Motor starters

TeSys E

Designed for the essential

Schneider Electric

Designed for the essential

Contents

TeSys E contactors,
6 A to 300 A

TeSys E thermal overload relays
0.1 A to 333 A

TeSys E control relays
4 NO/NC contacts

Coordination between protection
and control components

TeSys E: control & protection,

Leader in the motor starter market for more than 80 years, Schneider Electric has designed TeSys E range to provide you with the competitive solutions you were expecting.

TeSys E starters range is the perfect compromise between quality, features and price.

A cost-effective offer

> The best price for the performance and quality level you need.
> A maximum of solutions with an optimal number of products.
> Designed to perform the essential starter's functions: control and overload protection.

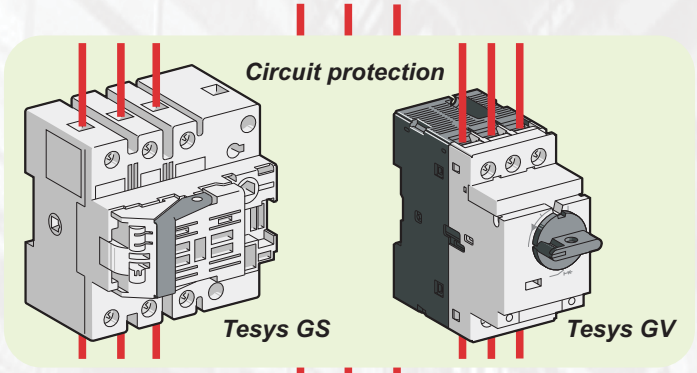
Simple and intuitive

> Easy to install.
> Covering 80 % of applications.
> With the key accessories to easily build lots of Do-It-Yourself solutions.
> With an intuitive commercial references system: easy to order, easy to understand and easy to remember.

Guaranteed availability

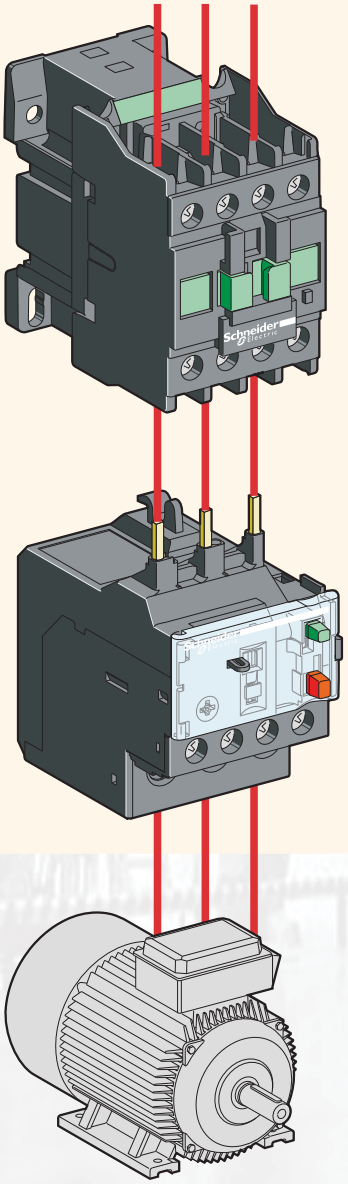
> Available in distribution.
> TeSys E fully benefits from Schneider Electric world wide policies: in terms of standards of production, distribution, quality, availability, services and after-sales support.

in a simple way

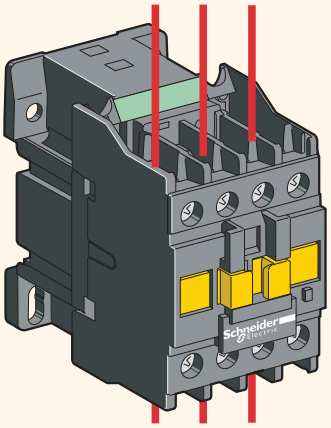


TeSys E offer

Power control & protection



Circuit control



TeSys E: contactors

> TeSys E contactors,
6 A to 300 A

> TeSys E thermal overload relays
0.1 A to 333 A

> TeSys E control relays
4 NO/NC contacts

> Coordination between protection and control components

> Glossary, definitions, technical information

and relays

Control your motors, Do It Yourself simply your solution:
direct-on-line starter, reversing starter, star-delta starter

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Footprint for complete compatibility with contactors
(direct mounting under contactors)

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Better continuity of service

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TeSys E 3 pole contactors



Size		1					2		3		
Rated operational current AC3	**A**	6	9	12	18	25	32	38	40	50	65
Rated operational current AC1	**A**	20	25		32	36	50		60	70	80
Rated operational power in AC-3 220/230 V	**kW**	1.1	2.2	3	4	5.5	7.5	9	11	15	18.5
380/400 V		2.2	4	5.5	7.5	11	15	18.5	18.5	22	30
415/440 V		2.2	4	5.5	9	11	15	18.5	22	25/30	37
500 V		3	5.5	7.5	10	15	18.5	18.5	22	30	37
690 V		3	5.5	7.5	10	15	18.5	18.5	30	33	37
Width	**mm**	45					56		75		
Coil rated operating voltage		24...440 V AC according to the coil voltage code (see below)									
Auxiliary built in contact		1 NO or 1 NC							1 NO + 1 NC		
References (1)		**LC1E06**	**LC1E09**	**LC1E12**	**LC1E18**	**LC1E25**	**LC1E32**	**LC1E38**	**LC1E40**	**LC1E50**	**LC1E65**

(1) Partial, see below.

Coil voltage code

	24	48	110	220	240	380	415	440
50 Hz	B5	E5	F5	M5	U5	Q5	N5	R5
60 Hz	B6	-	F6	M6	-	Q6	-	R6

Contactor: how to determine the full commercial reference ?

Example:

LC1E	12	10	U	5	**ref. LC1E1210U5**
				5	50 Hz
				Coil voltage code	240 V
				Auxiliary contact configuration (2)	01 1NC 10 1NO N/A 1NO+1NC
				Rated operation current AC3	12 A
				Contactor	TeSys E

Example 1: you need a 32 A contactor, 1 NC auxiliary contact, 24 V - 50 Hz coil ⇨ **LC1E3201B5**

Example 2: you need a 120 A contactor, 1 NC + NO auxiliary contact, 220 V - 50 Hz coil ⇨ **LC1E120M5**

(2) Only up to LC1E38.

from 6 to 300 A




4		5		6		7
80	95	120	160	200	250	300
110	120	150	200	250	300	320
22	25	37	45	55	75	90
37	45	55	90	110	132	160
45	45	55	90	110	132	160
45	55	75	90	110	132	160
45	45	75	90	110	132	160
85		120		168.5		213
1 NO + 1 NC				-		
LC1E80	**LC1E95**	**LC1E120**	**LC1E160**	**LC1E200**	**LC1E250**	**LC1E300**

Common characteristics

> Contactors compatible with:


LAEN● auxiliary contact blocks
(see page 16)


LAETSD time delay auxiliary contact (from 25 A contactor)
(see page 16)


LAERC●● RC switch suppressor (up to 95 A)
(see page 15)


LAEM● mechanical interlock
(see page 15)

LAEP● set of power connections (up to 95 A)
(see page 15)

Utilisation categories

> Class AC-1: AC loads with cos φ at least equal to 0.95 (resistive load, heating, distribution, etc.).

