

TeSys contactors

For switching 3-phase capacitor banks,
used for power factor correction,

Direct connection without choke inductors

Special contactors

Special contactors **LC1 D●K** are designed for switching 3-phase, single or multiple-step capacitor banks; they conform to standards IEC 60070 and 60831, NFC 54-100, VDE 0560, UL and CSA.

Contactor applications

Specification

Contactors fitted with a block of early make poles and damping resistors, limiting the value of the current on closing to 60 In max.

This current limitation increases the life of all the components of the installation, in particular that of the fuses and capacitors.

The patented design of the add-on block (n° 90 119-20) ensures safety and long life of the installation.

Operating conditions

There is no need to use choke inductors for either single or multiple-step capacitor banks.

Short-circuit protection must be provided by gl type fuses rated at 1.7...2 In.

Maximum operational power

The power values given in the selection table below are for the following operating conditions:

Prospective peak current at switch-on	LC1 D●K	200 In
Maximum operating rate	LC1 DFK, DGK, DLK, DMK, DPK	240 operating cycles/hour
	LC1 DTK, DWK	100 operating cycles/hour
Electrical durability at nominal load	All contactor ratings	400 V 300 000 operating cycles
		690 V 200 000 operating cycles

Operational power at 50/60 Hz (1) θ ≤ 55 °C (2)			Instantaneous auxiliary contacts		Tightening torque on cable end	Basic reference, to be completed by adding the voltage code (3)	Weight
220 V	400 V	660 V					
240 V	440 V	690 V					
kVAR	kVAR	kVAR	N/O	N/C	N.m		kg
6.7	12.5	18	1	1	1.2	LC1 DFK11●●	0.430
			–	2	1.2	LC1 DFK02●●	0.430
8.5	16.7	24	1	1	1.7	LC1 DGK11●●	0.450
			–	2	1.7	LC1 DGK02●●	0.450
10	20	30	1	1	1.9	LC1 DLK11●●	0.600
			–	2	1.9	LC1 DLK02●●	0.600
15	25	36	1	1	2.5	LC1 DMK11●●	0.630
			–	2	2.5	LC1 DMK02●●	0.630
20	33.3	48	1	2	5	LC1 DPK12●●	1.300
25	40	58	1	2	5	LC1 DTK12●●	1.300
40	60	92	1	2	9	LC1 DWK12●●	1.650

Switching of multiple-step capacitor banks (with equal or different power ratings)

The correct contactor for each step is selected from the above table, according to the power rating of the step to be switched.

Example: 50 kVAR 3-step capacitor bank. Temperature: 50 °C and U = 400 V or 440 V.

One 25 kVAR step: contactor LC1 DMK, one 15 kVAR step: contactor LC1 DGK, and one 10 kVAR step: contactor LC1 DFK.

(1) Operational power of the contactor according to the scheme on the page opposite.

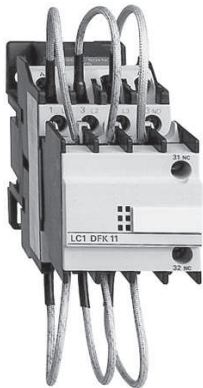
(2) The average temperature over a 24-hour period, in accordance with standards IEC 60070 and 60831 is 45 °C.

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

Volts	24	42	48	110	115	220	230	240	380	400	415	440
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7

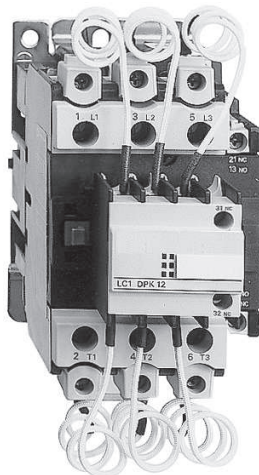
For other voltages between 24 and 440 V, please consult your Regional Sales Office

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LC1 DFK11●●

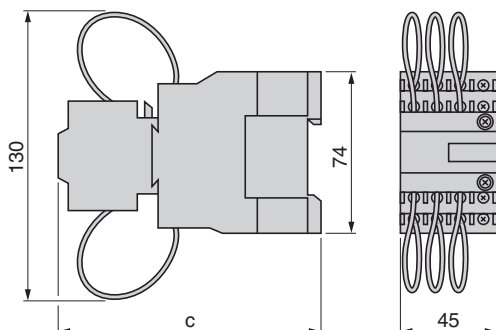
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LC1 DPK12●●

