

TeSys F, V, FG, CR1F Contactors		
Type of product	Range	Pages
TeSys F Contactors for AC-3 applications	From 115 to 1000 A	 B9/2
TeSys F Contactors for AC-1 applications	From 200 to 2600 A	 B9/3
TeSys V Vacuum contactors – 1500 V	From 160 to 610 A - AC-3 From 160 to 630 A - AC-1	 B9/4
TeSys FG Shockproof contactors	From 150 to 630 A - AC-3	 B9/6
TeSys CR1F Magnetic latching contactors	From 150 to 630 A - AC-3	 B9/7
TeSys F Reversing pre-assembled contactors for AC-3 applications	From 115 to 265 A - AC-3	 B9/8
TeSys F Changeover pre-assembled contactor pairs for AC-1 applications	From 200 to 350 A - AC-1	 B9/9
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# TeSys Control

## F High power contactors

### Product references



LC1F115...500



LC1F630...800

COORD.



LC1F780



LC1F1000

High power contactors

### 3-pole contactors - Motors 115 to 1000 A / 440 V Category AC-3 - a.c. or d.c. coils

Standard power ratings of 3-phase motors 50-60 Hz in category AC-3								Rated operational current in AC-3 440 V up to	Basic reference, to be completed by adding the voltage code Screw fixing, cabling <sup>(2)</sup>	Weight
220 V	380 V	415 V	440 V	500 V	660 V	690 V	1000 V			
kW	kW	kW	kW	kW	kW	kW	kW	A		kg
30	55	59	59	75	80	–	–	115	LC1F115●●	3.430
40	75	80	80	90	100	–	–	150	LC1F150●●	3.430
55	90	100	100	110	110	–	–	185	LC1F185●●	4.650
63	110	110	110	129	129	–	–	225	LC1F225●●	4.750
75	132	140	140	160	160	–	–	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	–	–	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
315	560	630	670	–	–	–	–	1000	LC1F1000●●	31.000

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

(1) Please check the availability of your variant in the index page B9/41. The SEARCH function of your viewer can be used.

(2) Power terminals can be protected against direct finger contact by the addition of shrouds, to be ordered separately, except on contactors LC1F780 (see page B9/14).

Volts ~	24	48	110	115	120	208	220	230	240	380	400	415	440
<b>LC1F115...F225</b>													
40...400 Hz (coil LX9)	–	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
<b>LC1F265...F330</b>													
40...400 Hz (coil LX1)	B7	E7	F7	FE7	G7	L7	M7	P7	U7	Q7	V7	N7	R7
<b>LC1F400...F630, F1250</b>													
40...400 Hz (coil LX1)	–	E7	F7	FE7	G7 <sup>(3)</sup>	L7	M7	P7	U7	Q7	V7	N7	R7
<b>LC1F780</b>													
40...400 Hz (coil LX1)	–	–	F7	FE7	F7	L7	M7	P7	U7	Q7	V7	N7	R7
<b>LC1F800</b>													
40...400 Hz (coil LX4) <sup>(4)</sup>	–	–	FW	FW	FW	–	MW	MW	MW	QW	QW	QW	–
<b>LC1F1000, F1400, F1700, F2100, F2600</b>													
40...400 Hz (coil LX1F)	–	–	F7	–	G7	–	M7	P7	U7	Q7	V7	N7	R7
<b>Volts –</b>	<b>24</b>	<b>48</b>	<b>110</b>	<b>125</b>	<b>220</b>	<b>230</b>	<b>250</b>	<b>400</b>	<b>440</b>				
<b>LC1F115...F330</b>													
(coil LX4F)	BD	ED	FD	GD	MD	MD	UD	–	RD				
<b>LC1F400...F630, F1250</b>													
(coil LX4F)	–	ED	FD	GD	MD	–	UD	–	RD				
<b>LC1F780, LC1F1000, F1400, F1700, F2100, F2600</b>													
(coil LX4F)	–	–	FD	GD	MD	–	UD	–	RD				
<b>LC1F800</b>													
(coil LX4F)	–	–	FW	FW	MW	MW	–	QW	–				

(3) F7 for LC1F630.

(4) Coil LX4F8●● + rectifier DR5TE●●.

# TeSys Control

## F High power contactors

### Product references



LC1F1854...3304



LC1F4004...5004



LC1F6304



LC1F1250



LC1F1700...2100



LC1F2600

Coordination tables:  
pages A6/36 to A6/56

Characteristics:  
pages B9/44 to B9/53

Dimensions:  
pages B9/54 to B9/57

Schemes:  
pages B9/61 and B9/62

### 2, 3 or 4-pole contactors - Loads 200 to 2600 A / 440 V Category AC-1 - a.c. or d.c. coils

Maximum current in AC-1 ( $\theta \leq 40^\circ\text{C}$ )	Number of poles 	Basic reference, to be completed by adding the voltage code <sup>(1)</sup> Screw fixing, cabling <sup>(2)</sup>	Weight
A			kg
200	3	LC1F115●●	3.430
	4	LC1F1154●●	3.830
250	3	LC1F150●●	3.430
	4	LC1F1504●●	3.830
275	3	LC1F185●●	4.390
	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
1200	3	LC1SF1200KUE	13.400
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 <sup>(3)</sup>	3	LC1F2100●●	31.000
2600 <sup>(4)</sup>	3	LC1F2600●●	36.000

COORD.



High power contactors

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

**(1)** Please check the availability of your variant in the index page B9/41. The SEARCH function of your viewer can be used.

**(2)** Power terminals can be protected against direct finger contact by the addition of shrouds, to be ordered separately (except LC1F780, LC1F1250, LC1F1400, LC1F1700 and LC1F2100), see page "contactors", page B9/14.

**(3)** With set of right-angled connectors LA9F2100 (see page B9/13).

**(4)** With set of right-angled connectors LA9F2600 (see page B9/13).

# TeSys Control

## V High power vacuum contactors

### Product references



LC1V320

#### Vacuum contactors - Motors 160 to 610 A / 400 V - a.c. coils

Standard power ratings 50/60 Hz in category AC-3					Rated operational current I <sub>e</sub>	Instan- taneous auxiliary contacts	Control circuit voltage (50/60 Hz)	Basic reference <sup>(1)</sup>	Weight		
230 V	400 V	525 V	690 V	1000 V	AC-3 400 V up to	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

#### 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.

<sup>(1)</sup> 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

Please check the availability of your variant in the index page B9/41. The SEARCH function of your viewer can be used.



High power  
contactors

# TeSys Control

## V High power contactors - Contact blocks and a.c. coils

### Product references

PB121408.eps



LA1VN11

Instantaneous auxiliary contact blocks <sup>(1)</sup>				
Number of contacts	Maximum number of blocks per contactor	Auxiliary contacts		Reference
2	4			LA1VN11
		2	–	LA1VN20
		1	1	LA1VN11X <sup>(2)</sup>

PB121409.eps



LX1V320●●

50/60 Hz coils		
Rated voltage	Voltage code	Reference
V		
For contactors LC1V160		
380...415	V7	LX1V160V7
440...480	R7	LX1V160R7
550...600	X7	LX1V160X7
For contactors LC1V320		
440...480	R7	LX1V320R7
For contactors LC1V610		
220...240	P7	LX1V610P7
380...415	V7	LX1V610V7
440...480	R7	LX1V610R7

**(1) LC1V160:** auxiliary contact blocks mounted at the top of the contactor, with no change to the overall dimensions.

**LC1V320 or LC1V610:** 2 auxiliary contact blocks mounted on the RH and LH side of the contactor, with no change to the overall dimensions.

**(2) For LC1V160:** 1 N/C contact for the coil + 1 N/O contact.

High power contactors

# TeSys Control

## FG High power shockproof contactors

### Product references

PB121407.eps



LC1FG150

PB121408.eps



LC1FG185



PB121405.eps



LC1FG265

**Important notice: LC1FG range is planned for discontinuation without replacement. Before ordering, please consult your regional sales office for availability.**

### 3-pole shockproof contactors - Motors 150 to 630 A / 440 V AC-3, loads 250 to 1000 A / 440 V / AC-1 - a.c. coil

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	Basic reference, to be completed by adding the voltage code <sup>(1)</sup> Screw fixing, cabling <sup>(2)</sup>	Weight
220 V 230 V	380 V 400 V	415 V	440 V	500 V	660 V 690 V	1000 V	A			
40	75	80	80	90	100	65	150/250	LC1FG150●●	3.430	
55	90	100	100	110	110	100	185/275	LC1FG185●●	4.650	
75	132	140	140	160	160	147	265/350	LC1FG265●●	7.440	
110	200	220	250	257	280	185	400/500	LC1FG400●●	9.100	
147	250	280	295	355	335	335	500/700	LC1FG500●●	11.350	
200	335	375	400	400	450	450	630/1000	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) Please check the availability of your variant in the index page B9/41. The SEARCH function of your viewer can be used.**

**(2) Power terminals can, if required, be protected against direct finger contact by the addition of shrouds, to be ordered separately. See page B9/14.**

High power contactors

# TeSys Control

## CR1F High power magnetic latching contactors

### Product references



CR1F1854



CR1F500

### 3, 4 pole - Motors 150 to 630 A / 440 V / AC-3, loads 250 to 1000 A / 440 V AC-1 - a.c. or d.c. coils

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 <sup>(1)</sup>	Weight
<b>A</b>	<b>A</b>					<b>kg</b>
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

**Note:** accessories, replacement parts and spare coils, see pages B9/31 to B9/33.

**(1)** Standard control circuit voltages: see page B9/32. Please check the availability of your variant in the index page B9/41. The SEARCH function of your viewer can be used.



High power contactors

# TeSys Control

## F High power reversing contactors

### Product references

PB112345.eps



LC2F115

PB111502.eps



LA9F701...703



### 3-pole reversing contactors - Motors 115 to 265 A / 440 V / AC-3 - a.c. or d.c. coils

Pre-wired power connections (horizontally mounted) <sup>(1)</sup>

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 <sup>(2)</sup> Complete reference Fixing, cabling <sup>(3)</sup>	Weight
220 V	380 V	440 V	500 V	660 V	690 V				
						440 V up to			
kW	kW	kW	kW	kW	kW	A	V		kg
30	55	59	59	75	80	115	690	LC2F115	7.560
40	75	80	80	90	100	150	690	LC2F150	7.560
55	90	100	100	110	110	185	690	LC2F185	10.100
63	110	110	110	129	129	225	690	LC2F225	14.200
75	132	140	140	160	160	265	690	LC2F265	16.480

### Accessories (to be ordered separately)

Description	For reversing contactors	Quantity required	Reference
Power terminal protection shrouds	LC2F115	2	LA9F701
	LC2F150, F185	2	LA9F702
	LC2F225, 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 B9/2, B9/17 and B9/18,  
- d.c. supply, see pages B9/2 and B9/23.

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

High power contactors



#### Control Panel Technical Guide:

Description and product reference of all mounting kits and wiring accessories for D, K, F - Star Delta, reverser, low-high speed control motor starters and changeover applications.

> Ref. Document: CPTG011\_EN



> Click on QR code to download



# TeSys Control

## F High power changeover contactors

### Product references

PB112346.eps



LC2F1854

PB11592.eps



LA9F706...708

#### 4-pole changeover contactor pairs - Loads 200 to 350 A AC-1 - a.c. or d.c. coils

##### Pre-wired power connections (horizontally mounted) <sup>(1)</sup>

Utilisation category AC-1 Non inductive loads Maximum operational current $\theta < 40\text{ }^\circ\text{C}$	Maximum operational voltage	Contactors supplied without coil <sup>(2)</sup> Complete reference Fixing, cabling <sup>(3)</sup>	Weight
A	V		kg
200	690	LC2F1154	8.860
250	690	LC2F1504	8.860
275	690	LC2F1854	12.100
315	690	LC2F2254	15.200
350	1000	LC2F2654	19.480

##### Accessories (to be ordered separately)

Description	For changeover pairs	Quantity required	Reference
Power terminal	LC2F1154	2	LA9F706
protection shrouds	LC2F1504, F1854	2	LA9F707
	LC2F2254, F2654	2	LA9F708
Auxiliary contact blocks – and add-on modules	–	–	See pages B9/10 to B9/14

<sup>(1)</sup> 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.

<sup>(2)</sup> Coils to be ordered separately:  
- a.c. supply, B9/2, B9/17 and B9/18,  
- d.c. supply, see pages B9/2 and B9/23.

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



High power contactors



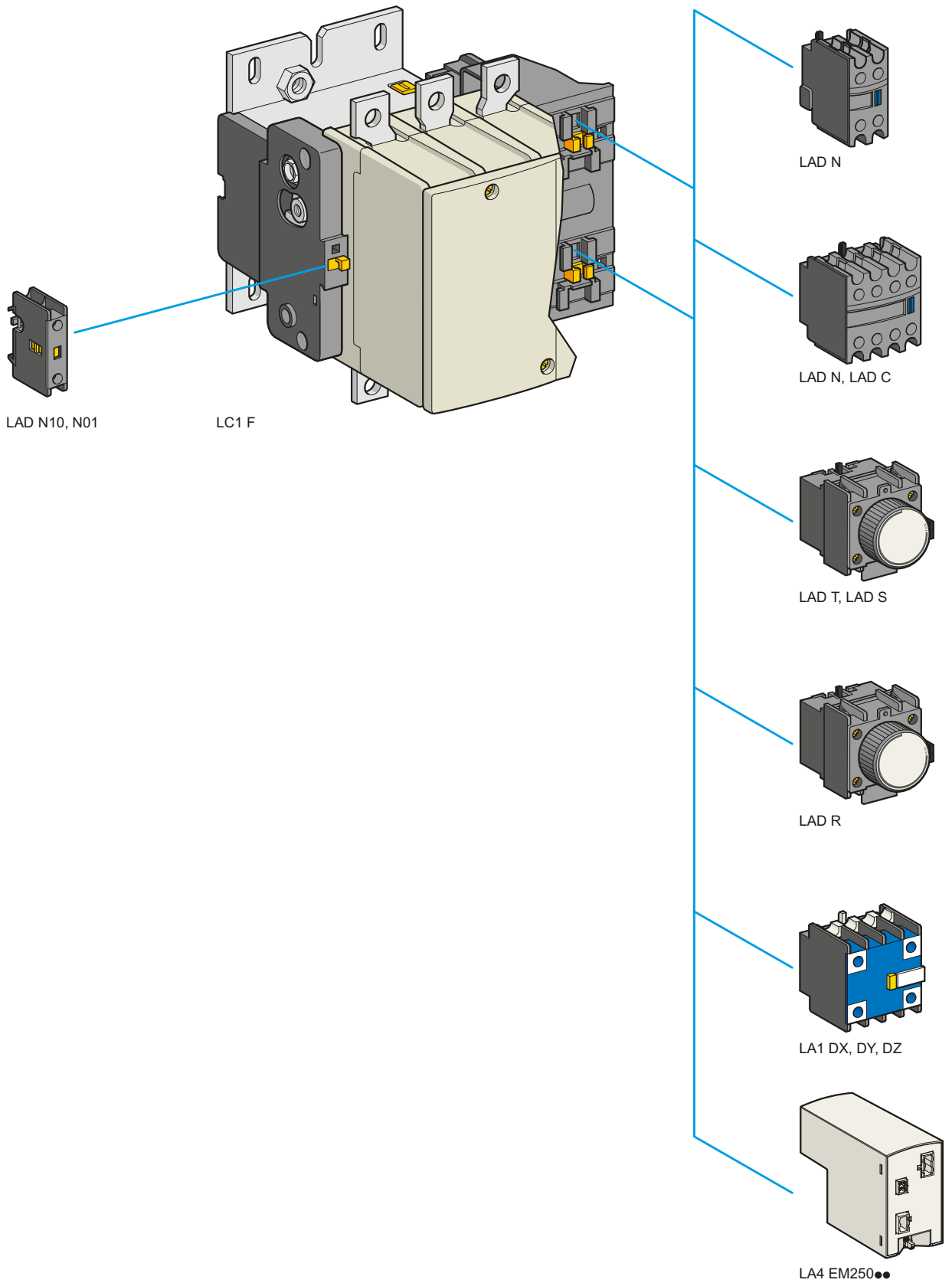
#### Control Panel Technical Guide:

Description and product reference of all mounting kits and wiring accessories for D, K, F - Star Delta, reverser, low-high speed control motor starters and changeover applications.



> Ref. Document: CPTG011\_EN



> Click on QR code to download





High power  
contactors

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
		-	-	LADN01
2	2	-	1	LADN11
		-	2	LADN20
		-	-	LADN02
4	2	-	2	LADN22
		-	1	LADN13
		-	4	LADN40
		-	-	LADN04
		-	3	LADN31
		-	2	LADC22 <sup>(1)</sup>
With terminal referencing conforming to EN 50012				
2	2	-	1	LADN11P
		-	-	LADN11G
4	2	-	2	LADN22P
		-	-	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: LADN11 becomes LADN116.

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 <sup>(2)</sup>	LA1DY20
4	2	2	2	LA1DZ40
		2	1	LA1DZ31

Time delay auxiliary contact blocks				
Number of contacts	Maximum number of blocks per contactor Clip-on mounting	Time delay		Reference
		Type	Range s	
1 N/O + 1 N/C	2	On-delay	0...3 <sup>(3)</sup>	LADT0
			1...30	LADT2
			10...180	LADT4
		Off-delay	1...30 <sup>(4)</sup>	LADS2
			0...3 <sup>(3)</sup>	LADR0
			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.



High power contactors

# TeSys Control

## F High power contactors - Suppressor blocks and accessories

### Product references

PB111612.eps



LA9D09981

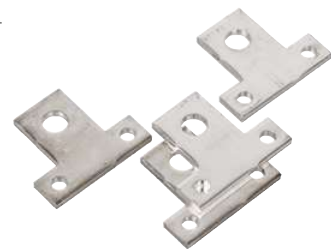
PB111603.eps



LA4F●●●



PB111627.eps



LA9F●602

PB111628.eps



LA9F●601

High power contactors

PB1112313.eps



DZ3FA3

### Suppressor blocks <sup>(1)</sup>

#### 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.

Mounting	Uc		Reference
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.

Mounting	Uc		Reference
Clip-on mounting on all ratings and all d.c. coils.	---	24...48 V	LA4FDE
		55...110 V	LA4DFD
		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.

Mounting	Uc		Reference
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

### Connection accessories

For use on 4-pole contactors	Set of 4 links	Weight kg
	Set reference	

#### Links for parallel connection of poles (in pairs)

LC1F2254, F2654, F3304, F4004	LA9FH602	1.000
LC1F5004	LA9FK602	1.750

#### Links for "star" connection of 3 poles

LC1F115	LA9FF601	0.035
LC1F150, F185	LA9FG601	0.050
LC1F225, F265, F330, F400	LA9FH601	0.120

#### Control circuit voltage take-off from power terminals

For use with contactors	Mounted on bolt size	Sold in lots of	Unit reference
LC1F115	M6	10	DZ3FA3
LC1F150, F185	M8	10	DZ3GA3
LC1F225...F500	M10	10	DZ3HA3
LC1F630, F800	M12	10	DZ3JA3

<sup>(1)</sup> Order 2 x LA4F●●● for F780, F1000, F1400, F1700, F2100 & F2600 contactors and connect one suppressor block across each coil.  
For example, for a LC1F400P7 (230 V AC coil) contactor, use 2 x LA4FRCF (110 V) as RC type surge suppressors.