> Class AC-3: squirrel-cage motors with breaking taking place with the motor running.

TeSys E contactors
6 to 300 A
Power characteristics

Power circuit characteristics

Contactor type				LC1E06	LC1E09	LC1E12	LC1E18
Number of poles				3			
Rated operational current (Ie) (Ue ≤ 440 V)		In AC-3 (θ ≤ 60 °C)	A	6	9	12	18
		In AC-3 (θ ≤ 55 °C)					
		In AC-1 (θ ≤ 60 °C)		20	25		32
		In AC-1 (θ ≤ 40 °C)		–			
Rated operational voltage (Ue)		Up to	V	690			
Frequency limits		Of the operational current	Hz	50/60			
Conventional thermal current (Ith)		θ ≤ 60 °C	A	20	25		32
		θ ≤ 40 °C					
Rated breaking capacity at 440 V		Conforming to IEC 60947	A	48	72	96	144
Rated making capacity at 440 V		Conforming to IEC 60947-4-1	A	60	90	120	180
Permissible short time rating No current flowing for preceding 15 minutes with θ ≤ 40 °C		10 s	A	80	105		145
		1 min		45	61		84
		10 min		20	30		40
Maximum permissive current No current flowing for previous 60 minutes, at θ ≤ 40 °C		For 10 s	A	–			
Protection by fuses against short-circuits (U ≤ 690 V)	Without thermal overload relay gG fuse	Type 1	A	12	20	25	35
	With thermal overload relay			For corresponding aM or gG fuse ratings corresponding to the associated LRE● thermal overload relay, please see page 33			
Average impedance per pole		At Ith and 50 Hz	mΩ	2.5			
Power dissipation per pole for the above operational currents		AC-3	W	0.09	0.20	0.36	0.81
		AC-1		1.0	1.6		2.6
Electrical durability		AC-3 (Ue ≤ 440 V)	Million cycles	1.4			1.2
		AC-1 (Ue ≤ 440 V)		0.15		0.3	
		AC-4 (Ue ≤ 440 V)		0.04			0.035
Mechanical durability				10			

Power circuit connections

Connection maximum c.s.a.

Flexible cable with cable end	1 conductor	mm^2	1...4		
	2 conductors		1...2.5		
Solid cable without cable end	1 conductor	mm^2	1...4		1.5...6
	2 conductors		1...4		1.5...6
Cable with lug		mm	–		
Bar	Number of bars		–		
	Bar	mm x mm	–		
Bolt diameter	1 conductor	mm	–		
Tightening torque	Power circuit connection	N.m	1.2		
Tool			Philips N°2 or Ø6mm flat		

	LC1E25	LC1E32	LC1E38	LC1E40	LC1E50	LC1E65	LC1E80	LC1E95	LC1E120	LC1E160	LC1E200	LC1E250	LC1E300
	25	32	38	40	50	65	80	95	–				
									120	160	200	250	300
	36	50		60	70	80	110	120	–				
									150	200	250	300	320
	36	50		60	70	80	110	120	–				
									150	200	250	300	320
	200	256	304	320	400	520	640	760	960	1280	1600	2000	2400
	250	320	380	400	500	650	800	950	1200	1600	2000	2500	3000
	240	260	310	320	400	520	640	800	–				
	120	138	150	165	208	260	320	400	–				
	50	60		72	84	110	135		–				
									1100	1400	1500	1800	2200
	40	63		80	100	125	160		250	315			500
									–				
	2.5			1.5		1	0.8		0.6		0.33	0.32	0.3
	1.6	2.0	2.9	2.4	3.8	4.2	5.1	7.2	8.6	15	13	20	27
	3.2	5.0		5.4	7.4	6.4	9.7	12	14	24	21	29	31
		1	0.9						0.8				
	0.35								0.25				
		0.03	0.025						0.012	0.007	0.006	0.005	
		8		5			3		4		5		
	1...6			2.5...25			4...50		10...120		–		
	1...4			2.5...10			4...16		10...120 + 10...50		–		
				2.5...25			4...50		10...120		–		
				2.5...16			4...50		10...120 + 10...50		–		
											150	185	240
											2		
											3 x 25	4 x 32	5 x 30
											M8	M10	
	1.5	2.1		5			9		12		18	35	
				Ø8mm flat			Ø8mm flat or Allen key n°4		Allen key n°4		Wrench		

TeSys E contactors
6 to 300 A
Control circuit: coil characteristics
Built in auxiliary contact

Control circuit: coil characteristics with a.c. supply

Contactor type					LC1E06	LC1E09	LC1E12	LC1E18
Rated control circuit voltage (Uc) 50/60 Hz				V	24...440 according coil voltage code			
Control voltage limits (θ ≤ 55 °C)								
	50 Hz or 60 Hz coils	Operational			0.85...1.1 Uc			
		Drop-out			0.3...0.6 Uc			
Average consumption at 20°C and at Uc								
	∿ 50 Hz coils	Inrush	coil	VA	95			
			cos φ		0.75			
		Sealed	coil	VA	8.5			
			cos φ		0.3			
	∿ 60 Hz coils	Inrush	coil	VA	95			
			cos φ		0.75			
		Sealed	coil	VA	8.5			
			cos φ		0.3			
Heat dissipation				W	2.3			
Operating time		Closing "C"		ms	12...22			
		Opening "O"			4...19			
Electrical durability (AC-3)		AC-3 (Ue ≤ 440 V)		In millions of operating cycles	1.2...1.4			
		AC-1 (Ue ≤ 440 V)			–			
Mechanical durability at Uc					10			
Maximum operating rate at ambiant temperature ≤ 60 °C				In operating cycles per hour	1800			
Maximum operating rate at ambiant temperature ≤ 55 °C					–			

Control circuit connections

Connection maximum c.s.a.

