TeSys contactors

TeSys F contactors for motor control in utilisation category AC-3 (115 to 800 A)

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

DF5260091R.eps



LC1 F225

DF5260092R.eps



LC1 F630

3-pole contactors

Standard power ratings of 3-phase motors 50-60 Hz in category AC-3							Rated operational current in AC-3	Basic reference, to be completed by adding the voltage code (2)	Weight
220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V	440 V up to	Screw fixing, cabling (1)	
kW	kW	kW	kW	kW	kW	kW	A		kg
30	55	59	59	75	80	65	115	**LC1F115●●**	3.430
40	75	80	80	90	100	65	150	**LC1F150●●**	3.430
55	90	100	100	110	110	100	185	**LC1F185●●**	4.650
63	110	110	110	129	129	100	225	**LC1F225●●**	4.750
75	132	140	140	160	160	147	265	**LC1F265●●**	7.440
100	160	180	200	200	220	160	330	**LC1F330●●**	8.600
110	200	220	250	257	280	185	400	**LC1F400●●**	9.100
147	250	280	295	355	335	335	500	**LC1F500●●**	11.350
200	335	375	400	400	450	450	630	**LC1F630●●**	18.600
220	400	425	425	450	475	450	780	**LC1F780●●**	39.500
250	450	450	450	450	475	450	800	**LC1F800●●**	18.750

Note: *auxiliary contact blocks, modules and accessories: see pages B9/10 to B9/27.*

(1) Power terminals can be protected against direct finger contact by the addition of shrouds, to be ordered separately, except on contactors LC1 F780 (see page B9/14).

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

Volts ∼	24	48	110	115	120	208	220	230	240	380	400	415	440
LC1 F115…F225													
50 Hz (coil LX1)	B5	E5	F5	FE5	–	–	M5	P5	U5	Q5	V5	N5	–
60 Hz (coil LX1)	–	E6	F6	–	G6	L6	M6	–	U6	Q6	–	–	R6
40…400 Hz (coil LX9)	–	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 F265…F330													
40…400 Hz (coil LX1)	B7	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 F400…F630													
40…400 Hz (coil LX1)	–	E7	F7	FE7	G7 (3)	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 F780													
40…400 Hz (coil LX1)	–	–	F7	FE7	F7	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 F800													
40…400 Hz (coil LX4) (4)	–	–	FW	FW	FW	–	MW	MW	MW	QW	QW	QW	–

Volts ⎓	24	48	110	125	220	230	250	400	440
LC1 F115…F330									
(coil LX4 F)	BD	ED	FD	GD	MD	MD	UD	–	RD
LC1 F400…F630									
(coil LX4 F)	–	ED	FD	GD	MD	–	UD	–	RD
LC1 F780									
(coil LX4 F)	–	–	FD	GD	MD	–	UD	–	RD
LC1 F800									
(coil LX4 F)	–	–	FW	FW	MW	MW	–	QW	–

*(3) F7 for **LC1F630**.*

(4) Coil LX4 F8●● + rectifier DR5TE●●.

TeSys contactors

TeSys F contactors for motor control in utilisation category AC-3 (115 to 2100 A)

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

TeSys F

DF526093R.eps



LC1 F1854

DF526094R.eps



LC1 F4004

DF526095R.eps



LC1 F6304

DF526096R.eps



LC1 F1700

DF526097R.eps



LC1 F2100

2, 3 or 4-pole contactors

Maximum current in AC-1 (θ ≤ 40 °C)	Number of poles	Basic reference, to be completed by adding the voltage code [2] Screw fixing, cabling [1]	Weight
A			kg
200	3	**LC1F115●●**	3.430
	4	**LC1F1154●●**	3.830
250	3	**LC1F150●●**	3.430
	4	**LC1F1504●●**	3.830
275	3	**LC1F185●●**	4.650
	4	**LC1F1854●●**	5.450
315	3	**LC1F225●●**	4.750
	4	**LC1F2254●●**	5.550
350	3	**LC1F265●●**	7.440
	4	**LC1F2654●●**	8.540
400	3	**LC1F330●●**	8.600
	4	**LC1F3304●●**	9.500
500	2	**LC1F4002●●**	8.000
	3	**LC1F400●●**	9.100
	4	**LC1F4004●●**	10.200
700	2	**LC1F5002●●**	9.750
	3	**LC1F500●●**	11.350
	4	**LC1F5004●●**	12.950
1000	2	**LC1F6302●●**	15.500
	3	**LC1F630●●**	18.600
	4	**LC1F6304●●**	21.500
1260	3	**LC1F1250●●**	19.000
1400	3	**LC1F1400●●**	29.000
1600	3	**LC1F780●●**	39.500
	4	**LC1F7804●●**	48.000
1700	3	**LC1F1700●●**	30.000
2100 [3]	3	**LC1F2100●●**	31.000

Note: *auxiliary contact blocks, modules and accessories: see pages B9/10 to B9/27.*

*(1) Power terminals can be protected against direct finger contact by the addition of shrouds, to be ordered separately (except **LC1 F780, LC1 F1250, LC1 F1400, LC1 F1700 and LC1 F2100**), see page "TeSys contactors", page B9/14.*

(2) Standard control circuit voltages, see previous page.

*(3) With set of right-angled connectors **LA9 F2100** (see page "References", page B9/16).*

TeSys contactors

3-pole vacuum contactors and reversing contactors

Power and control circuits a.c. supply

PF526336R.eps

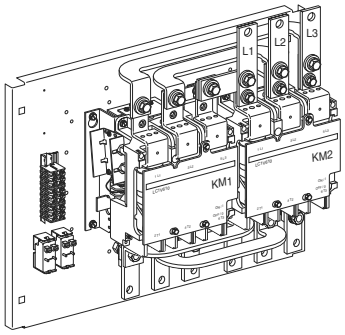


LC1 V320

Vacuum contactors

Standard power ratings 50/60 Hz in category AC-3					Rated operational current Ie		Instantaneous auxiliary contacts		Control circuit voltage (50/60 Hz)	Basic reference (1)	Weight
230 V	400 V	525 V	690 V	1000 V	AC-3	AC-1					
kW	kW	kW	kW	kW	A	A					kg
45	75	110	150	200	160	160	2	1	(1)	**LC1V160●●**	3.800
90	160	220	280	400	320	320	1	1	(1)	**LC1V320●●**	10.500
160	300	400	560	800	610	630	1	1	(1)	**LC1V610●●**	13.000

510227.eps



LC2 V610

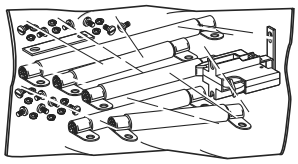
Reversing vacuum contactors

The reversing contactor range comprises :

- for 160 A rating, a kit with set of power connections allowing assembly of the starter
- for 320 and 610 A ratings, a complete starter, ready for use.

Standard power ratings 50/60 Hz in category AC-3					Rated operational current Ie		Instantaneous auxiliary contacts		Control circuit voltage (50/60 Hz)	Basic reference (1)	Weight
230 V	400 V	525 V	690 V	1000 V	AC-3	AC-1					
kW	kW	kW	kW	kW	A	A					kg
45	75	110	150	200	160	160	2	1	–	**LA9V974** (2)	1.200
90	160	220	280	400	320	320	1	1	110-120 V	**LC2V320FE7**	30
									220-240 V	**LC2V320P7**	30
									380-415 V	**LC2V320V7**	30
160	300	400	560	800	610	630	1	1	110-120 V	**LC2V610FE7**	36
									220-240 V	**LC2V610P7**	36

510213.eps



LA9 V974

(1) Basic reference; add code indicating control circuit voltage.
Standard control circuit voltages:

Volts 50/60 Hz	110…120	220…240	380…415	440…480	550…600
Item	FE7	P7	V7	R7	X7

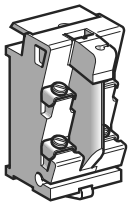
(2) Kit containing a mechanical interlock, a set of power connections and a fixing plate.
To build a complete reversing contactor, order contactors LC1 V160●● separately.

TeSys contactors

3-pole vacuum contactors and reversing contactors

TeSys V

Power and control circuits a.c. supply



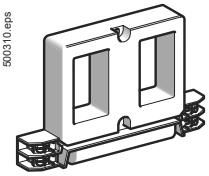
LA1 VN11

Instantaneous auxiliary contact blocks (1)

Number of contacts	Maximum number of blocks per contactor	Auxiliary contacts		Reference
2	4	1	1	**LA1VN11**
		–	2	**LA1VN02**
		2	–	**LA1VN20**
		1	1	**LA1VN11X** (2)

50/60 Hz coils

Rated voltage V	Voltage code	Reference
For contactors LC1 V160		
110…120	FE7	**LX1V160FE7**
220…240	P7	**LX1V160P7**
380…415	V7	**LX1V160V7**
440…480	R7	**LX1V160R7**
550…600	X7	**LX1V160X7**
For contactors LC1 V320		
110…120	FE7	**LX1V320FE7**
220…240	P7	**LX1V320P7**
380…415	V7	**LX1V320V7**
440…480	R7	**LX1V320R7**
550…600	X7	**LX1V320X7**
For contactors LC1 V610		
110…120	FE7	**LX1V610FE7**
220…240	P7	**LX1V610P7**
380…415	V7	**LX1V610V7**
440…480	R7	**LX1V610R7**
550…600	X7	**LX1V610X7**



LX1 V320●●

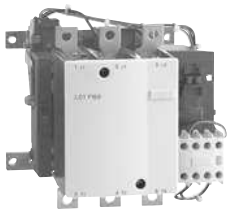
(1) LC1 V160: auxiliary contact blocks mounted at the top of the contactor, with no change to the overall dimensions.
LC1 V320 or LC1 V610: 2 auxiliary contact blocks mounted on the RH and LH side of the contactor, with no change to the overall dimensions.
(2) For LC1 V160: 1 N/C contact for the coil + 1 N/O contact.