# TeSys Control

## F High power contactors - Connection accessories

### Product references



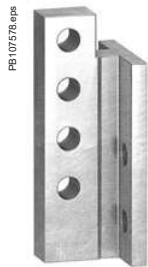
LA9F981 (set of 3)



LA9F979 (set of 3)



LA9FL980 (set of 3)



LA9F2100 (set of 6)



LA9F2600 (set of 6)



LA7F404 (set of 3)

### Right-angled connectors

#### For contactors or thermal overload relays

For use with		With connector plates		Set of 3 connectors	
Contactors	Thermal overload relays <sup>(1)</sup>	Width	Type	Set reference	Weight kg
LC1F115	LR9F5967, LR9F67	15 mm	Rear	LA9FF981	0.060
LC1F150, F185	LR9F5969, F5971, LR9F69, F71	20 mm	Side	LA9FG979	0.350
			Large surface area	LA9FG980	0.200
LC1F225, F265, F330, F400	LR9F7975, LR9F75	25 mm	Large surface area	LA9FJ980	0.490
LC1F630, F800	LR9F7981	40 mm	Large surface area	LA9FL980	3.190
For use with		With connector plates		Set of 6 connectors	
Contactors		Width	Type	Set reference	Weight kg
LC1F1000, F1400, F1700, F2100		60 mm	Rear	LA9F2100	9.550
LC1F2600		100 mm	Rear	LA9F2600	4.380

### 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 <sup>(1)</sup>		Set reference
LC1F185	LR9F5971, LR9F71	25 mm	LA7F407
LC1F225 and F265	LR9F5971, LR9F71	25 mm	LA7F403
	LR9F7975, F7979, LR9F75, F79	25 mm	LA7F404
LC1F330 and F400	LR9F7975, F7979, LR9F75, F79	25 mm	LA7F404
LC1F400	LR9F7981	25 mm	LA7F404
LC1F630	LR9F7981	40 mm	LA7F406

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



High power contactors

# TeSys Control

## F High power contactors - Accessories

### Product references



LA9F103



LA9F701



LA9F801



LA4EM250FK

High power contactors

#### Insulated terminal blocks

For use on 3-pole contactors	Connection	Tightening tool	Set of 2 blocks Set reference
LC1F115, F150, F185	1 x 16...150 mm <sup>2</sup> or 2 x 16...95 mm <sup>2</sup>	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
LC1F115	6	LA9F701
LC1F150, F185	6	LA9F702
LC1F225, F265, F330, F400 and F4002 F500 and F5002	6	LA9F703
LC1F630, F6302 and F800	6	LA9F704
LC1F1154	8	LA9F706
LC1F1504 and F1854	8	LA9F707
LC1F2254, F2654, F3304, F4004, F5004	8	LA9F708
LC1F6304	8	LA9F709

#### Phase separators

For use on 3-pole contactors	No. of barriers per set	Set reference
LC1F1400, F1700 F2100 and F2600	4	LA9F801

#### Electronic Control Module (ECM) <sup>(1)</sup>

For use on 2, 3 and 4-pole contactors	With coil reference	ECM reference
LC1F115, F150	LXEFF250	LA4EM250FF
LC1F185, F225	LXEFJ250	LA4EM250FG
LC1F265, F330	LXEFH250	LA4EM250FH
LC1F400	LXEFJ250	LA4EM250FJ
LC1F500	LXEFK250	LA4EM250FK <sup>(2)</sup>
LC1F630	LXEFL250	LA4EM250FL <sup>(2)</sup>
LC1F800	LXEFW250	LA4EM250FW
LC1SF1200	LXEFK250	LA4EM250FK
LC1F1250	LXEFL250	LA4EM250FL <sup>(2)</sup>

<sup>(1)</sup> ECM enables wider coil operating voltage for the F range of contactors.

<sup>(2)</sup> These ECM references + LXE coils will be available for ordering by end of June 2020.

**Note:** Refer to page numbers B9/52, B9/53 for detailed technical information.



#### Control Panel Technical Guide:

Description and product reference of all mounting kits and wiring accessories for D, K, F - Star Delta, reverser, low-high speed control motor starters and changeover applications.

> Ref. Document: CPTG011\_EN



> Click on QR code to download

# TeSys Control

## F High power contactors - Accessories

### Product references

PB121426.eps



LA5FG431

PB11607.eps



LA5F185450

PB112341.eps



LA5F400450

#### 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	LC1F4002	2 poles	LA5F400802	1.350
3-pole	LC1F115. F150	3 poles	LA5FF431	0.270
	LC1F185. F225	3 poles	LA5FG431	0.350
	LC1F265	3 poles	LA5FH431	0.660
	LC1F330. F400	3 poles	LA5F400803	2.000
	LC1F500	3 poles	LA5F500803	2.950
	LC1F630	3 poles	LA5F630803	6.100
	LC1F780	1 pole	LA5F780801 <sup>(1)</sup>	4.700
4-pole		3 poles	LA5F780803	13.200
	LC1F800	3 poles	LA5F800803	6.100
	LC1F1504. F1154	4 poles	LA5FF441	0.360
	LC1F1854. F2254	4 poles	LA5FG441	0.465
	LC1F2654	4 poles	LA5FH441	0.880
	LC1F3304. F4004	4 poles	LA5F400804	2.700
	LC1F5004	4 poles	LA5F500804	3.900
	LC1F6304	4 poles	LA5F630804	8.150
	LC1F7804	1 pole	LA5F780801 <sup>(1)</sup>	4.700
		4 poles	LA5F780804	17.300

#### Arc chambers

For contactor	Type	Replacement for	Reference	Weight kg
2-pole	LC1F5002	2 poles	LA5F500250	1.250
	LC1F6302	2 poles	LA5F630250	2.100
4-pole	LC1F1154	4 poles	LA5F115450	0.660
	LC1F1504	4 poles	LA5F150450	0.660
	LC1F1854	4 poles	LA5F185450	0.910
	LC1F2254	4 poles	LA5F225450	1.000
	LC1F3304	4 poles	LA5F330450	1.740
	LC1F4004	4 poles	LA5F400450 <sup>(2)</sup>	1.740

<sup>(1)</sup> Comprising 2 identical items per pole.

<sup>(2)</sup> Comprising two 2-pole arc chambers.

High power contactors

# TeSys Control

## F High power contactors - Delayed opening device

### Product references



LAZR90FM

### Capacitive delayed opening device

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

For contactors with d.c. coil supply				
For use with contactor		Corresponding delayed opening device		
Type	With coil	Supply voltage 50/60 Hz	Non-adjustable delay time (Tr) ±10 %	Reference
		V	s	
LC1F115 or LC1F150	LX4FF220 LX4FF375	220 380...415	1.5...5 2...5	LAZR90M LAZR90Q
LC1F185 or LC1F225	LX4FG220 LX4FG375	220 380...415	2...5 2...5	LAZR90M LAZR90Q
LC1F265 or LC1F330	LX4FH220 LX4FH375	220 380...415	2...5 2...5	LAZR90M LAZR90Q
LC1F400	LX4FJ220	220	1...2	LAZR90M
	LX4FJ250	240	1...2	LAZR90M
	LX4FJ375	380	1...2	LAZR90Q
LC1F500	LX4FK220	220	1...2	LAZR90M
	LX4FK375	380	1...2	LAZR90Q
	LX4FK400	415	1...2	LAZR90Q
LC1F630	LX4FL220	220	1...2	LAZR90M
	LX4FL375	380	1...2	LAZR90Q
	LX4FL400	415	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	LAZR90M	220...240	Tr x 2	LAZR91M

#### Other versions

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





## Coils for a.c., 40...400 Hz control voltage

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



PB112332.eps

LX9FF●●●

Control circuit voltage Uc	Average resistance at 20 °C $\pm 10$ %		Inductance of closed circuit	Voltage code	Reference
	Inrush	Sealed			
V	$\Omega$	$\Omega$	H		
<b>For contactors LC1F115 and LC1F150</b>					
24	0.97	26.3	0.15	B7	LX9FF024
42	2.51	64.5	0.3	D7	LX9FF042
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
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
600	501	29674	43.58	X7	LX9FF600

### 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 ( $\theta \leq 55$  °C): < 2400 (1200 cycles/hour for 600 V coils).  
Operating time at Uc: closing = 35 ms, opening = 130 ms.



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LX9FG●●●

<b>For contactors LC1F185 and LC1F225</b>					
24	0.56	34	0.13	B7	LX9FG024
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
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
600	406	19550	36.1	X7	LX9FG600

### 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 ( $\theta \leq 55$  °C): < 2400.  
Operating time at Uc: closing = 35 ms, opening = 130 ms.



PB121428.eps

LXEFK250

### Specifications

Average consumption at 20 °C; 50 Hz/ 60 Hz;  
 $\cos \phi = 0.5$ :  

- inrush: 550 VA
- sealed: 8 VA.

Heat dissipation: 5 W.  
Operating time at Uc: closing = 40...80 ms,  
opening = 10...40 ms.  
Operating cycles/hour ( $\theta \leq 55$  °C): 1200.  
Embedded PLC input according IEC 61131-2 type 2:  

- Off state: 0...5 V DC
- On state: 11...30 V DC.

<b>For contactor LC1SF1200</b>					
100...250	8	8	0.16	KUE	LXEFK250
200	35.5	915	4.55	M7	LX1FK220
230	35.5	915	4.55	P7	LX1FK220

High power contactors

## Coils for a.c., 40...400 Hz control voltage

Low sealed consumption.  
Operate on networks with harmonic numbers  $\leq 7$ .



LX1FH●●●2



LX1FJ●●●

High power contactors

Control circuit voltage U <sub>c</sub>	Average resistance at 20 °C ±10 %		Inductance of closed circuit	Voltage code	Reference
	Inrush	Sealed			
V	Ω	Ω	H		
<b>For contactors LC1F265 and LC1F330</b>					
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  $\cos \varphi = 0.9$ :

- inrush: 600...700 VA
- sealed: 8...10 VA.

Heat dissipation: 8 W.

Operating time at U<sub>c</sub>: closing = 40...65 ms, opening = 100...170 ms.

Operating cycles/hour ( $\theta \leq 55$  °C):  $\leq 2400$ .

<b>For contactor LC1F400</b>					
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
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

### Specifications

Average consumption at 20 °C for 50 or 60 Hz and  $\cos \varphi = 0.9$ :

- inrush: 1000...1150 VA
- sealed: 12...18 VA.

Heat dissipation: 14 W.

Operating time at U<sub>c</sub>: closing = 40...75 ms, opening = 100...170 ms.

Operating cycles/hour ( $\theta \leq 55$  °C):  $\leq 2400$ .

(1) Please consult your Regional Sales Office.

# TeSys Control

## F High power contactors - Coils

### Product references

### Coils for a.c., 40...400 Hz control voltage

Low sealed consumption.

Operate on networks with harmonic numbers  $\leq 7$ .

Control circuit voltage $U_c$	Average resistance at 20 °C $\pm 10$ %		Inductance of closed circuit	Voltage code	Reference	Weight
	Inrush	Sealed				
V	$\Omega$	$\Omega$	H			kg
<b>For contactor LC1F500 / SF1200 <sup>(1)</sup></b>						
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
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

<sup>(1)</sup> Only 220 V and 230 V coils are available for LC1SF1200.

#### Specifications

Average consumption at 20 °C for 50 or 60 Hz,  $\cos \varphi = 0.9$ :

■ inrush: 1050...1150 VA,

■ sealed: 16...20 VA.

Operating cycles/hour ( $\theta \leq 55$  °C):  $\leq 2400$ .

Heat dissipation: 18 W.

Operating time at  $U_c$ : closing = 40...75 ms, opening = 100...170 ms.

PB121423.eps



LX1FK●●●

PB121424.eps



LX1FL●●●

#### For contactors LC1F630 and LC1F1250

110/120	6.45	165	1.85	F7	LX1FL110	1.500
115	6.45	165	1.85	FE7	LX1FL110	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

#### Specifications

Average consumption at 20 °C for 50 or 60 Hz,  $\cos \varphi = 0.9$ :

■ inrush: 1500...1730 VA,

■ sealed: 20...25 VA.

Operating cycles/hour ( $\theta \leq 55$  °C): 1200.

Heat dissipation: 20 W.

Operating time at  $U_c$ : closing = 40...80 ms, opening = 100...200 ms.

High power contactors

# TeSys Control

## F High power contactors - Coils

### Product references

#### Specifications

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

FB112321.eps



LX1FX●●●

#### Specifications

Operating cycles/hour ( $\theta \leq 55$  °C): 600.  
 Average consumption at 20 °C for 50 or 60 Hz,  $\cos \varphi = 0.8$ :  
 ■ inrush: 1700 VA, sealed: 12 VA.  
 Operating time at  $U_c$ : closing = 60...80 ms, opening = 160...180 ms.

#### Specifications

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

FB121422.eps



LX1FK●●●

#### Specifications

Average consumption at 20 °C for 50 or 60 Hz,  $\cos \varphi = 0.9$ :  
 ■ inrush: 2200...2700 VA, sealed: 37.4...50.6 VA.  
 Operating cycles/hour ( $\theta \leq 55$  °C): 600.  
 Heat dissipation: 2 x 25 W.  
 Operating time at  $U_c$ : closing = 40...80 ms, opening = 100...200 ms.

FB121421.eps



LX1FL●●●

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

## Coils for a.c., 40...400 Hz control voltage

Low sealed consumption.  
 Operate on networks with harmonic numbers  $\leq 7$ .

Control circuit voltage $U_c$	Average resistance at 20 °C $\pm 10$ %		Inductance of closed circuit	Voltage code	Reference	Weight
	Inrush	Sealed				
V	$\Omega$	$\Omega$	H			kg
<b>For contactor LC1F780</b>						
110/120	4.95 <sup>(2)</sup>	230 <sup>(2)</sup>	0.21	F7	LX1FX110 <sup>(1)</sup>	3.000
115	4.95 <sup>(2)</sup>	230 <sup>(2)</sup>	0.21	FE7	LX1FX110 <sup>(1)</sup>	3.000
220	19.5 <sup>(2)</sup>	920 <sup>(2)</sup>	0.82	M7	LX1FX220 <sup>(1)</sup>	3.000
230	19.5 <sup>(2)</sup>	920 <sup>(2)</sup>	0.82	P7	LX1FX220 <sup>(1)</sup>	3.000
240	19.5 <sup>(2)</sup>	920 <sup>(2)</sup>	0.82	U7	LX1FX220 <sup>(1)</sup>	3.000
265/277	29.8 <sup>(2)</sup>	1330 <sup>(2)</sup>	1.25	W7	LX1FX280 <sup>(1)</sup>	3.000
415/480	74.3 <sup>(2)</sup>	3340 <sup>(2)</sup>	2.8	N7	LX1FX415 <sup>(1)</sup>	3.000
440	74.3 <sup>(2)</sup>	3340 <sup>(2)</sup>	2.8	R7	LX1FX415 <sup>(1)</sup>	3.000

Control circuit voltage $U_c$	Voltage code	Rectifier Reference	Coil Reference	Weight
V				kg
<b>For contactor LC1F800</b>				
110/127		FW	DR5TE4U LX4F8FW	1.650
220/240		MW	DR5TE4U LX4F8MW	1.650
380/400		QW	DR5TE4S LX4F8QW	1.650

Control circuit voltage $U_c$	Average resistance at 20 °C $\pm 10$ %		Inductance of closed circuit	Voltage code	Reference	Weight
	Inrush	Sealed				
V	$\Omega$	$\Omega$	H			kg
<b>For contactor LC1F1000</b>						
110	4.718	98.4	0.63	F7	LX1FK055 <sup>(3)</sup>	1.150
<b>For contactors LC1F1400, LC1F1700 and LC1F2100</b>						
120	5.92	106	0.72	G7	LX1FK070 <sup>(3)</sup>	1.150
<b>For contactors LC1F1000, LC1F1400, LC1F1700 and LC1F2100</b>						
220	9.55	260	1.25	M7	LX1FK110 <sup>(3)</sup>	1.150
230	9.55	260	1.25	P7	LX1FK110 <sup>(3)</sup>	1.150
277	16.5	420	2.25	W7	LX1FK140 <sup>(3)</sup>	1.150
415	35.5	915	4.55	N7	LX1FK220 <sup>(3)</sup>	1.150
440	35.5	915	4.55	R7	LX1FK220 <sup>(3)</sup>	1.150
500	44.5	1160	5.75	S7	LX1FK240 <sup>(3)</sup>	1.150

Control circuit voltage $U_c$	Average resistance at 20 °C $\pm 10$ %		Inductance of closed circuit	Voltage code	Reference	Weight
	Inrush	Sealed				
V	$\Omega$	$\Omega$	H			kg
<b>For contactors LC1F2600</b>						
110	2.05	41	0.18	F7	LX1FL065 <sup>(3)</sup>	1.150
120	2.05	41	0.18	G7	LX1FL065 <sup>(3)</sup>	1.150
220	6.45	165	0.76	M7	LX1FL110 <sup>(3)</sup>	1.150
230	6.45	165	0.76	P7	LX1FL110 <sup>(3)</sup>	1.150
277	10.2	317	1.45	W7	LX1FL140 <sup>(3)</sup>	1.150
380	20.5	605	2.65	Q7	LX1FL200 <sup>(3)</sup>	1.150
400	20.5	605	2.65	V7	LX1FL200 <sup>(3)</sup>	1.150
415	25.5	730	3.35	N7	LX1FL220 <sup>(3)</sup>	1.150
440	25.5	730	3.35	R7	LX1FL220 <sup>(3)</sup>	1.150
500	30.8	901	4.13	S7	LX1FL260 <sup>(3)</sup>	1.150

High power contactors

**Coils for specific applications <sup>(1)</sup>**  
**a.c., 40...400 Hz control voltage**

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

Control circuit voltage $U_c$	Average resistance at 20 °C $\pm 10$ %		Inductance of closed circuit	Voltage code	Reference
	Inrush	Sealed			
V	$\Omega$	$\Omega$	H		
<b>For contactors LC1F265 and LC1F330</b>					
110/115	18.7	415	<sup>(2)</sup>	–	<b>LX9FH1102</b>
220/230	71.6	1621	<sup>(2)</sup>	–	<b>LX9FH2202</b>
380/415	222	5075	<sup>(2)</sup>	–	<b>LX9FH3802</b>

**Specifications**

Average consumption at 20 °C: inrush: 560...660 VA, sealed: 8...10 VA.  
 Heat dissipation: 8.4...10.4 W.  
 Operating cycles/hour ( $\theta \leq 55$  °C): < 3600.  
 Operating time at  $U_c$ : closing = 45 ms, opening = 25 ms.

- <sup>(1)</sup> 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.).
- <sup>(2)</sup> Please consult your Regional Sales Office.



## Coils for specific applications a.c., 40...400 Hz control voltage

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

Coils with short operating times (at  $U_c$ ):

- Closing: 60 ms
- Opening: 50 ms ( $\sim$  side); 20 ms ( $\dashv$  side).

Coils with high operating rates ( $\theta \leq 70$  °C):

- 3600 operating cycles/hour
- 1800 for LC1F630.

Coils with low inrush consumption.

Control circuit voltage $U_c$	Average resistance at 20 °C $\pm 10$ %		Inductance of closed circuit	Rectifier Reference <sup>(1)</sup>	Coil Reference	Weight
	Inrush	Sealed				
V	$\Omega$	$\Omega$	H			kg
<b>For contactor LC1F400</b>						
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
500	478	4380	23	DR5TE4S	LX9FJ938	0.970

### Specifications

Average consumption:

- inrush: 500 VA
- sealed: 23 VA.

Heat dissipation: 11.4...13.9 W.

<b>For contactor LC1F500</b>						
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
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.

<b>For contactor LC1F630</b>						
110	13.5	114	0.77	DR5TE4U	LX9FL924	1.450
220/240	64.5	518	3.6	DR5TE4U	LX9FL931	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.

<sup>(1)</sup> Rectifier to be ordered separately: 0.100 kg.

PB112355.eps



LX9FJ...

PB112336.eps



LX9FK...

PB112337.eps



LX9FL...

High power contactors

# TeSys Control

## F High power contactors - Coils

### Product references

### Coils for d.c. control voltage

Low sealed consumption.

PB112324.eps



LX4FF●●●

Control circuit voltage Uc	Average resistance at 20 °C ±10 %		Inductance of closed circuit H	Voltage code	Reference
	Inrush	Sealed			
V	Ω	Ω	H		
<b>For contactors LC1F115 and LC1F150</b>					
24	1.12	177	11	BD	LX4FF024
110	21.7	2940	179	FD	LX4FF110
220/230	84	11100	704	MD	LX4FF220

#### Specifications

Average consumption:

- inrush: 543...665 W,
- sealed: 3.94...4.83 W.

Operating time at U<sub>c</sub>: closing = 30...40 ms, opening = 30...50 ms.

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

<b>For contactors LC1F185 and LC1F225</b>					
24	0.79	169	14.9	BD	LX4FG024
110	14.9	2810	241	FD	LX4FG110
125	19	3320	289	GD	LX4FG125
220/230	57.7	10200	890	MD	LX4FG220

#### Specifications

Average consumption:

- inrush: 737...902 W,
- sealed: 4.13...5.07 W.

Operating time at U<sub>c</sub>: closing = 30...40 ms, opening = 30...50 ms.

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

PB112326.eps



LX4FH●●●

<b>For contactors LC1F265 and LC1F330</b>					
24	0.9	192	26.3	BD	LX4FH024
110	16.8	3180	424	FD	LX4FH110
220/230	65.7	11500	1590	MD	LX4FH220

#### Specifications

Average consumption:

- inrush: 655...803 W,
- sealed: 3.68...4.53 W.

Operating time at U<sub>c</sub>: closing = 40...50 ms, opening = 40...65 ms.

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

<b>For contactor LC1F400</b>					
110	12.7	2660	270	FD	LX4FJ110
220	47	8820	910	MD	LX4FJ220
250	61	10500	1200	UD	LX4FJ250

#### Specifications

Average consumption:

- inrush: 920...1140 W,
- sealed: 4...7.5 W.

Operating time at U<sub>c</sub>: closing = 50...60 ms, opening = 45...60 ms.

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

High power contactors



# TeSys Control

## F High power contactors - Coils

### Product references

PB112326\_40eps



LX4FK●●●

#### LX4FK specifications

Average consumption:

- inrush: 990...1220 W,
- sealed: 4.54...8 W.

Operating cycles/hour ( $\theta \leq 55^\circ\text{C}$ ): 2400.

Operating time at  $U_c$ : closing = 50...60 ms, opening = 45...60 ms.