Flexible cable without cable end	1 or 2 conductors	mm²	1...4	
Flexible cable with cable end	1 conductor	mm²	1...4	
	2 conductors		1...2.5	
Solid cable without cable end	1 or 2 conductors	mm²	1...4	
Tightening torque		N.m	1.7	
Screwdriver			Philips N° 2 - Ø6 mm flat	

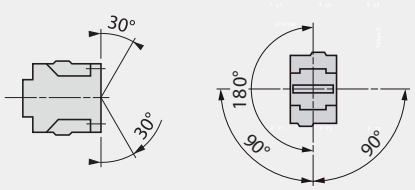
Built in auxiliary contact

Contacts conforming to	IEC 60947-5-1		LC1E06...E38: contactor's own 1NO or 1NC LC1E40...E160: contactor's own 1NO and 1NC
Rated operational voltage (Ue)	Up to	V	690
Rated insulation voltage (Ui)	Conforming to IEC 60947-1		690
Conventional thermal current (Ith)	Ambient air temperature ≤ 60 °C	A	10
Operating current frequency		Hz	50/60 Hz
Minimum switching capacity λ = 10^{-8}	U min	V	17
	I min	mA	5
Short-circuit protection	Conforming to IEC 60947-5-1		gG fuse: 10 A
Raked making capacity	Conforming to IEC 60947-1	A	∿: 140
Short-time rating	Permissible for 1 s	A	100
	500 ms		120
	100 ms		140
Insulation resistance		MΩ	>10
Non-overlap time	Guaranteed between N/C and N/O contacts	ms	1.5 on energisation and on de-energisation

	LC1E25	LC1E32	LC1E38	LC1E40	LC1E50	LC1E65	LC1E80	LC1E95	LC1E120	LC1E160	LC1E200	LC1E250	LC1E300
									24...440 according coil voltage code				
									–				
	70			160			200		300		805		650
									0.8	0.9	0.3		0.9
	7			15			20		22		55		10
									0.3	0.9	0.3		0.9
	70			140			220		300		970		650
									0.8	0.9	0.3		0.9
	7.5			13			22		22		66		10
										0.9	0.3		0.9
				6...10					3...8		18...24		8
				20...26			20...35		20...50		–		40...65
				8...12			6...20		6...20		7...15		100...170
		1		0.9					0.8				
									0.4				
		8		5					3				
				1200					–				
									1200				
									1...2.5		1...4		
									1...2.5				
									1...2.5		1...4		
				1.2					1.2				

TeSys E contactors
6 to 300 A

Environment

Contactor type				LC1E06...E18	LC1E25...E38
Rated insulation voltage	(Ui)	Conforming to IEC 60947-4-1, overvoltage category III, degree of pollution: 3	V	690	
Rated impulse withstand voltage	(Uimp)	Conforming to IEC 60947	kV	6	
Conforming to standards				IEC 60947-4-1, IEC 60947-5-1	
Product certifications				GOST	
Degree of protection		Conforming to IEC 60529		IP20	
Protective treatment		Conforming to IEC 60068		"TH"	
Ambiant air temperature around the device		Storage	°C	-60...+80	
		Operation		-5...+55	
		Permissible at UC (2)		-20...+70	
Maximum operating altitude		Without derating	m	3000	
Operating positions		Without derating		±30° in relation to normal vertical mounting plane 	
Flame resistance		Conforming to IEC 60695-2-1	°C	850 °C	
Shock resistance (3)		Contactor open		7 gn	6 gn
1/2 sinewave = 11 ms		Contactor closed		10 gn	
Vibration resistance (3)		Contactor open		1.5 gn	
5...300 Hz		Contactor closed		3 gn	

(1) Derating, please call your regional sales.
(2) Derating see page 49.
(3) Without change of contact states, in the most unfavorable direction (coil energised at Ue).

Installation recommandations

Avoid fire, product damage or power loss with a safe enclosure

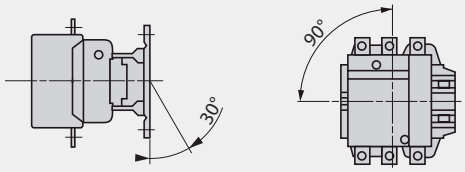
Severe conditions such as dust, humidity, high temperature can result in people or equipments exposed to serious risks if the suitable protection of the electrical components is not taken.

Spacial CRN steel enclosures is one of our solutions
A complete offer with 39 dimensions from 200 x 200 x 150 mm to 1000 x 800 x 300 mm:
- with plain door, without plain mounting plate
- with plain door and plain mounting plate
- with glazed door, without plain mounting plate.

- Degree of protection IP 66.
- Compliance with standard IEC 62208.
- A wide range of accessories to fit to all your applications.

Spacial CRN, suitable for any application
Indoors with harsh and dirty environments like machines, manufacturing plants, and logistic centers.

Specific optional devices re-enforce the protection: fans, filters.

	LC1E40...E65	LC1E80...E95	LC1E120...E160	LC1E200...E300
			8	
				IEC 60947-4-1
				IP00
				–
				
	7 gn			

TeSys E contactors

TeSys E contactors for motor control up to 160 kW at 400 V, in category AC-3

LC1E06

LC1E65

LC1E120

LC1E300

3-pole contactors

Standard power ratings of 3-phase motors 50/60 Hz in category AC-3					Rated operational current in AC-3 440 V up to	Instantaneous auxiliary contacts		Basic reference, to be completed by adding the control voltage code	Weight
220 V	380 V								
230 V	400 V	415 V	500 V	690 V				Fixing [1]	
kW	kW	kW	kW	kW	A				kg
Connection by screw clamp terminals									
1.1	2.2	2.2	3	3	**6**	1	0	**LC1E0610●●**	0.300
1.1	2.2	2.2	3	3	**6**	0	1	**LC1E0601●●**	0.300
2.2	4	4	5.5	5.5	**9**	1	0	**LC1E0910●●**	0.300
2.2	4	4	5.5	5.5	**9**	0	1	**LC1E0901●●**	0.300
3	5.5	5.5	7.5	7.5	**12**	1	0	**LC1E1210●●**	0.300
3	5.5	5.5	7.5	7.5	**12**	0	1	**LC1E1201●●**	0.300
4	7.5	9	10	10	**18**	1	0	**LC1E1810●●**	0.300
4	7.5	9	10	10	**18**	0	1	**LC1E1801●●**	0.300
5.5	11	11	15	15	**25**	1	0	**LC1E2510●●**	0.360
5.5	11	11	15	15	**25**	0	1	**LC1E2501●●**	0.360
7.5	15	15	18.5	18.5	**32**	1	0	**LC1E3210●●**	0.450
7.5	15	15	18.5	18.5	**32**	0	1	**LC1E3201●●**	0.450
9	18.5	18.5	18.5	18.5	**38**	1	0	**LC1E3810●●**	0.450
9	18.5	18.5	18.5	18.5	**38**	0	1	**LC1E3801●●**	0.450
11	18.5	22	22	30	**40**	1	1	**LC1E40●●**	0.980
15	22	25/30	30	33	**50**	1	1	**LC1E50●●**	0.980
18.5	30	37	37	37	**65**	1	1	**LC1E65●●**	0.980
22	37	45	45	45	**80**	1	1	**LC1E80●●**	1.520
25	45	45	55	45	**95**	1	1	**LC1E95●●**	1.520
37	55	55	75	75	**120**	1	1	**LC1E120●●**	2.300
45	90	90	90	90	**160**	1	1	**LC1E160●●**	2.300
Connection by bars									
55	110	110	110	110	**200**	0	0	**LC1E200●●**	4.600
75	132	132	132	132	**250**	0	0	**LC1E250●●**	4.700
90	160	160	160	160	**300**	0	0	**LC1E300●●**	8.500

