Low Voltage

POOJA POWER PRODUCTS



4 Pole Contactors from 16A to 125A

## Catalog 2014









## Schneider Electric<sup>™</sup> Worldwide

**24** billion sales in 2013



**43** % of sales in new economies

150000+ people in 100+ countries

**394** Rank in Fortune 500 ranking

#

4-5% Revenue devoted to R&D 7 ·

## Schneider Electric<sup>™</sup> in India\*

19000+ Employees

**31** Global Manufacturing Plants

**10+** Distribution Centres

**1000+** R&D engineers in Bangalore

Regional Project & Engineering Centre

## EasyPact TVS Designed for the essential



EasyPact TVS range is the perfect fit 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.
- > EasyPact TVS fully benefits from Schneider Electric world wide policies: in terms of standards of production, distribution, quality, availability, services and after-sales support.

Schneider Electric

## EasyPact TVS adds the 4<sup>th</sup> Dimension...



Protection Control



## **One Easy Solution for all Power Needs!**



EasyPact TVS is part of the Schneider Electric energy efficiency approach.Designed for easy disassembly and recycling at end of life, EasyPact TVS complies with environmental direcctives RoHS\* and WEEE\*\*, and with ISO 14001 standards, thanks to non - polluting factories.



## EasyPact TVS

The easy choice for simplicity & flexiblity



# EasyPact TVS 4-pole contactors from 16A to 125A

			CPB100430				CPB100431			CPB100432		CPB100433	
Size			1				2			3		4	
Rated Operat current AC-3	tional	А	6	9	12	18	25	32	38	40	65	80	95
Rated operatic current AC-1	ional	A	16	20	25	32	40	45	50	60	80	100	125
Rated	220/230 V		1.1	2.2	3	4	5.5	7.5	9	11	18.5	22	25
operational power in AC-3	380/400 V		2.2	4	5.5	7.5	11	15	18.5	18.5	30	37	45
	415/440 V	kW	2.2	4	5.5	9	11	15	18.5	22	37	45	45
	500 V		3	5.5	7.5	10	15	18.5	18.5	22	37	45	55
	660/690 V		3	5.5	7.5	10	15	18.5	18.5	30	37	45	45
Width		mm	45				56			84.5 95.5			
Coil rated ope voltage	erating		24V - 415	VAC coil v	oltages av	/ailable.Sp	oecial wide	band coil	available	in 220V ar	id 415V		
Auxiliary built in contact No built in auxiliary contact													
References <sup>(1)</sup>	,		LC1E 0600*	LC1E 0900*	LC1E 1200*	LC1E 1800*	LC1E 2500*	LC1E 3200*	LC1E 3800*	LC1E 4000*	LC1E 6500*	LC1E 8000*	LC1E 9500*

(1) Reference to be completed by adding coil voltage code

## Common characteristics

#### > Contactors compatible with:



LAEN● auxiliary contact blocks (see page 14)



LAETSD time delay auxiliary contact (LC1E2500\* onwards) (see page 14)

LAERC• RC switch suppressor (up to 95 A) (see page 13)

LAEM● mechanical inter lock block (see page 13)

#### \*Coil Voltage Code

AC Coil Voltage			48	110	220△	380	415∆
	50/60Hz	B7	E7	F7	-	Q7	-
LC1E0600^-9500^	50Hz/Wide band	-		-	M5WB		N5WB

Contactor: how to determine the full commercial reference ? Example:

# LC1E 32 004 M 5WB 5WB 50Hz Wide Band 7 50/60Hz 220V Coil voltage code 220V Main Contacts 004 4NO 008 2NO+2NC Rated operational Current (AC-3) 32A (\*\*AC-1: 45A) Contactor EasyPact TVS

\* Reference to be completed by adding Coil voltage code

\*\* Refer AC-1 current of AC-3 rating In the reference

 $\Delta~$  For 220Vac and 415Vac standard coil with 50/60Hz .PIs contact Regional Sales Office