#### LXE specifications

Average consumption:

- inrush 50/60 Hz: 280...730 VA rms

DC: 270...680 W,

- sealed: 50/60 Hz: 4.5...10 VA rms

DC: 2.5...5.5 W.

Heat Dissipation: 2.5...5.5 W

Operating cycles/hour ( $\theta \leq 55^\circ\text{C}$ ): < 2400.

Operating time at  $U_c$ : closing = 40...80 ms,

opening = 6...54 ms.

Embedded PLC input according IEC 61131-2 type 2:

- Off state: 0...5 V DC

- On state: 11...30 V DC.

#### LX4FL specifications

Average consumption:

- inrush: 1420...1920 W,

- sealed: 6.5...12.5 W.

Operating cycles/hour ( $\theta \leq 55^\circ\text{C}$ ): 1200.

Operating time at  $U_c$ : closing = 60...70 ms,

opening = 40...50 ms.

#### LX4FX specifications

Average consumption:

- inrush: 1960...2420 W

- sealed: 42...52 W.

Operating cycles/hour ( $\theta \leq 55^\circ\text{C}$ ): 600.

Operating time at  $U_c$ : closing = 70...80 ms,

opening = 100...130 ms.

#### LX4F8 specifications

Heat dissipation: 25 W.

Operating time at  $U_c$ : closing = 60...80 ms,

opening = 40...50 ms.

#### LX4FK specifications

with LC1F1000, 1400, 1700, 2100

Average consumption:

- inrush: 2000...2200 W,

- sealed: 8...10 W.

Operating cycles/hour ( $\theta \leq 55^\circ\text{C}$ ): 600.

Operating time at  $U_c$ : closing = 50...60 ms,

opening = 45...60 ms.

#### LX4FL specifications with LC1F2600

Average consumption:

- inrush: 2130...2880 W

- sealed: 13...25 W.

Operating cycles/hour ( $\theta \leq 55^\circ\text{C}$ ): 600.

Operating time at  $U_c$ : closing = 60...70 ms,

opening = 40...50 ms.

## Coils for d.c. control voltage

Low sealed consumption.

Control circuit voltage $U_c$	Average resistance at $20^\circ\text{C} \pm 10\%$		Inductance of closed circuit	Voltage code	Reference	Weight
	Inrush	Sealed				
V	$\Omega$	$\Omega$	H			kg
<b>For contactor LC1F500 / LC1SF1200 <sup>(1)</sup></b>						
110	11.5	2450	280	FD	LX4FK110	1.080
220	44	8150	1080	MD	LX4FK220	1.080

### For contactors LC1F500 to LC1F1250 <sup>(2)</sup>

<b>For contactors LC1F115 and LC1F150</b>						
100...250 ~	8.66	—	—	KUE	LXEFF250	1.100
100...380 ---	—	—	—	—	—	—

<b>For contactors LC1F185 and LC1F225</b>						
100...250 ~	9.06	—	—	KUE	LXEFG250	1.100
100...380 ---	—	—	—	—	—	—

<b>For contactors LC1F265 and LC1F330</b>						
100...250 ~	7.62	—	—	KUE	LXEFH250	1.100
100...380 ---	—	—	—	—	—	—

<b>For contactor LC1F400</b>						
100...250 ~	7.8	—	—	KUE	LXEJ250	1.100
100...380 ---	—	—	—	—	—	—

<b>For contactors LC1F500 and LC1SF1200</b>						
100...250 ~	8	—	—	KUE	LXEFK250	1.100
100...380 ---	—	—	—	—	—	—

<b>For contactors LC1F630 and LC1F1250</b>						
100...250 ~	4.78	—	—	KUE	LXEFL250	1.100
100...380 ---	—	—	—	—	—	—

<b>For contactor LC1F800</b>						
100...250 ~	4.78	—	—	KUE	LXEFW250	1.100

<b>For contactors LC1F630 and LC1F1250</b>						
110	8.1	1680	180	FD	LX4FL110	1.450
125	10	2110	230	GD	LX4FL125 <sup>(3)</sup>	1.450
220	31	5160	650	MD	LX4FL220	1.450

<b>For contactor LC1F780</b>						
110	6.1 <sup>(5)</sup>	280 <sup>(5)</sup>	0.26	FD	LX4FX110 <sup>(4)</sup>	3.000
125	7.7 <sup>(5)</sup>	410 <sup>(5)</sup>	0.33	GD	LX4FX125 <sup>(4)</sup>	3.000
250	29.8 <sup>(5)</sup>	1330 <sup>(5)</sup>	1.25	UD	LX4FX250 <sup>(4)</sup>	3.000
440	92 <sup>(5)</sup>	4180 <sup>(5)</sup>	3.5	RD	LX4FX440 <sup>(4)</sup>	3.000

<b>For contactor LC1F800</b>						
110/120	—	—	—	FW	LX4F8FW	1.650
220/240	—	—	—	MW	LX4F8MW	1.650
380/400	—	—	—	QW	LX4F8QW	1.650

<b>For contactors LC1F1000, LC1F1400, LC1F1700 and LC1F2100</b>						
125	3.73	916	122	GD	LX4FK065 <sup>(6)</sup>	1.080
220	11.5	2450	280	MD	LX4FK110 <sup>(6)</sup>	1.080
440	44	8150	1080	RD	LX4FK220 <sup>(6)</sup>	1.080

<b>For contactor LC1F2600</b>						
110	2.05	481	64	FD	LX4FL055 <sup>(6)</sup>	1.080
125	2.53	603	80	GD	LX4FL065 <sup>(6)</sup>	1.080
220	11.5	2450	280	MD	LX4FL110 <sup>(6)</sup>	1.080
250	15	2930	400	UD	LX4FL125 <sup>(6)</sup>	1.080
440	44	8150	1080	RD	LX4FL220 <sup>(6)</sup>	1.080

- (1) Only 110 V and 220 V DC coil is available for LC1SF1200.
- (2) LXE coil to be used along with suitable Electronic Control Module (ECM) Ref. LA4EM●●●●●. For details, please refer to page B9/14.
- (3) Incompatible with LC1F1250.
- (4) Reference of set of 2 identical coils, to be connected in series.
- (5) Value for the 2 coils in series.
- (6) Order 2 coils and connect them in series.

High power contactors



# TeSys Control

## F High power contactors - Coils

### Product references

### Coils for d.c. control voltage

Coils with short operating times (at  $U_c$ ):

- Opening: 60 ms
- Closing: 20 ms.

Coils with high operating rates ( $\theta \leq 70 \text{ }^\circ\text{C}$ ):

- 3600 operating cycles/hour
- 1800 for LC1F630.

Coils with low inrush consumption.

Control circuit voltage $U_c$	Average resistance at $20 \text{ }^\circ\text{C} \pm 10 \%$		Inductance of closed circuit	Resistor <sup>(1)</sup> Qty required	Coil		Weight
	Inrush	Sealed			Reference	Reference	
V	$\Omega$	$\Omega$	H				kg
<b>For contactor LC1F400</b>							
440/460	478	9080	23	1	DR2SC4700	LX9FJ938	0.970

#### Specifications

Average consumption:

- inrush: 430 W
- sealed: 22 W.

#### For contactor LC1F500

48	4.67	76.7	0.22	1	DR2SC0039	–	1.080
110	29.8	470	1.4	1	–	LX9FK926	1.080
125	37.4	637	1.7	1	–	LX9FK927	1.080
440/460	448	7050	19	1	–	LX9FK938	1.080

#### Specifications

Average consumption:

- inrush: 470 W
- sealed: 29 W.

#### For contactor LC1F630

48	3.43	52.9	0.20	2	–	LX9FL918	1.450
220	64.5	1018	3.6	2	–	LX9FL931	1.450
440/460	260	4010	14	2	DR2SC3900	–	1.450

#### Specifications

Average consumption:

- inrush: 733 W
- sealed: 48 W.

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

PB112336 eps



LX9FJ●●●

PB112336 eps



LX9FK●●●

PB112337 eps



LX9FL●●●

High power contactors

PB11224.eps



LX4FF●●●

PB11226.eps



LX4FH●●●

High power contactors

## Coils for wide range d.c. control voltage

Wide range coils: 0.7...1.25 Uc.

Operating cycles/hour: ≤ 60 <sup>(1)</sup>.

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	
<b>For contactors LC1F115 and LC1F150</b>				
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.

<b>For contactors LC1F185 and LC1F225</b>				
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.

<b>For contactors LC1F265 and LC1F330</b>				
48	2.19	400	59.5	LX4FH040
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 Reference	Economy resistor Resistors in //		Reference of the assembly <sup>(2)</sup>
				No.	Ω	
V	Ω	H	Reference	No.	Ω	Reference
<b>For contactor LC1F400</b>						
24	1.05	0.049	LX2FJW11	3	56	DR2SC0056 LX5FJW11
48	4.8	0.22	LX2FJW18	3	220	DR2SC0220 LX5FJW18
72	9.6	0.44	LX2FJW21	3	470	DR2SC0470 LX5FJW21

### Specifications

Average consumption:

- inrush: 290...860 W
- sealed: 16...47 W.

<sup>(1)</sup> The mechanical durability of the contactor is limited to 1 million operating cycles.

<sup>(2)</sup> The set comprises: 1 coil LX2FJ and 3 resistors DR2SC.

# TeSys Control

## F High power contactors - Contact blocks

### Product references

#### Auxiliary contact blocks for LC1FG 3-pole shockproof contactors

##### Instantaneous auxiliary contact blocks

For use in normal operating environments



LADN●●

Number of contacts	Max. number of blocks per contactor Clip-on mounting	Composition	Reference	
1	1		LADN10	(1)
			LADN01	(1)
4	1		LADN22	(1)
			LADN40	(1)
			LADN04	(1)
			LADN31	(1)

##### Time delay auxiliary contact blocks



LADT●

Number of contacts	Max. number of blocks per contactor Clip-on mounting	Time delay		Reference	
		Type	Range		
			s		
1 N/O + 1 N/C	1	On-delay	0...3 (2)	LADT0	
			1...30	LADT2	(1)
			10...180	LADT4	
		Off-delay	1...30 (3)	LADS2	
			0...3 (2)	LADR0	
		1...30	LADR2	(1)	
		10...180	LADR4		

(1) Device approved by the DCN (French naval shipyard department) and authorised for on-board use.

(2) With extended scale from 0.1 to 0.6 s.

(3) With switching time of 40 ms ± 15 ms between opening of the N/C contact and closing of the N/O contact.

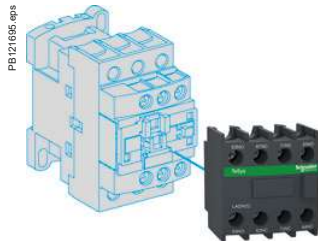


High power contactors

# TeSys Control

## F Magnetic latching High power contactors - Accessories

### Product references



LADN



LA9F103



LA9F70●

#### Accessories for contactors CR1F

Description	Number of contacts or shrouds	For use on	Reference
Instantaneous auxiliary contacts	(1)	CR1F	LADN●●, LADX●●, LADY●●, LADZ●● (1)
Time delay auxiliary contacts	(1)	CR1F	LADT●, LADS●, LADR● (1)
Contact blocks with protected terminals for 3-pole contactors (for mounting on contactors with closed arc chamber)	Set of 2 blocks	CR1F150 and CR1F185	LA9F103
Power terminal protection shrouds	Set of 6 shrouds for 3-pole contactors	CR1F150 and CR1F185	LA9F702
		CR1F265 to CR1F500	LA9F703
		CR1F630	LA9F704
	Set of 8 shrouds for 4-pole contactors	CR1F1504 and CR1F1854	LA9F707
		CR1F2654 to CR1F5004	LA9F708
		CR1F6304	LA9F709

Description	Application	Reference
Mechanical interlock and power connections	For assembly of reversing contactors and changeover contactor pairs	See pages B9/29 and B9/30

(1) For maximum number per contactor and complete reference, see page B9/11.

High power contactors



#### Control Panel Technical Guide:

Description and product reference of all mounting kits and wiring accessories for D, K, F - Star Delta, reverser, low-high speed control motor starters and changeover applications.

> Ref. Document: CPTG011\_EN



> Click on QR code to download

# TeSys Control

## F High power contactors - Assembling components

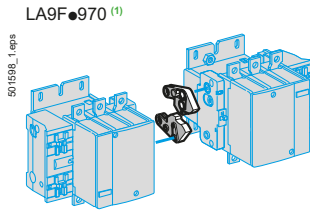
### Product references

## Reversing and changeover assemblies with CR1F magnetic latching contactors

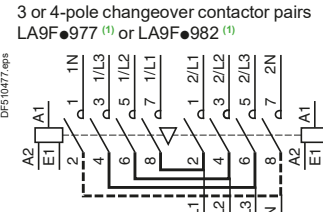
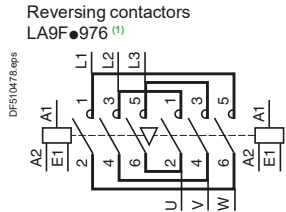
### Horizontally mounted

Reversers assembled using 2 contactors of identical rating, type:  
**CR1F150**  
**CR1F185**  
**CR1F265**  
**CR1F400**  
**CR1F500**  
**CR1F630**

#### Mechanical interlocks



#### Sets of power connections

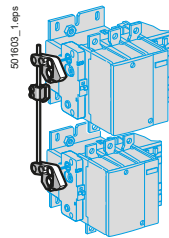


### Vertically mounted

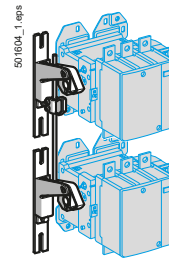
Reversers assembled using 2 contactors of identical rating, type:  
**CR1F150**  
**CR1F185**  
**CR1F265**  
**CR1F400**  
**CR1F500**  
**CR1F630**

#### Mechanical interlocks

LA9FF4F Assembly A  
 LA9FG4G

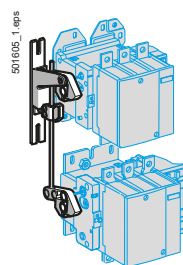


LA9FH4H Assembly C  
 LA9FJ4J  
 LA9FL4L

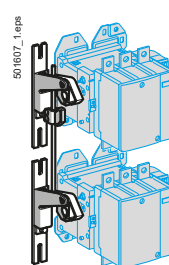


Reversers assembled using 2 contactors of different ratings, type:  
**CR1F150**  
**CR1F185**  
**CR1F265**  
**CR1F400**  
**CR1F500**  
**CR1F630**

LA9FH4F Assembly B  
 LA9FJ4F  
 LA9FH4G  
 LA9FJ4G  
 LA9FL4G

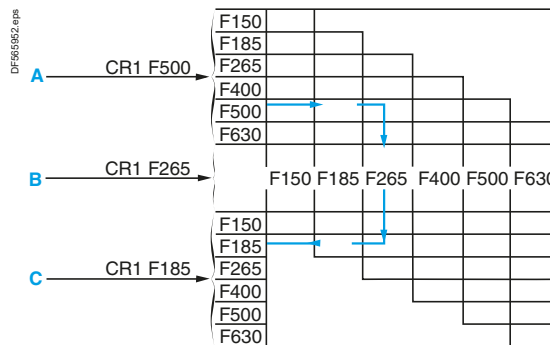
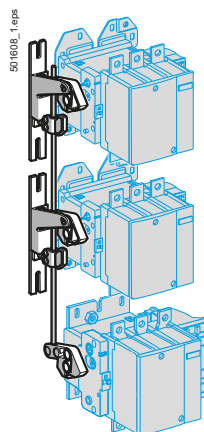


LA9FJ4H Assembly C  
 LA9FK4H  
 LA9FL4H  
 LA9FK4J  
 LA9FL4J



Reversers assembled using 3 contactors of identical or different ratings

LA9F●4●4 <sup>(2)</sup>



**Warning:** the contactor ratings must be in decreasing size from top to bottom.

High power contactors

<sup>(1)</sup> Complete references: see page B9/35.  
<sup>(2)</sup> Complete references: see pages B9/38 and B9/39.

Reversing and changeover assemblies with CR1F magnetic latching contactors.

#### Reversers assembled using 2 contactors of identical rating

Contactor type	Set of power connections		Mechanical interlock	
	3-pole Reference	Weight kg	Kit reference	Weight kg
<b>For assembly of 3-pole reversing contactors for motor control <sup>(1)</sup></b>				
<b>Horizontally mounted</b>				
CR1F150	LA9FF976	0.600	LA9FF970	0.060
CR1F185	LA9FG976	0.780	LA9FG970	0.060
CR1F265	LA9FH976	1.500	LA9FJ970	0.140
CR1F400	LA9FJ976	2.100	LA9FJ970	0.140
CR1F500	LA9FK976	2.350	LA9FJ970	0.140
CR1F630	LA9FL976	3.800	LA9FL970	0.150
<b>Vertically mounted</b>				
CR1F150	<sup>(2)</sup>	–	LA9FF4F	0.345
CR1F185	<sup>(2)</sup>	–	LA9FG4G	0.350
CR1F265	<sup>(2)</sup>	–	LA9FH4H	1.060
CR1F400	<sup>(2)</sup>	–	LA9FJ4J	1.200
CR1F630	<sup>(2)</sup>	–	LA9FL4L	1.220

#### For assembly of 4-pole changeover contactor pairs

<b>Horizontally mounted</b>				
CR1F2654	LA9FH982	1.200	LA9FJ970	0.140
CR1F4004	LA9FJ982	1.800	LA9FJ970	0.140
CR1F5004	LA9FK982	2.300	LA9FJ970	0.140
<b>Vertically mounted</b>				
CR1F1504	<sup>(2)</sup>	–	LA9FF4F	0.345
CR1F1854	<sup>(2)</sup>	–	LA9FG4G	0.350
CR1F2654	<sup>(2)</sup>	–	LA9FH4H	1.060
CR1F4004	<sup>(2)</sup>	–	LA9FJ4J	1.200
CR1F6304	<sup>(2)</sup>	–	LA9FL4L	1.220

#### Reversers assembled using 2 contactors of different ratings

Contactor type	Set of power connections		Mechanical interlock	
	At bottom	At top	Kit reference	Weight kg
<b>For assembly of 3 or 4-pole changeover contactor pairs</b>				
<b>Vertically mounted <sup>(3)</sup></b>				
CR1F150 or F1504		CR1F265 or F2654	LA9FH4F	0.870
		CR1F400 or F4004	LA9FJ4F	0.930
CR1F185 or F1854		CR1F265 or F2654	LA9FH4G	0.860
		CR1F400 or F4004	LA9FJ4G	0.940
		CR1F630 or F6304	LA9FL4G	0.950
CR1F265 or F2654		CR1F400 or F4004	LA9FJ4H	1.130
		CR1F500 or F5004	LA9FK4H	1.130
		CR1F630 or F6304	LA9FL4H	1.140
CR1F400 or F4004		CR1F500 or F5004	LA9FK4J	1.200
		CR1F630 or F6304	LA9FL4J	1.210

#### For assembly of 3 or 4-pole reversing contactors <sup>(4)</sup>

Using 3 contactors (vertically mounted) of identical or different ratings		Mechanical interlock Kit reference <sup>(5)</sup>
The contactor ratings must be in decreasing size from top to bottom.		LA9F●4●4●

Contactors	CR1F150	CR1F185	CR1F265	CR1F400	CR1F500	CR1F630
Code	F	G	H	J	K	L

**Example:** mechanical interlock for reversing contactor made up of 3 different contactors: CR1F500 top, CR1F265 middle and CR1F185 bottom: **LA9FK4H4G**.



High power contactors

- (1) A 3-pole reversing contactor for motor control can be converted into a 3-pole changeover contactor pair by removing the upper connecting links.
- (2) All power connections are to be made by the customer.
- (3) With identical or different number of poles. Power connections to be made by the customer.
- (4) Closing of one of the 3 contactors prevents closing of the other 2 contactors.
- (5) Complete the reference by replacing the first dot with the code for the upper contactor, the second dot with the code for the middle contactor and the third dot with the code for the bottom contactor.

# TeSys Control

## F Magnetic latching High power contactors - Spare parts

### Product references

PB12144.jpg



LA5FG431

PB11607.jpg



LA5F150450

### References

Description	For contactor	Reference	Reference	Weight kg
Complete sets of contacts for 3 or 4 poles <sup>(1)</sup>	3-pole	CR1F150	<b>LA5FF431</b>	0.270
		CR1F185	<b>LA5FG431</b>	0.350
		CR1F265	<b>LA5FH431</b>	0.660
		CR1F400	<b>LA5F400803</b>	0.660
		CR1F500	<b>LA5F500803</b>	0.660
		CR1F630	<b>LA5F630803</b>	0.660
	4-pole	CR1F1504	<b>LA5FF441</b>	0.360
		CR1F1854	<b>LA5FG441</b>	0.465
		CR1F2654	<b>LA5FH441</b>	0.880
		CR1F4004	<b>LA5F400804</b>	0.465
		CR1F5004	<b>LA5F500804</b>	0.465
		CR1F6304	<b>LA5F630804</b>	0.465
Arc chambers	4-pole	CR1F1504	<b>LA5F150450</b>	0.660
		CR1F1854	<b>LA5F185450</b>	0.910
		CR1F4004	<b>LA5F400450</b>	1.740

<sup>(1)</sup> Set containing the following (per pole): 2 fixed contacts, 1 moving contact, 2 deflectors, 1 back-plate, clamping screws and washers.