TeSys contactors

3-pole shockproof contactors LC1 FG

For control of motors and distribution circuits
Control circuit: a.c.

PF526281R.eps



LC1 FG150

PF526282R.eps



LC1 FG185

PF526283R.eps



LC1 FG265

3-pole shockproof contactors

Standard power ratings of 3-phase motors 50-60 Hz in category AC-3							Rated operational current in cat. AC-3, 440 V/AC-1 up to	⚓ (1) DCN ref.	Basic reference, to be completed by adding the voltage code (3) Screw fixing, cabling (2)	Weight
220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V				
kW	kW	kW	kW	kW	kW	kW	A			kg
40	75	80	80	90	100	65	150/250	**CR182**	**LC1FG150●●**	3.430
55	90	100	100	110	110	100	185/275	**CR242**	**LC1FG185●●**	4.650
75	132	140	140	160	160	147	265/350	**CR302**	**LC1FG265●●**	7.440
110	200	220	250	257	280	185	400/500	**CR432**	**LC1FG400●●**	9.100
147	250	280	295	355	335	335	500/700	**CR582**	**LC1FG500●●**	11.350
200	335	375	400	400	450	450	630/1000	**CR852**	**LC1FG630●●**	18.600

Note: *these contactors have instantaneous auxiliary contact blocks with 2 N/O contacts, 1 N/C contact and one coil maintaining contact.*

(1) Devices approved by the DCN (French naval shipyard department) and authorised for on-board use.
(2) Power terminals can, if required, be protected against direct finger contact by the addition of shrouds, to be ordered separately.
(3) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

Volt ∼		48	110	115	⚓ (1) 120	208	220	230	240	380	400	415	440
LC1 FG 150…FG185	50 Hz (coil LX1)	E5	F5	F5	–	–	M5	P5	U5	Q5	V5	N5	–
	60 Hz (coil LX1)	E6	F6	–	–	L6	M6	–	U6	Q6	–	–	R6
	50/60 Hz (coil LX9)	E7	F7	F7	G6	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 FG265	40…400 Hz (coil LX1)	E7	F7	F7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 FG400…FG500	40…400 Hz (coil LX1)	–	F7	F7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
LC1 FG630	40…400 Hz (coil LX1)	–	F7	F7	F7	L7	M7	P7	U7	Q7	V7	N7	R7

TeSys contactors

Magnetic latching contactors

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

TeSys CR1F

PF526337R.eps



CR1 F1854

PF526338R.eps



CR1 F500

Maximum thermal current in category AC-1 40 °C	Rated operational current in category AC-3 (440 V max)	Number of poles	Instantaneous auxiliary contacts		Basic reference, to be completed by adding the voltage code (1)	Weight
A	A					kg
250	150	3	–	–	**CR1F150●●**	3.500
		4	–	–	**CR1F1504●●**	3.800
275	185	3	–	–	**CR1F185●●**	4.600
		4	–	–	**CR1F1854●●**	5.400
350	265	3	–	–	**CR1F265●●**	7.400
		4	–	–	**CR1F2654●●**	8.500
500	400	3	–	–	**CR1F400●●**	9.100
		4	–	–	**CR1F4004●●**	10.200
700	500	3	–	–	**CR1F500●●**	11.300
		4	–	–	**CR1F5004●●**	12.900
1000	630	3	–	–	**CR1F630●●**	18.600
		4	–	–	**CR1F6304●●**	21.500

(1) Standard control circuit voltages: see page opposite.

TeSys contactors

TeSys F reversing contactors for motor control in utilisation category AC-3 (115 to 265 A), pre-assembled

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

DB402428.eps



LC2 F115

3-pole reversing contactors (horizontally mounted) (1)

Pre-wired power connections

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3							Operational current in AC-3	Maximum operational voltage	Contactors supplied without coil (2) Complete reference	Weight
220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V	440 V up to		Fixing, cabling (3)	
kW	kW	kW	kW	kW	kW	kW	A	V		kg
30	55	59	59	75	80	65	115	1000	**LC2F115**	7.560
40	75	80	80	90	100	65	150	1000	**LC2F150**	7.560
55	90	100	100	110	110	100	185	1000	**LC2F185**	10.100
63	110	110	110	129	129	100	225	1000	**LC2F225**	14.200
75	132	140	140	160	160	147	265	1000	**LC2F265**	16.480

Accessories (to be ordered separately)

Description	For reversing contactors	Quantity required	Reference
Power terminal protection shrouds	LC2 F115	2	**LA9F701**
	LC2 F150, F185	2	**LA9F702**
	LC2 F225, F265	2	**LA9F703**
Auxiliary contact blocks and add-on modules	–	–	See pages B9/10 to B9/14

*(1) Fitted with a mechanical interlock without electrical interlocking. Order separately 2 auxiliary contact blocks **LADN●1** to obtain electrical interlocking between the 2 contactors, see page B9/11. For accessories, see pages B9/12 to B9/14.*

(2) Coils to be ordered separately:
- a.c. supply, see pages B9/17 to B9/4,
- d.c. supply, see pages B9/5 and B9/24.

(3) Screw fixing.
Power terminals can be protected against direct finger contact by the addition of shrouds, to be ordered separately, see above.

Selection: pages B10/50 to B10/73
Dimensions: pages B9/100 to B9/102
Schemes: page B9/103

TeSys contactors

TeSys F changeover contactors for motor control in utilisation category AC-1 (200 to 350 A), pre-assembled

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

DF526098R.eps



LC2 F1854

4-pole changeover contactor pairs (horizontally mounted) (1)

Pre-wired power connections

Utilisation category AC-1 Non inductive loads Maximum operational current θ < 40 °C	Maximum operational voltage	Contactors supplied without coil (2) Complete reference Fixing, cabling (3)	Weight
A	V		kg
200	1000	**LC2F1154**	8.860
250	1000	**LC2F1504**	8.860
275	1000	**LC2F1854**	12.100
315	1000	**LC2F2254**	15.200
350	1000	**LC2F2654**	19.480

Accessories (to be ordered separately)

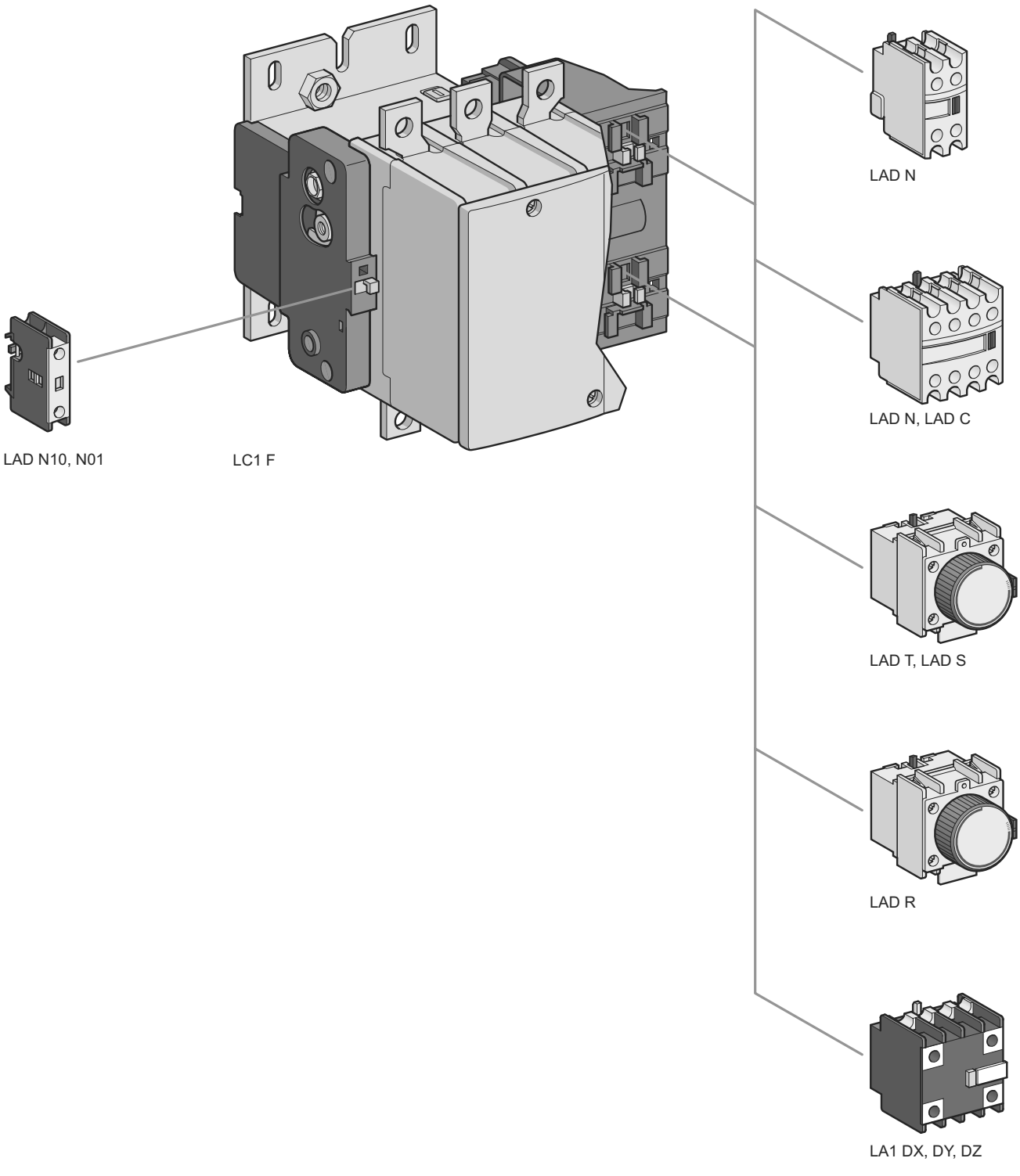
Description	For changeover pairs	Quantity required	Reference
Power terminal protection shrouds	LC2 F1154	2	**LA9F706**
	LC2 F1504, F1854	2	**LA9F707**
	LC2 F2254, F2654	2	**LA9F708**
Auxiliary contact blocks and add-on modules	–	–	See pages B9/10 to B9/14

*(1) Fitted with a mechanical interlock without electrical interlocking. Order separately 2 auxiliary contact blocks **LAD N●1** to obtain electrical interlocking between the 2 contactors, see page B9/11. For accessories, see pages B9/12 to B9/14.*

(2) Coils to be ordered separately:
- a.c. supply, see pages B9/17 to B9/4,
- d.c. supply, see pages B9/5 and B9/24.

