linked contacts conforming to draft standard IEC 947-4-5	Each contactor has 2 N/O and N/C contacts mechanically linked on the same movable contact holder			
Mirror contact	The N/C contact on each contactor represents the state of the power contacts and can be connected to a PREVENTA safety module			
Rated operational voltage (Ue)	Up to		**V**	690
Rated insulation voltage (Ui)	Conforming to IEC 947-1		**V**	690
	Conforming to UL, CSA		**V**	600
Conventional thermal current (Ith)	For ambient temperature ≤ 60 °C		**A**	10
Operating current frequency			**Hz**	25…400
Minimum switching capacity $\lambda = 10^{-8}$	U min.		**V**	17
	I min.		**mA**	5
Short-circuit protection	Conforming to IEC 947-5-1			gG fuse: 10 A
Rated making capacity	Conforming to IEC 947-5-1, I rms		**A**	∿: 140, ⎓: 250
Short-time rating	Permissible for	1 s	**A**	100
		500 ms	**A**	120
		100 ms	**A**	140
Insulation resistance			**MΩ**	> 10
Non-overlap time	Guaranteed between N/C and N/O contacts		**ms**	1.5 on energisation and on de-energisation

Contact operating power
conforming to IEC 947-5-1

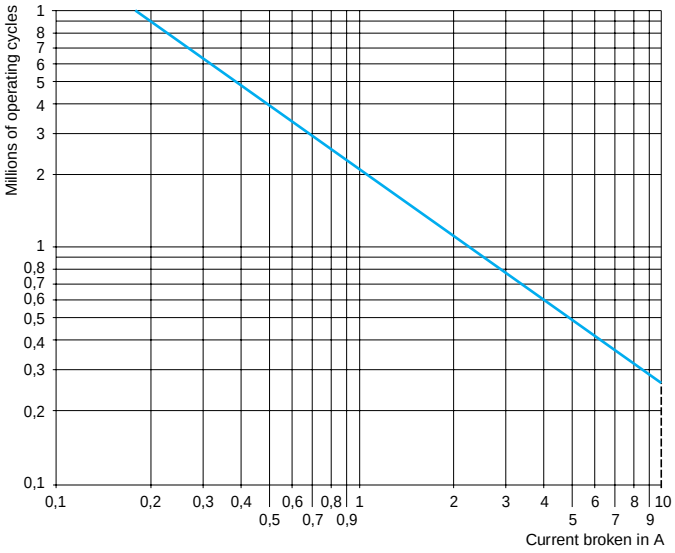
a.c. supply categories AC-14 and AC-15
Electrical life (valid for up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making power (cos φ 0.7) = 10 times the power broken (cos φ 0.4).

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

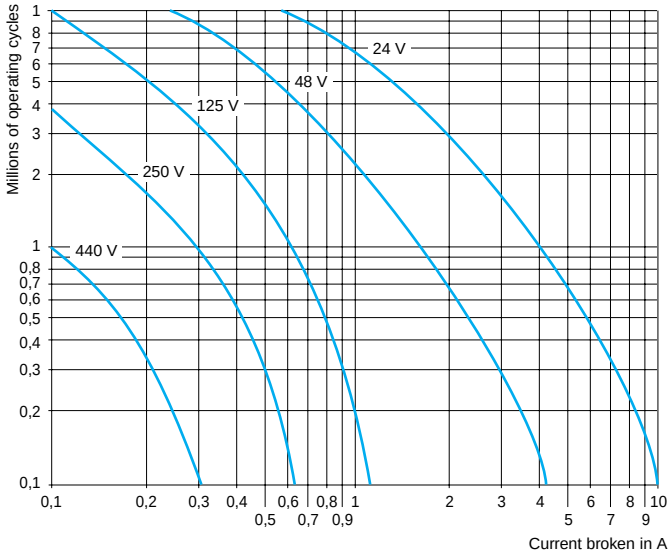
	V	**24**	**48**	**115**	**230**	**400**	**440**	**600**
1 million operating cycles	**VA**	60	120	280	560	960	1050	1440
3 million operating cycles	**VA**	16	32	80	160	280	300	420
10 million operating cycles	**VA**	4	8	20	40	70	80	100