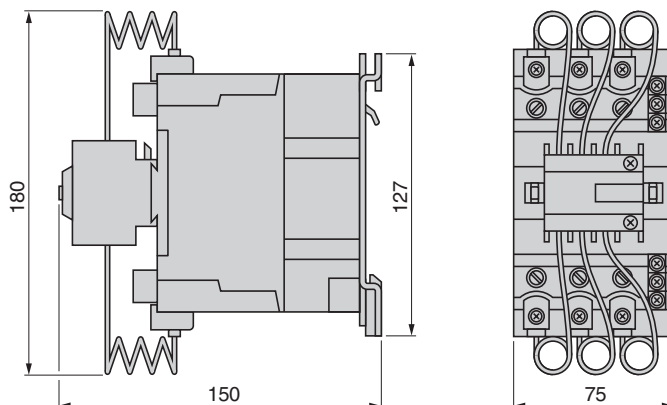
Dimensions

LC1 DFK, DGK



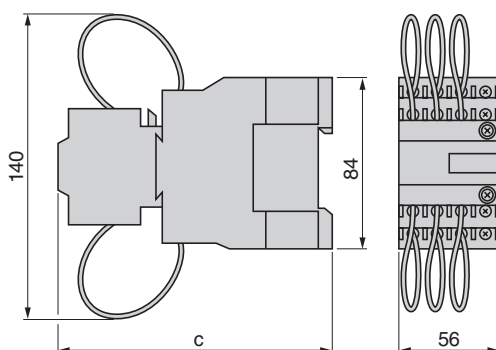
LC1	c	Type of fixing
DFK	117	LC1 D12 See page 5/94
DGK	122	LC1 D18 See page 5/94

LC1 DPK, DTK



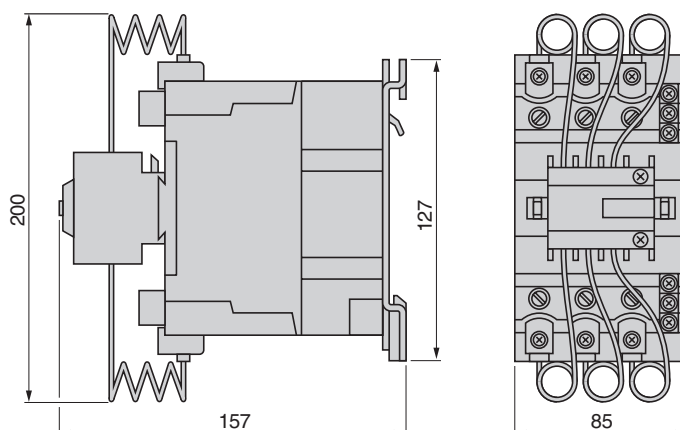
LC1	Type of fixing
DPK	LC1 D40 See page 5/94
DTK	LC1 D50 See page 5/94

LC1 DLK, DMK



LC1	c	Type of fixing
DLK	117	LC1 D25 See page 5/94
DMK	122	LC1 D32 See page 5/94

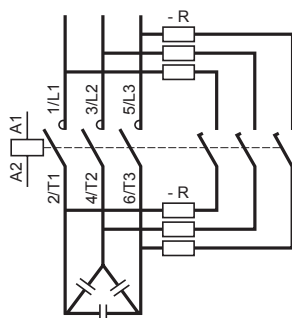
LC1 DWK



LC1	Type of fixing
DWK	LC1 D80 See page 5/94

Schemes

LC1 D•K



R = Pre-wired resistor connections.

Cabling (maximum permissible c.s.a.)

Contactor type LC1	DFK	DGK	DLK	DMK	DPK, DTK	DWK
Number of conductors	1	2	1	2	1	2
Flexible cable with cable end (mm ²)	2.5	1.5	4	2.5	4	6
Solid cable with cable end (mm ²)	4	4	6	6	10	16