Example 1: you need a 45A AC-1 duty contactor, 4 NO main contacts, 24 Vac - 50/60Hz coil  $\Rightarrow$  LC1E32004B7

Example 2: you need a 125A AC-1 duty contactor, 2NO+2NC main contacts, 110 Vac - 50/60Hz coil  $\Rightarrow$  LC1E95008F7

Example 3: you need a 100A AC-1 duty contactor, 2NO+2NC main contacts, 415 Vac - 50Hz wide band coil  $\Rightarrow$  LC1E80008N5WB

## EasyPact TVS 4-pole contactors

#### 16A to 125A Power characteristics

Power circuit cor	nnections							
Contactor type				LC1E0600*	LC1E0900*	LC1E1200*	LC1E1800*	
Number of poles				4				
Rated operational		In AC-3 (θ≤60°C)	A	6	9	12	18	
current (Ie) (Ue 415 V)		In AC-1 (θ≤60°C)		16	20	25	32	
Rated operational voltage	ge (Ue)	Up to	VAC	690	390			
Frequency limits		Of the operational current	Hz	50/60				
Conventional thermal cu	urrent (Ith)	$\theta \le 60^{\circ}C$	A	16	20	25	32	
Rated breaking capacit	y 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 ra	ating	10 s	A	80	105		145	
No current flowing for pi with $\theta \le 40^{\circ}$ C	receding 15 minutes	1 min		45	61		84	
		10 min		20	30		40	
Maximum permissive current No current flowing for previous 60 minutes, at $\theta \le 40^{\circ}C$		For 10 s	A	-				
Protection by fuses against short-circuits	Without thermal overload relay gG fuse	Type 1	A	12	20	25	35	
(U 690 VAC)	With thermal overload relay			For correspond associated LRE O/L relay catalo	ing aM or gG fuse thermal overloa	e ratings correspo ad relay, please re	onding to the efer the Thermal	
Average impedance pe	r pole	At Ith and 50 Hz	mΩ	2.5				
Power dissipation per p	ole for the above operational	AC-3	W	0.09 0.20		0.36	0.81	
currents		AC-1	]	1.0	1.6	-	2.6	
Electrical durability		AC-3 (Ue ≤ 440 V)	Million	1.4			1.2	
		AC-1 (Ue ≤ 440 V)	cycles	0.15		0.3	.3	
Mechanical durability				10				
Power circuit con	nections							
Connection maximur	nc.s.a.							
	Flexible cable with cable	1 conductor	mm <sup>2</sup>	14				
	end	2 conductors		12.5				
	Solid cable without cable	1 conductor	mm <sup>2</sup>	14			1.56	
	end	2 conductors		14			1.56	
	Cable with lug		mm	_				
Bar Number of bare		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 Ø	6mm flat			

LC1E2500*	LC1E3200*	LC1E3800*	LC1E4000*	LC1E6500*	LC1E8000*	LC1E9500*
25	32	38	40	65	80	95
40	45	50	60	80	100	125
·						
40	45	50	60	80	100	125
200	256	304	320	520	640	760
250	320	380	400	650	800	950
240	260	310	320	520	640	800
120	138	150	165	260	320	400
50	60		72	110	135	
40	63		80	125	160	
 2.5			1.5	1	0.8	
1.6	2.0	2.9	2.4	4.2	5.1	7.2
3.2	5.0		5.4	6.4	9.7	12
	1	0.9				
0.35						
	8		5		3	
16			2.525		450	
14			2.510		416	
			2.525		450	
			2.516		450	
1.5	2.1		5		9	
			Ø8mm flat		Ø8mm flat or Alle	n key n 4