High power  
contactors

# TeSys Control

## F Magnetic latching High power contactors - Coils

### Product references

PB121413.eps



LXF0FH007

PB121412.eps



LX0FK007

Standard coils for a.c. or d.c. control voltage						
Usual voltages		Resistance of winding at $\theta = 20\text{ }^{\circ}\text{C}$		Reference	Voltage code	Weight kg
50...400 Hz or ---	50 Hz, 60 Hz	Latching	Unlatching			
V	V	$\Omega$	$\Omega$			
<b>For contactors CR1F150</b>						
48	–	1.98	230.8	LX0FF005	E7	0.440
127	–	11.61	1788	LX0FF007	G7	0.440
–	415	139.50	16 717	LX0FF011	N7	0.440
<b>For contactors CR1F185</b>						
48	–	1.42	220	LX0FG005	E7	0.560
208	–	21.30	3169	LX0FG020	L7	0.560
–	415	102.30	14 305	LX0FG011	N7	0.560
<b>For contactors CR1F265</b>						
48	–	1.34	183.4	LX0FH005	E7	0.780
127	–	8.56	1325	LX0FH007	G7	0.780
208	–	20.20	2654	LX0FH020	L7	0.780
–	380/400	78.39	11 803	LX0FH010	Q7	0.780
–	415	102.9	15 006	LX0FH011	N7	0.780
<b>For contactors CR1F400</b>						
208	–	24.40	2643	LX0FJ020	L7	1.120
–	380/400	94.80	9380	LX0FJ010	Q7	1.120
–	415	121.10	11 763	LX0FJ011	N7	1.120
<b>For contactors CR1F500</b>						
48	–	1.57	166	LX0FK005	E7	1.220
127	–	9.56	1159	LX0FK007	G7	1.220
208	–	23.60	2981	LX0FK020	L7	1.220
–	415	112.06	13 256	LX0FK011	N7	1.220
<b>For contactors CR1F630</b>						
48	–	0.87	204	LX0FL005	E7	1.460
127	–	6.45	1830	LX0FL007	G7	1.460
208	–	20.20	2961	LX0FL020	L7	1.460
–	415	77.97	13 003	LX0FL011	N7	1.460

High power contactors



# TeSys Control

## F Magnetic latching High power contactors - Coils

### Product references



LX0FG●●●

#### Special coils for a.c. or d.c. control voltage

Coils with two windings with common point, allowing the use of two separate power sources for latching and unlatching.

Coil voltages at 50 Hz, 60 Hz, 400 Hz or ---		Resistance of winding at $\theta = 20\text{ }^{\circ}\text{C}$		Reference	Voltage code	Weight
Latching	Unlatching	Latching	Unlatching			
V	V	$\Omega$	$\Omega$			kg
<b>For contactors CR1F150</b>						
220	24	29.5	39.5	LX0FF224	MB7	0.440
<b>For contactors CR1F185</b>						
220	24	26.5	19	LX0FG224	MB7	0.560
<b>For contactors CR1F265</b>						
220	24	26	29.5	LX0FH224	MB7	0.780
<b>For contactors CR1F400</b>						
220	24	30	23	LX0FJ224	MB7	1.120
<b>For contactors CR1F500</b>						
220	24	29	26	LX0FK224	MB7	1.220
<b>For contactors CR1F630</b>						
220	24	26	41	LX0FL224	MB7	1.460

#### Coils with low inrush consumption for d.c. control voltage

Usual voltages ---	Resistance of winding at $\theta = 20\text{ }^{\circ}\text{C}$		Reference	Voltage code	Weight
	Latching	Unlatching			
V	$\Omega$	$\Omega$			kg
<b>For contactors CR1F150</b>					
48	4.56	140.56	LX0FF055	EZ7	0.440
220	89.85	3342.51	LX0FF058	MZ7	0.440
<b>For contactors CR1F185</b>					
48	5.19	106.54	LX0FG055	EZ7	0.570
127	32.75	732.64	LX0FG057	GZ7	0.570
<b>For contactors CR1F265</b>					
110	25	364.61	LX0FH056	FZ7	0.800
220	97.89	1344.46	LX0FH058	MZ7	0.800
<b>For contactors CR1F400</b>					
127	31.86	221.20	LX0FJ057	GZ7	1.150
220	98.19	648.79	LX0FJ058	MZ7	1.150
<b>For contactors CR1F630</b>					
48	3.94	59.17	LX0FL055	EZ7	1.500
110	19.36	365.33	LX0FL056	FZ7	1.500

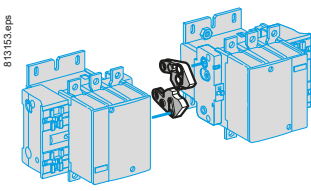
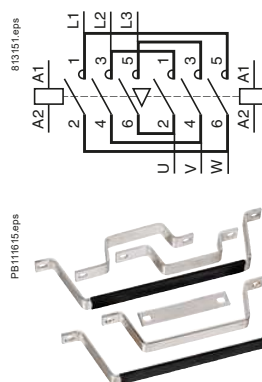
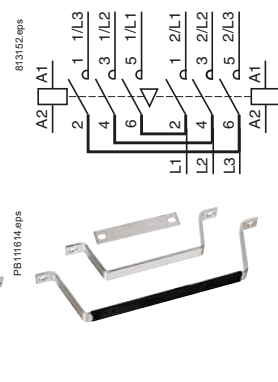
High power  
contactors

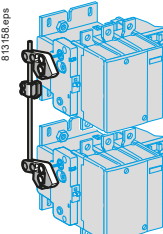
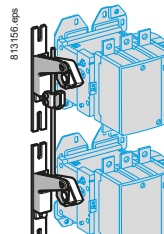
# TeSys Control

## F High power contactors - Assembling components

### Product references

Components for reversing and changeover assemblies of LC1F contactors - 3-pole

Horizontally mounted	Mechanical interlocks	Sets of power connections
<p>Reversers assembled using 2 contactors of identical rating, type :</p> <p>LC1F115 LC1F150 LC1F185 LC1F225 LC1F265 LC1F330 LC1F400 LC1F500 LC1F630 LC1F800</p>	<p><b>LA9F●970</b> <sup>(2)</sup></p> 	<p><b>Reversing contactors</b></p> <p><b>LA9F●●76</b> <sup>(2)</sup></p>  <p><b>3-pole changeover contactor pairs</b> <sup>(1)</sup></p> <p><b>LA9F●●82</b> <sup>(2)</sup></p> 

Vertically mounted	Mechanical interlocks	Mechanical interlocks
<p>Reversers assembled using 2 contactors of identical rating, type :</p> <p>LC1F115 LC1F150 LC1F185 LC1F225 LC1F265 LC1F330 LC1F400 LC1F500 LC1F630 LC1F800</p> <p>Reversers assembled using 2 contactors of different ratings, see page B9/36</p>	<p><b>LA9FF4F</b> <b>LA9FG4G</b></p> 	<p><b>LA9FH4H</b> <b>LA9FJ4J</b> <b>LA9FL4L</b></p> 

(1) For 4-pole changeover contactor pairs, see pages B9/36 and B9/37.  
(2) Complete references: see page B9/35.

Ref.

High power contactors



#### Control Panel Technical Guide:

Description and product reference of all mounting kits and wiring accessories for D, K, F - Star Delta, reverser, low-high speed control motor starters and changeover applications.

> Ref. Document: CPTG011\_EN



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Components for reversing and changeover assemblies of LC1F contactors - 3-pole

#### Reversers assembled using 2 contactors of identical rating

Contactor type <sup>(1)</sup>	Set of power connections		Mechanical interlock	
	Reference	Weight kg	Kit reference	Weight kg

#### For assembly of 3-pole reversing contactors for motor control

##### Horizontally mounted

LC1F115	LA9FF976	0.600	LA9FF970	0.060
LC1F150	LA9F15076	0.600	LA9FF970	0.060
LC1F185	LA9FG976	0.780	LA9FG970	0.060
LC1F225	LA9F22576	1.500	LA9FG970	0.060
LC1F265	LA9FH976	1.500	LA9FJ970	0.140
LC1F330	LA9FJ976	2.100	LA9FJ970	0.140
LC1F400	LA9FJ976	2.100	LA9FJ970	0.140
LC1F500	LA9FK976	2.350	LA9FJ970	0.140
LC1F630 or F800	LA9FL976	3.800	LA9FL970	0.150

##### Vertically mounted

LC1F115 or F150	<sup>(2)</sup>	–	LA9FF4F	0.345
LC1F185	<sup>(2)</sup>	–	LA9FG4G	0.350
LC1F225	<sup>(2)</sup>	–	LA9FG4G	0.350
LC1F265 or F330	<sup>(2)</sup>	–	LA9FH4H	1.060
LC1F400	<sup>(2)</sup>	–	LA9FJ4J	1.200
LC1F630 or F800	<sup>(2)</sup>	–	LA9FL4L	1.220

#### For assembly of 3-pole changeover contactor pairs <sup>(3)</sup>

##### Horizontally mounted

LC1F225	LA9F22582	1.200	LA9FG970	0.060
LC1F265	LA9FH982	1.200	LA9FJ970	0.140
LC1F330	LA9FJ982	1.800	LA9FJ970	0.140
LC1F400	LA9FJ982	1.800	LA9FJ970	0.140
LC1F500	LA9FK982	2.300	LA9FJ970	0.140

##### Vertically mounted

LC1F115 or F150	<sup>(2)</sup>	–	LA9FF4F	0.345
LC1F185	<sup>(2)</sup>	–	LA9FG4G	0.350
LC1F225	<sup>(2)</sup>	–	LA9FG4G	0.350
LC1F265 or F330	<sup>(2)</sup>	–	LA9FH4H	1.060
LC1F400	<sup>(2)</sup>	–	LA9FJ4J	1.200
LC1F630 or F800	<sup>(2)</sup>	–	LA9FL4L	1.220

<sup>(1)</sup> To order the 2 contactors: see pages B9/2 and B9/3. For the 2 auxiliary contact blocks **LADN•1** required to obtain electrical interlocking between the 2 contactors, see page B9/11. For accessories, see pages B9/12 to B9/14.

<sup>(2)</sup> All power connections are to be made by the customer.

<sup>(3)</sup> For assembly of 4-pole changeover contactor pairs, see pages B9/36 and B9/37.

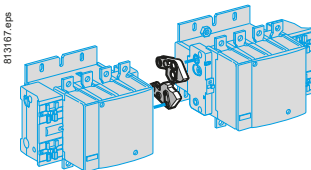

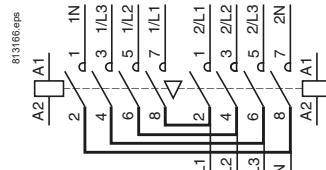


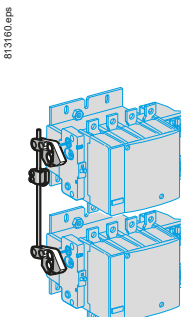
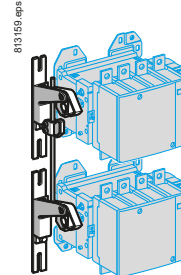
# TeSys Control

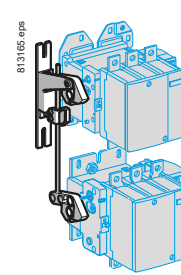
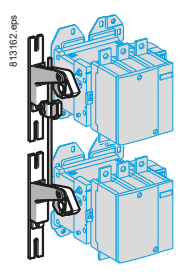
## F High power contactors - Assembling components

### Product references

Components for reversing and changeover assemblies of LC1F contactors - 3-pole, 4-pole

Horizontally mounted	Mechanical interlocks	Sets of power connections
<p>Contactor pairs assembled using 2 contactors of identical rating, type:</p> <p>LC1F1154 LC1F1504 LC1F1854 LC1F2254 LC1F2654 LC1F3304 LC1F4004 LC1F5004 LC1F6304</p>	<p><b>LA9F•970</b> <sup>(2)</sup></p> 	<p><b>4-pole changeover contactor pairs</b> <sup>(1)</sup></p> <p><b>LA9F•••77</b> <sup>(2)</sup></p>  

Vertically mounted	Mechanical interlocks	Assembly B
<p>Contactor pairs assembled using 2 contactors of identical rating, type:</p> <p>LC1F1154 LC1F1504 LC1F1854 LC1F2254 LC1F2654 LC1F3304 LC1F4004 LC1F5004 LC1F6304</p>	<p><b>Assembly A</b></p> <p><b>LA9FF4F</b> <b>LA9FG4G</b></p> 	<p><b>Assembly B</b></p> <p><b>LA9FH4H</b> <b>LA9FJ4J</b> <b>LA9FL4L</b></p> 

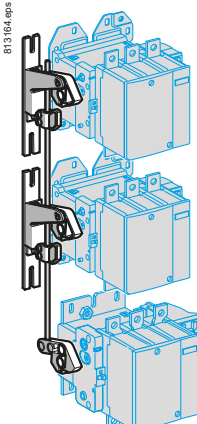
<p>Contactor pairs assembled using 2 contactors of different ratings, type:</p> <p>LC1F115 or F1154 LC1F150 or F1504 LC1F185 or F1854 LC1F225 or F2254 LC1F265 or F2654 LC1F330 or F3304 LC1F400 or F4004 LC1F500 or F5004 LC1F630 or F6304 LC1F800</p>	<p><b>Assembly B</b></p> <p><b>LA9FH4F, LA9FH4G</b> <b>LA9FJ4F, LA9FJ4G</b> <b>LA9FL4G</b></p> 	<p><b>Assembly C</b></p> <p><b>LA9FJ4H</b> <b>LA9FK4H, LA9FK4J</b> <b>LA9FL4H, LA9FL4J</b></p> 
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High power contactors

Contactor pairs assembled using 3 contactors of identical or different ratings, type:

LC1F115 or F1154  
LC1F150 or F1504  
LC1F185 or F1854  
LC1F225 or F2254  
LC1F265 or F2654  
LC1F330 or F3304  
LC1F400 or F4004  
LC1F500 or F5004  
LC1F630 or F6304  
LC1F800

**LA9F•4•4•** : see pages B9/38 and B9/39.




#### Control Panel Technical Guide:

Description and product reference of all mounting kits and wiring accessories for D, K, F - Star Delta, reverser, low-high speed control motor starters and changeover applications.

> Ref. Document: CPTG011\_EN



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**Important:** the contactor ratings must be in decreasing size from top to bottom.

(1) For 3-pole changeover contactor pairs, see pages B9/34 and B9/35.  
(2) Complete references: see page B9/37.

# TeSys Control

## F High power contactors - Assembling components

### Product references

Components for reversing and changeover assemblies of LC1F contactors  
3-pole, 4-pole.

#### Contactor pairs assembled using 2 contactors of identical rating

##### For assembly of 4-pole changeover contactor pairs <sup>(1)</sup>

Contactor type <sup>(2)</sup>	Set of power connections		Mechanical interlock	
	Reference	Weight kg	Kit reference	Weight kg
<b>Vertically mounted</b>				
LC1F1154 or F1504	<sup>(3)</sup>	–	LA9FF4F	0.345
LC1F1854	<sup>(3)</sup>	–	LA9FG4G	0.350
LC1F2254	<sup>(3)</sup>	–	LA9FG4G	0.350
LC1F2654 or F3304	<sup>(3)</sup>	–	LA9FH4H	1.060
LC1F4004	<sup>(3)</sup>	–	LA9FJ4J	1.200
LC1F6304	<sup>(3)</sup>	–	LA9FL4L	1.220

#### Contactor pairs assembled using 2 contactors of different ratings

##### For assembly of 3 or 4-pole changeover contactor pairs

Contactor type <sup>(1)</sup>		Mechanical interlock	
At bottom	At top	Kit reference	Weight kg
<b>Vertically mounted</b>			
LC1F115 or F1154	LC1F265 or F2654	LA9FH4F	0.870
or	LC1F330 or F3304	LA9FH4F	0.870
LC1F150 or F1504	LC1F400 or F4004	LA9FJ4F	0.930
LC1F185 or F1854	LC1F265 or F2654	LA9FH4G	0.860
or	LC1F330 or F3304	LA9FH4G	0.860
LC1F225 or F2254	LC1F400 or F4004	LA9FJ4G	0.940
	LC1F630, F6304 or F800	LA9FL4G	0.950
LC1F265 or F2654	LC1F400 or F4004	LA9FJ4H	1.130
or	LC1F500 or F5004	LA9FK4H	1.130
LC1F330 or F3304	LC1F630, F6304 or F800	LA9FL4H	1.140
LC1F400 or F4004	LC1F500 or F5004	LA9FK4J	1.200
	LC1F630 or F6304 or F800	LA9FL4J	1.210

##### For assembly of reversers using 3 contactors, vertically mounted

See pages B9/38 and B9/39.

- (1) For assembly of 3-pole changeover contactor pairs, see pages B9/34 and B9/35.  
 (2) To order the 2 contactors: see pages B9/2 and B9/3. For the 2 auxiliary contact blocks LADN●1 required to obtain electrical interlocking between the 2 contactors, see page B9/11. For accessories, see pages B9/12 to B9/14.  
 (3) All power connections are to be made by the customer.

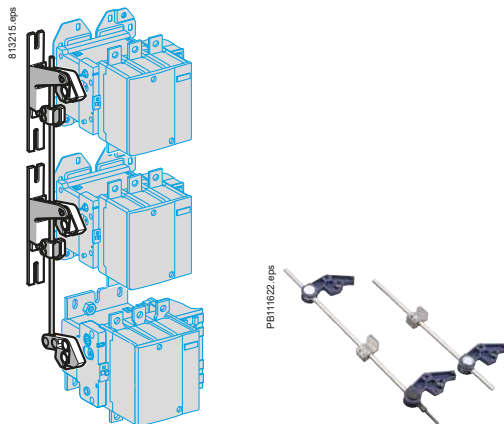


High power  
contactors

# TeSys Control

## F High power contactors - Assembling components

### Product references



Example of assembly using LA9FH4H4G kit (2 right-angled mounting brackets included)

LA9FF4●4● to LA9FG4●4●

Components for reversing and changeover assemblies of 3 LC1F contactors - 3-pole, 4-pole.

Closing of one of the 3 contactors prevents closing of the other 2.

#### Mechanical interlock kits

##### Vertically mounted

Contactor type <sup>(1)</sup>		Mechanical interlock <sup>(2)</sup>		Weight kg
Top	Middle	Bottom	Kit reference <sup>(3)</sup>	
LC1F185, F225, F1854 or F2254	LC1F115, F150, F1154 or F1504	LC1F115, F150, F1154 or F1504	LA9FG4F4F	0.559
	LC1F185, F225, F1854 or F2254	LC1F115, F150, F1154 or F1504	LA9FG4G4F	0.559
LC1F265, F330, F2654 or F3304	LC1F115, F150, F1154 or F1504	LC1F115, F150, F1154 or F1504	LA9FH4F4F	1.350
	LC1F185, F225, F1854 or F2254	LC1F115, F150, F1154 or F1504	LA9FH4G4F	1.375
LC1F265, F330, F2654 or F3304	LC1F185, F225, F1854 or F2254	LC1F115, F150, F1154 or F1504	LA9FH4G4G	1.375
	LC1F115, F150, F1154 or F1504	LC1F115, F150, F1154 or F1504	LA9FH4H4F	1.524
	LC1F185, F225, F1854 or F2254	LC1F185, F225, F1854 or F2254	LA9FH4H4G	1.527
	LC1F265, F330, F2654 or F3304	LC1F265, F330, F2654 or F3304	LA9FH4H4H	1.684
LC1F400, F4002 or F4004	LC1F115, F150, F1154 or F1504	LC1F115, F150, F1154 or F1504	LA9FJ4F4F	1.421
	LC1F185, F225, F1854 or F2254	LC1F115, F150, F1154 or F1504	LA9FJ4G4F	1.424
	LC1F185, F225, F1854 or F2254	LC1F185, F225, F1854 or F2254	LA9FJ4G4G	1.428
	LC1F265, F330, F2654 or F3304	LC1F115, F150, F1154 or F1504	LA9FJ4H4F	1.595
	LC1F185, F225, F1854 or F2254	LC1F185, F225, F1854 or F2254	LA9FJ4H4G	1.598
	LC1F265, F330, F2654 or F3304	LC1F265, F330, F2654 or F3304	LA9FJ4H4H	1.755
	LC1F400, F4002 or F4004	LC1F115, F150, F1154 or F1504	LA9FJ4J4F	1.666
	LC1F185, F225, F1854 or F2254	LC1F185, F225, F1854 or F2254	LA9FJ4J4G	1.669
	LC1F265, F330, F2654 or F3304	LC1F265, F330, F2654 or F3304	LA9FJ4J4H	1.829
	LC1-F400, F4002 or F4004	LC1-F400, F4002 or F4004	LA9FJ4J4J	1.890
LC1F500, F5002 or F5004 (continued on page B9/39)	LC1F115, F150, F1154 or F1504	LC1F115, F150, F1154 or F1504	LA9FK4F4F	1.421
	LC1F185, F225, F1854 or F2254	LC1F115, F150, F1154 or F1504	LA9FK4G4F	1.424
	LC1F185, F225, F1854 or F2254	LC1F185, F225, F1854 or F2254	LA9FK4G4G	1.428
	LC1F265, F330, F2654 or F3304	LC1F115, F150, F1154 or F1504	LA9FK4H4F	1.595
	LC1F185, F225, F1854 or F2254	LC1F185, F225, F1854 or F2254	LA9FK4H4G	1.598
	LC1F265, F330, F2654 or F3304	LC1F265, F330, F2654 or F3304	LA9FK4H4H	1.755
	LC1F400, F4002 or F4004	LC1F115, F150, F1154 or F1504	LA9FK4J4F	1.666
	LC1F185, F225, F2654 or F3304	LC1F185, F225, F2654 or F3304	LA9FK4J4G	1.669
	LC1F265, F330, F2654 or F3304	LC1F265, F330, F2654 or F3304	LA9FK4J4H	1.829
	LC1F400, F4002 or F4004	LC1F400, F4002 or F4004	LA9FK4J4J	1.896
LC1F500, F5002 or F5004	LC1F115, F150, F1154 or F1504	LA9FK4K4F	1.666	

<sup>(1)</sup> To order the 3 contactors, see pages B9/2 and B9/3. For auxiliary contact blocks LADN02 used for electrical locking, see page B9/11. For accessories, see pages B9/12 to B9/14.