Control voltage code								
Volts	**24**	**48**	**110**	**220**	**240**	**380**	**415**	**440**
LC1E06...300								
50 Hz	B5	E5	F5	M5	U5	Q5	N5	R5
60 Hz	B6	-	F6	M6	-	Q6	-	R6

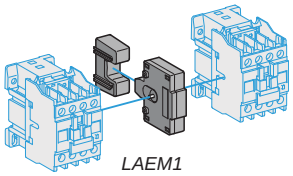
Seperate components

Auxiliary contact blocks, add-on modules and accessories, see pages 15 to 17.

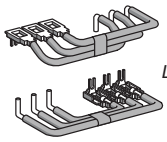
Coil spare parts

For maintenance, each coil can be ordered separatly, see page 18 to 21.

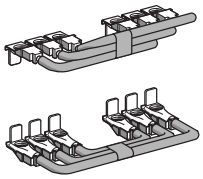
(1) LC1E06 to E65: clip-on mounting on 35 mm ⊐ rail AM1 DP or screw fixing.
LC1E80 to E95: clip-on mounting on 35 mm ⊐ rail AM1DP or 75 mm ⊐ rail AM1 DL or screw fixing.
LC1E120 and E160: clip-on mounting on 2 x 35 mm ⊐ rail AM1 DP or screw fixing.



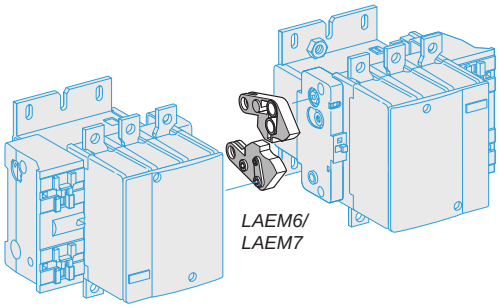
LAEM1



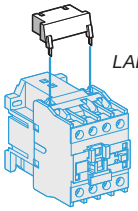
LAEP3



LAEP4



LAEM6/
LAEM7



LAERC●

LC1E●●

Accessories for motor reverse assembly

Contactors with screw clamp terminals

Using 2 identical contactors	Set of power connections		Mechanical interlock	
	Cat. no.	Weight kg	Cat. no.	Weight kg
Mechanical interlock				
LC1E06...E12	**LAEP1**	0.020	**LAEM1**	0.030
LC1E18/E25	**LAEP12**	0.026	**LAEM1**	0.030
LC1E32/E38	**LAEP2**	0.040	**LAEM1**	0.030
LC1E40...E65	**LAEP3**	0.230	**LAEM1**	0.030
LC1E80/E95	**LAEP4**	0.465	**LAEM4**	0.095
LC1E120/E160	– (*DIY*) (1)		**LAEM5**	0.300
LC1E200/E250	– (*DIY*) (1)		**LAEM6**	0.110
LC1E300	– (*DIY*) (1)		**LAEM7**	0.250

(1) DIY : Do It Yourself.

RC surge suppressor

■ Effective protection for circuits highly sensitive to "high frequency" interference and transcient generated when the contactor coil is switched off. For use only in cases where the voltage is virtually sinusoidal, i.e. less than 5 % total harmonic distortion.
■ Voltage limited to 3 Uc max. and oscillating frequency limited to 400 Hz max.
■ Slight increase in drop-out time (1.2 to 2 times the normal time).

Mounting	For use with contactor		Cat. no.	Weight
	Rating	Type		
		V~		kg
Screw mounting	LC1E06...E95	24...48	**LAERCE**	0.025
		50...127	**LAERCG**	0.025
		110...240	**LAERCU**	0.025
		380...415	**LAERCN**	0.025

TeSys E contactors
Accessories for LC1E contactor

LAEN22

Instantaneous auxiliary contact blocks for connection by screw lamps terminals

For use in normal operating environment

Clip-on mounting	Number of contacts per block	Cat. no.	Weight kg
Front	1 NO / 1 NC	**LAEN11**	0.035
	2 NO	**LAEN20**	0.035
	2 NC	**LAEN02**	0.035
	2 NO / 2 NC	**LAEN22**	0.060

LAETSD

Time delay auxiliary contact blocks for connection by screw clamp terminals 8 A - 690 V

Clip-on mounting	Number of contacts per block	Time delay Type	Setting range	Cat. no. (1)	Weight kg
Front	1 NO / 1 NC	On-delay	**1...30 s**	**LAETSD**	0.060

(1) For use only LC1E25 to LC1E300.

Instantaneous and time delay contact characteristics

Contact block type				LAEN11, 20, 02, 22			LAETSD		
Number of contacts				2 or 4			2		
Rated operational voltage (Ue)	Up to		V	690					
Rated insulation voltage (Ui)	Conforming to IEC 60947-5-1			690					
Conventional thermal current (Ith)	For ambient temperature θ ≤ 60 °C		A	8					
Frequency of the operational current			Hz	50/60					
Minimum switching capacity		U min	V	17					
		I min	mA	5					
Short-circuit protection	Conforming to IEC 60947-5-1		A	10					
Rated making capacity	Conforming to IEC 60947-5-1		Irms	∿ 140					
Short-time rating	Permissible for	1 s	A	100					
		500 ms		120					
		100 ms		140					
Insulation resistance			mΩ	> 10					
Non-overlap time	Guaranteed between NC and NO contacts		ms	1.5 (on energisation and on de-energisation)					
Overlap time	Guaranteed between LAE N22 N/C and N/O contacts		ms	–					
Time delay	Ambient air temperature for operation		°C	–			-20...+70		
	Repeat accuracy			–			±2 %		
	Drift up to 0.5 million operating cycles			–			+15 %		
	Drift depending on ambient air temperature			–			0.25 % per °C		
Mechanical durability			In millions of operating cycles	10			4		
Rated operational power of contacts (Conforming to IEC 60947-5-1)	a.c. supply categories AC14/15		V	24	48	115	230	400	440
	1 million operating cycles		VA	60	120	280	560	960	1050
	3 million operating cycles			16	32	80	160	280	300
	10 million operating cycles			4	8	20	4	70	80