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

AC-15



DC-13

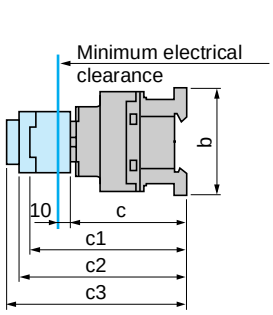


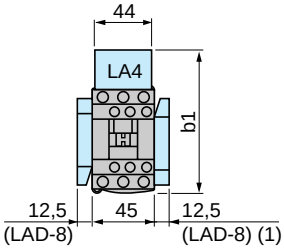
Selection : pages 24565/2 to 24572/5
References : pages 24501/2 to 24502/3
Dimensions : pages 24531/2 to 24531/5
Schemes : pages 24532/2 and 24532/3

TeSys contactors

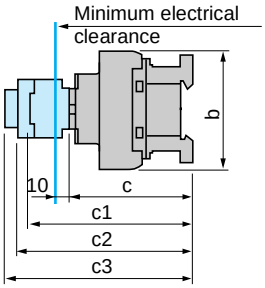
Model d contactors
Control circuit: a.c.

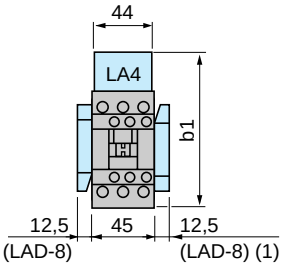
LC1-D09…D18 (3-pole)





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

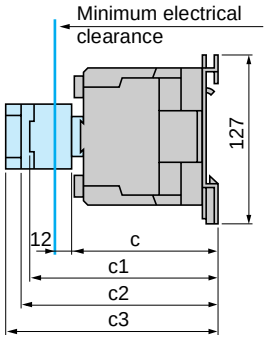


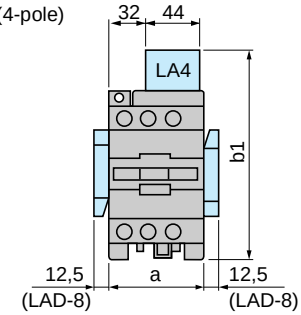


LC1-		D09… D18	D093… D123	D099… D129	D25… D38	D183… D323	DT20 & DT25	DT203 & DT253	DT32 & DT40	DT323 & DT403
b	without add-on blocks	77	99	80	85	99	85	99	91	105
b1	with LAD-4BB	94	107	95.5	98	107	98	–	–	–
	with LA4-D●2	110 (1)	123 (1)	111.5 (1)	114 (1)	123 (1)	114	–	–	–
	with LA4-DF, DT	119 (1)	132 (1)	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	97	97	105	105
	with cover, without add-on blocks	86	86	86	92	92	99	99	107	107
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

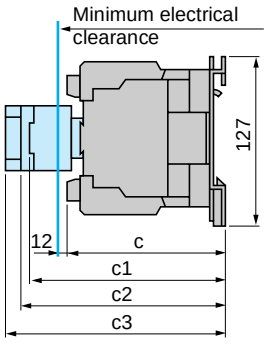
(1) Including LAD-4BB

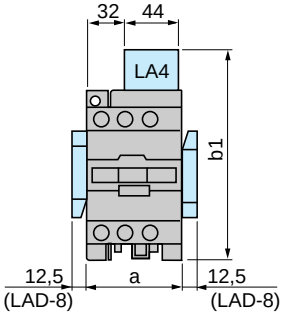
LC1-D40…D65 (3-pole)
LC1-D65004, D40008 and D65008 (4-pole)





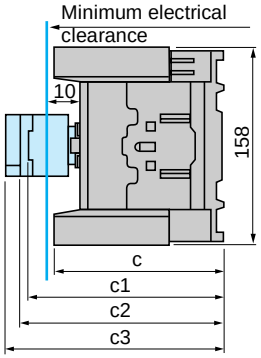
LC1-D80 and D95 (3-pole)
LC1-D80004 and D80008 (4-pole)

