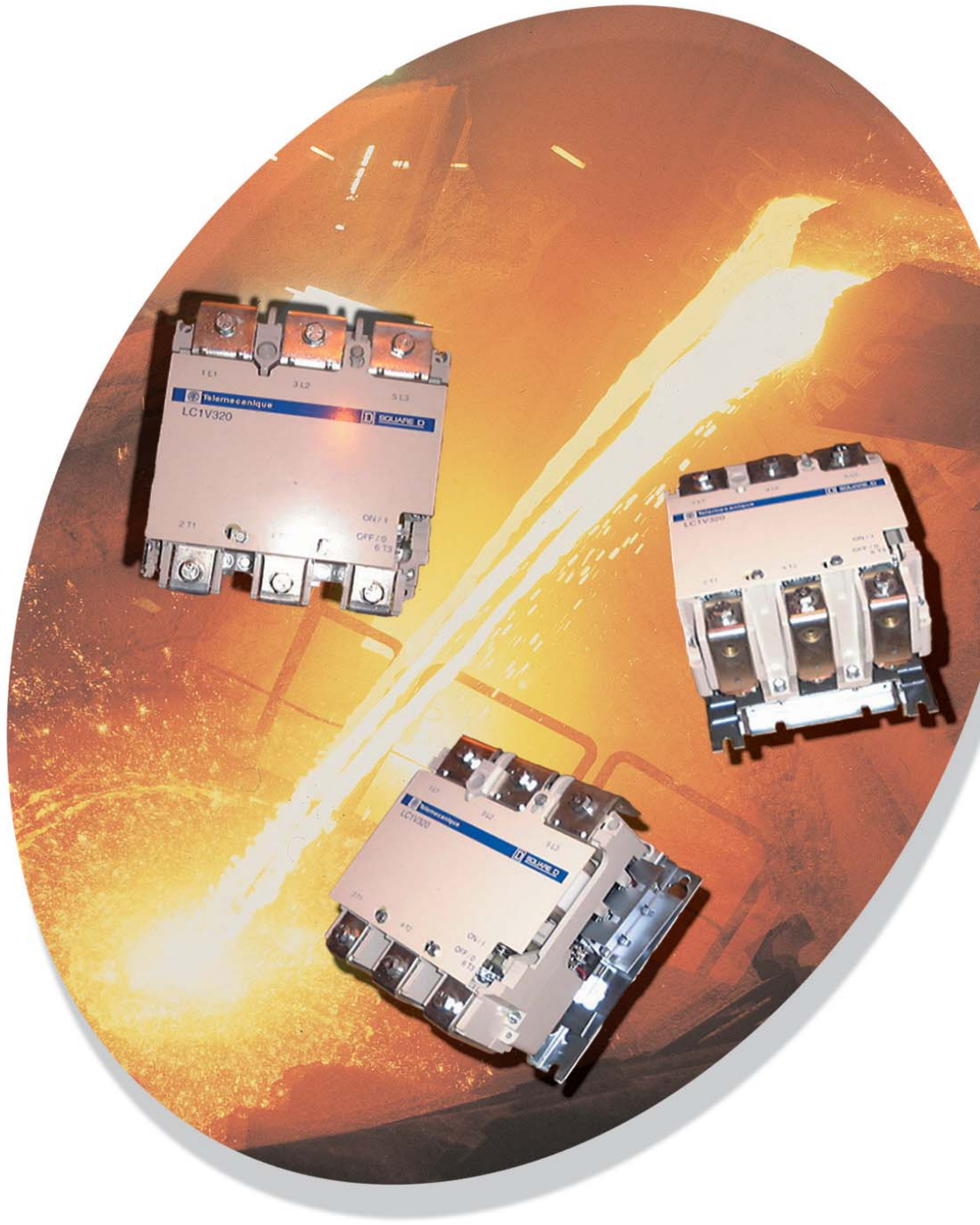


Schneider Electric

TeSys Vacuum Contactors



- Merlin Gerin
- Modicon
- Square D
- Telemecanique

Selection guide

Contactor size		LC1-V160	LC1-V320	LC1-V610
For utilisation category AC-3				
Maximum operational current in AC-3	A	160	320	610
Rated operational power P (standard power ratings of motors)	230 V kW	45	90	160
	400 V kW	75	160	300
	525 V kW	110	220	400
	690 V kW	150	280	560
	1000 V kW	200	400	800
	1500 V kW	280	600	930
For 3-phase motors conforming to CSA standards				
Rated operational power P (standard power ratings of 3-phase CSA motors)	200 V hp	50	100	150
	240 V hp	60	125	200
	380 V hp	100	200	300
	480 V hp	125	250	400
	600 V hp	150	300	500
	800 V hp	200	400	700
	1000 V hp	250	500	1000
	1500 V hp	400	800	1300
For switching 3-phase capacitors				
Rated operational power P	240 V kVAR	47	94	176
	480 V kVAR	95	190	356
	600 V kVAR	100	200	400
	1500 V kVAR	250	500	1000
For switching the primaries of 3-phase transformers (LV/LV)				
Rated operational power P	208 V kVA	20	41	81
	240 V kVA	23	47	94
	480 V kVA	47	94	188
	600 V kVA	59	117	234

Environment characteristics

Type			LC1-V160	LC1-V320	LC1-V610
Shock resistance (1/2 sine wave = 11 ms)	Contacts closed		10 gn	10 gn	10 gn
	Contacts open		10 gn	10 gn	10 gn
Vibration resistance	10... 500 Hz		2 gn	2 gn	2 gn
Operating altitude	Above sea level	Maximum	m 3600	3600	3600
	Below sea level	Minimum	m 2500	4500	4500
Ambient air temperature around the device	Storage	°C	- 40...+ 80	- 40...+ 80	- 40...+ 80
	For operation at 0.8... 1.1 Uc	°C	- 5...+ 55	- 5...+ 55	- 5...+ 55
	Permissible for operation at Uc	°C	- 10...+ 75	- 10...+ 75	- 10...+ 75
Degree of protection	Conforming to IEC 529		IP 00	IP 00	IP 00
Operating position			Any	Any	Any
Cabling	Cable c.s.a.	mm²	70	185	2 x 185
