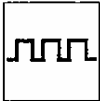
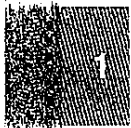


Contactor selection guide, 115 to 780 A

Characteristics :
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 References :
 pages 1/202, 1/203, 1/205 and 1/207
 Dimensions :
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 Schemes :
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d.c. supply
For utilisation categories DC-1 to DC-5

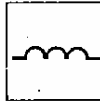


Use in category DC-1 (resistive loads : time constant $\frac{L}{R} \leq 1 \text{ ms}$)

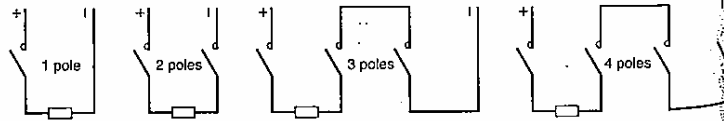
Rated operational current in amperes										
Rated operational voltage U_e	Number of poles connected in series	Contactor rating								
		LC1-F115	LC1-F150	LC1-F185	LC1-F225	LC1-F265	LC1-F330	LC1-F400	LC1-F500	LC1-F630
24 V	1	160	160	220	220	300	360	400	600	850
	2	160	160	220	220	300	360	400	600	850
	3	160	160	220	220	300	360	400	600	850
	4	160	160	220	220	300	360	400	600	850
48/75 V	1	160	160	220	220	300	360	400	600	850
	2	160	160	220	220	300	360	400	600	850
	3	160	160	220	220	300	360	400	600	850
	4	160	160	220	220	300	360	400	600	850
125 V	2	130	130	170	170	300	360	400	550	850
	3	130	130	170	170	300	360	400	600	850
	4	130	130	170	170	300	360	400	600	850
225 V	2	100	100	150	150	250	260	350	450	700
	3	130	130	170	170	300	360	400	600	850
	4	130	130	170	170	300	360	400	600	850
300 V	3	100	100	150	150	250	260	350	450	700
	4	130	130	170	170	300	360	400	600	850
460 V	4	100	100	150	150	250	300	350	450	700

Use in categories DC-2, DC-3, DC-4, DC-5 (inductive loads : time constant $\frac{L}{R} \leq 15 \text{ ms}$)

Rated operational current in amperes										
Rated operational voltage U_e	Number of poles connected in series	Contactor rating								
		LC1-F115	LC1-F150	LC1-F185	LC1-F225	LC1-F265	LC1-F330	LC1-F400	LC1-F500	LC1-F630
24 V	1	140	140	180	180	280	320	350	550	850
	2	140	140	180	180	280	320	350	550	850
	3	140	140	180	180	280	320	350	550	850
	4	140	140	180	180	280	320	350	550	850
48/75 V	1	140	140	180	180	280	320	350	550	850
	2	140	140	180	180	280	320	350	550	850
	3	140	140	180	180	280	320	350	550	850
	4	140	140	180	180	280	320	350	550	850
125 V	2	100	100	140	140	250	300	350	550	850
	3	120	120	160	160	280	310	350	550	850
	4	120	120	160	160	280	310	350	550	850
225 V	2	80	80	100	100	200	240	280	450	700
	3	100	100	140	140	250	300	350	550	850
	4	120	120	160	160	280	310	350	550	850
300 V	3	80	80	100	100	200	240	280	450	700
	4	120	120	160	160	280	310	350	550	850
460 V	4	80	80	100	100	200	240	280	450	700



Pole connection in series



Contactor selection guide, 115 to 780 A

d.c. supply

CS :
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2, 1/203, 1/206 and 1/207
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According to required electrical life

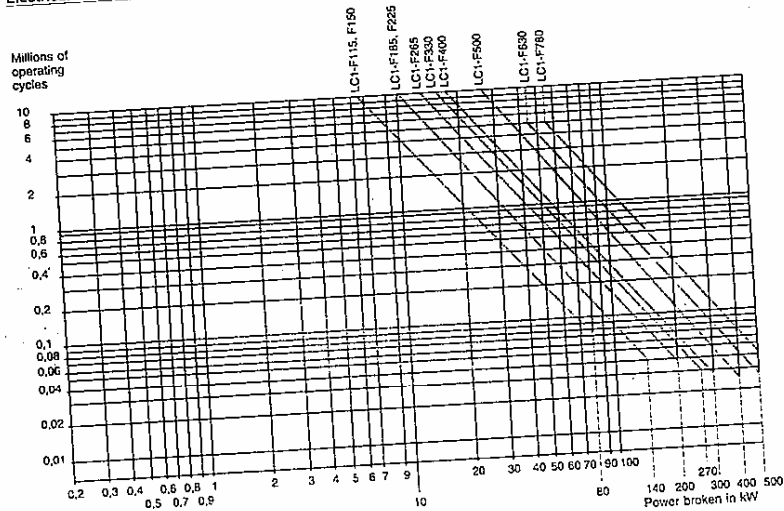
- The criteria for contactor selection are :
- the rated operational current I_e ,
 - the rated operational voltage U_e ,
 - the utilisation category and the time constant L/R,
 - the required electrical life (in some cases).

Determining the electrical life

The electrical life can be read directly from the curve below, having previously calculated the power broken as follows :
 $P_{\text{broken}} = U_{\text{broken}} \times I_{\text{broken}}$
 The table below gives the values of U_c and I_c for the various utilisation categories.

Utilisation categories	U_{broken}	I_{broken}	P_{broken}
DC-1 Non-inductive or slightly inductive loads	U_e	I_e	$U_e \times I_e$
DC-2 Shunt motors, breaking whilst running	$0.1 U_e$	I_e	$0.1 U_e \times I_e$
DC-3 Shunt motors, plugging, inching	U_e	$2.5 I_e$	$U_e \times 2.5 I_e$
DC-4 Series wound motors, breaking whilst running	$0.3 U_e$	I_e	$0.3 U_e \times I_e$
DC-5 Series wound motors, plugging, inching	U_e	$2.5 I_e$	$U_e \times 2.5 I_e$

Electrical life



- Example**
 Series wound motor ; $P = 40 \text{ kW}$ - $U_e = 200 \text{ V}$ - $I_e = 200 \text{ A}$. Utilisation : plugging, inching
 Utilisation category = DC-5.
 - Select a contactor type LC1-F400 with 3 poles in series.
 - The power broken is : $P_c = 2.5 \times 200 \times 200 = 100 \text{ kW}$.
 - The electrical life read from the curve is 280 000 operating cycles

Use of poles in parallel

- The electrical life can be increased by using poles connected in parallel.
- With N poles connected in parallel, the electrical life becomes :
 electrical life read from the curves $\times N \times 0.7$.
- Note 1 : connecting the poles in parallel does not change the maximum operating currents shown on the page opposite.
 Note 2 : ensure that the connections are made in such a way as to equalise the currents in each pole.



Maximum operating rate

The following must not be exceeded : 120 operating cycles/hour at rated operational current I_e .