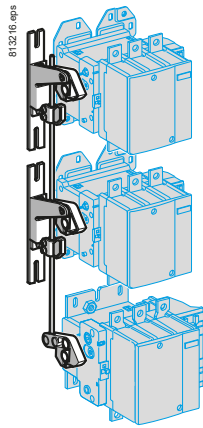
<sup>(2)</sup> Minimum distances between contactors, see page B9/39.

<sup>(3)</sup> The kit contains the lever arms, the 2 x Ø8 mm rods and all parts required for assembly. 1 right-angled mounting bracket included per driven contactor LC1F265 to 5004.

# TeSys Control

## F High power contactors - Assembling components

### Product references



Example of assembly using LA9FL4J4J kit (2 right-angled mounting brackets included)



LA9FL4G4F

Components for reversing and changeover assemblies of 3 LC1F contactors - 3-pole, 4-pole.

Mechanical interlock kits (continued)				
Vertically mounted				
Contactor type <sup>(1)</sup>	Middle	Bottom	Mechanical interlock <sup>(2)</sup>	Weight kg
LC1F500, F5002 or F5004 (continued)		LC1F185, F225, F1854 or F2254	LA9FK4K4G	1.669
		LC1F265, F330, F2654 or F3304	LA9FK4K4H	1.825
		LC1F400, F4002 or F4004	LA9FK4K4J	1.896
		LC1-F500, F5002 or F5004	LA9FK4K4K	1.896
LC1F630, F800, F6302 or F6304	LC1F115, F150, F1154 or F1504	LC1F115, F150, F1154 or F1504	LA9FL4F4F	1.428
		LC1F185, F225, F1854 or F2254	LA9FL4G4F	1.431
		LC1F185, F225, F1854 or F2254	LA9FL4G4G	1.436
	LC1F265, F330, F2654 or F3304	LC1F115, F150, F1154 or F1504	LA9FL4H4F	1.602
		LC1F185, F225, F1854 or F2254	LA9FL4H4G	1.606
		LC1F265, F330, F2654 or F3304	LA9FL4H4H	1.751
	LC1F400, F4002 or F4004	LC1F115, F150, F1154 or F1504	LA9FL4J4F	1.673
		LC1F185, F225, F1854 or F2254	LA9FL4J4G	1.676
		LC1F265, F330, F2654 or F3304	LA9FL4J4H	1.832
	LC1-F500, F5002 or F5004	LC1F400, F4002 or F4004	LA9FL4J4J	1.903
		LC1F115, F150, F1154 or F1504	LA9FK4K4F	1.666
		LC1F185, F225, F1854 or F2254	LA9FK4K4G	1.669
LC1F630, F800, F6302 or F6304	LC1F115, F150, F1154 or F1504	LC1F265, F330, F2654 or F3304	LA9FK4K4H	1.825
		LC1F400, F4002 or F4004	LA9FK4K4J	1.896
		LC1-F500, F5002 or F5004	LA9FK4K4K	1.896
	LC1F115, F150, F1154 or F1504	LC1F115, F150, F1154 or F1504	LA9FL4L4F	1.680
		LC1F185, F225, F1854 or F2254	LA9FL4L4G	1.683
		LC1F265, F330, F2654 or F3304	LA9FL4L4H	1.910
	LC1F400, F4002 or F4004	LC1F400, F4002 or F4004	LA9FL4L4J	1.896
		LC1F500, F5002 or F5004	LA9FL4L4K	1.896
		LC1F630, F800, F6302, or F6304	LA9FL4L4L	1.920

(1) To order the 3 contactors, see pages B9/2 and B9/3. For auxiliary contact blocks LADN02 used for electrical locking, see page B9/11. For accessories, see pages B9/12 to B9/14.

(2) Minimum distances between contactors.  
This is the distance, in mm, between the centres of two adjacent contactors (between the top and middle contactors or between the middle and bottom contactors).

Contactor Bottom or top	Middle					
	LC1F115 or F150	LC1F185 or F225	LC1F265 or F330	LC1F400	LC1F500	LC1F630 or F800
LC1F115 or F150	200	210	240	250	270	320
LC1F185 or F225	210	220	250	250	270	330
LC1F265 or F330	240	250	250	260	280	350
LC1F400	250	250	260	260	280	320
LC1F500	270	270	280	280	300	340
LC1F630 or F800	320	330	350	320	340	380

(3) The kit contains the lever arms, the 2 x Ø8 mm rods and all parts required for assembly. 1 right-angled mounting bracket included per driven contactor LC1F265 to 8004.

High power contactors

### 3-pole, 4-pole electrical distribution - changeover application

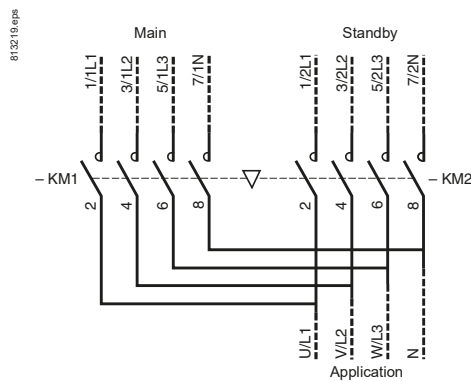
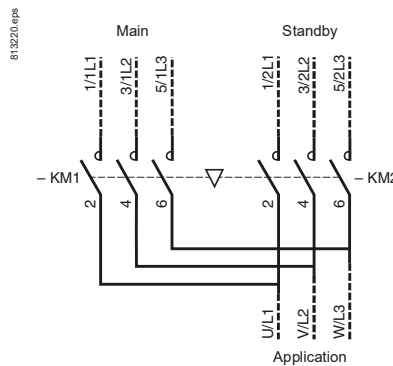
A changeover contactor pair ensures continuity of operation of an installation and energy management.

It switches between:

- a power supply source M (main) which normally supplies the installation
- and a power supply source S (standby) which may be an incoming line from an additional network or a generating set.

The supply sources may be 3-phase or 3-phase + neutral.

#### Supply - 3-phase



The 2 contactors must be mechanically and electrically interlocked to prevent any paralleling, even transitory, of the two supplies.



High power contactors




# TeSys Control

## F High power contactors

### Product references

CR1F150F7	LA4FRCV	LA9FG970	LC1F115MD	LC1F185BD
CR1F150M7	LA4FTE	LA9FG976	LC1F115N7	LC1F185BDS121
CR1F150U7	LA4FTF	LA9FG979	LC1F115P5	LC1F185E7
CR1F185F7	LA4FTP	LA9FG980	LC1F115P7	LC1F185ED
CR1F185G7	LA4FVE	LA9FH4F	LC1F115Q5	LC1F185F7
CR1F185M7	LA4FVF	LA9FH4G	LC1F115Q7	LC1F185FD
CR1F185Q7	LA4FVP	LA9FH4H	LC1F115R7	LC1F185FE7
CR1F185U7	LA4FVV	LA9FH4H4F	LC1F115S057	LC1F185G622L
CR1F2654F7	LA5D11550	LA9FH4H4H	LC1F115S7	LC1F185G7
CR1F265F7	LA5F400802	LA9FH601	LC1F115U7	LC1F185G722L
CR1F265G7	LA5F400803	LA9FH602	LC1F115V7	LC1F185KUE
CR1F265GD31S003	LA5F400804	LA9FH610	LC1F115X622L	LC1F185L7
CR1F265M7	LA5F500803	LA9FH976	LC1F115X7	LC1F185M7
CR1F265U7	LA5F500804	LA9FH982	LC1F1250	LC1F185M722L
CR1F4004MZ7	LA5F630803	LA9FJ4G	LC1F1250F7	LC1F185M7DN11P
CR1F400F7	LA5F630804	LA9FJ4H	LC1F1250KUE	LC1F185MD
CR1F400FZ7	LA5F780801	LA9FJ4J	LC1F1250M7	LC1F185N7
CR1F400M7	LA5F780803	LA9FJ4J4J	LC1F1250MD	LC1F185P7
CR1F400Q7	LA5F780804	LA9FJ610	LC1F1250P7	LC1F185Q7
CR1F500F7	LA5F800803	LA9FJ970	LC1F1250Y	LC1F185R7
CR1F500GD31S003	LA5FF431	LA9FJ974	LC1F1400	LC1F185S7
CR1F500M7	LA5FF441	LA9FJ976	LC1F1400MD	LC1F185U7
CR1F500Q7	LA5FG431	LA9FJ980	LC1F1400P7	LC1F185V7
CR1F630F7	LA5FG441	LA9FJ982	LC1F150	LC1F185X7
CR1F630M7	LA5FH431	LA9FK4H	LC1F1504	LC1F2100
CR1F630MZ7	LA5FH441	LA9FK4J	LC1F1504B7	LC1F2100F7
DR2SC0047	LA5FJ431	LA9FK4K	LC1F1504BD	LC1F2100LD
DR2SC0150	LA5FK431	LA9FK4K4K	LC1F1504M7	LC1F2100LDBR
DR2SC0180	LA5FL431	LA9FK976	LC1F1504P7	LC1F2100M7
DR2SC0220	LA7F403	LA9FK982	LC1F1504Q7	LC1F2100MD
DR2SC0330	LA7F404	LA9FL4G	LC1F1504U7	LC1F2100P7
DR2SC0680	LA7F406	LA9FL4H	LC1F1504X7	LC1F2100V7
DR2SC1000	LA7F407	LA9FL4J	LC1F150B5	LC1F225
DR2SC1200	LA7F701	LA9FL4L	LC1F150B6	LC1F2254
DR5TE4S	LA7F702	LA9FL970	LC1F150B7	LC1F2254B7
DR5TE4U	LA7F703	LA9FL976	LC1F150BD	LC1F2254BD
DR5TX5S	LA7F901	LA9FL980	LC1F150E7	LC1F2254FD
DX1RA1	LA7F902	LA9FX990M	LC1F150ED	LC1F2254G7
DZ2FF1	LA9D11517	LA9FX991F	LC1F150F7	LC1F2254M7
DZ2FF6	LA9D115604	LA9FX991Q	LC1F150F7S219	LC1F2254P7
DZ2FG1	LA9D115692	LC1D115004L6	LC1F150FD	LC1F2254Q7
DZ2FG6	LA9D11570	LC1F1000	LC1F150G7	LC1F2254X7
DZ2FJ1	LA9D115704	LC1F1000F7	LC1F150GDS003	LC1F225B5
DZ2FJ6	LA9D730	LC1F1000M7	LC1F150KUE	LC1F225B7
DZ2FK1	LA9F100	LC1F1000P7	LC1F150M7	LC1F225BD
DZ2FK6	LA9F103	LC1F1000U7	LC1F150MD	LC1F225E5
DZ2FL1	LA9F15076	LC1F1000V7	LC1F150N7	LC1F225E7
DZ2FL2	LA9F18517	LC1F115	LC1F150P5	LC1F225ED
DZ2FL3	LA9F2100	LC1F1154	LC1F150P7	LC1F225F7
DZ2FL6	LA9F22576	LC1F1154B7	LC1F150Q7	LC1F225F7S219
DZ2FR1	LA9F22582	LC1F1154BD	LC1F150Q7S219	LC1F225FD
DZ2FX1	LA9F2600	LC1F1154F7	LC1F150R7	LC1F225FE7
DZ2FX6	LA9F701	LC1F1154G7	LC1F150U7	LC1F225FWS14
DZ3FA3	LA9F702	LC1F1154M7	LC1F150V7	LC1F225G622L
DZ3GA3	LA9F703	LC1F1154MD	LC1F150X7	LC1F225G7
DZ3HA3	LA9F704	LC1F1154P7	LC1F1700	LC1F225GDS219
DZ3JA3	LA9F705	LC1F1154Q7	LC1F1700F7	LC1F225KUE
LA1VN11	LA9F706	LC1F1154U7	LC1F1700M7	LC1F225L7
LA1VN11X	LA9F707	LC1F1154X7	LC1F1700MD	LC1F225M7
LA1VN20	LA9F708	LC1F115B5	LC1F1700P7	LC1F225MD
LA4EM250FF	LA9F709	LC1F115B6	LC1F185	LC1F225N7
LA4EM250FG	LA9F801	LC1F115B7	LC1F1854	LC1F225P7
LA4EM250FH	LA9F980	LC1F115BD	LC1F1854B7	LC1F225Q7
LA4EM250FJ	LA9FF4F	LC1F115E7	LC1F1854BD	LC1F225R7
LA4EM250FK	LA9FF601	LC1F115ED	LC1F1854E7	LC1F225S207
LA4EM250FL	LA9FF970	LC1F115F7	LC1F1854M7	LC1F225S7
LA4EM250FW	LA9FF976	LC1F115G622L	LC1F1854MD	LC1F225U7
LA4FDE	LA9FF981	LC1F115G7	LC1F1854P7	LC1F225V7
LA4FDF	LA9FG4F4F	LC1F115KUE	LC1F1854Q7	LC1F225X7
LA4FRCE	LA9FG4G	LC1F115L622L	LC1F1854X7	LC1F2600
LA4FRCF	LA9FG601	LC1F115M622L	LC1F185B5	LC1F2600MD
LA4FRCP	LA9FG610	LC1F115M7	LC1F185B7	LC1F2600P7

High power contactors

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# TeSys Control

## F High power contactors

### Product references

LC1F265	LC1F400ED	LC1F630V7	LX1FH5002	LX4FL110
LC1F2654	LC1F400F7	LC1F780	LX1FH6002	LX4FL125
LC1F2654F7	LC1F400F722L	LC1F7804	LX1FJ048	LX4FL220
LC1F2654FD	LC1F400FD	LC1F7804F7	LX1FJ110	LX4FX110
LC1F2654M7	LC1F400FE7	LC1F7804M7	LX1FJ127	LX5FJW11
LC1F2654P7	LC1F400G7	LC1F7804MD	LX1FJ200	LX5FJW18
LC1F2654Q7	LC1F400G722L	LC1F7804P7	LX1FJ220	LX5FJW21
LC1F2654U7	LC1F400GD	LC1F780F7	LX1FJ2206	LX5FJW24
LC1F2654V7	LC1F400KUE	LC1F780FE7	LX1FJ240	LX5FJW25
LC1F265B7	LC1F400L7	LC1F780G7	LX1FJ280	LX5FKW11
LC1F265BD	LC1F400M7	LC1F780M7	LX1FJ380	LX5FKW21
LC1F265E7	LC1F400MD	LC1F780P7	LX1FJ415	LX5FKW24
LC1F265ED	LC1F400N7	LC1F780Q7	LX1FJ500	LX5FKW25
LC1F265F7	LC1F400P7	LC1F800	LX1FK048	LX5FLW23
LC1F265F722L	LC1F400Q7	LC1F800FW	LX1FK055	LX5FLW24
LC1F265FD	LC1F400R7	LC1F800KUE	LX1FK070	LX9FF024
LC1F265FE7	LC1F400U7	LC1F800MW	LX1FK110	LX9FF042
LC1F265G7	LC1F400V7	LC1F800QW	LX1FK127	LX9FF048
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LC1F265MD	LC1F5004F7	LC1V160FE7	LX1FK415	LX9FF380
LC1F265N7	LC1F5004FD	LC1V160P7	LX1FL110	LX9FF415
LC1F265P7	LC1F5004M7	LC1V160P7SC	LX1FL200	LX9FF500
LC1F265Q7	LC1F5004P7	LC1V320FE7	LX1FL220	LX9FF600
LC1F265R7	LC1F5004S225	LC1V320P7	LX1FL2206	LX9FG024
LC1F265S7	LC1F5004V7	LC1V610FE7	LX1FL260	LX9FG048
LC1F265U7	LC1F5007M7	LC1V610P7	LX1FL380	LX9FG100
LC1F265V7	LC1F500E7	LC2F115	LX1FL415	LX9FG110
LC1F265X7	LC1F500ED	LC2F1154	LX1FX110	LX9FG127
LC1F330	LC1F500F7	LC2F115M7	LX1FX220	LX9FG200
LC1F3304	LC1F500F722L	LC2F150	LX1FX415	LX9FG220
LC1F3304BD	LC1F500FD	LC2F1504	LX1V610P7	LX9FG240
LC1F3304FD	LC1F500FE7	LC2F150M7	LX2FJW25	LX9FG380
LC1F3304GD	LC1F500G7	LC2F185	LX2FKW11	LX9FG415
LC1F3304M7	LC1F500G722L	LC2F1854	LX2FKW21	LX9FG500
LC1F3304P7	LC1F500GD31S003	LC2F185F7	LX2FXW42	LX9FG550
LC1F3304Q7	LC1F500KUE	LC2F185G622L	LX2FXW52	LX9FG600
LC1F330B7	LC1F500L7	LC2F185M7	LX2FXW54	LX9FH0242
LC1F330BD	LC1F500M7	LC2F225	LX4D8MD	LX9FH1102
LC1F330E7	LC1F500MD	LC2F2254	LX4F8FW	LX9FH1272
LC1F330F7	LC1F500N7	LC2F225M7	LX4F8MW	LX9FH2202
LC1F330FD	LC1F500P7	LC2F265	LX4F8QW	LX9FH3802
LC1F330FE7	LC1F500Q7	LC2F2654	LX4FF024	LX9FJ925
LC1F330G7	LC1F500R7	LC2F265F722L	LX4FF060	LX9FJ931
LC1F330G722L	LC1F500U7	LC2F265M7	LX4FF090	LX9FJ936
LC1F330KUE	LC1F500V7	LC3F185M7	LX4FF110	LX9FK910
LC1F330L7	LC1F630	LC3F225M7	LX4FF220	LX9FK912
LC1F330M7	LC1F6302	LX1D8FE7	LX4FG024	LX9FK925
LC1F330M7+FI	LC1F6304	LX1D8L7	LX4FG060	LX9FK931
LC1F330M722L	LC1F6304F7	LX1D8N7	LX4FG090	LX9FL924
LC1F330MD	LC1F6304M7	LX1D8R7	LX4FG096S124	LX9FL930
LC1F330N7	LC1F6304P7	LX1D8V7	LX4FG110	LX9FL931
LC1F330P7	LC1F6304U7	LX1FF024	LX4FG125	LX9FL935
LC1F330Q7	LC1F6304V7	LX1FF040	LX4FG220	LXEFF250
LC1F330R7	LC1F630E7	LX1FF1106	LX4FH024	LXEFFG250
LC1F330S7	LC1F630F7	LX1FG024	LX4FH040	LXEFFH250
LC1F330U7	LC1F630F722L	LX1FH0242	LX4FH070	LXEFJ250
LC1F330V7	LC1F630FD	LX1FH0422	LX4FH090	LXEFK250
LC1F400	LC1F630FE7	LX1FH0482	LX4FH096S124	LXEFL250
LC1F4002	LC1F630G7	LX1FH1102	LX4FH110	LXEFW250
LC1F4004	LC1F630GD	LX1FH11062	LX4FH220	PA1LB75
LC1F4004F7	LC1F630KUE	LX1FH1272	LX4FJ024	PA1LB80
LC1F4004M7	LC1F630M7	LX1FH2002	LX4FJ090	PA1LB89
LC1F4004P7	LC1F630MD	LX1FH2202	LX4FJ110	PA2FB80
LC1F4004Q7	LC1F630N7	LX1FH22062	LX4FJ220	
LC1F4004U7	LC1F630P7	LX1FH2402	LX4FJ250	
LC1F4004V7	LC1F630Q7	LX1FH2772	LX4FK100	
LC1F400BD11S121	LC1F630R7	LX1FH3802	LX4FK110	
LC1F400E7	LC1F630U7	LX1FH4402	LX4FK220	