	Key for hex. screws	mm	Allen 4	20	20
	Tightening torque	N.m	14	39	39

Control circuit characteristics

Rated insulation voltage (Ui)	To earth	V	2000	2000	2000
Consumption	Inrush	VA	300	600	1700
	Sealed	VA	30	20	28
Permissible control circuit voltage			0.8...1.1 Uc	0.8...1.1 Uc	0.8...1.1 Uc

Type		LC1-V160	LC1-V320	LC1-V610	
Main pole characteristics					
Rated insulation voltage (Ui)	V	1500	1500	1500	
Rated impulse withstand voltage (Uimp)	kV	8	8	8	
Conformity to standards		EN 60947-4-1 - IEC 947-4-1			
Approvals		CSA			
Conventional thermal current (Ith)	A	160	320	630	
Rated operational voltage (Ie)	θ y 40 °C AC-1	A	160	320	630
	θ y 55 °C AC-3	A	160	320	610
	θ y 55 °C AC-4	A	130	270	540
Electrical durability in number of operating cycles	AC-1		1 000 000	700 000	300 000
	AC-3		1 000 000	700 000	300 000
	AC-4		180 000	90 000	60 000
Mechanical durability	In millions of operating cycles		5	2.5	2
Maximum operating rate in operating cycles per hour	Mechanical		1200	1200	1200
	AC-1		900	900	900
	AC-3		900	900	900
	AC-4		450	450	450
Maximum making capacity (I _{ms})	Ue = 1500 V To IEC 947	A	1900	3800	7300
Maximum breaking capacity (I _{ms})	Ue = 1500 V To IEC 947	A	1600	3200	6100
Permissible short time rating	For 1 s	A	2400	4500	9000
	For 2 s	A	2000	3750	7580
	For 10 s	A	1600	3200	6100
	For 30 s	A	960	1920	3600
Short-circuit protection at Ie in cat. AC-3 max	aM fuse	A	160	400	630
Auxiliary contact characteristics					
Rated insulation voltage (Ui)	V	690			
Conventional thermal current (Ith)	A	10			
Rated operational voltage (Ie)	AC-15, 230 V	A	0.78		
	AC-15, 400 V	A	0.45		
	AC-15, 500 V	A	0.35		
	DC-13, 24 V	A	1.1		
	DC-13, 110 V	A	0.24		
	DC-13, 220 V	A	0.12		
Cabling	Cable c.s.a.	mm ²	2.5		
Short-circuit protection	gG fuse	A	10		
Operating time (1) (at 100 % of Uc)	Closing "C"	ms	± 5		
	Opening "O"	ms	± 5		