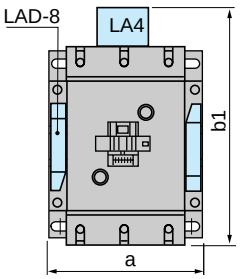




LC1-		D40…D65	D40008	D80 D65004	D95 D65008	D80004	D80008
a		75	85	85	85	96	96
b1	with LA4-D●2	135	135	135	135	135	135
	with LA4-DB3	–	–	135	–	–	–
	with LA4-DF, DT	142	142	142	142	142	142
	with LA4-DM, DW, DL	150	150	150	150	150	150
c	without cover or add-on blocks	114	125	125	125	125	140
	with cover, 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)





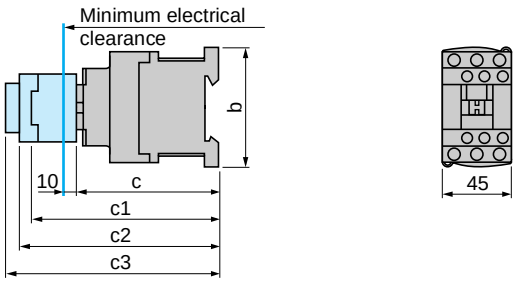
LC1-		D115 D150	D115004	D115006	D150006	D1150046
a		120	150	120	120	155
b1	with LA4-DA2	174	174	174	174	174
	with LA4-DF, DT	185	185	185	185	185
	with LA4-DM, DL	188	188	188	188	188
	with LA4-DW	188	188	188	–	188
c	without cover or add-on blocks	132	132	115	115	115
	with cover, without add-on blocks	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

Selection: pages 24565/2 to 24572/5
Characteristics: pages 24505/2 to 24505/7
References: pages 24501/2 to 24502/3
Schemes: pages 24532/2 and 24532/
3

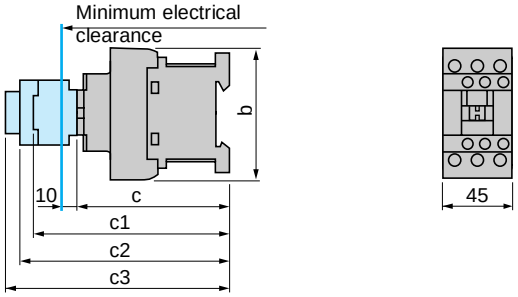
TeSys contactors

Model d contactors
Control circuit: d.c. or low consumption

LC1-D09…D18 (3-pole)

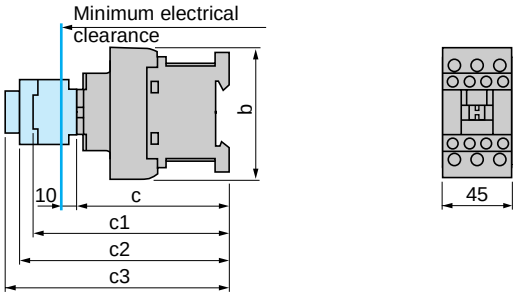


LC1-D25…D38 (3-pole)



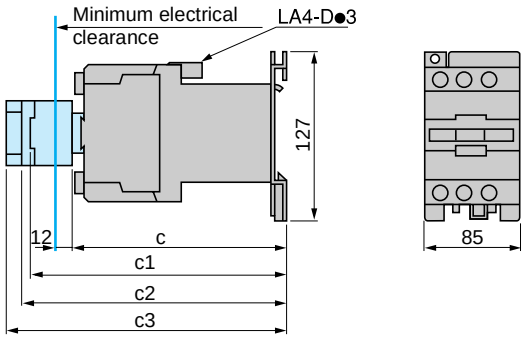
LC1-	D09…D18	D093…D123	D099…D129	D25…D38	D183…D323
b	77	99	80	85	99
c without cover or add-on blocks	93	93	93	99	99
with cover, without add-on blocks	95	95	95	101	101
c1 with LAD-N or C (2 or 4 contacts)	126	126	126	132	132
c2 with LA6-DK10	138	138	138	144	144
c3 with LAD-T, R, S	146	146	146	152	152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

LC1-DT20 to DT40 (4-pole)