## EasyPact TVS 4-pole contactors

16A to 125A Control circuit: coil characteristics

Control c	ircuit: coil char	acteristics	with a.c. sup	ply						
Contactor t	ype				LC1E0600*	LC1E0900*	LC1E1200*	LC1E1800*		
Rated control	circuit voltage (Uc) 5	50/60 Hz		VAC	24,48,110,380 According to the coil voltage code					
Control voltag	ge limits (θ≤55°C)									
	50/60 Hz coils	Operational			0.851.1 Uc					
		Drop-out			0.30.6 Uc					
Average consumption at 20°C and at Uc										
	$\sim$ 50 Hz coils	Inrush coil		VA	95					
			COS φ		0.75					
		Sealed	coil	VA	8.5					
		_	COS φ		0.3					
$\sim$ 60 Hz coils		Inrush	coil	VA	95					
			COS φ		0.75					
		Sealed	coil	VA	8.5					
			COS φ		0.3					
Heat dissipat	ion			W	2.3					
Operating tim	ie	Closing "C"		ms	ms <u>1222</u>					
		Opening "O"			419					
Maximum ope ambiant temp	erating rate at perature 60°C			In operating cycles per hour	1800 r					
Maximum ope ambiant temp	erating rate at perature 55°C				-					
Control c	circuit connection	ons								
Connection	n maximum c.s.a.									
	Flexible cable without cable end	1 or 2 conduc	otors	mm²	14					
	Flexible cable with	1 conductor		mm <sup>2</sup>	14					
	cable end	2 conductors			12.5					
	Solid cable without cable end	1 or 2 conduc	otors	mm²	14					
Tightening to	rque			N.m	1.5					
Screwdriver					Philips N 2 - Ø6 mm flat					

Control circuit : Coil ch	aracteristic	for Wide ban	d a.c. supply					
Contactor Type				LC1E0600*	LC1E0900*	LC1E1200*	LC1E1800*	
Rated control voltage			VAC	220V and 415V				
Control voltage limits ( $\theta \le 55^{\circ}$ C)								
50 Hz	Operational			0.71.2Uc				
	Drop-out			0.30.6Uc				
Average consumption at 20°C and at Uc								
~50Hz coils (220/415 Vac)	Inrush	coil	VA	68				
		cosφ		0.75				
	Sealed	coil	VA	7.9				
		cos φ		0.3				
Ambient Operating Temperature	•			-5 to 55°C				
Operating Time Closing "C"		ms	1222					
	Opening "O"			419				

 $\Delta$  For values please contact regional sales office

L	C1E2500*	LC1E3200*	LC1E3800*	LC1E4000*	LC1E6500*	LC1E8000*	LC1E9500*
95	5			160		200	
8.	3			15		20	
95	5			140		220	
R	3			13		22	
0.				10		22	
				610			
				2026		2035	
				812		620	
				1200			
				1.2			
L	C1E2500*	LC1E3200*	LC1E3800*	LC1E4000*	LC1E6500*	LC1E8000*	LC1E9500*
				1			
		103		Δ			

2026	2035
812	620

#### **Characteristics**

## EasyPact TVS 4-pole contactors 16A to 125A Environment

Environment			
Contactor type			LC1E0600*E1800* LC1E2500*E3800*
Rated insulation voltage (Ui	Conforming to IEC 60947-4-1, overvoltage category III, degree of pollution: 3	VAC	690
Rated impulse withstand voltage (U	mp) Conforming to IEC 60947	kV	6
Conforming to standards			IEC 60947-4-1, IEC 60947-5-1
Degree of protection	Conforming to IEC 60529		IP20
Protective treatment	Conforming to IEC 60068		"TH"
Ambiant air temperature	Storage	°C	-60+80
around the device	Operation		-5+55
	Permissible at UC		-20+70
Maximum operating altitude	Without derating <sup>(1)</sup>	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 (2)	Contactor open		7 gn 6 gn
1/2 sinewave = 11 ms	Contactor closed		10 gn
Vibration resistance (2)	Contactor open		1.5 gn
5300 Hz	Contactor closed		3 gn

(1) Derating, please contact regional sales office
 (2) Without change of contact states, in the most unfavorable direction (coil energised at Ue).