Environment

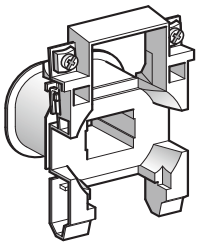
Contact block type			LAEN11, 20, 02, 22	LAETSD
Conforming to standard			IEC 60947-5-1	
Product certifications			GOST	
Protective treatment	Conforming to IEC 60068		"TH"	
Degree of protection	Conforming to IEC 60529		IP20	
Ambiant air temperature	Storage	°C	-60...+80	
	Operation		-5...+55	
	Permissible for operation at Uc		-20...+70	
Maximum operating altitude	Without derating	m	3000	
Connection by cable	Philips N° 2 and Ø 6 mm. Flexible or solid cable with or without cable end	mm^2	Min: 1 x 1 Max: 2 x 2.5	

Accessories compatibility

Contactor	Built in contacts	LAEN●●	LAETSD	LAERC●	LAEM	LAEP●
LC1E06 LC1E09 LC1E12 LC1E18	1 NO or 1NC	1	-	1	1	1
LC1E25 LC1E32 LC1E38	1 NO or 1NC	1 or 1				
LC1E40 LC1E50 LC1E65 LC1E80 LC1E95	1 NO + 1NC	1 or 1				
LC1E120 LC1E160	1 NO + 1NC	1 or 1		-		DIY (1)
LC1E200 LC1E250 LC1E300	-	2 or 0 1 or 1		-		DIY (1)

(1) Do It Yourself.

TeSys E contactors
Coil replacement for TeSys E, LC1E06 to E38



LAEX1●●

For 3-pole contactors LC1E06...E18

Specifications

Average consumption at 20 °C:
- inrush (cos φ = 0.75) 50 Hz: 95 VA; 60 Hz: 95 VA
- sealed (cos φ = 0.3) 50 Hz: 8.5 VA; 60 Hz: 8.5 VA

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

Control circuit voltage Uc	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Weight
V	Ω	H	50 Hz	Ω	H	60 Hz	kg
24	8.70	0.24	**LAEX1B5**	7.80	0.15	**LAEX1B6**	0.056
48	37.0	1.00	**LAEX1E5**	-	-	**-**	0.056
110	190	4.64	**LAEX1F5**	170	3.07	**LAEX1F6**	0.056
220	750	19.7	**LAEX1M5**	690	11.6	**LAEX1M6**	0.056
240	890	23.4	**LAEX1U5**	-	-	**-**	0.056
380	2250	58.3	**LAEX1Q5**	2110	35.4	**LAEX1Q6**	0.056
415	2610	69.0	**LAEX1N5**	-	-	**-**	0.056
440	2690	78.2	**LAEX1R5**	2760	50.7	**LAEX1R6**	0.056

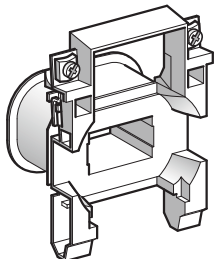
For 3-pole contactors LC1E25

Specifications

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

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

Control circuit voltage Uc	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Weight
V	Ω	H	50 Hz	Ω	H	60 Hz	kg
24	5.37	0.21	**LAEX12B5**	5.37	0.18	**LAEX12B6**	0.067
48	21.7	0.84	**LAEX12E5**	-	-	**-**	0.067
110	124	4.41	**LAEX12F5**	124	3.68	**LAEX12F6**	0.067
220	515	17.6	**LAEX12M5**	516	14.7	**LAEX12M6**	0.067
240	562	21.0	**LAEX12U5**	-	-	**-**	0.067
380	1550	52.6	**LAEX12Q5**	1550	43.8	**LAEX12Q6**	0.067
415	1690	62.8	**LAEX12N5**	-	-	**-**	0.067
440	1990	70.6	**LAEX12R5**	1990	58.9	**LAEX12R6**	0.067



LAEX2●●

For 3-pole contactors LC1E32/E38

Specifications

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

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

Control circuit voltage Uc	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Weight
V	Ω	H	50 Hz	Ω	H	60 Hz	kg
24	5.37	0.21	**LAEX2B5**	5.37	0.18	**LAEX2B6**	0.073
48	21.7	0.84	**LAEX2E5**	-	-	**-**	0.073
110	124	4.41	**LAEX2F5**	124	3.68	**LAEX2F6**	0.073
220	515	17.6	**LAEX2M5**	516	14.7	**LAEX2M6**	0.073
240	562	21.0	**LAEX2U5**	-	-	**-**	0.073
380	1550	52.6	**LAEX2Q5**	1550	43.8	**LAEX2Q6**	0.073
415	1690	62.8	**LAEX2N5**	-	-	**-**	0.073
440	1990	70.6	**LAEX2R5**	1990	58.9	**LAEX2R6**	0.073

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

Coil replacement for TeSys E,
LC1E40 to E160

For 3-pole contactors LC1E40...E65

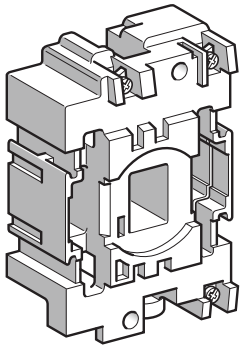
Specifications

Average consumption at 20 °C:
- inrush (cos φ = 0.75): 50 Hz: 160 VA; 60 Hz: 140 VA
- sealed (cos φ = 0.3) 50 Hz: 15 VA; 60 Hz: 13 VA

Operating range (θ ≤ 60 °C): 0.85...1.1 Uc

Control circuit voltage Uc	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Weight
V	Ω	H	50 Hz	Ω	H	60 Hz	kg
24	1.98	0.12	**LAEX3B5**	1.98	0.10	**LAEX3B6**	0.110
48	7.97	0.48	**LAEX3E5**	-	-	**-**	0.110
110	42.3	2.51	**LAEX3F5**	42.3	2.09	**LAEX3F6**	0.110
220	182	10.0	**LAEX3M5**	182	8.36	**LAEX3M6**	0.110
240	202	12.0	**LAEX3U5**	-	-	**-**	0.110
380	512	30.3	**LAEX3Q5**	512	25.3	**LAEX3Q6**	0.110
415	635	35.8	**LAEX3N5**	-	-	**-**	0.110
440	682	40.1	**LAEX3R5**	682	33.4	**LAEX3R6**	0.110

For 3-pole contactors LC1E80/E95



LAEX4●●

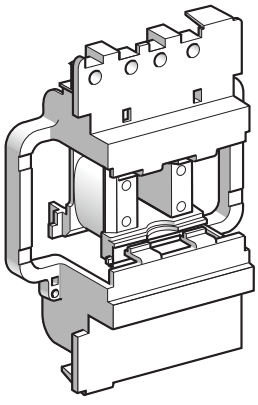
Specifications

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

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

Control circuit voltage Uc	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Weight
V	Ω	H	50 Hz	Ω	H	60 Hz	kg
24	1.4	0.09	**LAEX4B5**	1.05	0.06	**LAEX4B6**	0.145
48	5.5	0.35	**LAEX4E5**	-	-	**-**	0.145
110	31.0	1.90	**LAEX4F5**	22.0	1.20	**LAEX4F6**	0.145
220	127	7.50	**LAEX4M5**	98	4.80	**LAEX4M6**	0.145
240	152	8.70	**LAEX4U5**	-	-	**-**	0.145
380	381	22.0	**LAEX4Q5**	300	14.0	**LAEX4Q6**	0.145
415	463	26.0	**LAEX4N5**	-	-	**-**	0.145
440	513	30.0	**LAEX4R5**	392	19.0	**LAEX4R6**	0.145