(3) Screw fixing.
Power terminals can be protected against direct finger contact by the addition of shrouds, to be ordered separately, see above.

DB404210.eps



TeSys contactors

TeSys F contactors

Auxiliary contact blocks

Instantaneous auxiliary contact blocks

For use in normal operating environments

Number of contacts	Maximum number of blocks per contactor Clip-on mounting	Composition				Reference
1	1	–	–	1	–	**LADN10**
		–	–	–	1	**LADN01**
2	2	–	–	1	1	**LADN11**
		–	–	2	–	**LADN20**
		–	–	–	2	**LADN02**
4	2	–	–	2	2	**LADN22**
		–	–	1	3	**LADN13**
		–	–	4	–	**LADN40**
		–	–	–	4	**LADN04**
		–	–	3	1	**LADN31**
		–	–	2	2 (1)	**LADC22**

With terminal referencing conforming to EN 50012

2	2	–	–	1	1	**LADN11P**
		–	–	1	1	**LADN11G**
4	2	–	–	2	2	**LADN22P**
		–	–	2	2	**LADN22G**

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 with dust and damp protected contacts

Recommended for use in particularly harsh industrial environments

Number of contacts	Maximum number of blocks per contactor Clip-on mounting	Composition				Reference
2	2	2	–	–	–	**LA1DX20**
		2	2 (2)	–	–	**LA1DY20**
4	2	2	–	2	–	**LA1DZ40**
		2	–	1	1	**LA1DZ31**

Time delay auxiliary contact blocks

Number of contacts	Maximum number of blocks per contactor Clip-on mounting	Time delay Type	Range s	Reference
1 N/O + 1 N/C	2	On-delay	0.1…3 (3)	**LADT0**
			0.1…30	**LADT2**
			10…180	**LADT4**
			1…30 (4)	**LADS2**
		Off-delay	0.1…3 (3)	**LADR0**
			0.1…30	**LADR2**
			10…180	**LADR4**

(1) Including 1 N/O + 1 N/C make before break.
(2) Device fitted with 4 earth screen continuity terminals.
(3) With extended scale from 0.1 to 0.6 s.
(4) With switching time of 40 ms ±15 ms between opening of the N/C contact and closing of the N/O contact.

Presentation: page B9/10
Schemes: page B9/61

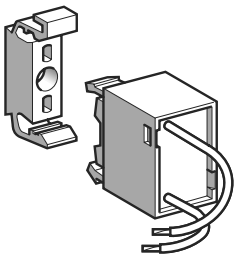
TeSys contactors

TeSys F contactors

Suppressor blocks

TeSys F

813089.eps



LA9 D09981 *LA4 F●●●*

Suppressor blocks

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 (1.1 to 1.3 times the normal time).

Mounting	Uc		Reference
Clip-on mounting on all ratings and all a.c. coils.	∼	24…48 V	**LA4FRCE**
		50…110 V	**LA4FRCF**
		127…240 V	**LA4FRCP**
		265…415 V	**LA4FRCV**
Suppressor block bracket			**LA9D09981**

Varistors (peak limiting)

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

Clip-on mounting on all ratings and all coils.	∼ or ⎓	24…48 V	**LA4FVE**
		50…110 V	**LA4FVF**
		127…240 V	**LA4FVP**
		265…415 V	**LA4FVV**

Diodes

■ No overvoltage or oscillating frequencies.
■ Increase in drop-out time (3 to 4 times the normal time).
■ Polarised component.

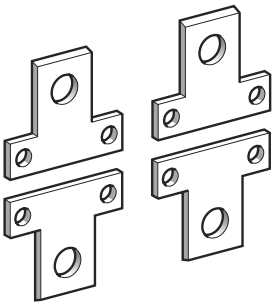
Clip-on mounting on all ratings and all d.c. coils.	⎓	24…48 V	**LA4FDE**
		55…110 V	**LA4FDF**
		125…250 V	**LA4FDP**
		280…440 V	**LA4FDV**

Bidirectional peak limiting diodes (transil)

■ Protection provided by limiting the transient voltage to between 2 and 2.5 times Uc max.
■ Maximum reduction of transient voltage peaks.

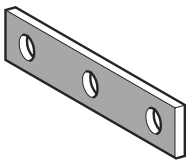
Clip-on mounting on all ratings and all coils.	∼ or ⎓	24…48 V	**LA4FTE**
		50…110 V	**LA4FTF**
		127…240 V	**LA4FTP**
		265…415 V	**LA4FTV**

813087.eps



LA9 F●602

813088.eps



LA9 F●601

Connection accessories

For use on 4-pole contactors	Set of 4 links Set reference	Weight kg
Links for parallel connection of poles (in pairs)		
LC1 F1154	**LA9FF602**	0.200
LC1 F1504, F1854	**LA9FG602**	0.350
LC1 F2254, F2654, F3304, F4004	**LA9FH602**	1.000
LC1 F5004	**LA9FK602**	1.750
LC1 F6304	**LA9FL602**	3.000
Links for "star" connection of 3 poles		
LC1 F115	**LA9FF601**	0.035
LC1 F150, F185	**LA9FG601**	0.050
LC1 F225, F265, F330, F400	**LA9FH601**	0.120
LC1 F500	**LA9FK601**	0.180
LC1 F630, F800	**LA9FL601**	0.550

813090.eps



DZ3 FA3

Control circuit voltage take-off from power terminals

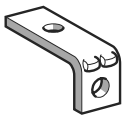
For use with contactors	Mounted on bolt size	Sold in lots of	Unit reference
LC1 F115	M6	10	**DZ3FA3**
LC1 F150, F185	M8	10	**DZ3GA3**
LC1 F225…F500	M10	10	**DZ3HA3**
LC1 F630, F800	M12	10	**DZ3JA3**

Dimensions:
pages B9/57 and B9/58

TeSys contactors
TeSys F contactors
Accessories

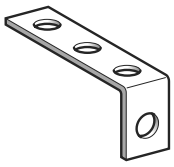
TeSys F

813091.eps



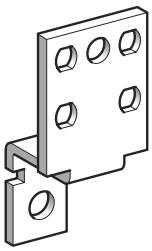
LA9 F●981

813093.eps



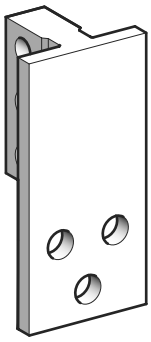
LA9 F●979

DF510487.eps



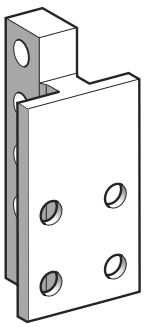
LA9 FL980

DB402137.eps



LA9 F1250

DF569547.eps



LA9 F2100

Right-angled connectors

For contactors or thermal overload relays

For use with		With connector plates		Set of 3 connectors	
Contactors	Thermal overload relays (1)	Width	Type	Set reference	Weight kg
LC1 F115	LR9 F5●67, LR9 F67	15 mm	Rear	**LA9FF981**	0.060
			Side	**LA9FF979**	0.240
			Large surface area	**LA9FF980**	0.150
LC1 F150, F185	LR9 F5●69, F5●71, LR9 F69, F71	20 mm	Rear	**LA9FG981**	0.080
			Side	**LA9FG979**	0.350
			Large surface area	**LA9FG980**	0.200
LC1 F225, F265, F330, F400	LR9 F7●75,LR9 F75	25 mm	Rear	**LA9FJ981**	0.430
			Side	**LA9FJ979**	0.750
			Large surface area	**LA9FJ980**	0.490
LC1 F500	LR9 F7●79, F7●81, LR9 F79, F81	30 mm	Rear	**LA9FK981**	0.480
			Side	**LA9FK979**	0.920
			Large surface area	**LA9FK980**	0.800
LC1 F630, F800	LR9 F7●81,LR9 F81	40 mm	Rear	**LA9FL981**	1.210
			Side	**LA9FL979**	2.570
			Large surface area	**LA9FL980**	3.190

For use with	With connector plates		Set of 6 connectors	
Contactors	Width	Type	Set reference	Weight kg
LC1 F1250	60 mm	Rear	**LA9F1250**	5.480
LC1 F1400, F1700, F2100	60 mm	Rear	**LA9F2100**	9.550

Connection accessories

For reversing contactors or "star-delta" contactors combined with a thermal overload relay

For use with		Width of connector plates	Set of 3 busbars
Contactors	Thermal overload relays (1)		Set reference
LC1 F115	LR9 F5●57, F5●63 LR9 F5●67, F5●69 LR9 F69, F71	15 mm	**LA7F401**
LC1 F150 and F185	LR9 F5●57, F5●63	20 mm	**LA7F402**
LC1 F185	LR9 F5●71, LR9 F71	25 mm	**LA7F407**
LC1 F225 and F265	LR9 F5●71, LR9 F71	25 mm	**LA7F403**
	LR9 F7●75, F7●79 LR9 F75, F79	25 mm	**LA7F404**
LC1 F330 and F400	LR9 F7●75, F7●79 LR9 F75, F79	25 mm	**LA7F404**
LC1 F400	LR9 F7●81,LR9 F81	25 mm	**LA7F404**
LC1 F500	LR9 F7●75, F7●79 LR9 F7●81 LR9 F75, F79, F81	30 mm	**LA7F405**
LC1 F630, F800	LR9 F7●81, LR9 F81	40 mm	**LA7F406**

(1) For protection relays class 10, replace the ● with a 3 and for class 20, replace the ● with a 5.