TeSys F contactors

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## Technical Data for Designers

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- > schemes ..... B9/61 and B9/62

#### V vacuum contactors:

- > characteristics ..... B9/64 and B9/65
- > dimensions ..... B9/66 and B9/67
- > schemes ..... B9/66 to B9/69

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- > dimensions  
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- > dimensions ..... B9/98 to B9/101

#### F - reversing and changeover contactors:

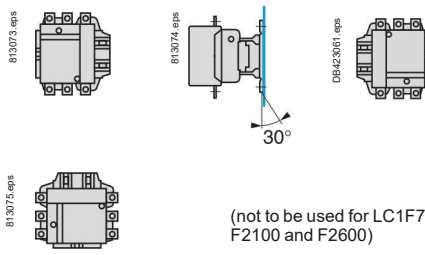
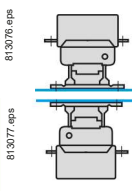
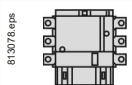
- > dimensions ..... B9/102 to B9/105
- > schemes ..... B9/106

# TeSys Control

## F High power contactors

### Characteristics

#### Environment

Contactor type			LC1F115	LC1F150	LC1F185
Rated insulation voltage (Ui)	Conforming to IEC 60947-4-1. Overvoltage category III, degree of pollution: 3	<b>V</b>	1000	1000	1000
Rated impulse withstand voltage (Uimp)	Coil not connected to the power circuit	<b>kV</b>	8	8	8
Conforming to standards			IEC/EN 60947-4-1, UL 60947-4-1, CSA C22.2 n° 60947-4-1, JIS C 8201-4-1		
Product certifications			UL, CSA, CCC, UKCA, CB certification, EAC, ABS, BV, DNV-GL, LRoS, RINA, RMRoS		
Degree of protection	Conforming to IEC 60529		IP 2X front face with shrouds LA9F		
Climatic withstand			According to IACS E10		
Ambient air temperature around the device	Storage	<b>°C</b>	-60...+80		
	Operation	<b>°C</b>	-5...+55		
	Permissible at Uc <sup>(1)</sup>	<b>°C</b>	-40...+70		
Maximum operating altitude	Without derating	<b>m</b>	3000		
Operating positions	Without derating		 <p>(not to be used for LC1F780, F1000, F1400, F1700, F2100 and F2600)</p>		
			<p>Apply the following derating coefficients: 0.75 on the pull-in voltage, 0.9 on the drop-out voltage and 0.8 on the operational current in AC-1.</p> <p>Apply the following derating coefficients: 1.15 on the pull-in voltage, 1.1 on the drop-out voltage and 0.8 on the operational current in AC-1.</p> <p>In either case: neither the making and breaking capacities nor the electrical and mechanical durabilities can be assured.</p>		
	With derating				
	Not to be used				
Shock resistance <sup>(2)</sup> 1/2 sine wave = 11 ms Conforming to IEC/EN 60068-2-27	Contactor open		9 gn	9 gn	7 gn
	Contactor closed <sup>(3)</sup>		15 gn	15 gn	15 gn
Vibration resistance <sup>(2)</sup> 5...300 Hz Conforming to IEC/EN 60068-2-6	Contactor open		2 gn	2 gn	2 gn
	Contactor closed		6 gn	6 gn	5 gn

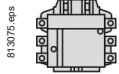
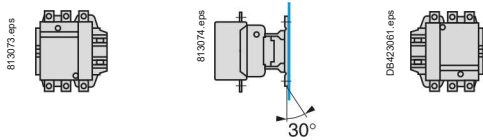
- (1) In these conditions, it is recommended that LX9F coils be used for contactor sizes F115 to F225.
- (2) In the least favourable direction, without change of contact state (coil at Uc). Where higher resistance to mechanical shock is required, select shock-proof contactors. Please consult your Regional Sales Office.
- (3) 12 gn for F115-F1250 contactors when used with Electronic control module (LA4EM) & LXE coils.

# TeSys Control

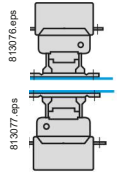
## F High power contactors

### Characteristics

LC1F225	LC1F265	LC1F330	LC1F400	LC1F500	LC1F630	LC1F780	LC1F800	LC1 F1000	LC1 SF1200	LC1 F1250	LC1 F1400	LC1 F1700	LC1 F2100	LC1 F2600
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
EN 60947-1, EN 60947-4-1, IEC 60947-1, IEC 60947-4-1, JIS C 8201-4-1 (except for LC1F1000 & LC1SF1200)														
UL, CSA, CCC, CB certification, EAC, ABS, BV, DNV-GL, LRoS, RINA, RMRoS							CB, CSA, UL, CCC, LRoS, ABS, RMRoS		CB, CSA, CCC	CB, CCC	CB, CSA, CCC, UL			
IP 20 front face with shrouds LA9F									-	-	-			
According to IACS E10														
-60...+80														
-5...+55								-5...+40	-5...+60	-5...+40				
-40...+70						-5...+55	-40...+60	-40...+70	-40...+60					
3000														



(not to be used for LC1F780, F1000, F1400, F1700, F2100 and F2600)

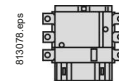


Apply the following derating coefficients: 0.75 on the pull-in voltage, 0.9 on the drop-out voltage and 0.8 on the operational current in AC-1.

Apply the following derating coefficients: 1.15 on the pull-in voltage, 1.1 on the drop-out voltage and 0.8 on the operational current in AC-1.

In either case: neither the making and breaking capacities nor the electrical and mechanical durabilities can be assured.

Not to be used	Possible positions with derating (see corresponding paragraph on left, same line)	Not to be used
----------------	---	----------------



7 gn	6 gn	6 gn	6 gn	9 gn	6 gn	5 gn	6 gn	6 gn	6 gn	6 gn	6 gn	6 gn	6 gn	6 gn
15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn	15 gn
2 gn	2 gn	2 gn	1.5 gn	2 gn	2 gn	2.5 gn	2 gn	2 gn	2 gn	2 gn	2 gn	2 gn	2 gn	2 gn
5 gn	5 gn	5 gn	5 gn	4 gn	4 gn	5.5 gn	4 gn	4 gn	4 gn <sup>(1)</sup>	4 gn	4 gn	4 gn	4 gn	4 gn

(1) Vibration resistance 5...30 Hz, when used with Electronic Control Module (ECM).

# TeSys Control

## F High power contactors

### Characteristics

#### Pole characteristics

Contactor type			LC1F115	LC1F150	LC1F185	LC1F225	LC1F265	
Number of poles			3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	
Rated operational current (Ie) (Ue ≤ 440 V)	In AC-3, θ ≤ 55 °C	<b>A</b>	115	150	185	225	265	
	In AC-1, θ ≤ 40 °C	<b>A</b>	200	250	275	315	350	
Rated operational voltage (Ue)	Up to	<b>V</b>	690	690	690	690	1000 <sup>(5)</sup>	
Frequency limits	Of the operational current <sup>(1)</sup>	<b>Hz</b>	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	
Conventional thermal current	θ ≤ 40 °C	<b>A</b>	200	250	275	315	350	
Rated making capacity	I rms conforming to IEC 60947-4-1	<b>A</b>	Making current: 10 x I in AC-3 or 12 x I in AC-4					
Rated breaking capacity	I rms conforming to IEC 60947-4-1	<b>A</b>	Making and breaking current: 8 x I in AC-3 or 10 x I in AC-4					
Maximum permissible current No current flowing for previous 60 minutes, at θ ≤ 40 °C	For 10 s	<b>A</b>	1100	1200	1500	1800	2200	
	For 30 s	<b>A</b>	640	700	920	1000	1230	
	For 1 min	<b>A</b>	520	600	740	850	950	
	For 3 min	<b>A</b>	400	450	500	560	620	
	For 10 min	<b>A</b>	320	350	400	440	480	
Short-circuit protection by fuses U ≤ 440 V	Motor circuit (type aM)	<b>A</b>	125	160	200	250	315	
	With thermal overload relay (type gG)	<b>A</b>	200	200	315	315	500	
	gG fuses	<b>A</b>	200	250	315	315	400	
Average impedance per pole	At Ith and 50 Hz	<b>mΩ</b>	0.37	0.35	0.33	0.32	0.3	
Power dissipation per pole for the above operational currents	AC-3	<b>W</b>	5	8	12	16	21	
	AC-1	<b>W</b>	15	22	25	32	37	
Connection			Maximum c.s.a.					
	Bar	Number of bars		2	2	2	2	2
		Bar	<b>mm</b>	20 x 3	25 x 3	25 x 3	32 x 4	32 x 4
	Cable with lug		<b>mm<sup>2</sup></b>	95	120	150	185	240
	Cable with connector		<b>mm<sup>2</sup></b>	95	120	150	185	240
Bolt diameter		<b>mm</b>	Ø6	Ø8	Ø8	Ø10	Ø10	
Tightening torque	Power circuit connections	<b>N.m</b>	10	18	18	35	35	

- (1) Sine wave without interference. Above these values, contactors can be used only for AC-1 application.
- (2) With set of right-angled connectors **LA9F2100** (see page B9/13).
- (3) Paralleling of poles must be carried out only in accordance with the fuse manufacturer's recommendations.
- (4) θ ≤ 60 °C with set of right-angled connectors **LA9F2600** (see page B9/13).
- (5) Ue ≤ 690 V in AC-3; Ue ≤ 1000 V in AC-1.
- (6) Ue = 1000 V, with set of right angled connectors **LA9F2100** (see page B9/13).

COORD.

Ref.



High power  
contactors

# TeSys Control

## F High power contactors

### Characteristics

LC1F330	LC1F400	LC1F500	LC1F630	LC1F780	LC1F800	LC1F1000	LC1SF1200	LC1F1250	LC1F1400	LC1F1700	LC1F2100	LC1F2600
3 or 4	2, 3 or 4	2, 3 or 4	2, 3 or 4	3 or 4	3	3	3	3	3	3	3	3
330	400	500	630	780	800	1000	-	-	-	-	-	-
400	500	700	1000	1600	1000	1250	1200	1260	1400	1700	2100 <sup>(2)</sup>	2600 <sup>(4)</sup>
1000	1000	1000 <sup>(5)</sup>	1000	1000	1000	440	690	690	1000	1000	1000 <sup>(6)</sup>	1000
16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200	16 <sup>2/3</sup> ...200
400	500	700	1000	1600	1000	1250	1200	1260	1400	1700	2100 <sup>(2)</sup>	2600 <sup>(4)</sup>
Making current: 10 x I in AC-3 or 12 x I in AC-4						10 x I in AC-3	Making current: 1.5 x I in AC-1					
Making and breaking current: 8 x I in AC-3 or 10 x I in AC-4						8 x I in AC-3	Making and breaking current: 1.5 x I in AC-1					
2650	3600	4200	5050	6250	5500	10000	8000	8000	8000	10000	10000	12000
1800	2400	3200	4400	5600	4600	7500	5200	5200	6000	7500	7500	9000
1300	1700	2400	3400	4600	3600	5500	4000	4000	4500	5500	5500	7000
900	1200	1500	2200	3000	2600	4200	3000	3000	4000	4200	4200	6000
750	1000	1200	1600	2200	1700	3000	2000	2000	2600	3000	3000	4000
400	400	500	630	800	800	1000	-	-	-	-	-	-
500	630	800	800	1000	1000	1000	-	-	-	-	-	-
500	500	800	1000	2 x 800 <sup>(3)</sup>	1000	1000	1400	1400	2 x 800 <sup>(3)</sup>	2 x 800 <sup>(3)</sup>	2 x 1000 <sup>(3)</sup>	2 x 1250 <sup>(3)</sup>
0.28	0.26	0.18	0.12	0.10	0.12	0.12	0.10	0.12	0.10	0.10	0.10	0.10
31	42	45	48	60	77	100	-	-	-	-	-	-
44	65	88	120	250	120	120	120	120	150	200	200	250
Maximum c.s.a.												
2	2	2	2	2	2	3	2	2	2	3	4	3
30 x 5	30 x 5	40 x 5	60 x 5	100 x 5	60 x 5	100 x 5	50x8	100 x 5	100 x 5	100 x 5	100 x 5	100 x 10
240	2 x 150	2 x 240	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
Ø10	Ø10	Ø10	Ø12	2 x Ø12	Ø12	4 x Ø12 (Ø11.5 with set of right-angled connectors LA9F2100)	3 x Ø12	3 x Ø12	4 x Ø12 (Ø11.5 with set of right-angled connectors LA9F2100)			4 x Ø12 (Ø11.5 with set of right-angled connectors LA9F2600)
35	35	35	58	58	58	58 (35 with set of right-angled connectors LA9F2100)	58	58	58 (35 with set of right-angled connectors LA9F2100)			58 (35 with set of right-angled connectors LA9F2600)

# TeSys Control

## F High power contactors

### Characteristics

#### a.c. control circuit characteristics with LX1 / LX9 coil

Contactor type				LC1F115	LC1F150	LC1F185	LC1F225	LC1F265	LC1F330	
Rated control circuit voltage (Uc)				V	24 ... 600			24...1000	24...1000	
Control voltage limits ( $\theta \leq 55^\circ\text{C}$ )	40...400 Hz coils	Operation		0.85...1.1 Uc			0.85...1.1 Uc	0.85...1.1 Uc		
		Drop-out		0.2...0.55 Uc			0.35...0.55 Uc	0.35...0.55 Uc		
Average consumption at 20 °C and at Uc	Inrush	40...400 Hz coil	VA	690...855	690...855	950...1180	950...1180	600...700	600...700	
		Cos $\varphi$		0.9	0.9	0.9	0.9	0.9	0.9	
	Sealed	40...400 Hz coil	VA	6.6...8.1	6.6...8.1	8.9...10.9	8.9...10.9	8...10	8...10	
		Cos $\varphi$		0.9	0.9	0.9	0.9	0.9	0.9	
Heat dissipation				W	5.9...7.2	5.9...7.2	8...9.8	8...9.8	8	8
Operating time <sup>(2)</sup>	Closing "C"		ms	35	35	35	35	40...65	40...65	
	Opening "O"		ms	130	130	130	130	100...170	100...170	
Mechanical durability at Uc	In millions of operating cycles				10	10	10	10	10	
Maximum operating rate at ambient temperature $\leq 55^\circ\text{C}$	In operating cycles per hour				2400 <sup>(3)</sup>	2400 <sup>(3)</sup>	2400 <sup>(3)</sup>	2400	2400	
Connection				Min/max c.s.a.						
Flexible cable without cable end	1 or 2 conductors		mm <sup>2</sup>	1/4	1/4	1/4	1/4	1/4	1/4	
			mm <sup>2</sup>	1/4	1/4	1/4	1/4	1/4	1/4	
	2 conductors		mm <sup>2</sup>	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	
Solid cable without cable end	1 or 2 conductors		mm <sup>2</sup>	1/4	1/4	1/4	1/4	1/4	1/4	
			mm <sup>2</sup>	1/4	1/4	1/4	1/4	1/4	1/4	
Tightening torque				N.m	1.2	1.2	1.2	1.2	1.2	
Mechanical latching				Mechanical latch blocks LA6DK must not be fitted on LC1F contactors. For similar type of operation, use magnetic latching contactors CR1F. See pages B9/28 to B9/33.						

(1) Equipped with 2 coils.

(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.

(3) 1200 cycles/hour for 600 V coils.

COORD.

Ref.



High power contactors



# TeSys Control

## F High power contactors

### Characteristics

LC1 F400	LC1 F500	LC1 F630	LC1 F780 <sup>(1)</sup>	LC1 F800	LC1 F1000 <sup>(1)</sup>	LC1 SF1200	LC1 F1250	LC1 F1400 <sup>(1)</sup>	LC1 F1700	LC1 F2100 <sup>(1)</sup>	LC1 F2600 <sup>(1)</sup>
48...1000		48...1000	110...500	110...400	110...500	220...230	110...600	110...500	110...500	110...500	110...500
0.85...1.1 Uc		0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc
0.3...0.5 Uc		0.25...0.5 Uc	0.2...0.4 Uc	0.3...0.5 Uc	0.3...0.5 Uc	0.25...0.5 Uc	0.25...0.5 Uc	0.3...0.5 Uc	0.3...0.5 Uc	0.3...0.5 Uc	0.3...0.5 Uc
1000...1150	1050...1150	1500...1730	1900...2300	1700	1600...2400	1050...1150	1500...1730	1600...2400	1600...2400	1600...2400	2200...2700
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
12...18	16...20	20...25	44...55	12	29...37	16...20	20...25	29...37	29...37	29...37	37.4...50.6
0.9	0.9	0.9	0.9	–	0.9	0.9	0.9	0.9	0.9	0.9	0.9
14	18	20	2 x 22	25	2 x 18	18	20	2 x 18	2 x 18	2 x 18	2 x 25
40...75	40...75	40...80	40...80	60...80	40...75	40...75	40...80	40...75	40...75	40...75	40...80
100...170	100...170	100...200	130...230	160...180	100...170	100...170	100...200	100...170	100...170	100...170	100...200
10	10	5	5	5	0.5	10	1	0.5	0.5	0.5	0.5
2400	2400	1200	600	600	600	2400	1200	600	600	600	600
Min/max c.s.a.											
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
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	1/2.5	1/2.5	1/2.5
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2

Mechanical latch blocks LA6DK must not be fitted on LC1F contactors.  
 For similar type of operation, use magnetic latching contactors CR1F.  
 See pages B9/28 to B9/33.

# TeSys Control

## F High power contactors

### Characteristics

#### d.c. control circuit characteristics with LX4 coil

Contactor type			LC1F115	LC1F150	LC1F185	LC1F225	LC1F265	
Rated control circuit voltage (Uc) <sup>---</sup>		<b>V</b>	24...460	24...460	24...460	24...460	24...460	
Control voltage limits (θ ≤ 55 °C)	Operation		0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	
	Drop-out		0.15...0.2 Uc	0.15...0.2 Uc	0.15...0.2 Uc	0.15...0.2 Uc	0.15...0.2 Uc	
Average consumption at 20 °C and at Uc	Inrush	<sup>---</sup>	<b>W</b>	543...665	543...665	737...902	737...902	655...803
		Sealed	<b>W</b>	3.94...4.83	3.94...4.83	4.13...5.07	4.13...5.07	3.68...4.53
Average operating time at Uc <sup>(1)</sup>	Closing "C"		<b>ms</b>	30...40	30...40	30...40	30...40	40...50
	Opening "O"		<b>ms</b>	30...50	30...50	30...50	30...50	40...65
			<i>Note: the arcing time depends on the circuit switched by the poles. For all normal 3-phase applications, the arcing time is less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.</i>					
Mechanical durability at Uc	In millions of operating cycles		10	10	10	10	10	
Maximum operating rate at ambient temperature ≤ 55 °C	In operating cycles per hour		2400	2400	2400	2400	2400	
Cabling			Min/max c.s.a.					
Flexible cable without cable end	1 conductor	<b>mm<sup>2</sup></b>	1/4	1/4	1/4	1/4	1/4	
	2 conductors	<b>mm<sup>2</sup></b>	1/4	1/4	1/4	1/4	1/4	
Flexible cable with cable end	1 conductor	<b>mm<sup>2</sup></b>	1/4	1/4	1/4	1/4	1/4	
	2 conductors	<b>mm<sup>2</sup></b>	1/2.5	1/2.5	1/2.5	1/2.5	1/2.5	
Solid cable without cable end	1 conductor	<b>mm<sup>2</sup></b>	1/4	1/4	1/4	1/4	1/4	
	2 conductors	<b>mm<sup>2</sup></b>	1/4	1/4	1/4	1/4	1/4	
Tightening torque		<b>N.m</b>	1.2	1.2	1.2	1.2	1.2	
Mechanical latching	Mechanical latch blocks LA6DK must not be fitted on LC1F contactors. For similar type of operation, use magnetic latching contactors CR1F. See pages B9/28 to B9/33.							

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

COORD.

Ref.