For 3-pole contactors LC1E120/E160



LAEX5●●

Specifications

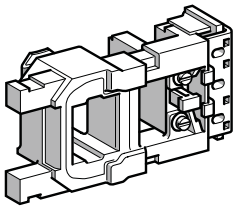
Average consumption at 20 °C:
- inrush (cos φ = 0.8) 50 Hz: 300 VA
- sealed (cos φ = 0.8) 50 Hz: 22 VA

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

Control circuit voltage Uc	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Weight
V	Ω	H	50 Hz	Ω	H	60 Hz	kg
24	1.24	0.09	**LAEX5B5**	0.87	0.07	**LAEX5B6**	0.210
48	4.51	0.36	**LAEX5E5**	-	-	**-**	0.210
110	26.5	2.00	**LAEX5F5**	20.0	1.45	**LAEX5F6**	0.210
220	105	7.65	**LAEX5M5**	79.6	5.69	**LAEX5M6**	0.210
240	125	8.89	**LAEX5U5**	-	-	**-**	0.210
380	339	22.3	**LAEX5Q5**	243	17.0	**LAEX5Q6**	0.210
415	368	27.7	**LAEX5N5**	-	-	**-**	0.210
440	442	30.3	**LAEX5R5**	339	22.3	**LAEX5R6**	0.210

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

TeSys E contactors
Coil replacement for TeSys E, LC1E200 to E300



LAEX6●●

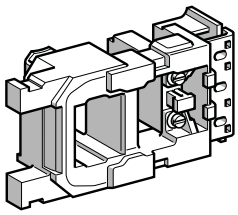
For 3-pole contactors LC1E200...E250

Specifications

Average consumption at 20 °C:
- inrush (cos φ = 0.9) 50 Hz: 805 VA; 60 Hz: 970 VA
- sealed (cos φ = 0.3) 50 Hz: 55 VA; 60 Hz: 66 VA

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

Control circuit voltage Uc	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Weight
V	Ω	H	50 Hz	Ω	H	60 Hz	kg
24	0.18	0.03	**LAEX6B5**	0.13	0.02	**LAEX6B6**	0.510
48	0.71	0.12	**LAEX6E5**	-	-	**-**	0.510
110	4.2	0.65	**LAEX6F5**	2.7	0.44	**LAEX6F6**	0.510
220	17	2.59	**LAEX6M5**	11.1	1.80	**LAEX6M6**	0.510
240	20	3.09	**LAEX6U5**	-	-	**-**	0.510
380	51.3	7.8	**LAEX6Q5**	34	5.3	**LAEX6Q6**	0.510
415	62.3	9.1	**LAEX6N5**	-	-	**-**	0.510
440	62.3	9.1	**LAEX6R5**	43.5	6.9	**LAEX6R6**	0.510



LAEX7●●

For 3-pole contactors LC1E300

Specifications

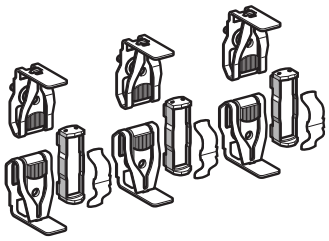
Average consumption at 20 °C:
- inrush (cos φ = 0.9) 50 Hz or 60 Hz: 650 VA
- sealed (cos φ = 0.3) 50 Hz or 60 Hz: 10 VA.

Heat dissipation: 8 W.
Operating time à Uc: closing = 40...65 ms, opening = 100...170 ms.
Operate on networks with harmonic numbers ≤ 7.
Operating cycles/hour (θ ≤ 55 °C): ≤ 2400

Control circuit voltage Uc	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Average resistance at 20 °C ±10 %	Inductance of closed circuit	Cat. no. (1)	Weight
V	Ω	H	50 Hz	Ω	H	60 Hz	kg
24	20	(2)	**LAEX7B5**	20	(2)	**LAEX7B6**	0.770
48	67	(2)	**LAEX7E5**	-	-	**-**	0.770
110	440	(2)	**LAEX7F5**	440	(2)	**LAEX7F6**	0.770
220	1578	(2)	**LAEX7M5**	1578	(2)	**LAEX7M6**	0.770
240	1968	(2)	**LAEX7U5**	-	-	**-**	0.770
380	4631	(2)	**LAEX7Q5**	4631	(2)	**LAEX7Q6**	0.770
415	4631	(2)	**LAEX7N5**	-	-	**-**	0.770
440	6731	(2)	**LAEX7R5**	6731	(2)	**LAEX7R6**	0.770

(1) The last two digits in the reference represent the voltage code.
(2) Please consult your Regional Sales Office.

Replacement contacts for TeSys E, LC1E120 to E300



LAEC6

Sets of contacts

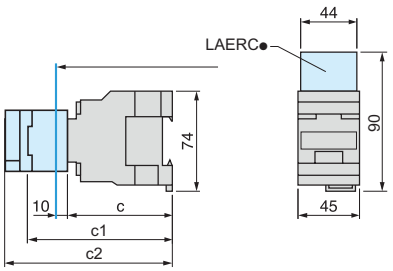
Per pole: 2 fixed contacts, 1 moving contact , 2 deflectors, 1 back-plate, clamping screws and washers.

For contactor	Type	Replacement for	Cat. no. 50 Hz	Weight kg
3-pole	LC1E120	3 poles	**LAEC5** (1)	0.350
	LC1E160	3 poles	**LAEC51** (1)	0.350
	LC1E200	3 poles	**LAEC6** (1)	0.350
	LC1E250	3 poles	**LAEC61** (1)	0.660
	LC1E300	3 poles	**LAEC7** (1)	2.000

(1) Available S1 2012.