High power contactors

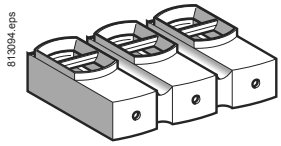
Dimensions:
pages B9/57 and B9/58

TeSys contactors

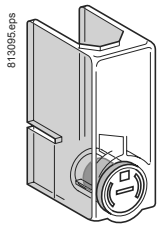
TeSys F contactors

Accessories

TeSys F



LA9 F103



LA9 F701

Insulated terminal blocks

For use on 3-pole contactors	Connection	Tightening tool	Set of 2 blocks Set reference
LC1 F115, F150, F185	1 x 16…150 mm^2 or 2 x 16…95 mm^2	4 mm hexagonal socket key	**LA9F103**

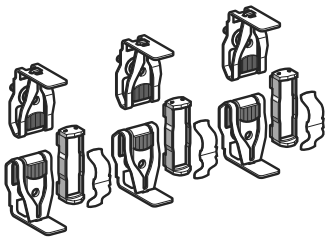
Power terminal protection shrouds

For use on 2, 3 and 4-pole contactors	Number of shrouds per set	Set reference
LC1 F115	6	**LA9F701**
LC1 F150, F185	6	**LA9F702**
LC1 F225, F265, F330, F400 and F4002 F500 and F5002	6	**LA9F703**
LC1 F630, F6302 and F800	6	**LA9F704**
LC1 F1154	8	**LA9F706**
LC1 F1504 and F1854	8	**LA9F707**
LC1 F2254, F2654, F3304, F4004, F5004	8	**LA9F708**
LC1 F6304	8	**LA9F709**

TeSys contactors
TeSys F contactors
Accessories

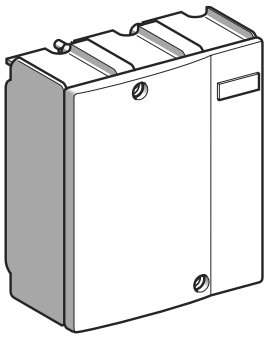
TeSys F

813096.eps



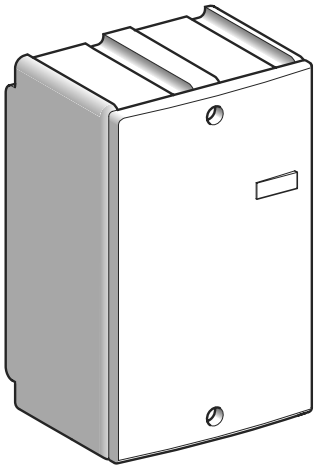
LA5 FG431

DF569555.eps



LA5 F40050

DF569556.eps



LA5 F210050

Sets of contacts

Per pole: 2 fixed contacts, 1 moving contact , 2 deflectors, 1 back-plate, clamping screws and washers.

For contactor	Type	Replacement for	Reference	Weight kg
2-pole	LC1 F4002	2 poles	**LA5F400802**	1.350
	LC1 F5002	2 poles	**LA5F500802**	1.950
	LC1 F6302	2 poles	**LA5F630802**	4.700
	LC1 F6302S011	2 poles	**LA5F630802S011**	4.800
3-pole	LC1 F115. F150	3 poles	**LA5FF431**	0.270
	LC1 F185. F225	3 poles	**LA5FG431**	0.350
	LC1 F265	3 poles	**LA5FH431**	0.660
	LC1 F330. F400	3 poles	**LA5F400803**	2.000
	LC1 F500	3 poles	**LA5F500803**	2.950
	LC1 F630	3 poles	**LA5F630803**	6.100
	LC1 F780	1 pole	**LA5F780801** (1)	4.700
		3 poles	**LA5F780803**	13.200
	LC1 F800	3 poles	**LA5F800803**	6.100
	LC1 F630S011	3 poles	**LA5F630803S011**	6.200
4-pole	LC1 F1504. F1154	4 poles	**LA5FF441**	0.360
	LC1 F1854. F2254	4 poles	**LA5FG441**	0.465
	LC1 F2654	4 poles	**LA5FH441**	0.880
	LC1 F3304. F4004	4 poles	**LA5F400804**	2.700
	LC1 F5004	4 poles	**LA5F500804**	3.900
	LC1 F6304	4 poles	**LA5F630804**	8.150
	LC1 F7804	1 pole	**LA5F780801** (1)	4.700
		4 poles	**LA5F780804**	17.300
	LC1 F6304S011	4 poles	**LA5F630804S011**	8.400

Arc chambers

For contactor	Type	Replacement for	Reference	Weight kg
2-pole	LC1 F4002	2 poles	**LA5F400250**	0.870
	LC1 F5002	2 poles	**LA5F500250**	1.250
	LC1 F6302	2 poles	**LA5F630250**	2.100
	LC1 F6302S011	2 poles	**LA5F630250**	2.100
3-pole	LC1 F115	3 poles	**LA5F11550**	0.490
	LC1 F150	3 poles	**LA5F15050**	0.490
	LC1 F185	3 poles	**LA5F18550**	0.670
	LC1 F225	3 poles	**LA5F22550**	0.670
	LC1 F265	3 poles	**LA5F26550**	0.920
	LC1 F330	3 poles	**LA5F33050**	1.300
	LC1 F400	3 poles	**LA5F40050**	1.300
	LC1 F500	3 poles	**LA5F50050**	1.850
	LC1 F630	3 poles	**LA5F63050**	3.150
	LC1 F780	1 pole	**LA5F780150** (1)	2.100
	LC1 F800	3 poles	**LA5F80050**	3.150
	LC1 F630S011	3 poles	**LA5F63050**	3.150
	LC1 F1250	3 poles	**LA5F125050**	3.150
	LC1 F1400	6 poles	**LA5F140050** (2)	3.750
	LC1 F1700	6 poles	**LA5F170050** (2)	3.750
	LC1 F2100	6 poles	**LA5F210050** (2)	3.750
4-pole	LC1 F1154	4 poles	**LA5F115450**	0.660
	LC1 F1504	4 poles	**LA5F150450**	0.660
	LC1 F1854	4 poles	**LA5F185450**	0.910
	LC1 F2254	4 poles	**LA5F225450**	1.000
	LC1 F2654	4 poles	**LA5F265450**	1.220
	LC1 F3304	4 poles	**LA5F330450**	1.740
	LC1 F4004	4 poles	**LA5F400450** (3)	1.740
	LC1 F5004	4 poles	**LA5F500450** (3)	2.500
	LC1 F6304	4 poles	**LA5F630450** (4)	4.200
	LC1 F7804	1 pole	**LA5F780150** (1)	2.100
	LC1 F6304S011	4 poles	**LA5F630450**	4.200

(1) Comprising 2 identical items per pole.
(2) Comprising three 2-pole arc chambers.
(3) Comprising two 2-pole arc chambers.
(4) Comprising single-pole arc chambers.

TeSys contactors

Capacitive delayed opening devices

For TeSys F contactors

TeSys F

PF511116-32-MR.eps



LAZ R90F

References

These devices prevent inadvertent opening of a contactor in the event of a brief volt drop or momentary supply failure.

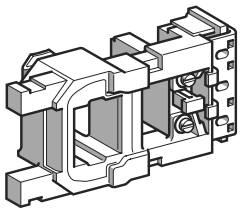
Control circuit : d.c. supply				
For use with contactor		Corresponding delayed opening device		
Type	With coil	Supply voltage 50/60 Hz	Non-adjustable delay time (Tr)	Reference
		V	s	
LC1 F115 or LC1 F150	LX4 FF110	110	2…5	**LAZR90F**
	LX4 FF125	127	2…5	**LAZR90F**
	LX4 FF220	220	2…5	**LAZR90M**
	LX4 FF250	240	2…5	**LAZR90M**
	LX4 FF375	380…415	2…5	**LAZR90Q**
	LX4 FF440	440	2…5	**LAZR90Q**
LC1 F185 or LC1 F225	LX4 FG110	110	2…5	**LAZR90F**
	LX4 FG125	127	2…5	**LAZR90F**
	LX4 FG220	220	2…5	**LAZR90M**
	LX4 FG250	240	2…5	**LAZR90M**
	LX4 FG375	380…415	2…5	**LAZR90Q**
	LX4 FG440	440	2…5	**LAZR90Q**
LC1 F265 or LC1 F330	LX4 FH110	110	2…5	**LAZR90F**
	LX4 FH125	127	2…5	**LAZR90F**
	LX4 FH220	220	2…5	**LAZR90M**
	LX4 FH250	240	2…5	**LAZR90M**
	LX4 FH375	380…415	2…5	**LAZR90Q**
	LX4 FH440	440	2…5	**LAZR90Q**
LC1 F400	LX4 FJ110	110	1…2	**LAZR90F**
	LX4 FJ125	127	1…2	**LAZR90F**
	LX4 FJ220	220	1…2	**LAZR90M**
	LX4 FJ250	240	1…2	**LAZR90M**
	LX4 FJ375	380	1…2	**LAZR90Q**
	LX4 FJ400	415	1…2	**LAZR90Q**
	LX4 FJ440	440	1…2	**LAZR90Q**
LC1 F500	LX4 FK110	110	1…2	**LAZR90F**
	LX4 FK125	127	1…2	**LAZR90F**
	LX4 FK220	220	1…2	**LAZR90M**
	LX4 FK250	240	1…2	**LAZR90M**
	LX4 FK375	380	1…2	**LAZR90Q**
	LX4 FK400	415	1…2	**LAZR90Q**
	LX4 FK440	440	1…2	**LAZR90Q**
LC1 F630	LX4 FL110	110	1…2	**LAZR90F**
	LX4 FL125	127	1…2	**LAZR90F**
	LX4 FL220	220	1…2	**LAZR90M**
	LX4 FL250	240	1…2	**LAZR90M**
	LX4 FL375	380	1…2	**LAZR90Q**
	LX4 FL400	415	1…2	**LAZR90Q**
	LX4 FL440	440	1…2	**LAZR90Q**

Add-on blocks for delayed opening devices				
Application	For use with delayed opening device	Operational voltage	Non-adjustable delay time	Reference
		V	s	
To double the delay time	LAZ R90F	110…127	Tr x 2	**LAZR91F**
	LAZ R90M	220…240	Tr x 2	**LAZR91M**
	LAZ R90Q	380…440	Tr x 2	**LAZR91Q**

Other versions

Delayed opening devices for use with other types of contactor. Please consult your Regional Sales Office.