High power  
contactors

# TeSys Control

## F High power contactors

### Characteristics

LC1F330	LC1F400	LC1F500 / LC1SF1200 (1)	LC1F630	LC1F780	LC1F800	LC1F1000	LC1F1250	LC1F1400	LC1F1700	LC1F2100	LC1F2600
24...460	48...440	48...440	48...440	110...440	110...400	110...440	48...250	110...440	110...440	110...440	110...440
0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc
0.15...0.2 Uc	0.2...0.35 Uc	0.2...0.35 Uc	0.2...0.35 Uc	0.2...0.4 Uc	0.3...0.5 Uc	0.2...0.35 Uc	0.2...0.35 Uc	0.2...0.35 Uc	0.2...0.35 Uc	0.2...0.35 Uc	0.2...0.35 Uc
655...803	920...1140	990...1220	1420...1920	1960...2420	1900	2000...2200	1420...1920	2000...2200	2000...2200	2000...2200	2130...2880
3.68...4.53	4...7.5	4.54...8	6.5...12.5	42...52	12	8...10	6.5...12.5	8...10	8...10	8...10	13...25
40...50	50...60	50...60	60...70	70...80	60...80	50...60	60...70	50...60	50...60	50...60	60...70
40...65	45...60	45...60	40...50	100...130	40...50	45...60	40...50	45...60	45...60	45...60	40...50

**Note:** the arcing time depends on the circuit switched by the poles. For all normal 3-phase applications, the arcing time is less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.

10	10	10/1	5	5	5	0.5	1	0.5	0.5	0.5	0.5
2400	2400	2400/1200	1200	600	600	600	1200	600	600	600	600
Min/max c.s.a.											
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
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	1/2.5	1/2.5	1/2.5
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2

Mechanical latch blocks LA6DK must not be fitted on LC1F contactors.  
For similar type of operation, use magnetic latching contactors CR1F.  
See pages B9/28 to B9/33.

(1) LC1SF1200KUE, LC1SF1200MD are available.

# TeSys Control

## F High power contactors

### Characteristics

a.c. or d.c. control circuit characteristics with LXE coil <sup>(1)</sup>					
Contactor type			LC1F115, F150	LC1F185, F225	LC1F265, F330
ECM <sup>(2)</sup> reference			LA4EM250FF	LA4EM250FG	LA4EM250FH
Coil reference			LXEFF250	LXEFG250	LXEFH250
Rated control circuit voltage (U <sub>c</sub> )	50/60 Hz	<b>V</b>	100...250		
	---	<b>V</b>	100...380		
Control voltage limits (< 55 °C) 50/60 Hz	Operation	<b>V</b>	85...275		
	Drop-out	<b>V</b>	< 60		
	---	<b>V</b>	85...418		
	Drop-out	<b>V</b>	< 45		
Average consumption at 20 °C and at U <sub>c</sub>	Inrush 50/60 Hz	<b>VA rms</b>	280...310	280...310	300...350
		Cos φ	0.5...0.6		
	---	<b>W</b>	270...320	270...320	300...310
	Sealed 50/60 Hz	<b>VA</b>	4.5...7.0	4.5...7.0	4.5...7.0
		Cos φ	0.5...0.6		
	---	<b>W</b>	2.5...4.0	2.5...4.0	2.5...4.0
Embedded PLC <sup>(4)</sup> input according IEC 61131-2 type 2	Off state	<b>V DC</b>	0...5		
	On state		11...30		
Heat dissipation		<b>W</b>	2.2...5.5		
Operating time	Closing "C"	<b>ms</b>	40...80		
	Opening "O"	<b>ms</b>	6...54		
Mechanical durability at U <sub>c</sub>	In millions of operating cycles		10		
Maximum operating rate at ambient temperature ≤ 55 °C	In operating cycles per hour		2400		
Connection <sup>(5)</sup>	Flexible cable without cable end	1 conductor	0.2/2.5		
	Flexible cable with cable end	1 conductor	0.25/2.5		
	Solid cable without cable end	1 conductor	0.2/2.5		
	Solid cable with cable end	1 conductor	0.2/2.5		
Tightening torque		<b>N.m</b>	0.6		

- (1) LXE coil shall be always used along with Electronic Control Module (ECM) **LA4EM250●●**.  
(2) Electronic Control Module enables wider coil operating voltage for the F range of contactors. ECM **LA4EM250●●** shall be always used along with suitable type of **LXE●●250** coils.  
(3) **LC1SF1200KUE** is supplied with **LA4EM250FK** & **LXEFK250**.  
(4) PLC control connectors shall be provided by customer (Type MC 1.5/2-ST-3.81).  
(5) Connection input is made to Electronic control module (ECM).

COORD.

Ref.



High power contactors

# TeSys Control

## F High power contactors

### Characteristics

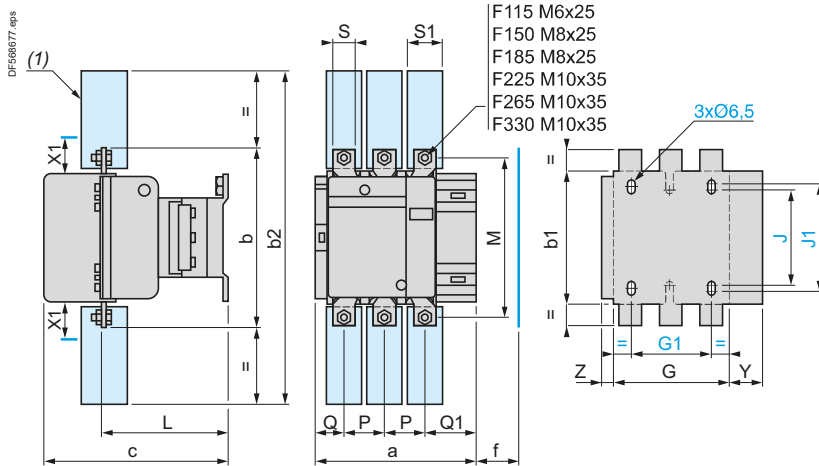
LC1F400	LC1SF500, LC1SF1200 <sup>(3)</sup>	LC1SF630, LC1F1250	LC1F800
LA4EM250FJ	LA4EM250FK	LA4EM250FL	LA4EM250FW
LXEFJ250	LXEFK250	LXEFL250	LXEFW250
100...250			
100...380			-
85...275			
< 60			
85...418			
< 45			
360...470	360...550	460...730	460...730
0.5...0.6			
410...450	410...500	500...680	-
4.5...7.0	5.0...8.0	7...10	7...10
0.5...0.6			
2.5...4.0	2.7...5.0	4.0...5.5	-
0...5			
11...30			
2.2...5.5			
40...80			
6...54			
10	10/1	5/1	5
2400	2400/1200	1200	600
0.2/2.5			
0.25/2.5			
0.2/2.5			
0.6			

# TeSys Control

## F High power contactors

### Dimensions

#### LC1F115 to F330



X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

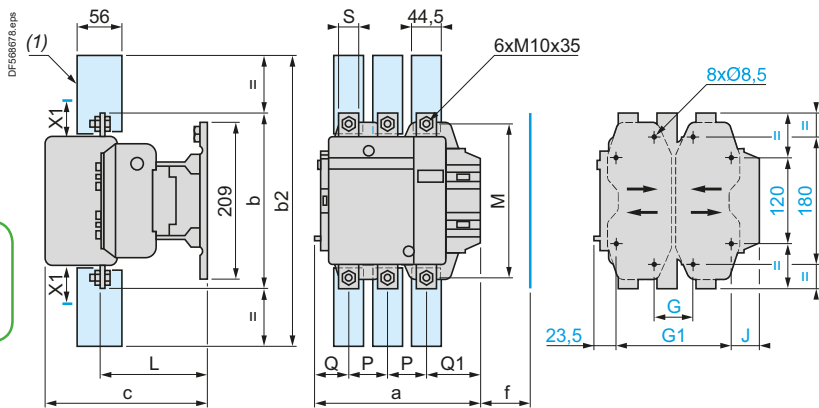
LC1	200...500 V	600...1000 V
F115, F150	10	15
F185	10	15
F225, F265	10	15
F330	10	15

(1) Power terminal protection shroud (see page B9/14).

LC1	a	b	b1	b2	c	f	G	G1	J	J1	L	M	P	Q	Q1	S	S1	Y	Z	
F115	3P	163.5	162	137	265	171	131	106	80	106	120	107	147	37	29.5	60	20	26	44	13.5
	4P	200.5	162	137	265	171	131	143	80	106	120	107	147	37	29.5	60	20	26	44	13.5
F150	3P	163.5	170	137	301	171	131	106	80	106	120	107	150	40	26	57.5	20	34	44	13.5
	4P	200.5	170	137	301	171	131	143	80	106	120	107	150	40	26	55.5	20	34	44	13.5
F185	3P	168.5	174	137	305	181	130	111	80	106	120	113.5	154	40	29	59.5	20	34	44	13.5
	4P	208.5	174	137	305	181	130	151	80	106	120	113.5	154	40	29	59.5	20	34	44	13.5
F225	3P	168.5	197	137	364	181	130	111	80	106	120	113.5	172	48	21	51.5	25	44.5	44	13.5
	4P	208.5	197	137	364	181	130	151	80	106	120	113.5	172	48	17	47.5	25	44.5	44	13.5
F265	3P	201.5	203	145	375	213	147	142	96	106	120	141	178	48	39	66.5	25	44.5	38	21.5
	4P	244.5	203	145	375	213	147	190	96	106	120	141	178	48	34	66.5	25	44.5	38	16.5
F330	3P	213	206	145	375	219	147	154.5	96	106	120	145	181	48	43	74	25	44.5	38	20.5
	4P	261	206	145	375	219	147	202.5	96	106	120	145	181	48	43	74	25	44.5	38	20.5

f = minimum distance required for coil removal.

#### LC1F400 and F500



X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

LC1	200...500 V	600...1000 V
F400	15	20
F500	15	20

(1) Power terminal protection shroud (see page B9/14).

LC1	a	b	b2	c	f	G	G	G	G1	G1	G1	J	L	M	P	Q	Q1	S	
						supplied min.	max.		supplied min	max.									
F400	2P	213	206	375	219	146	80	66	102	170	156	192	19.5	145	181	48	69	96	25
	3P	213	206	375	219	146	80	66	102	170	156	192	19.5	145	181	48	43	74	25
	4P	261	206	375	219	146	80	66	150	170	156	240	67.5	145	181	48	43	74	25
F500	2P	233	238	400	232	150	80	66	120	170	156	210	39.5	146	208	55	76	102	30
	3P	233	238	400	232	150	80	66	120	170	156	210	39.5	146	208	55	46	77	30
	4P	288	238	400	232	150	140	66	175	230	156	265	34.5	146	208	55	46	77	30

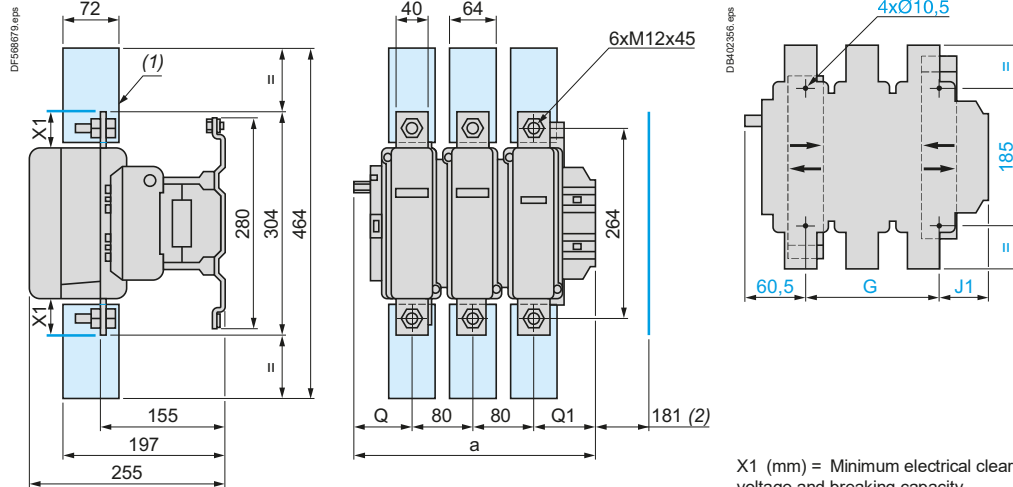
f = minimum distance required for coil removal.

# TeSys Control

## F High power contactors

### Dimensions

#### LC1F630 and F800



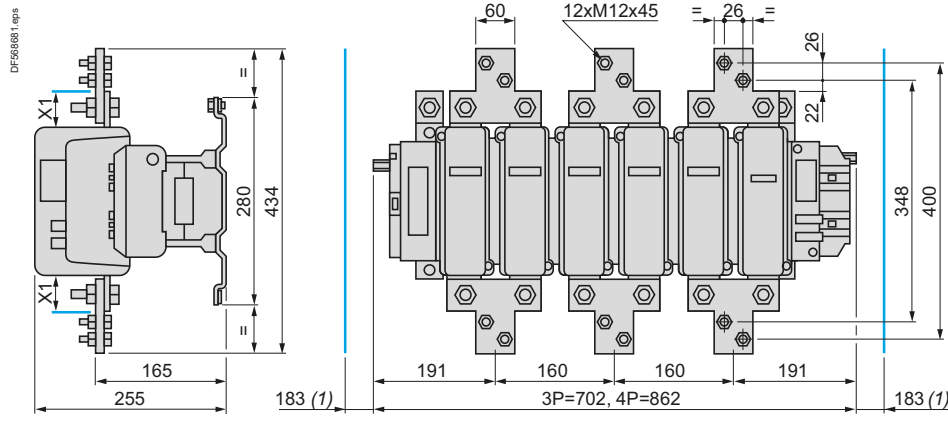
X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

LC1		a	G	G	G	J1	Q	Q1
			supplied min.	max.				
F630	2P	309	180	100	195	68.5	102	127
F630, F800	3P	309	180	100	195	68.5	60	89
F630	4P	389	240	150	275	88.5	60	89

LC1F630	20	30	–	–
LC1F800	–	–	10	20

(1) Power terminal protection shroud (see page B9/14).  
 (2) Minimum distance required for coil removal.

#### LC1F780



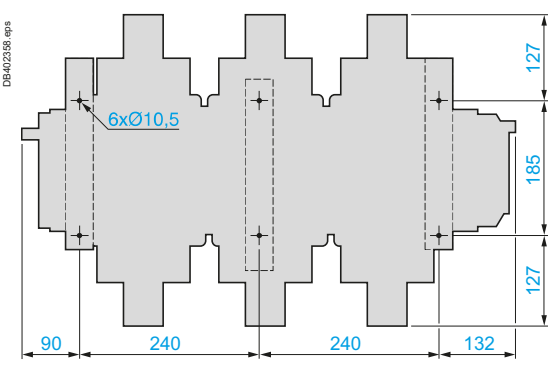
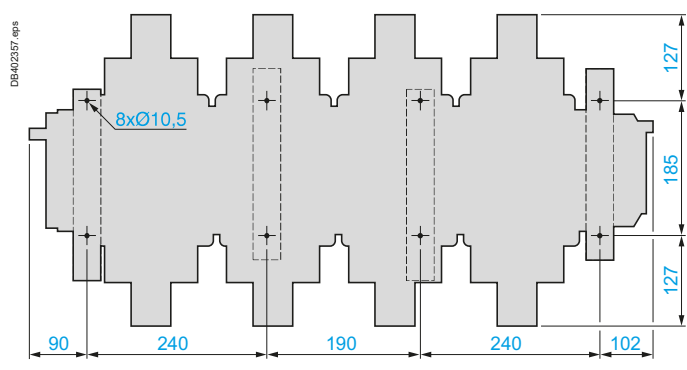
X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

(1) Minimum distance required for coil removal.

#### Fixing centres of LC1F780

Voltage	200...500 V	690...1000 V
X1 (mm)	30	35

#### Fixing centres of LC1F780



References: pages B9/2 to B9/9

Characteristics: pages B9/44 to B9/51

Schemes: page B9/62

Ref.



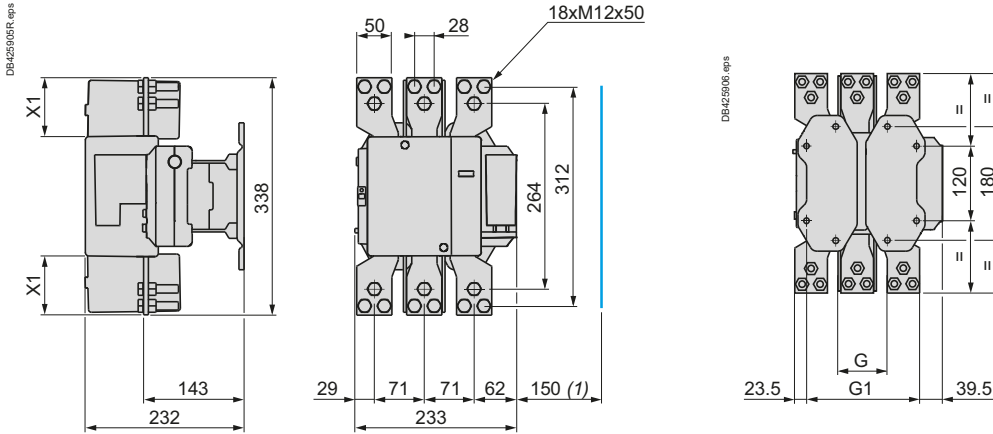
High power contactors

# TeSys Control

## F High power contactors

### Dimensions

#### LC1SF1200



(1) Minimum distance required for coil removal.

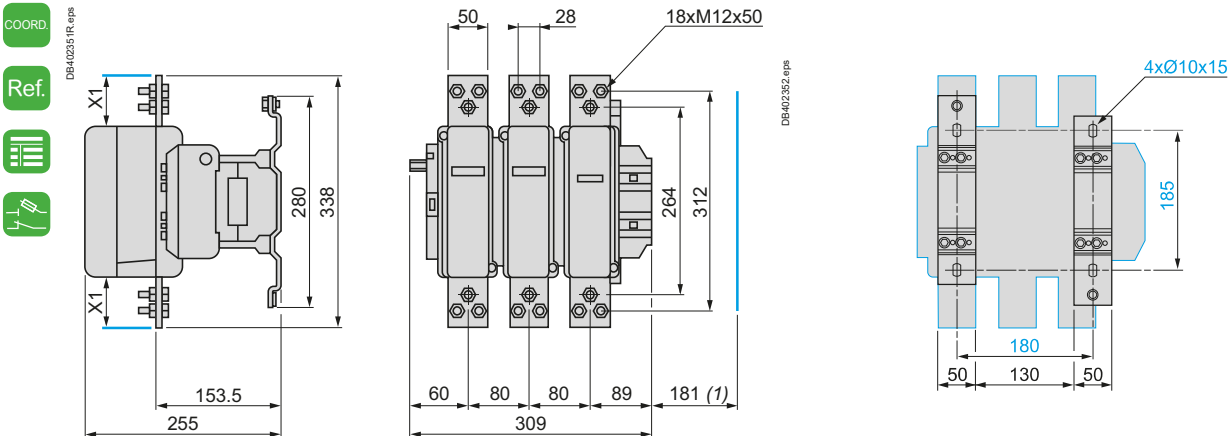
X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

Voltage	200...500 V	≤ 690 V
X1 (mm)	20	30

G (2)	Gmin	Gmax	G1 (2)	Gmin	Gmax
80	66	120	170	156	210

(2) Factory setting.

#### LC1F1250



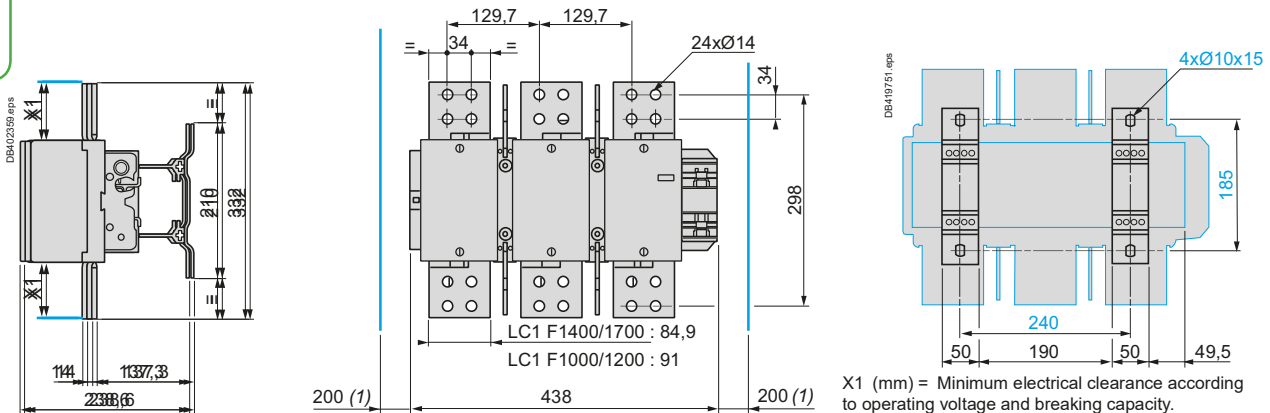
(1) Minimum distance required for coil removal.

X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

Voltage	200...500 V	690...1000 V
X1 (mm)	20	30

High power contactors

#### LC1F1000, LC1F1400, LC1F1700 and LC1F2100



(1) Minimum distance required for coil removal.