LC1E4000*E6500*	LC1E8000*E9500*
/ gn	

#### **Characteristics**

## EasyPact TVS 4-pole contactors

Contactors in category AC-1





4-pole contactors Standard power ratings of 3-phase motors 50/60 Hz in Weight Rated main contacts Basic reference, to be category AC-3 operational completed by adding current in AC-1 440 VAC the coil voltage code 220 V 380 V 415V 660V 230 V 400 V 440V 500 V 690 V Fixing (1) kW kW kW kW kW А kg Connection by screw clamp terminals 2.2 2.2 3 3 16 4 0 LC1E0600400 0.34 1.1 1.1 2.2 2.2 3 3 16 2 2 0.34 LC1E06008 •• 2.2 5.5 5.5 20 4 0 0.34 4 4 LC1E09004 2.2 4 4 5.5 5.5 20 2 2 0.34 LC1E09008 •• 3 5.5 5.5 7.5 7.5 25 4 0 LC1E12004 •• 0.34 3 5.5 7.5 7.5 25 2 2 0.34 5.5 LC1E12008 •• 4 7.5 9 10 10 32 4 0 LC1E18004 •• 0.34 4 7.5 9 10 10 32 2 2 LC1E18008 •• 0.34 5.5 15 40 4 11 11 15 0 LC1E25004 •• 0.52 5.5 15 40 2 11 11 15 2 LC1E25008 •• 0.52 7.5 15 15 18.5 18.5 45 4 0 0.52 LC1E32004 •• 7.5 15 15 18.5 18.5 45 2 2 LC1E32008 •• 0.52 9 18.5 18.5 18.5 18.5 50 4 0 LC1E38004 •• 0.52 9 18.5 18.5 18.5 18.5 50 2 2 LC1E38008 •• 0.52 11 18.5 22 22 30 60 4 0 LC1E40004 •• 1.3 11 18.5 22 22 30 60 2 2 LC1E4000800 1.3 37 18.5 30 37 37 80 4 0 LC1E65004 •• 1.3 37 2 18.5 30 37 37 80 2 LC1E65008 •• 1.3 22 37 45 45 45 100 4 0 LC1E80004 •• 1.6 37 45 45 45 100 2 2 1.6 22 LC1E8000800 25 45 45 55 45 125 4 0 1.6 LC1E95004 •• 25 45 45 55 45 125 2 2 1.6 LC1E9500800

#### Coil Voltage Code

Coil Voltage		24	48	110	220^	380	415⁴
	50/60Hz	B7	E7	F7	-	Q7	-
LCTE0600*-9500*	50Hz/Wide band				M5WB		N5WB

 $\Delta~$  For 220Vac and 415Vac standard coil with 50/60Hz please contact regional sales office

#### Seperate components

Auxiliary contact blocks, add-on modules and accessories, see pages 13 to 14.

(1) LC1E0600\* to E3800\*: clip-on mounting on 35 mm \_\_r ail AM1 DP or screw fixing. LC1E4000\* to E9500\*: clip-on mounting on 35 mm \_\_r ail AM1DP or 75 mm \_\_r ail AM1 DL or screw fixing.

## EasyPact TVS 4-pole Contactors Accessories





#### RC surge suppressor

■ Effective protection for circuits highly sensitive to "high frequency" interference and transient 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	Туре		
		V $\sim$		kg
Screw mounting	LC1E0600*E9500*	2448	LAERCE	0.025
		50127	LAERCG	0.025
		110240	LAERCU	0.025
		380415	LAERCN	0.025



#### **Characteristics**

## EasyPact TVS 4-pole Contactors

Accessories



LAEN22



LAETSD

## Instantaneous auxiliary contact blocks for connection by screw clamp terminals

For use in normal op	erating 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
	4NO	LAEN40	0.060