TeSys contactors
TeSys F contactors
a.c. 50/60 Hz supply coils



LX1 FF●●●

References

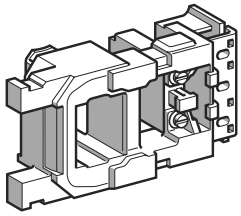
Maximum ambient air temperature: 55 °C. Above this, use an LX9 F coil, see page B9/22.
Operating cycles/hour (θ ⩽ 55 °C): ⩽ 2400.

Control circuit voltage		Average resistance at 20 °C ±10 %	Inductance of closed circuit	Voltage code	Reference
Uc - 50 Hz	Uc - 60 Hz				
V	V	Ω	H		
For contactors LC1 F115 and LC1 F150					
24	–	0.27	0.04	B5	**LX1FF024**
42	–	0.94	0.13	D5	**LX1FF042**
–	48	0.78	0.11	E6	**LX1FF040**
48	–	1.17	0.16	E5	**LX1FF048**
–	110	4.55	0.59	F6	**LX1FF092**
–	120	4.77	0.64	G6	**LX1FF095**
110	–	6.38	0.86	F5	**LX1FF110**
115	–	6.38	0.86	FE5	**LX1FF110**
127/132	–	9.14	1.15	G5	**LX1FF127**
–	200/208	14.5	1.87	L6	**LX1FF162**
–	220	18.4	2.38	M6	**LX1FF184**
–	240	18.9	2.5	U6	**LX1FF187**
220	265/277	28.1	3.44	M5	**LX1FF220**
230	–	28.1	3.44	P5	**LX1FF220**
240	–	31.1	4.1	U5	**LX1FF240**
–	380	57.2	7.05	Q6	**LX1FF316**
–	440	72.6	9.21	R6	**LX1FF360**
380	460/480	86.9	10.3	Q5	**LX1FF380**
400	–	86.9	10.3	V5	**LX1FF380**
415	–	95.1	12	N5	**LX1FF415**
500	–	141	17	S5	**LX1FF500**
–	660	172	20.3	Y6	**LX1FF550**
660/690	–	254	28.9	Y5	**LX1FF660**
–	1000	414	48.9	–	**LX1FF850**
1000	–	610	68.5	–	**LX1FF1000**

Specifications

Average consumption at 20 °C:
- inrush 50 Hz: 550 VA; 60 Hz: 660 VA
- sealed 50 Hz: 45 VA; 60 Hz: 55 VA, cos φ= 0.3.

Heat dissipation: 12…16 W.
Operating time at Uc: closing = 23…35 ms, opening = 5…15 ms.



LX1 FG●●●

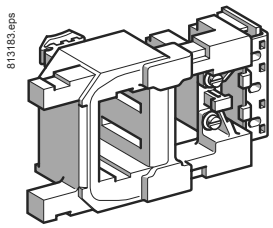
For contactors LC1 F185 and LC1 F225					
24	–	0.18	0.03	B5	**LX1FG024**
42	–	0.57	0.09	–	**LX1FG042**
–	48	0.47	0.08	E6	**LX1FG040**
48	–	0.71	0.12	E5	**LX1FG048**
–	110	2.74	0.44	F6	**LX1FG092**
–	115/120	2.87	0.49	G6	**LX1FG095**
110	–	4.18	0.65	F5	**LX1FG110**
115	–	4.18	0.65	FE5	**LX1FG110**
127/132	–	5.35	0.86	G5	**LX1FG127**
–	200/208	8.8	1.41	L6	**LX1FG162**
–	220	11.1	1.8	M6	**LX1FG184**
–	240	11.4	1.87	U6	**LX1FG187**
220	265/277	16.5	2.59	M5	**LX1FG220**
230	–	16.5	2.59	P5	**LX1FG220**
240	–	20.1	3.09	U5	**LX1FG240**
–	380	34	5.32	Q6	**LX1FG316**
–	440	43.5	6.94	R6	**LX1FG360**
380	460/480	51.3	7.75	Q5	**LX1FG380**
400	–	51.3	7.75	V5	**LX1FG380**
415	–	62.3	9.06	N5	**LX1FG415**
500	–	82.7	12.8	S5	**LX1FG500**
–	660	103	15.3	Y6	**LX1FG550**
660/690	–	154	21.8	Y5	**LX1FG660**
–	1000	249	36.6	–	**LX1FG850**
1000	–	370	51.6	–	**LX1FG1000**

Specifications

Average consumption at 20 °C:
- inrush 50 Hz: 805 VA; 60 Hz: 970 VA
- sealed 50 Hz: 55 VA; 60 Hz: 66 VA, cos φ= 0.3.

Heat dissipation: 18…24 W.
Operating time at Uc: closing = 20…35 ms, opening = 7…15 ms.

TeSys contactors
TeSys F contactors
a.c. 40 to 400 Hz supply coils



LX1 FH●●●2

References

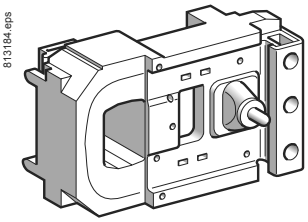
Low sealed consumption.
Operate on networks with harmonic numbers ⩽ 7.
Operating cycles/hour (θ ⩽ 55 °C): ⩽ 2400.

Control circuit voltage Uc	Average resistance at 20 °C ±10 %		Inductance of closed circuit	Voltage code	Reference
	Inrush	Sealed			
V	Ω	Ω	H		
For contactors LC1 F265 and LC1 F330					
24	0.8	20	(1)	B7	**LX1FH0242**
48	2.96	67	(1)	E7	**LX1FH0482**
110	18.7	440	(1)	F7	**LX1FH1102**
115	18.7	440	(1)	FE7	**LX1FH1102**
120/127	22.9	536	(1)	G7	**LX1FH1272**
200/208	58.4	1366	(1)	L7	**LX1FH2002**
220	70.6	1578	(1)	M7	**LX1FH2202**
230	70.6	1578	(1)	P7	**LX1FH2202**
240	87.94	1968	(1)	U7	**LX1FH2402**
277	113	2444	(1)	W7	**LX1FH2772**
380	217	4631	(1)	Q7	**LX1FH3802**
400	217	4631	(1)	V7	**LX1FH3802**
415	217	4631	(1)	N7	**LX1FH3802**
440	265	6731	(1)	R7	**LX1FH4402**
480/500	329	8543	(1)	S7	**LX1FH5002**
600/660	296	10245	(1)	X7	**LX1FH6002**
1000	696	25880	(1)	–	**LX1FH10002**

Specifications

Average consumption at 20 °C for 50 or 60 Hz and cos φ = 0.9:
- inrush: 600…700 VA
- sealed: 8…10 VA.

Heat dissipation: 8 W.
Operating time at Uc: closing = 40…65 ms, opening = 100…170 ms.



LX1 FJ●●●

For contactor LC1 F400					
48	1.6	29.5	0.18	E7	**LX1FJ048**
110/120	9.8	230	1.35	F7	**LX1FJ110**
115	9.8	230	1.35	FE7	**LX1FJ110**
120/127	12.8	280	1.75	G7	**LX1FJ127**
200/208	30	815	4.1	L7	**LX1FJ200**
220	37	1030	5.1	M7	**LX1FJ220**
230	37	1030	5.1	P7	**LX1FJ220**
240	47.5	1320	6.4	U7	**LX1FJ240**
265/277	61	1700	8.1	W7	**LX1FJ280**
380	120	3310	15.8	Q7	**LX1FJ380**
400	120	3310	15.8	V7	**LX1FJ380**
415	145	4070	19.4	N7	**LX1FJ415**
440	145	4070	19.4	R7	**LX1FJ415**
500	190	4980	25.5	S7	**LX1FJ500**
550/600	243	6310	27.4	X7	**LX1FJ600**
1000	720	19420	84.6	–	**LX1FJ1000**

Specifications

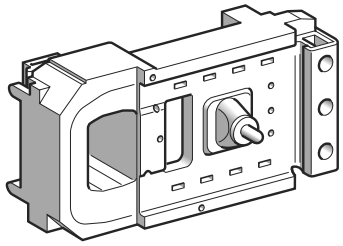
Average consumption at 20 °C for 50 or 60 Hz and cos φ = 0.9:
- inrush: 1000…1150 VA
- sealed: 12…18 VA.

Heat dissipation: 14 W.
Operating time at Uc: closing = 40…75 ms, opening = 100…170 ms.

(1) Please consult your Regional Sales Office.

TeSys contactors

TeSys F contactors
a.c. 40 to 400 Hz supply coils



LX1 FK●●●

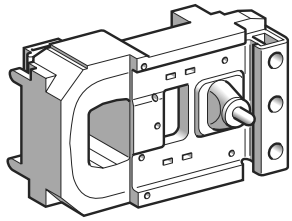
References

Low sealed consumption.
Operate on networks with harmonic numbers ⩽ 7.