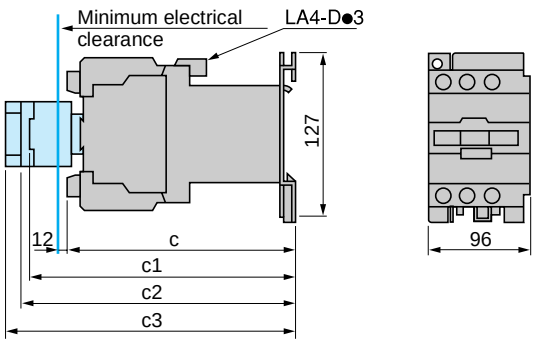


LC1-	DT20 & DT25 D098 & D128	DT203 & DT253 D0983 & D1283	DT32 & DT40 D188…D258	DT323 & DT403 D1883 & D2583
b	85	99	91	105
c with cover	99	99	107	107
c1 with LAD-N or C (2 or 4 contacts)	123	123	131	131
c2 with LA6-DK10	135	135	143	143
c3 with LAD-T, R, S	143	143	151	151
with LAD-T, R, S and sealing cover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

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



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

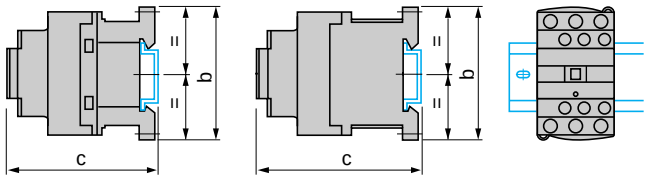


	LC1- D40…D65	LP1-D65004	LP1-D40008 & D65008	LC1- D80 & D95	LP1- D80004	LP1- D80008
c without cover or add-on blocks	171	171	182	181	181	196
with cover, without add-on blocks	176	–	–	186	–	–
c1 with LAD-N (1 contact)	196	196	196	204	204	204
with LAD-N or C (2 or 4 contacts)	202	202	202	210	210	210
c2 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-D115004: see page 24531/2.

TeSys contactors
Model d contactors

On mounting rail AM1-DP200, DR200 or AM1-DE200 (width 35 mm)
LC1-D09…D38, DT20…DT40



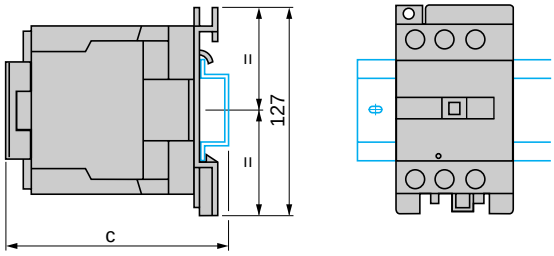
LC1-	D09…D18	D25…D38	DT20 & DT25	DT32 & DT40
b	77	85	85	100
c (AM1-DP200 or DR200) (1)	88	94	94	109
c (AM1-DE200) (1)	96	102	102	117

d.c. control circuit

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

On mounting rail AM1-DL200 or DL201 (width 75 mm)
On mounting rail AM1-ED●●● or AM1-DE200 (width 35 mm)
LC1-D40 to D95, LP1-D40 to D80



a.c. control circuit

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

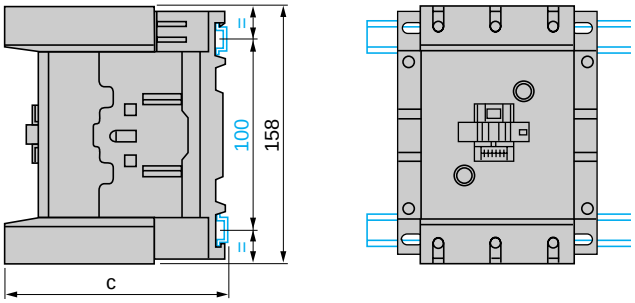
d.c. control circuit

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

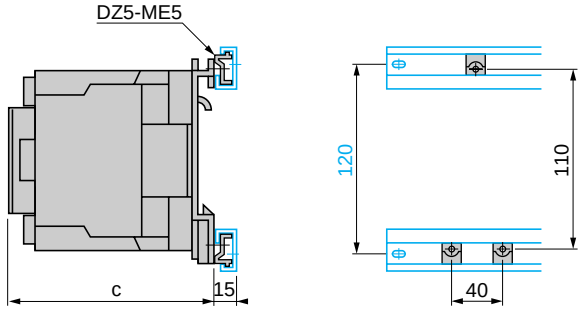
On 2 mounting rails DZ5-MB at 120 mm centres
LC1-D115, D150



a.c. or d.c. control circuit

LC1-	D115 & D150	D1156 & D1506
c (AM1-DP200 or DR200)	134.5	117.5
c (AM1-DE200 or ED●●●)	142.5	125.5

