

Type			LC1-BL	LC1-BM	LC1-BP	LC1-BR	
Environment							
Rated insulation voltage (Ui)	Conforming to IEC 158-1/IEC 947-4	V	1000	1000	1000	1000	
	Conforming to VDE 0110 gr C	V	1500	1500	1500	1500	
Conforming to standards			IEC 158-1, 947-4 pending, NF C 63-110, VDE 0660, BS 5424				
Approvals			CSA, BV, RINA				
Protective treatment	Standard version		“TC”				
	Special version		“TH”				
Ambient air temperature around the device (for operation at Uc)	Storage	°C	- 60...+ 80				
	Operation	°C	- 5...+ 55				
	Permissible	°C	- 50...+ 60				
Maximum operating altitude	Without derating	m	3000				
Operating position	Without derating		± 30° occasional, in relation to the normal vertical mounting position				
Pole characteristics							
Number of poles			1, 2, 3 or 4	1, 2, 3 or 4	1, 2, 3 or 4	1, 2, 3 or 4	
Rated operational current (Ie) (Ue ≤ 440 V)	In AC-3, θ ≤ 55 °C	A	750	1000	1500	1800	
	In AC-1, θ ≤ 40 °C	A	800	1250	2000	2750	
Rated operational voltage (Ue)	Up to	V	1000				
Frequency limits (sine wave)	Without derating	Hz	50/60				
	Derating coefficient		100 Hz : 0.9 - 150 Hz : 0.8 - 250 Hz : 0.7 - 400 Hz : 0.5				
Maximum thermal current Ith	θ ≤ 40 °C	A	800	1250	2000	2750	
Rated making capacity	I rms conforming to 158-1 and 947-4	A	10 000	10 000	15 000	18 000	
Rated breaking capacity	I rms conforming to IEC 158-1 and 947-4	up to 440 V	A	10 000	10 000	15 000	18 000
		500 V	A	9000	9000	12 000	15 000
		660-690 V	A	8000	8000	9000	11 000
		1000 V	A	4000	4000	5000	6000
Permissible short time rating From cold state, with no current flowing for previous 60 minutes at θ ≤ 40 °C	For 1 s	A	9600	9600	12 000	15 000	
	For 5 s	A	9600	9600	12 000	15 000	
	For 10 s	A	7000	8000	9600	12 000	
	For 30 s	A	4800	5200	6400	8000	
	For 1 min.	A	3500	3800	5200	6300	
	For 3 min.	A	2100	2400	3600	4400	
	For 10 min.	A	1200	1800	2800	3600	
Short-circuit protection by fuses U ≤ 440 V	Motor circuit (aM type)	A	800	1200	2 x 800 (1)	2 x 1000 (1)	
	With thermal overload relay (type gl)	A	1000	1500	2 x 1000 (1)	2 x 1200 (1)	
	gl fuses	A	800	1200	2 x 1000 (1)	2 x 1200 (1)	
Average impedance per pole	At Ith and 50 Hz	mΩ	0.18	0.18	0.13	0.09	
Power dissipated per pole for the above operational currents	AC-3	W	88	180	290	360	
	AC-1	W	115	280	520	680	
Cabling	Number of bars		2	2	3	4	
	Bar	mm	50 x 5	80 x 5	100 x5	100 x 5	
Bolt diameter		mm	4 Ø 8	4 Ø 10	4 Ø 10	4 Ø 10	
Tightening torque	Power circuit connections	N.m	21	35	35	35	

(1) Fuses must not be connected in parallel unless specified by the manufacturer.

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Control circuit characteristics						
Rated control voltage	50/60 Hz	V	110...500	110...500	110...500	110...500
	--- 1, 2 or 3 pole contactors	V	48...500	48...500	48...500	48...500
	--- 4 pole contactors	V	48...500	48...500	48...500	60...500
Voltage limits	Operating	V	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc	0.85...1.1 Uc
	Drop out	V	0.30...0.50 Uc	0.30...0.50 Uc	0.35...0.50 Uc	0.40...0.50 Uc
Maximum consumption (coil + economy resistor)	~	Number of poles : 1	VA	Inrush : 620 - sealed : 10		
		Number of poles : 2	VA	Inrush : 1000 - sealed : 20		
		Number of poles : 3	VA	Inrush : 1300 - sealed : 31		
		Number of poles : 4	VA	Inrush : 1600 - sealed : 47		
	---	(1) Number of poles : 1	W	Inrush : 520 - sealed : 10		
		Number of poles : 2	W	Inrush : 800 - sealed : 20		
		Number of poles : 3	W	Inrush : 1100 - sealed : 31		
		Number of poles : 4	W	Inrush : 1400 - sealed : 47		
Operating time (2) average at Uc (in milliseconds)	"C"	ms	100...150	100...150	100...150	100...150
	"O" breaking on ~ side	ms	50...100	50...100	50...100	50...100
	"O" breaking on --- side	ms	20...40	20...40	20...40	20...40
	Note : The arcing time depends on the circuit switched by the poles. For normal 3-phase applications, the arcing time is usually less than 10 ms. The load is isolated from the supply after a time equal to the sum of the opening time and the arcing time.					
Mechanical durability (at Uc)	In millions of operating cycles		1.2	1.2	1.2	1.2
Maximum operating rate in mechanical operating cycles	Ambient temperature ≤ 55 °C	op. cys/h	120	120	120	120

(1) The inrush and sealed power values of d.c. electromagnets often require the use of an intermediate relay for control.
(2) The closing time "C" is measured from the moment the coil supply is switched on to initial contact of main poles.
The opening time "O" is measured from the moment the coil supply is switched off to the moment the main poles separate.

Characteristics of instantaneous auxiliary contacts ZC4-GM•

Rated thermal current		A	20											
Rated insulation voltage	Conforming to IEC 947-1	V	660											
	Conforming to VDE, group C	V	750											
Short-circuit protection gl type cartridge fuses	Conforming to IEC 947-1 and VDE 0660	A	20											
Operational power			~ supply					--- supply						
		V	110/ 127	220	380	415/ 440	500	110	220	440	500			
		1 million operating cycles	VA/W	2000	4000	4000	4000	3500	250	250	230	200		
Making and breaking capacity		VA/W	14 000	23 000	35 000	45 000	35 000	1600	800	400	360			
Cabling	With cable end	mm²	1 or 2 x 4 mm² conductors											
	Without cable end	mm²	1 or 2 x 6 mm² conductors											