Control circuit voltage Uc	Average resistance at 20 °C ±10 %		Inductance of closed circuit	Voltage code	Reference	Weight
	Inrush	Sealed				
V	Ω	Ω	H			kg
For contactor LC1 F500						
48	1.9	33.5	0.19	E7	**LX1FK048**	1.150
110/120	9.55	260	1.25	F7	**LX1FK110**	1.150
115	9.55	260	1.25	FE7	**LX1FK110**	1.150
120/127	11.5	315	1.5	G7	**LX1FK127**	1.150
200/208	29	735	3.75	L7	**LX1FK200**	1.150
220	35.5	915	4.55	M7	**LX1FK220**	1.150
230	35.5	915	4.55	P7	**LX1FK220**	1.150
240	44.5	1160	5.75	U7	**LX1FK240**	1.150
265/277	56.5	1490	7.3	W7	**LX1FK280**	1.150
380	112	2980	14.7	Q7	**LX1FK380**	1.150
400	112	2980	14.7	V7	**LX1FK380**	1.150
415	143	3730	18.4	N7	**LX1FK415**	1.150
440	143	3730	18.4	R7	**LX1FK415**	1.150
500	172	4590	22.8	S7	**LX1FK500**	1.150
550/600	232	5660	23.9	X7	**LX1FK600**	1.150
1000	679	16960	72	–	**LX1FK1000**	1.150

Specifications
Average consumption at 20 °C for 50 or 60 Hz, cos φ = 0.9:
- inrush: 1050…1150 VA,
- sealed: 16…20 VA.

Operating cycles/hour (θ ⩽ 55 °C): ⩽ 2400.
Heat dissipation: 18 W.
Operating time at Uc: closing = 40…75 ms, opening = 100…170 ms.



LX1 FL●●●

For contactor LC1 F630 and LC1 F1250						
48	1.1	17.1	0.09	E7	**LX1FL048** (1)	1.500
110/120	6.45	165	1.85	F7	**LX1FL110**	1.500
115	6.45	165	1.85	FE7	**LX1FL110**	1.500
127	8.1	205	1.05	G7	**LX1FL127**	1.500
200/208	20.5	605	2.65	L7	**LX1FL200**	1.500
220	25.5	730	3.35	M7	**LX1FL220**	1.500
230	25.5	730	3.35	P7	**LX1FL220**	1.500
240	25.5	730	3.35	U7	**LX1FL220**	1.500
265/277	31	900	4.1	W7	**LX1FL260**	1.500
380	78	2360	10.5	Q7	**LX1FL380**	1.500
400	78	2360	10.5	V7	**LX1FL380**	1.500
415	96	2960	13	N7	**LX1FL415**	1.500
440	96	2960	13	R7	**LX1FL415**	1.500
500	120	3660	16.5	S7	**LX1FL500**	1.500
550/600	155	4560	19.5	X7	**LX1FL600**	1.500
1000	474	12880	56.2	–	**LX1FL1000** (1)	1.500

(1) Incompatible with LC1F1250.

Specifications
Average consumption at 20 °C for 50 or 60 Hz, cos φ = 0.9:
- inrush: 1500…1730 VA,
- sealed: 20…25 VA.

Operating cycles/hour (θ ⩽ 55 °C): 1200.
Heat dissipation: 20 W.
Operating time at Uc: closing = 40…80 ms, opening = 100…200 ms.

TeSys contactors
TeSys F contactors
a.c. 40 to 400 Hz supply coils

References

Low sealed consumption.
Operate on networks with harmonic numbers ⩽ 7.

Control circuit voltage Uc	Average resistance at 20 °C ±10 %		Inductance of closed circuit	Voltage code	Reference	Weight
	Inrush	Sealed				
V	Ω	Ω	H			kg
For contactor LC1 F780						
110/120	4.95 (2)	230 (2)	0.21	F7	**LX1FX110** (1)	3.000
115	4.95 (2)	230 (2)	0.21	FE7	**LX1FX110** (1)	3.000
127	6.1 (2)	280 (2)	0.26	G7	**LX1FX127** (1)	3.000
200/208	15.5 (2)	750 (2)	0.66	L7	**LX1FX200** (1)	3.000
220	19.5 (2)	920 (2)	0.82	M7	**LX1FX220** (1)	3.000
230	19.5 (2)	920 (2)	0.82	P7	**LX1FX220** (1)	3.000
240	19.5 (2)	920 (2)	0.82	U7	**LX1FX220** (1)	3.000
265/277	29.8 (2)	1330 (2)	1.25	W7	**LX1FX280** (1)	3.000
380	60.9 (2)	2780 (2)	2.3	Q7	**LX1FX380** (1)	3.000
400	60.9 (2)	2780 (2)	2.3	V7	**LX1FX380** (1)	3.000
415/480	74.3 (2)	3340 (2)	2.8	N7	**LX1FX415** (1)	3.000
440	74.3 (2)	3340 (2)	2.8	R7	**LX1FX415** (1)	3.000
500	92 (2)	4180 (2)	3.5	S7	**LX1FX500** (1)	3.000

Specifications

Average consumption at 20 °C for 50 or 60 Hz, cos φ = 0.9:
■ inrush: 1900…2300 VA, sealed: 44…55 VA.
Operating cycles/hour (θ ⩽ 55 °C): 600.
Heat dissipation: 2 x 22 W.
Operating time at Uc: closing = 40…80 ms, opening = 130…230 ms.

Control circuit voltage Uc	Voltage code	Rectifier Reference (3)	Coil Reference	Weight
V				kg
For contactor LC1 F800				
110/127	FE7	**DR5TE4U**	**LX4F8FW**	1.650
220/240	P7	**DR5TE4U**	**LX4F8MW**	1.650
380/440	V7	**DR5TE4S**	**LX4F8QW**	1.650

Specifications

Operating cycles/hour (θ ⩽ 55 °C): 600.
Average consumption at 20 °C for 50 or 60 Hz, cos φ = 0.8:
■ inrush: 1700 VA, sealed: 12 VA.
Operating time at Uc: closing = 60…80 ms, opening = 160…180 ms.

Control circuit voltage Uc	Average resistance at 20 °C ±10 %		Inductance of closed circuit	Voltage code	Reference	Weight
	Inrush	Sealed				
V	Ω	Ω	H			kg
For contactors LC1 F1400, LC1 F1700 and LC1 F2100						
110	5.92	106	0.72	F7	**LX1FK065** (4)	1.150
120	5.92	106	0.72	G7	**LX1FK070** (4)	1.150
220	9.55	260	1.25	M7	**LX1FK110** (4)	1.150
230	9.55	260	1.25	P7	**LX1FK110** (4)	1.150
240	11.5	315	1.50	U7	**LX1FK127** (4)	1.150
277	16.5	420	2.25	W7	**LX1FK140** (4)	1.150
380	29	735	3.75	Q7	**LX1FK200** (4)	1.150
400	29	735	3.75	V7	**LX1FK200** (4)	1.150
415	35.5	915	4.55	N7	**LX1FK220** (4)	1.150
440	35.5	915	4.55	R7	**LX1FK220** (4)	1.150
500	44.5	1160	5.75	S7	**LX1FK240** (4)	1.150

Specifications

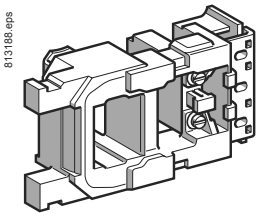
Average consumption at 20 °C for 50 or 60 Hz, cos φ = 0.9:
■ inrush: 1600…2400 VA, sealed: 29…37 VA.
Operating cycles/hour (θ ⩽ 55 °C): 600.
Heat dissipation: 2 x 18 W.
Operating time at Uc: closing = 40…75 ms, opening = 100…170 ms.

(1) Reference of set of 2 identical coils, to be connected in series.
(2) Value for the 2 coils in series.
(3) Rectifier to be ordered separately: 0.100 kg.
(4) Order 2 coils and connect them in series.

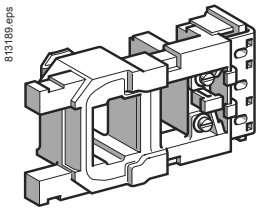
TeSys contactors

TeSys F contactors

a.c. 40 to 400 Hz supply coils for specific applications (1)



LX9 FF●●●



LX9 FG●●●

References

Low sealed consumption.
High tolerance to inrush voltage drops.
Immune to micro-breaks (mains supply or contact chain).
Operate on networks with harmonic numbers ≤ 7.

Control circuit voltage Uc	Average resistance at 20 °C ±10 %		Inductance of closed circuit	Voltage code	Reference	Weight
	Inrush	Sealed				
V	Ω	Ω	H			
For contactors LC1 F115 and LC1 F150						
48	3.03	80.2	0.3	E7	**LX9FF048**	
110	14.8	579	2.08	F7	**LX9FF110**	
115	14.8	579	2.08	FE7	**LX9FF110**	
120/127	19	746	2.65	G7	**LX9FF127**	
208	45	1788	5.95	L7	**LX9FF200**	
220	59.4	2190	7.7	M7	**LX9FF220**	
230	59.4	2190	7.7	P7	**LX9FF220**	
240	73.5	2750	9.68	U7	**LX9FF240**	
380	173	6540	23	Q7	**LX9FF380**	
400	173	6540	23	V7	**LX9FF380**	
415	218	8460	30	N7	**LX9FF415**	
440	218	8460	30	R7	**LX9FF415**	
500	262	10300	36	S7	**LX9FF500**	

Specifications
Average consumption at 20 °C: inrush: 690…855 VA, sealed: 6.6…8.1 VA.
Heat dissipation: 5.9…7.2 W.
Operating cycles/hour (θ ≤ 55 °C): < 2400.
Operating time at Uc: closing = 35 ms, opening = 130 ms.