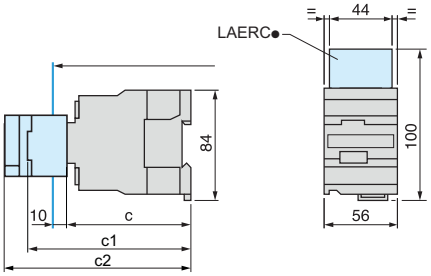
TeSys E contactors
LC1E06 to E95

LC1E06...E25



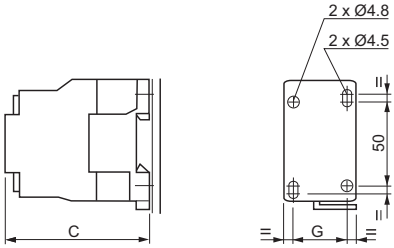
LC1	E06...E18	E25
c	80	85
c1 with LAEN	113	118
c2 with LAETSD	-	136

LC1E32/38



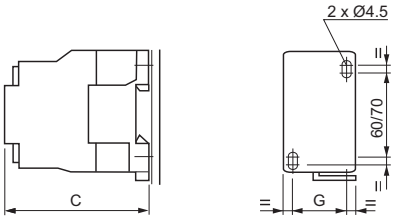
LC1	E32/38
c	86
c1 with LAEN	120
c2 with LAETSD	138

LC1E06...E25



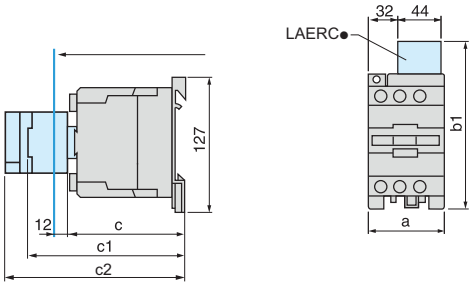
LC1	E06	E09	E12	E18	E25
c	80	80	80	80	85
G	35	35	35	35	35

LC1E32/38



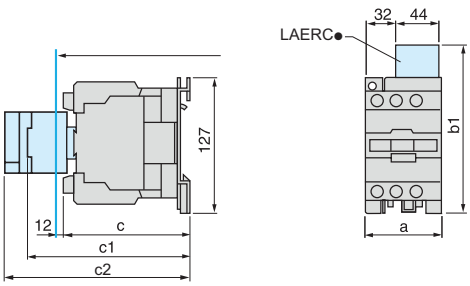
LC1	E32/38
c	86
G	40

LC1E40...E65



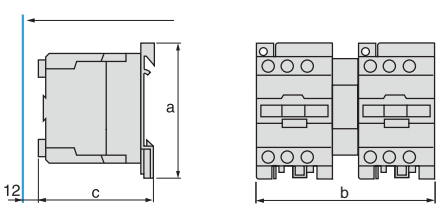
LC1		E40...E65
a		75
b1	with LAERC●	135
c		114
c1	with LAEN●	147
c2	with LAETSD	165

LC1E80/95



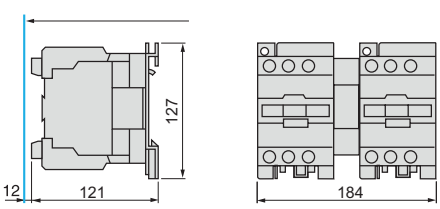
LC1		E80/95
a		85
b1	with LAERC●	135
c		121
c1	with LAEN●	153
c2	with LAETSD	171

2 x LC1E06...E65 with LAEM1



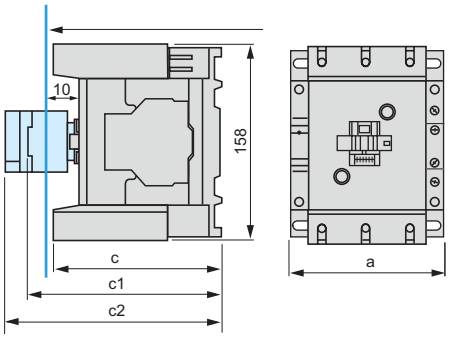
LC1	E06...25	E32...38	E40...65
a	74	84	127
b	104	126	164
c	80	86	114

2 x LC1E80/95 with LAEM4



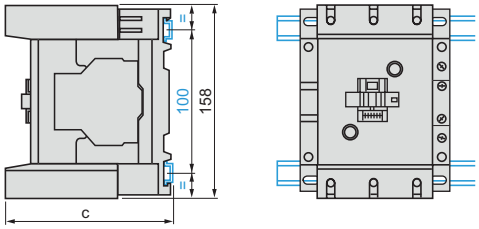
LC1E120/160

On panel with accessories



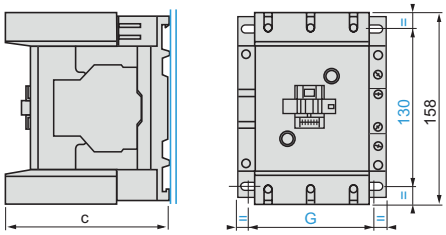
a		120
c	Without add-on blocks	132
c1	With LAEN	150
c2	With LAETSD	168

On 2 mounting rails DZ5 MB on 120 mm centres



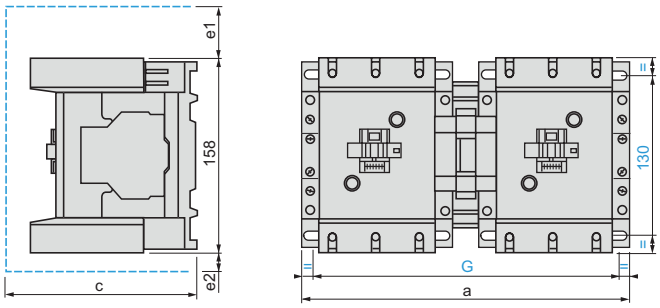
c	(AM1 DP200 or DR200)	134.5
c	(AM1 DE200 or ED●●●)	150

On Panel



		LC1E120	LC1E160
c	(AM1 DP200 or DR200)	132	132
G		91/110	96/110

2 x LC1E120 or LC160 with LAEM5

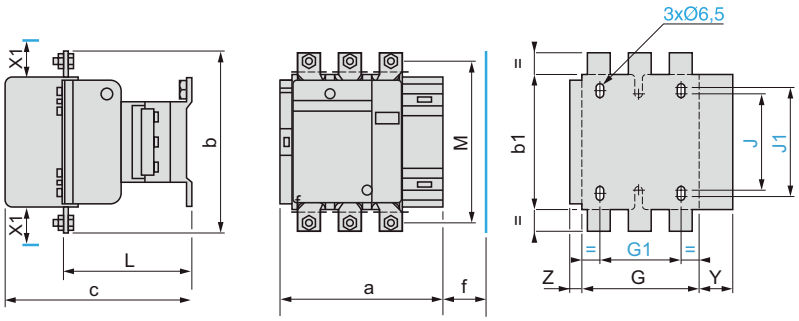


2 x LC1E120 or 160	a	c	e1	e2	G
For 120 and 160	266	148	56	18	242/256

c, e1 and e2: including cabing

LC1E200 - LC1E250 - LC1E300

On panel



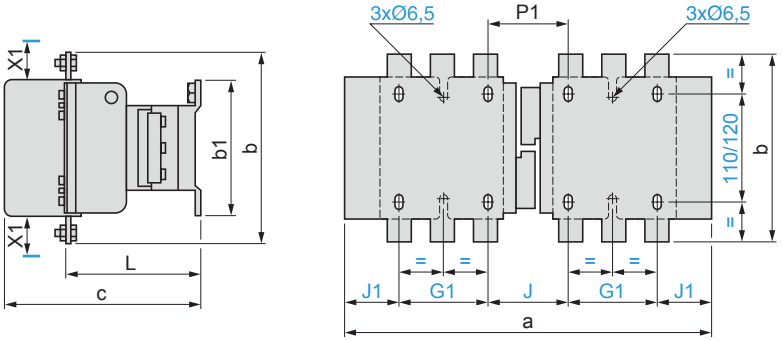
X1 (mm) = minimum electrical clearence according to operating voltage and breaking capacity.