X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

Voltage	200...500 V	690...1000 V
X1 (mm)	90	100

Coordination tables:  
pages A6/36 to A6/45

References:  
pages B9/2 to B9/9

Characteristics:  
pages B9/44 to B9/51

Schemes:  
page B9/62

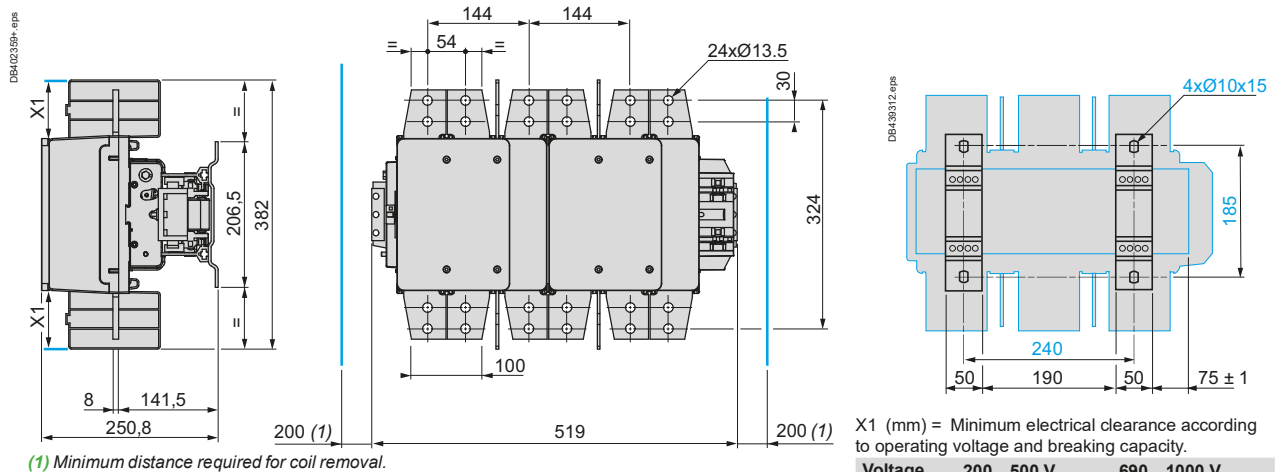


# TeSys Control

## F High power contactors

### Dimensions

#### LC1F2600



X1 (mm) = Minimum electrical clearance according to operating voltage and breaking capacity.

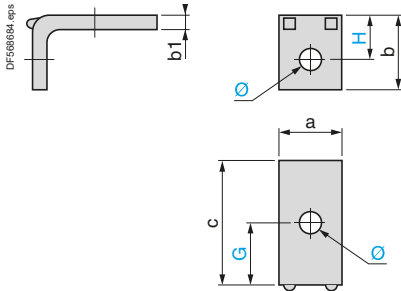
<b>Voltage</b>	<b>200...500 V</b>	<b>690...1000 V</b>
X1 (mm)	90	100

# TeSys Control

## F High power contactors - Accessories

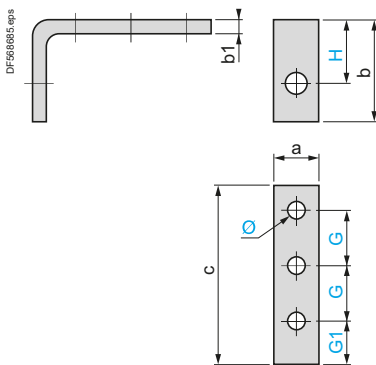
### Dimensions

#### Right-angled connectors LA9F●981 (set of 3) for rear connection



LA9	FF981	FG981	FJ981	FK981	FL981
a	15	20	25	30	40
b	18	23	29	35	48
b1	3	3	4	5	8
c	42	45	55	52	86
G	24	26	32.5	26	45
H	10.5	13	16.5	20	28
Ø	6.5	9	11	11	13

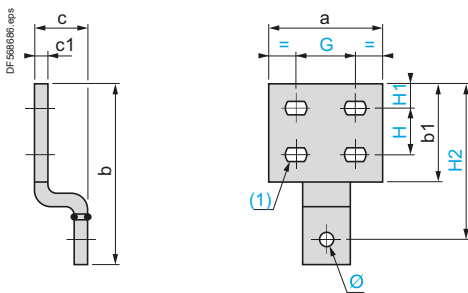
#### Right-angled connectors LA9F●979 (set of 3) for side connection



LA9	FF979	FG979	FJ979	FK979	FL979
a	15	20	25	30	40
b	54	58	63.5	68	117
b1	5	5	6	6	10
c	80	92	120	120	130
G	24	28	37	37	37.5
G1	20	22	29	29	35
H	36	39	41	42	76
Ø	6.5	9	11	11	13

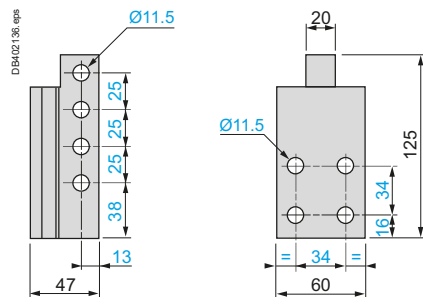
Ref.

#### Right-angled connectors LA9F●980 with large surface area (set of 3)

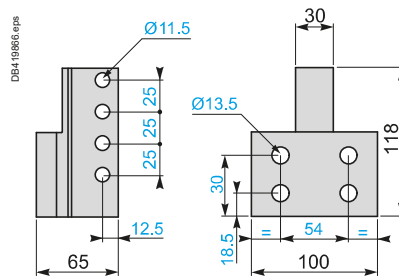


LA9	FF980	FG980	FJ980	FK980	FL980
a	35	40	50	60	100
b	70.5	82.5	98.5	114	154
b1	40	45	55	65	85
c	29	29	33	33	43
c1	3	3	5	5	10
G	18	20	25	29	53
H	18	20	22	26	40
H1	10	12	14	17	20
H2	60.5	72.5	84.5	97	132
Ø	6.5	9	11	11	13
(1)	Ø7 x 10	Ø9 x 12	Ø11 x 14	Ø12.5 x 15	Ø12.5 x 15

#### Right-angled connectors LA9F2100 (set of 6) for rear connection



#### Right-angled connectors LA9F2600 (set of 6) for rear connection



High power contactors

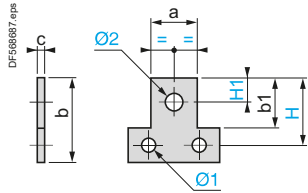
# TeSys Control

## F High power contactors - Accessories

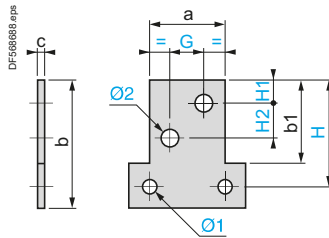
### Dimensions

#### Paralleling links (set of 4)

##### LA9FG602, FH602



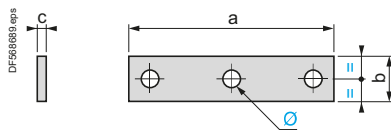
##### LA9FK602, FL602



	LA9	FF602	FG602	FH602	FK602	FL602
a	25	30	40	50	60	
b	45	55	60	85	100	
b1	30	35	40	55	65	
c	4	5	8	10	10	
G	-	-	-	22	26	
H	37.5	45	52.5	70	85	
H1	12.5	15	15	14	17	
H2	-	-	-	22	26	
Ø1	6.5	9	11	11	13	
Ø2	11	11	13	11	14	

#### Links for "star" connection of 3 poles

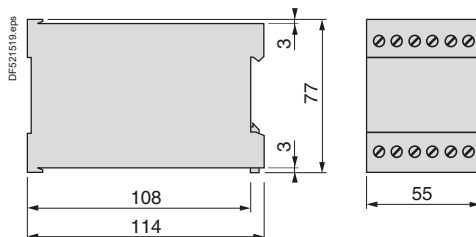
##### LA9F601



	LA9	FF601	FG601	FH601	FK601	FL601
a	69	100	121	140	200	
b	15	20	20	30	40	
c	3	3	5	5	8	
Ø	6.5 x 8.5	8.5 x 10.5	10.5 x 13	11	13	

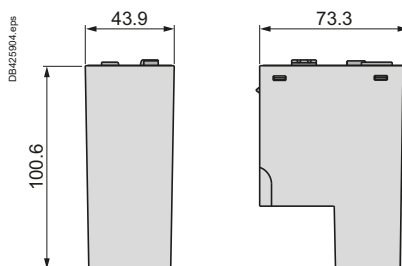
#### Capacitive delayed opening devices for F contactors

##### LAZR9●●



#### Electronic Control Module for LXE●●250 coils

##### LA4EM250●●



References:  
pages B9/12 and B9/13

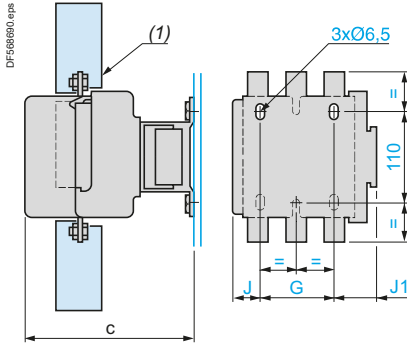
# TeSys Control

## F High power contactors

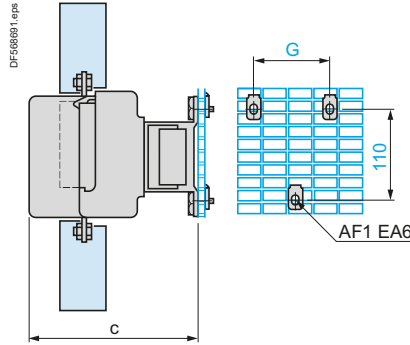
### Mounting

#### LC1F115 to F330

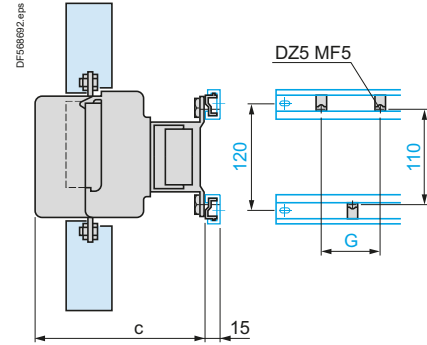
On panel



On pre-slotted mounting plate AM1PA, PB, PC



On rails DZ5MB on 120 mm centres



	LC1	F115 F150	F185 F225	F265	F330
c <sup>(2)</sup>	3P	171	181	213	219
	4P	171	181	213	219
G	3P	80	80	96	96
	4P	80	80	96	96
J	3P	26.5	29	44.5	44.5
	4P	45	49	68.5	68.5
J1	3P	57	59.5	61.5	61.5
	4P	75.5	79.5	85.5	85.5

	LC1	F115 F150	F185 F225	F265	F330
c <sup>(2)</sup>	3P	171	181	213	219
	4P	171	181	213	219
G	3P	80	80	96	96
	4P	80	80	96	96

	LC1	F115 F150	F185 F225	F265	F330
c <sup>(2)</sup>	3P	171	181	213	219
	4P	171	181	213	219
G	3P	80	80	96	96
	4P	80	80	96	96

COORD.

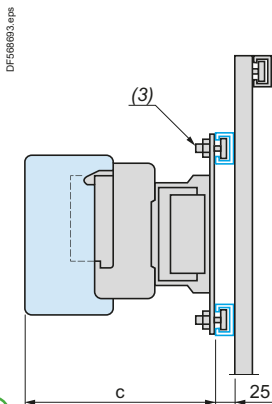
Ref.



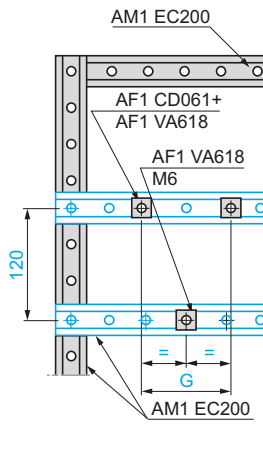
High power contactors

#### LC1F

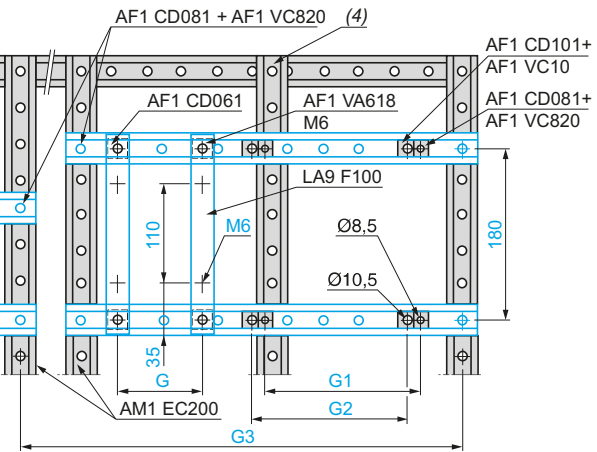
On 2 notched rails AM1EC●●●



#### LC1F115 to F330



#### LC1F400 to F800



	LC1	F115, F150	F185, F225	F265	F330	F400	F500	F630	F780	F800
c	3P	165 <sup>(5)</sup>	176	207	213	219	232	255	255	255
	4P	165 <sup>(5)</sup>	176	207	213	219	232	255	255	-
G (M6)	3P	80	80	96	96	-	-	-	-	-
	4P	80	80	96	96	-	-	-	-	-
G1 (Ø 8.5)	3P	-	-	-	-	80	80	-	-	-
	4P	-	-	-	-	80	140	-	-	-
G2 (Ø 10.5)	3P	-	-	-	-	-	-	180	See page B9/55	180
	4P	-	-	-	-	-	-	240	See page B9/55	-

(1) Power terminal protection shroud (see page B9/14).

(2) See X1 (minimum electrical clearance) pages B9/54 and B9/55.

(3) AF1CD●●● and AF1VA●●●.

(4) This AM1EC200 upright is required when G2 or G3 is greater than 700 mm (please consult your Regional Sales Office).

(5) + 6 mm with time-delay block on LC1F.

# TeSys Control

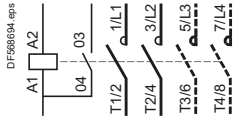
## F High power contactors

### Schemes

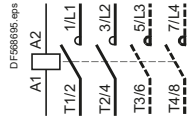
#### Contactors

2, 3 and 4-pole contactors

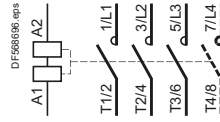
LC1F115 to F630, F1250  
(coil LX1F ~)



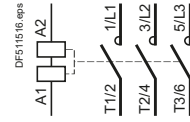
LC1F115 to F630, F1250 (coil LX4F ~)  
LC1F115 to F265 (coil LX9F ~)  
LC1F800 (coil LX8 F ~ / ~)



LC1F780 ~ or ~



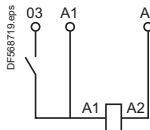
LC1F1000  
LC1F1400 ~ or ~, LC1F1700 ~ or ~  
LC1F2100 ~ or ~, LC1F2600 ~ or ~



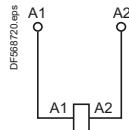
#### Coils

Standard ~ coils

LX1FJ...FL  
LX1FH0422...FH3802

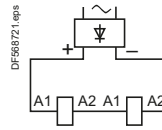


LX1FH0202...FH0362  
LX1FH4402...FH10002  
LX1F8●



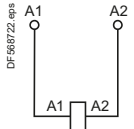
LX1FX

Rectifier supplied and fixed on the contactor



Standard ~ coils

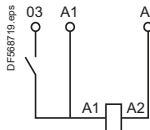
LX4FF, FG, FH, FJ, FK, FL, FX <sup>(1)</sup>, LX4F8●



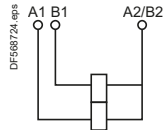
(1) 2 coils in series.

Special ~ coils

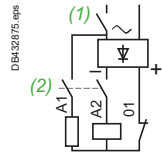
LX9FF, FG



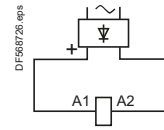
LX9FH●●●2



LX9FJ, FK, FL



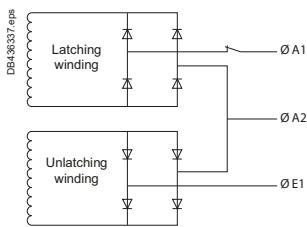
LX4F8●



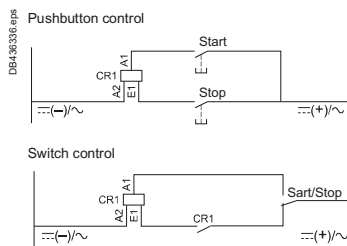
(1) Breaking on ~ side. Drop-out time 50 ms.  
(2) Breaking on ~ side. Drop-out time 20 ms.

Specific wiring diagrams for CR1F contactors

Internal latching/unlatching diagram

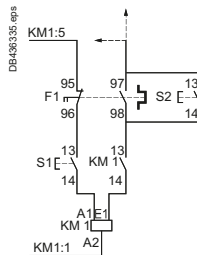
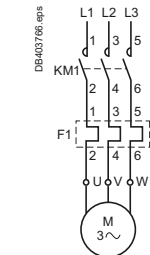


Control diagrams



Warning: terminal A2 is common to both windings in all cases.

Contactors CR1F with thermal overload relay



Coordination tables:  
pages A6/36 to A6/45

References:  
pages B9/2 to B9/9

Characteristics:  
pages B9/44 to B9/51

Dimensions:  
pages B9/54 to B9/56

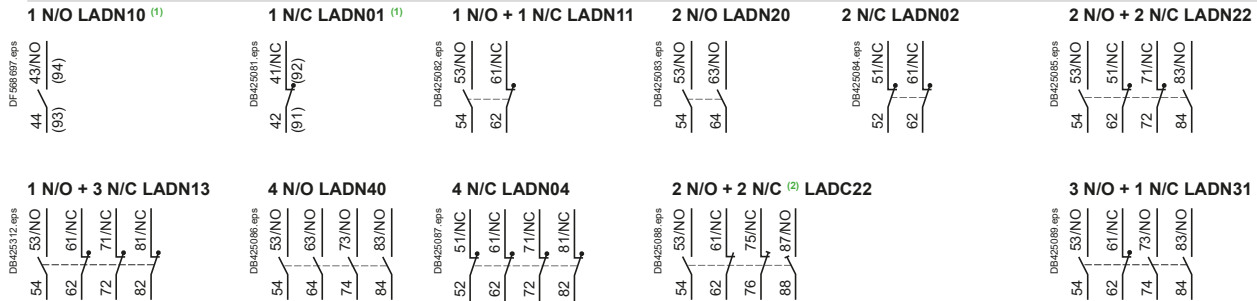
# TeSys Control

## F High power contactors

### Schemes

#### Add-on blocks

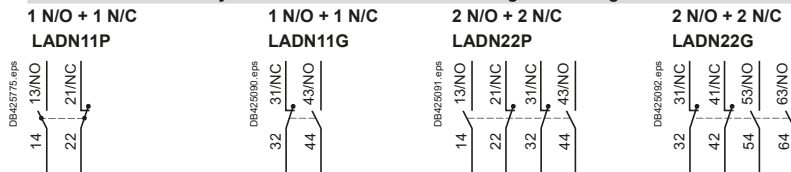
##### Instantaneous auxiliary contacts



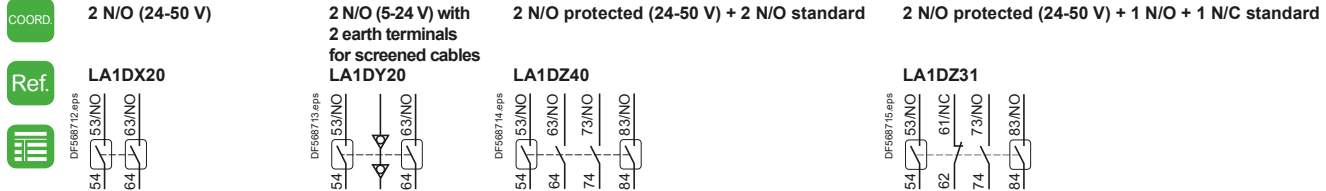
<sup>(1)</sup> Items in brackets: See "D contactors".

<sup>(2)</sup> 1 N/O + 1 N/C make before break.

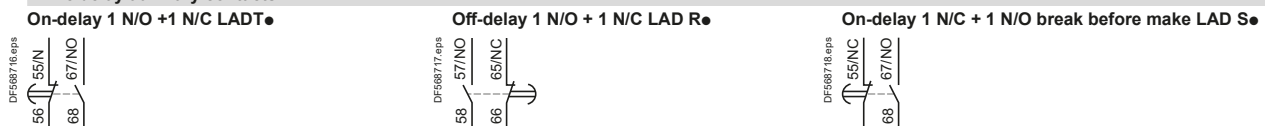
##### Instantaneous auxiliary contacts with terminal referencing conforming to standard EN 50012 (References: pages B9/10 and B9/11)



##### Dust and damp protected instantaneous auxiliary contacts



##### Time delay auxiliary contacts



##### Capacitive delayed opening devices for F contactors

###### LAZR9●● + LC1F