For contactors LC1 F185 and LC1 F225					
48	2.2	60	0.23	E7	**LX9FG048**
110	10.4	411	1.46	F7	**LX9FG110**
115	10.4	411	1.46	FE7	**LX9FG110**
120/127	13	520	1.85	G7	**LX9FG127**
208	33	1339	4.9	L7	**LX9FG200**
220	42.1	1680	5.84	M7	**LX9FG220**
230	42.1	1680	5.84	P7	**LX9FG220**
240	50.6	2060	7.22	U7	**LX9FG240**
380	128	4730	16.4	Q7	**LX9FG380**
400	128	4730	16.4	V7	**LX9FG380**
415	157	5930	20.6	N7	**LX9FG415**
440	157	5930	20.6	R7	**LX9FG415**
500	194	7550	26.3	S7	**LX9FG500**

Specifications
Average consumption at 20 °C: inrush: 950…1180 VA, sealed: 8.9…10.9 VA.
Heat dissipation: 8…9.8 W.
Operating cycles/hour (θ ≤ 55 °C): < 2400.
Operating time at Uc: closing = 35 ms, opening = 130 ms.

For contactors LC1 F265 and LC1 F330					
48	2.96	72	(2)	–	**LX9FH0482**
110/115	18.7	415	(2)	–	**LX9FH1102**
120/127	22.9	156	(2)	–	**LX9FH1272**
220/230	71.6	1621	(2)	–	**LX9FH2202**
240	88	1968	(2)	–	**LX9FH2402**
380/415	222	5075	(2)	–	**LX9FH3802**
500	345	7990	(2)	–	**LX9FH5002**

Specifications
Average consumption at 20 °C: inrush: 560…660 VA, sealed: 8…10 VA.
Heat dissipation: 8.4…10.4 W.
Operating cycles/hour (θ ≤ 55 °C): < 3600.
Operating time at Uc: closing = 45 ms, opening = 25 ms.

(1) Application examples: hoisting (inching, high operating rates), Main-Standby (unstable mains supplies). These coils are particularly suited for use at higher operating temperatures (mounting in non-ventilated compartments, enclosures, etc.).
(2) Please consult your Regional Sales Office.

Schemes:
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TeSys contactors

TeSys F contactors

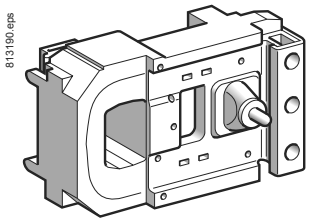
a.c. 40 to 400 Hz supply coils for specific applications (1)

References

Coils with short operating times (at Uc):
- N/O: 60 ms
- N/C: 50 ms (~ side); 20 ms (⎓ side).

Coils with high operating rates (θ ≤ 70 °C):
- 3600 operating cycles/hour
- 1800 for LC1 F630.

Coils with low inrush consumption.



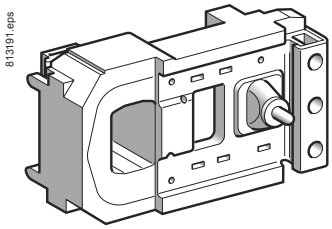
LX9 FJ●●●

Control circuit voltage Uc	Average resistance at 20 °C ±10 %		Inductance of closed circuit	Rectifier Reference (1)	Coil Reference	Weight
	Inrush	Sealed				
V	Ω	Ω	H			kg
For contactor LC1 F400						
48	4.03	43	0.22	**DR5TF4V**	**LX9FJ917**	0.970
110	25.7	246	1.3	**DR5TE4U**	**LX9FJ925**	0.970
127	32.3	302	1.7	**DR5TE4U**	**LX9FJ926**	0.970
220/230	99.5	919	5	**DR5TE4U**	**LX9FJ931**	0.970
380/415	311	3011	15	**DR5TE4S**	**LX9FJ936**	0.970
440	386	3690	19	**DR5TE4S**	**LX9FJ937**	0.970
500	478	4380	23	**DR5TE4S**	**LX9FJ938**	0.970

Specifications

Average consumption:
- inrush: 500 VA
- sealed: 23 VA.

Heat dissipation: 11.4…13.9 W.



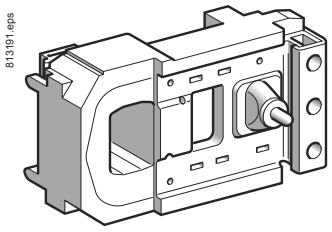
LX9 FK●●●

For contactor LC1 F500						
48	3.73	30.7	0.18	**DR5TF4V**	**LX9FK917**	1.080
110	24	204	1.1	**DR5TE4U**	**LX9FK925**	1.080
127	29.8	250	1.4	**DR5TE4U**	**LX9FK926**	1.080
220/230	89.9	770	4	**DR5TE4U**	**LX9FK931**	1.080
380/415	274	2075	12	**DR5TE4S**	**LX9FK936**	1.080
440	361	3060	16	**DR5TE4S**	**LX9FK937**	1.080
500	448	3750	19	**DR5TE4S**	**LX9FK938**	1.080

Specifications

Average consumption:
- inrush: 550 VA
- sealed: 31 VA.

Heat dissipation: 15…18.3 W.



LX9 FL●●●

For contactor LC1 F630						
48	2.81	20.8	0.17	**DR5TF4V**	**LX9FL917**	1.450
110	13.5	114	0.77	**DR5TE4U**	**LX9FL924**	1.450
127	20.8	167	1.2	**DR5TE4U**	**LX9FL926**	1.450
220	52	425	2.9	**DR5TE4U**	**LX9FL930**	1.450
220/240	64.5	518	3.6	**DR5TE4U**	**LX9FL931**	1.450
380/400	163	1360	8.8	**DR5TE4S**	**LX9FL935**	1.450
415/440	204	1670	11	**DR5TE4S**	**LX9FL936**	1.450
500	312	2510	17	**DR5TE4S**	**LX9FL938**	1.450

Specifications

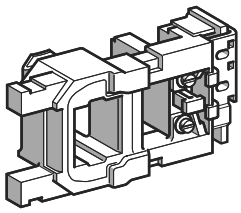
Average consumption:
- inrush: 830 VA
- sealed: 47 VA.

Heat dissipation: 22.8…27.8 W.

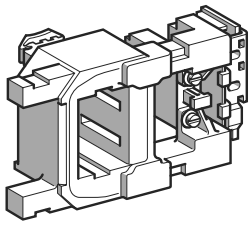
(1) Rectifier to be ordered separately: 0.100 kg.

Schemes:
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TeSys contactors
TeSys F contactors
d.c. supply coils



LX4 FF●●●



LX4 FH●●●

References

Low sealed consumption.
Operating cycles/hour (θ ≤ 55 °C): ≤ 2400.

Control circuit voltage Uc	Average resistance at 20 °C ±10 % Inrush	Sealed	Inductance of closed circuit	Voltage code	Reference
V	Ω	Ω	H		
For contactors LC1 F115 and LC1 F150					
24	1.12	177	11	**BD**	**LX4FF024**
48	4.52	715	42.7	**ED**	**LX4FF048**
110	21.7	2940	179	**FD**	**LX4FF110**
125	26.8	3560	223	**GD**	**LX4FF125**
220/230	84	11100	704	**MD**	**LX4FF220**
250	105	13000	868	**UD**	**LX4FF250**
440/460	301	48200	4000	**RD**	**LX4FF440**

Specifications
Average consumption:
- inrush: 543…665 W,
- sealed: 3.94…4.83 W.

Operating time at Uc: closing = 30…40 ms, opening = 30…50 ms.

For contactors LC1 F185 and LC1 F225					
24	0.79	169	14.9	**BD**	**LX4FG024**
48	3.2	662	55.3	**ED**	**LX4FG048**
110	14.9	2810	241	**FD**	**LX4FG110**
125	19	3320	289	**GD**	**LX4FG125**
220/230	57.7	10200	890	**MD**	**LX4FG220**
250	76	12400	1140	**UD**	**LX4FG250**
440/460	223	39700	4210	**RD**	**LX4FG440**

Specifications
Average consumption:
- inrush: 737…902 W,
- sealed: 4.13…5.07 W.

Operating time at Uc: closing = 30…40 ms, opening = 30…50 ms.

For contactors LC1 F265 and LC1 F330					
24	0.9	192	26.3	**BD**	**LX4FH024**
48	3.49	707	92.9	**ED**	**LX4FH048**
110	16.8	3180	424	**FD**	**LX4FH110**
125	20.8	3840	530	**GD**	**LX4FH125**
220/230	65.7	11500	1590	**MD**	**LX4FH220**
250	84	13900	1910	**UD**	**LX4FH250**
440/460	255	44000	7570	**RD**	**LX4FH440**

Specifications
Average consumption:
- inrush: 655…803 W,
- sealed: 3.68…4.53 W.

Operating time at Uc: closing = 40…50 ms, opening = 40…65 ms.

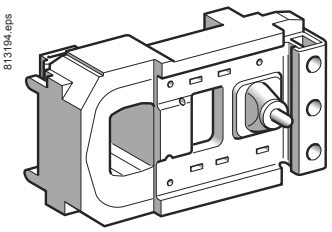
For contactor LC1 F400					
48	2.5	558	56	**ED**	**LX4FJ048**
110	12.7	2660	270	**FD**	**LX4FJ110**
125	15.8	3130	330	**GD**	**LX4FJ125**
220	47	8820	910	**MD**	**LX4FJ220**
250	61	10500	1200	**UD**	**LX4FJ250**
440	236	33750	4435	**RD**	**LX4FJ440**

Specifications
Average consumption:
- inrush: 920…1140 W,
- sealed: 4…7.5 W.

Operating time at Uc: closing = 50…60 ms, opening = 45…60 ms.