(1) 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.

Contactors

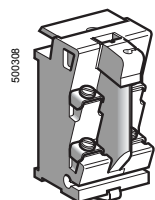
3-pole vacuum contactors

Power and control circuits

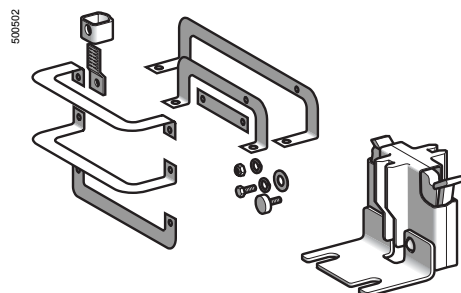
a.c. supply



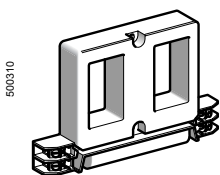
LC1-V320



LA1-VN11



LA9-V975



LX1-V320pp

Vacuum contactors

Standard power ratings 50/60 Hz in category AC-3					Rated operational voltage		Instantaneous auxiliary contacts		Basic reference. Complete with code indicating control circuit voltage (2)	Weight kg
230 V kW	400 V kW	525 V kW	690 V kW	1000 V kW	AC-3 A	AC-1 A				
45	75	110	150	200	160	160	2	1	LC1-V160pp	3.800
90	160	220	280	400	320	320	1	1	LC1-V320pp	10.500
160	300	400	560	800	610	630	1	1	LC1-V610pp	13.000

Instantaneous auxiliary contact blocks (1)

Number of contacts	Maximum number of blocks per contactor	Auxiliary contacts	Reference	Weight kg
2	4		LA1-VN11	0.030
			LA1-VN02	0.030
			LA1-VN20	0.030

Accessories

For assembling reversing contactors

Description	For use on	Reference	Weight kg
Kit comprising : - 1 mechanical interlock. - 1 set of power connections.	LC1-V160	LA9-V974	0.500
	LC1-V320	LA9-V975	5.000

Coils

Rated voltage V	Voltage code	Reference	Weight kg
For contactors LC1-V160			
110...120	FE7	LX1-V160FE7	0.400
220...240	P7	LX1-V160P7	0.400
380...415	V7	LX1-V160V7	0.400
440...480	R7	LX1-V160R7	0.400
550...600	X7	LX1-V160X7	0.400
For contactors LC1-V320			
110...120	FE7	LX1-V320FE7	0.800
220...240	P7	LX1-V320P7	0.800
380...415	V7	LX1-V320V7	0.800
440...480	R7	LX1-V320R7	0.800
550...600	X7	LX1-V320X7	0.800
For contactors LC1-V610			
110...120	FE7	LX1-V610FE7	0.800
220...240	P7	LX1-V610P7	0.800
380...415	V7	LX1-V610V7	0.800
440...480	R7	LX1-V610R7	0.800
550...600	X7	LX1-V610X7	0.800

(1) LC1-V160: auxiliary contact blocks mounted at the top of the contactor, with no change to the overall dimensions.