	220...500 V	600...690 V
LC1E200	10	15
LC1E250, 300	10	15

	a	b	b1	c	f	G	G1	J	J1	L	M	P	Q	Q1	S	Y	Z
LC1E200	168.5	174	137	181	130	111	80	106	120	113.5	154	40	29	59.5	20	44	13.5
LC1E250	168.5	197	137	181	130	111	80	106	120	113.5	172	48	21	51.5	25	44	13.5
LC1E300	213	206	145	219	147	154.5	96	106	120	145	181	48	43	74	25	38	20.5

f = minimum distance required for coil removal.

2 x LC1E200 or LC1E250 with LAEM6 - 2 x LC1E300 with LAEM7



X1 (mm) = minimum electrical clearence according to operating voltage and breaking capacity.

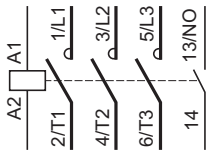
	220...500 V	600...690 V
LC1E200	10	15
LC1E250, 300	10	15

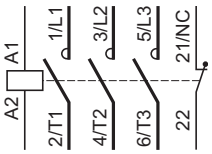
	a	b	b1	c	G1	J	J1	L	P1
2 x LC1E200	357	174	137	181	80	78	59.5	113.5	78
2 x LC1E250	357	197	137	181	80	78	59.5	113.5	62
2 x LC1E300	447	206	145	219	96	124	65.5	145	107

TeSys E contactors
LC1E06...300 A

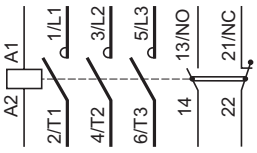
Contactors

LC1E06...38

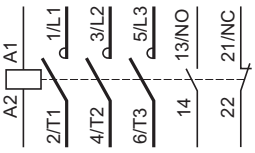




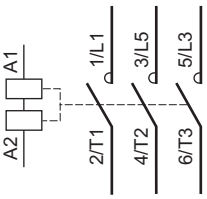
LC1E40...95



LC1E120/160



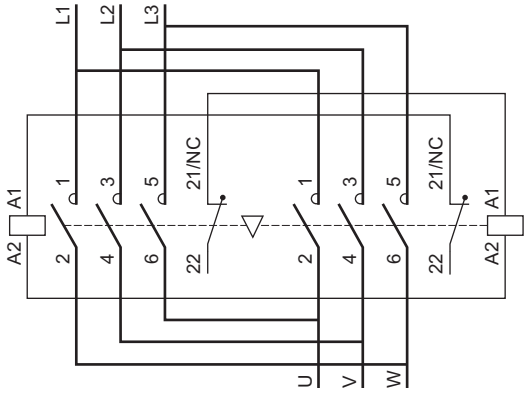
LC1E200, 250, 300



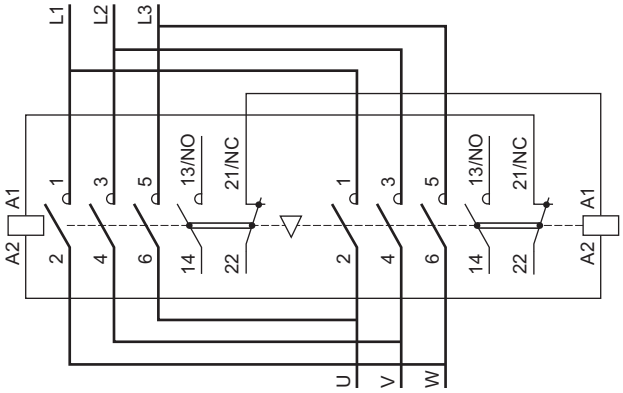
Reversing contactors

2 x LC1E06...38

Horizontaly mounted

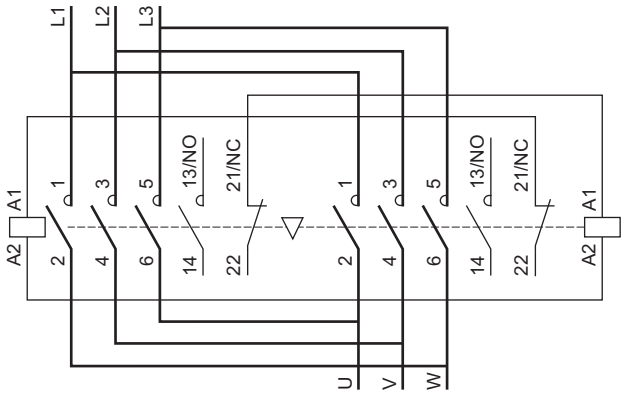


2 x LC1E40...95

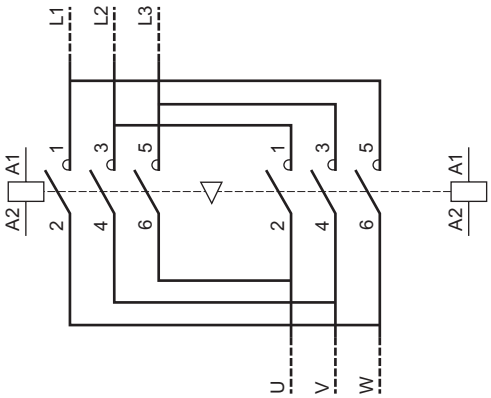


2 x LC1E120, 160

Horizontaly mounted

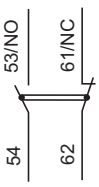


2 x LC1E200, 250, 300

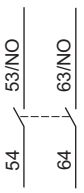


Front mounting add-on contact blocks

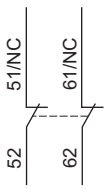
1NO + 1NC (LAEN11)



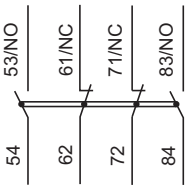
2NO (LAEN20)



2NC (LAEN02)



2NO +2NC (LAEN22)



Time delay auxiliary contacts

On delay 1NO + 1NC (LAETSD)

Mechanical interlock

LAEM●