Schemes:
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TeSys contactors
TeSys F contactors
d.c. supply coils



LX4 FK●●●

References

Low sealed consumption.

Control circuit voltage Uc	Average resistance at 20 °C ±10 %		Inductance of closed circuit	Voltage code	Reference	Weight
	Inrush	Sealed				
V	Ω	Ω	H			kg
For contactor LC1 F500						
48	2.35	515	67	ED	**LX4FK048**	1.080
110	11.5	2450	280	FD	**LX4FK110**	1.080
125	15	2930	400	GD	**LX4FK125**	1.080
220	44	8150	1080	MD	**LX4FK220**	1.080
250	56	9650	1350	UD	**LX4FK250**	1.080
440	225	31300	5270	RD	**LX4FK440**	1.080

Specifications
Average consumption:
- inrush: 990…1220 W,
- sealed: 4.54…8 W.

Operating cycles/hour (θ ≤ 55 °C): 2400.
Operating time at Uc: closing = 50…60 ms, opening = 45…60 ms.

For contactor LC1 F630 and LC1 F1250						
48	1.7	353	40.5	ED	**LX4FL048**	1.450
110	8.1	1680	180	FD	**LX4FL110**	1.450
125	10	2110	230	GD	**LX4FL125** (1)	1.450
220	31	5160	650	MD	**LX4FL220**	1.450
250	38	6080	815	UD	**LX4FL250**	1.450
440	152	23120	2910	RD	**LX4FL440** (1)	1.450

(1) Incompatible with LC1 F1250.

Specifications
Average consumption:
- inrush: 1420…1920 W,
- sealed: 6.5…12.5 W.

Operating cycles/hour (θ ≤ 55 °C): 1200.
Operating time at Uc: closing = 60…70 ms, opening = 40…50 ms.

For contactor LC1 F780						
110	6.1 (2)	280 (3)	0.26	FD	**LX4FX110** (2)	3.000
125	7.7 (2)	410 (3)	0.33	GD	**LX4FX125** (2)	3.000
220	24.6 (2)	1100 (3)	1	MD	**LX4FX220** (2)	3.000
250	29.8 (2)	1330 (3)	1.25	UD	**LX4FX250** (2)	3.000
440	92 (2)	4180 (3)	3.5	RD	**LX4FX440** (2)	3.000

Specifications
Average consumption:
- inrush: 1960…2420 W
- sealed: 42…52 W.

Operating cycles/hour (θ ≤ 55 °C): 600.
Operating time at Uc: closing = 70…80 ms, opening = 100…130 ms.

For contactor LC1 F800						
110/120	–	–	–	FW	**LX4F8FW**	1.650
220/240	–	–	–	MW	**LX4F8MW**	1.650
380/400	–	–	–	QW	**LX4F8QW**	1.650

Specifications
Heat dissipation: 25 W.
Operating time at Uc: closing = 60…80 ms, opening = 40…50 ms.

For contactors LC1 F1400, LC1 F1700 and LC1 F2100						
110	2.94	734	98	FD	**LX4FK055** (4)	1.080
125	3.73	916	122	GD	**LX4FK065** (4)	1.080
220	11.5	2450	280	MD	**LX4FK110** (4)	1.080
250	15	2930	400	UD	**LX4FK125** (4)	1.080
440	44	8150	1080	RD	**LX4FK220** (4)	1.080

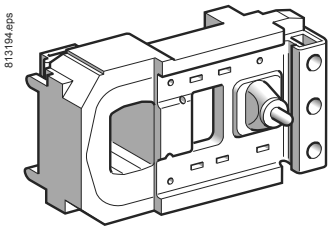
Specifications
Average consumption:
- inrush: 2000…2200 W,
- sealed: 8…10 W.

Operating cycles/hour (θ ≤ 55 °C): 600.
Operating time at Uc: closing = 50…60 ms, opening = 45…60 ms.

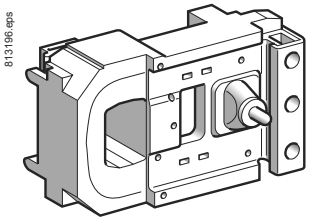
(2) Reference of set of 2 identical coils, to be connected in series.
(3) Value for the 2 coils in series.
(4) Order 2 coils and connect them in series.

Schemes:
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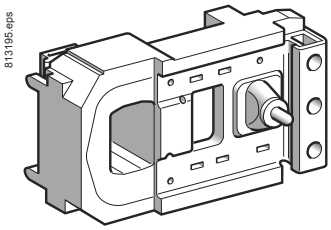
TeSys contactors
TeSys F contactors
d.c. supply coils for specific applications



LX9 FJ●●●



LX9 FK●●●



LX9 FL●●●

References

Coils with short operating times (at Uc):
- N/O: 60 ms
- N/C: 20 ms.

Coils with high operating rates (θ ≤ 70 °C):
- 3600 operating cycles/hour
- 1800 for LC1 F630.

Coils with low inrush consumption.

Control circuit voltage Uc	Average resistance at 20 °C ±10 %		Induc-tance of closed circuit	Resistor (1)		Coil	
	Inrush	Sealed		Qty required	Reference	Reference	Weight
V	Ω	Ω	H				kg
For contactor LC1 F400							
48	5.11	99	0.27	1	**DR2SC0047**	**LX9FJ918**	0.970
110	32.3	632	1.7	1	**DR2SC0330**	**LX9FJ926**	0.970
125	39.4	760	2	1	**DR2SC0390**	**LX9FJ927**	0.970
220	123	2320	6.1	1	**DR2SC1200**	**LX9FJ932**	0.970
440/460	478	9080	23	1	**DR2SC4700**	**LX9FJ938**	0.970

Specifications

Average consumption:
- inrush: 430 W
- sealed: 22 W.

For contactor LC1 F500							
48	4.67	76.7	0.22	1	**DR2SC0039**	**LX9FK918**	1.080
110	29.8	470	1.4	1	**DR2SC0220**	**LX9FK926**	1.080
125	37.4	637	1.7	1	**DR2SC0330**	**LX9FK927**	1.080
220	115	1935	5.1	1	**DR2SC1000**	**LX9FK932**	1.080
440/460	448	7050	19	1	**DR2SC3300**	**LX9FK938**	1.080

Specifications

Average consumption:
- inrush: 470 W
- sealed: 29 W.

For contactor LC1 F630							
48	3.43	52.9	0.20	2	**DR2SC0047**	**LX9FL918**	1.450
110	17.2	272	0.98	2	**DR2SC0270**	**LX9FL925**	1.450
125	20.8	333	1.2	2	**DR2SC0330**	**LX9FL926**	1.450
220	64.5	1018	3.6	2	**DR2SC1000**	**LX9FL931**	1.450
440/460	260	4010	14	2	**DR2SC3900**	**LX9FL937**	1.450

Specifications

Average consumption:
- inrush: 733 W
- sealed: 48 W.

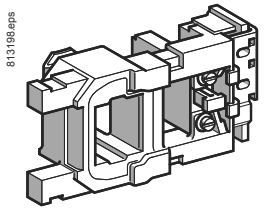
(1) Resistor to be ordered separately, weight of resistor: 0.030 kg.

Schemes:
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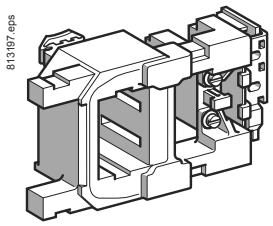
TeSys contactors

TeSys F contactors

Wide range d.c. supply coils for specific applications



LX4 FF●●●



LX4 FH●●●

References

Wide range coils: 0.7…1.25 Uc.
Operating cycles/hour: ⩽ 60 (1).
Ambient temperature (operation): -55 to + 70 °C.

Control circuit voltage Uc	Average resistance at 20 °C ±10 %		Inductance of closed circuit	Reference
	Inrush	Sealed		
V	Ω	Ω	H	
For contactors LC1 F115 and LC1 F150				
24	0.71	120	7.4	**LX4FF020**
48	2.86	392	27	**LX4FF040**
72	7.05	1055	66	**LX4FF060**
110	13.2	1970	121	**LX4FF090**
125	16.9	2340	149	**LX4FF100**

Specifications
Average consumption:
- inrush: 415…1300 W
- sealed: 3…9 W.

For contactors LC1 F185 and LC1 F225				
24	0.52	112	9.3	**LX4FG020**
48	2	359	34.4	**LX4FG040**
72	5.07	984	85	**LX4FG060**
110	9.66	1840	157	**LX4FG090**
125	12	2230	196	**LX4FG100**

Specifications
Average consumption:
- inrush: 580…1820 W
- sealed: 3.1…9.5 W.

For contactors LC1 F265 and LC1 F330				
24	0.58	129	17.3	**LX4FH020**
48	2.19	400	59.5	**LX4FH040**
72	5.58	1110	149	**LX4FH060**
110	11	2120	287	**LX4FH090**
125	13.8	2520	353	**LX4FH100**

Specifications
Average consumption:
- inrush: 515…1600 W
- sealed: 2.7…8.5 W.

Operational voltage	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Coil	Economy resistor Resistors in //			Reference of the assembly (2)
			Reference	No.	Ω	Reference	
V	Ω	H					
For contactor LC1 F400							
24	1.05	0.049	**LX2 FJW11**	3	56	**DR2 SC0056**	**LX5FJW11**
48	4.8	0.22	**LX2 FJW18**	3	220	**DR2 SC0220**	**LX5FJW18**
72	9.6	0.44	**LX2 FJW21**	3	470	**DR2 SC0470**	**LX5FJW21**

Specifications
Average consumption:
- inrush: 290…860 W
- sealed: 16…47 W.

(1) The mechanical durability of the contactor is limited to 1 million operating cycles.
*(2) The set comprises: 1 coil **LX2 FJ** and 3 resistors **DR2 SC**.*

Schemes:
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