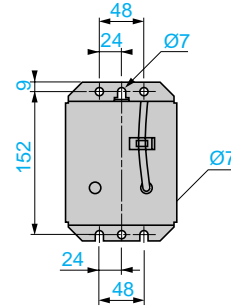
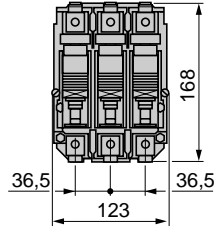
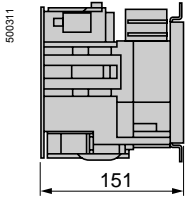
LC1-V320 or LC1-V610: 2 auxiliary contact blocks mounted on the RH and LH side of the contactor, with no change to the overall dimensions..

((2) Standard control circuit voltages.

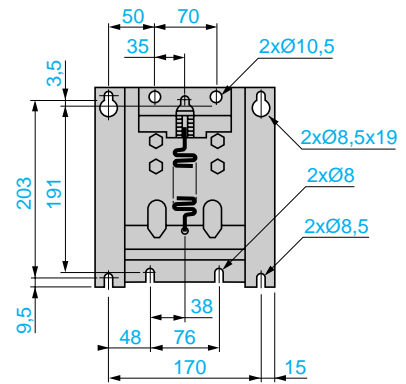
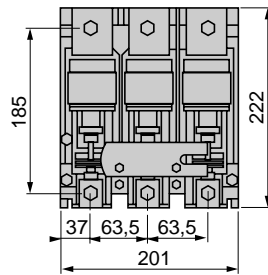
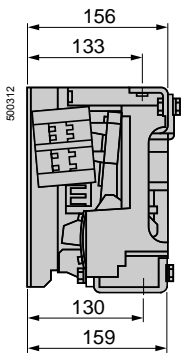
Volts 50/60 Hz	110...120	220...240	380...415	440...480	550...600
Code	FE7	P7	V7	R7	X7

Dimensions, mounting

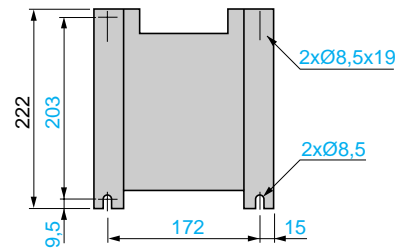
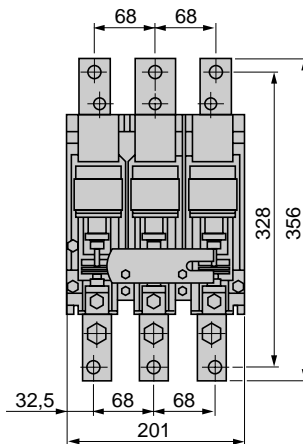
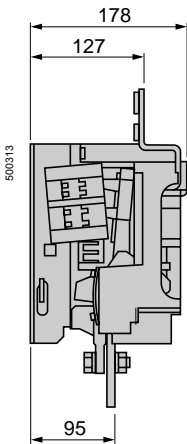
LC1-V160



LC1-V320

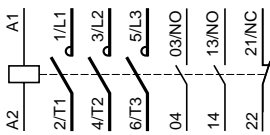


LC1-V610

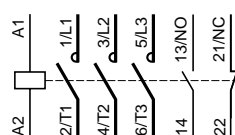


Schemes

LC1-V160



LC1-V320, V610

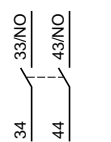


Auxiliary contact blocks

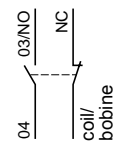
LA1-VN11 1N/O & 1N/C LA1-VN02 2N/C



LA1-VN20 2N/O



LA1-VN11X 1N/O



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