On 2 mounting rails DZ5-MB at 120 mm centres
LC1-D40…D95, LP1-D40…D80



a.c. control circuit

LC1-	D40…D65	D80 & D95
c with cover	119	130

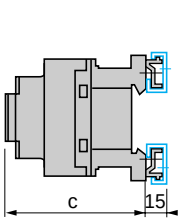
d.c. control circuit

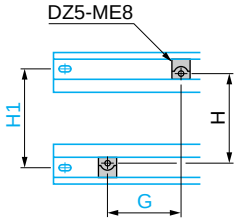
LC1-	D40…D65	D80 & D95
c with cover	176	186
LP1-	**D40 & D65**	**D80**
c	171	181

Selection: pages 24565/2 to 24572/5
Characteristics: pages 24505/2 to 24505/7
References: pages 24501/2 to 24502/3
Schemes: pages 24532/2 and 24532/3

TeSys contactors
Model d contactors

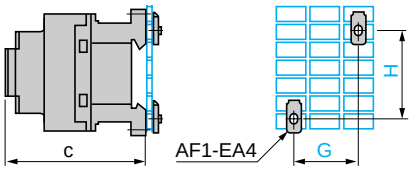
LC1-D09 to D38 and LC1-DT20…DT40
On 2 mounting rails DZ5-MB





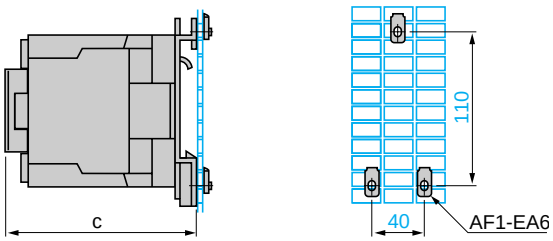
Control circuit:	a.c.		d.c.	
LC1-	**D09…D18**	**D25…D38**	**D09…D18**	**D25…D38**
c with cover	86	92	95	101
G	35	35	35	35
H	60	60	70	70
H1	70	70	70	70
4-pole contactors				
LC1-	**DT20 & DT25**	**DT32 & DT40**	**DT20 & DT25**	**DT32 & DT40**
c	92	100	101	109
G	35	35	35	35
H	60	60	70	70
H1	70	70	70	70

LC1-D09…D38 and LC1-DT20…DT40
On pre-slotted mounting plate AM1-PA, PB, PC



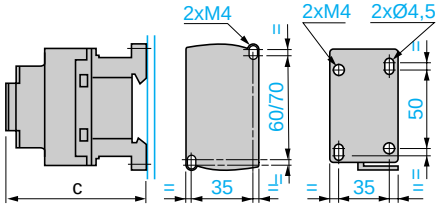
Control circuit:	a.c.		d.c.	
LC1-	**D09…D18**	**D25…D38**	**D09…D18**	**D25…D38**
c with cover	86	92	95	101
G	35	35	35	35
H	60/70	60/70	70	70
4-pole contactors				
LC1-	**DT20 & DT25**	**DT32 & DT40**	**DT20 & DT25**	**DT32 & DT40**
c with cover	80	93	118	132
G	35	35	35	35
H	60	60	60	60

LC1-D40…D95, LP1-D40…D80
On pre-slotted mounting plate AM1-PA, PB, PC



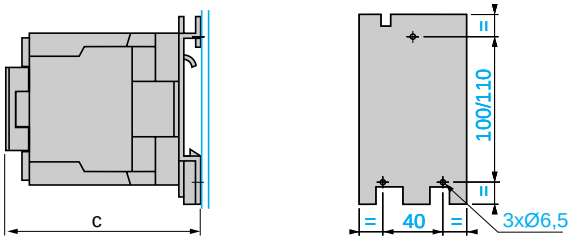
Control circuit:	a.c.		d.c.	
LC1-	**D40…D65**	**D80 & D95**	**D40…D65**	**D80 & D95**
c with cover	119	130	176	186
LP1-	**–**	**–**	**D40 & D65**	**D80**
c without cover	–	–	171	181