## 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	130 s	LAETSD	0.060

(1) Available LC1E2500\* onwards

Instantaneous and time	e delay cont	act characte	eristics						
Contact block type			LAEN11,2	0,02,22,40		LAETSD			
Number of contacts			2 or 4			2			
Rated operational voltage (Ue)	Up to		VAC	690					
Rated insulation voltage (Ui)	Conforming to I	EC 60947-5-1		690		·			
Conventional thermal current (Ith	) For ambient terr $\theta \le 60^{\circ}$ C	nperature	A	8	3				
Minimum switching capacity		U min	VAC	17					
		l min	mA	5					
Short-circuit protection	Conforming to I	EC 60947-5-1	А	10					
Rated making Capacity (Irms)	Conforming to I	EC 60947-5-1	A	$\sim$ 140					
Short-time rating	Permissible for	1 s	A	100					
500 ms 100 ms		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	Verlap time Guaranteed between LAE N22 N/C and N/O contacts		ms	-					
Time delay	Ambient air temperature for operation		°C	20		-20+70	20+70		
	Repeat accuracy			-			±2 %		
	Drift up to 0.5 million operating cycles			-			+15 %		
Drift depending on ambient air temperature		on ambient air		-		0.25 % per °C			
Mechanical durability		In millions of operating cycles	10			4			
Rated operational power of	a.c. supply cate	gories AC14/15	V	24	48	115	230	400	440
contacts	1 million operati	ng cycles	VA	60	120	280	560	960	1050
	3 million operati	illion operating cycles		16	32	80	160	280	300
	10 million opera	ting cycles		4	8	20	4	70	80

## EasyPact TVS 4-pole Contactors Accessories

Environment					
Contact block type			LAEN11,20,02,22,40	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	mm²	Min: 1 x 1 Max: 2 x 2.5		

4-pole Accessories compatibility					
Contactor	LAEN●●	LAETSD	LAERC●		
LC1E0600*					
LC1E0900*	1				
LC1E1200*	'	-			
LC1E1800*					
LC1E2500*					
LC1E3200*			- 1		
LC1E3800*			1		
LC1E4000*	1 .				
LC1E5000*					
LC1E6500*					
LC1E8000*					
LC1E9500*					

## EasyPact TVS 4-pole contactors



## LC1E2500\*...3800\*



#### LC1E0600\*...1800\*



#### LC1E4000\*...E6500\*



Гa	WITH LAERCO	135
С		110/125
c1	with LAEN•	143
c2	with LAETSD	165

#### 2XLC1E0600\*...E6500\* with LAEM1



#### LC1E2500\*...3800\*



#### LC1E8000\*...9500\*



LC1		E8000*9500*
а		95
b1	with LAERC•	135
С		120/135
c1	with LAEN•	160
c2	with LAETSD	172

#### 2XLC1E8000\*...9500\* with LAEM4



LC1	E8000*LC1E9500*
а	95
b	204
С	120/155

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## EasyPact TVS contactors LC1E0600\*...9500\*

Contactors (4-pole)		
LC1E0600*9500*	LC1E0600*3800*	LC1E4000*9500*
A2 2/T1 2/T1 6/T3 6/T3 6/T3 8/T4 2/L4	A A A A A A A A A A A A A A	R2 R1 R2 R1 R2 R1 R1 R1 R1 R1 R1 R1 R1 R1 R1 R1 R1 R1

Front mounting add-on contact blocks						
1NO+1NC (LAEN11)	2NO (LAEN20)	2NC (LAEN02)	2NO+2NC (LAEN22)	4NO (LAEN40)		
62 61/NC	64 53/NO 64 63/NO	52 51/NC 62 61/NC	54 53/NO 62 61/NC 72 71/NC 84 83/NO	64 63/NO 64 63/NO 74 73/NO 84 83/NO		

#### Time delay auxiliary contacts On delay 1NO+1NC (LAETSD)



## Mechanical interlock





## Make the most of your energy<sup>SM</sup>

#### Schneider Electric India Pvt. Ltd.

**Corporate Office** 

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