LC1-D09…D38
Panel mounted



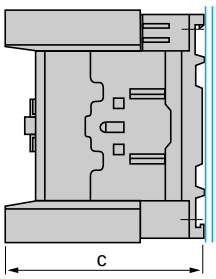
Control circuit:	a.c.		d.c.	
LC1-	**D09…D18**	**D25…D38**	**D09…D18**	**D25…D38**
c with cover	86	92	95	101
4-pole contactors				
LC1-	**DT20 & DT25**	**DT32 & DT40**	**DT20 & DT25**	**DT32 & DT40**
c with cover	90	98	90	98

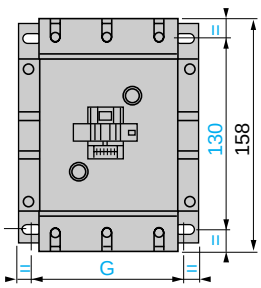
LC1-D40…D95, LP1-D40 to D80
Panel mounted



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



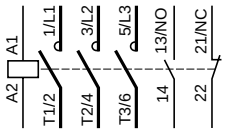


LC1-	D115	D1156	D150	D1506
c	132	115	132	115
G (3-pole)	96/110	96/110	96/110	96/110
G (4-pole)	130/144	130/144	–	–

Selection: pages 24565/2 to 24572/5 **Characteristics:** pages 24505/2 to 24505/7 **References:** pages 24501/2 to 24502/3 **Schemes:** pages 24532/2 and 24532/

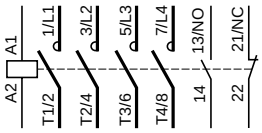
TeSys contactors
Model d contactors

3-pole contactors (References: pages 24501/2 to 24502/3)
LC1-D09 to D150

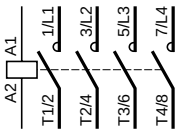


4-pole contactors (References: pages 24502/2 and 24502/3)

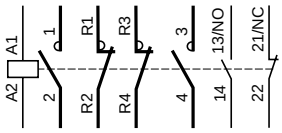
LC1-DT20 to DT40



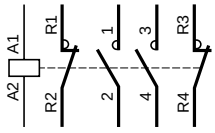
LC1-D115004



LC1-D098 to D258

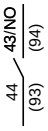


LC1 and LP1-D40008 to D80008

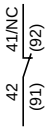


Front mounting add-on contact blocks
Instantaneous auxiliary contacts (References: page 24511/3)

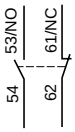
1 N/O LAD-N10 (1)



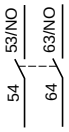
1 N/C LAD-N01 (1)



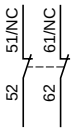
1 N/O + 1 N/C LAD-N11



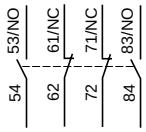
2 N/O LAD-N20



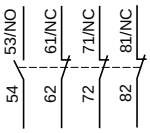
2 N/C LAD-N02



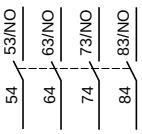
2 N/O + 2 N/C LAD-N22



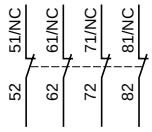
1 N/O + 3 N/C LAD-N13



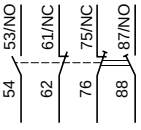
4 N/O LAD-N40



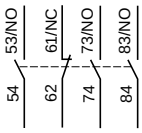
4 N/C LAD-N04



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

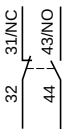


3 N/O + 1 N/C LAD-N31

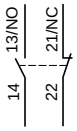


Front mounting add-on contact blocks
Instantaneous auxiliary contacts conforming to standard EN 50012 (References: page 24511/3)

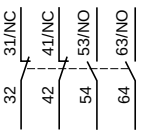
1 N/O + 1 N/C LAD-N11G



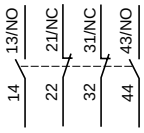
1 N/O + 1 N/C LAD-N11P



2 N/O + 2 N/C LAD-N22G



2 N/O + 2 N/C LAD-N22P

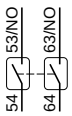


(1) Items in brackets are for blocks mounted on right-hand side of contactor.

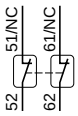
TeSys contactors
Model d contactors

Front mounting add-on contact blocks
Dust and damp protected instantaneous auxiliary contacts (References: page 24511/3)

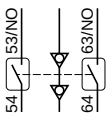
2 N/O (24-50 V)
LA1-DX20



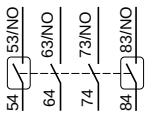
2 N/C (24-50 V)
LA1-DX02



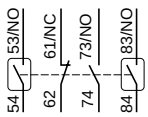
2 N/O (5-24 V)
LA1-DY20



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

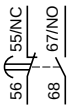


2 N/O protected (24-50 V)
+ 1 N/O + 1 N/C standard
LA1-DZ31

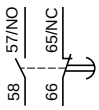


Front mounting add-on contact blocks
Time-delay auxiliary contacts (References: page 24511/4)

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

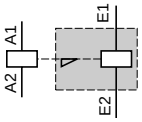


Off-delay 1 N/O + 1 N/C
LAD-R



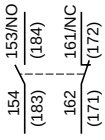
On-delay N/C with 1 N/O break before make
LAD-S

Mechanical latch blocks
(References: page 24511/4)
LAD-6K10 and LA6-DK20



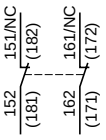
Side mounting add-on contact blocks
Instantaneous auxiliary contacts (References: page 24511/3)

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



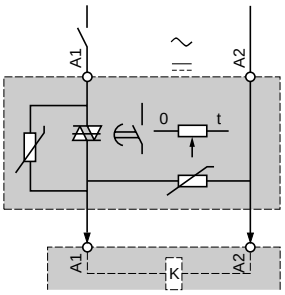
2 N/O LAD-8N20 (1)

2 N/C LAD-8N02 (1)

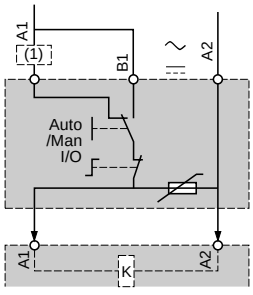


(1) Items in brackets are for blocks mounted on right-hand side of contactor.

Electronic serial timer modules
On-delay LA4-DT●U

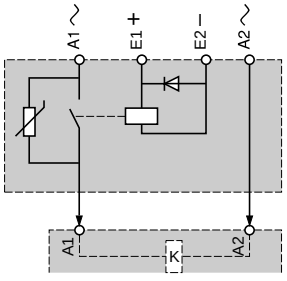


Auto-Man-Stop modules
LA4-DM●

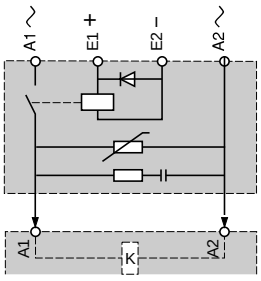


(1) PLC

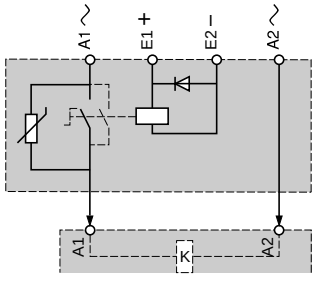
Interface modules
Relay interface
LA4-DF●



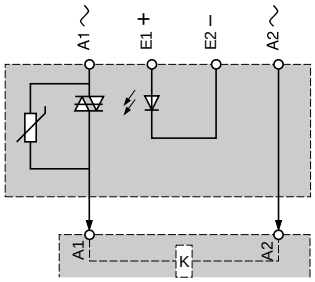
LA4-DFBQ



Relay interface with override switch LA4-DL●



Solid state
LA4-DWB●



(References: page 24511/7)