LS-K CONTACTORS FROM LS 4K TO LS 18K INTERNATIONAL RATINGS




CE

Type			LS 4K	LS 5K		LS 7K		LS 11K		LS 15K		LS 18K	
Style			3 pole	3 pole	4 pole	3 pole	4 pole	3 pole	4 pole	3 pole	4 pole	3 pole	4 pole
Rated insulation voltage U_i			Pollution degree 3										
		V	1000	1000		1000		1000		1000		1000	
Rated impulse voltage U_{imp}		kV	6	6		6		6		6		6	
Mechanical endurance													
AC - operation	Operations	Mil	15	15		15		15		15		15	
DC - operation	Operations	Mil	15	15		15		15		15		15	
Utilization category AC-1			Rated power values at resistive load										
Rated power value P_N	3~ 230 V	kW	9.5	9.5		12		17		22,5		22,5	30
	3~ 400 V	**kW**	**16.5**	**16.5**		**22**		**29**		**39,5**		**39,5**	**55**
	3~ 500 V	kW	21,5	21,5		27,5		39		52		52	69
	3~ 690 V	kW	28,5	28,5		38		51		68,5		68,5	95
Rated current I_e up to 690 V		Amps	**25**	**25**		**32**		**45**		**60**		**60**	**90**
Minimum wire cross-section under rated load I_e		mm^2	4	4		6		10		16		16	35
Admissible practical operation frequency		ops/h	1200	1200		1200		1200		1200		1200	1200
Rated current at 1000 ops/h		A	25	25		32		45		60		60	90
Utilization category AC-3			Rated power values of AC induction type motors										
Rated power value P_N	3~ 230 V	kW	2.2	3		4		7,5		9		11	
	3~ 400 V	**kW**	**4**	**5,5**		**7,5**		**11**		**15**		**18,5**	
	3~ 415 V	kW	4	5,5		7,5		11		15		22	
	3~ 500 V	kW	5.5	7,5		10		15		18,5		25	
	3~ 690 V	kW	5.5	7,5		10		15		18,5		30	
Rated current I_e up to 440 V		Amps	**9**	**12**		**18**		**25**		**32**		**40**	
Admiss. switching freq. at P_N and cont. cycling		ops/h	1200	1200		1200		1200		1200		1200	
Utilization category AC-4			Rated power values of AC induction type motors										
Rated power value P_N	3~ 230 V	kW	1,1	1,5		1,8		3		3,7		4	
	3~ 400 V	**kW**	**2,2**	**3**		**3,7**		**5,5**		**7,5**		**9**	
	3~ 500 V	kW	**3**	4		5,5		7,5		10		11	
	3~ 690 V	kW	**4**	5,5		7,5		10		11		15	
Rated current I_e with practical electrical endurance up to	3~ 440 V	Amps	**5**	**7**		**8**		**12**		**16**		**18,5**	
Admissible switching frequency		ops/h	360	360		360		360		360		360	200
Maximum permissible load P_N	3~ 400 V	kW	4	5,5		7,5		11		15		18,5	
I_e	3~ 400 V	A	9	12		18		25		32		40	
Utilization category AC-6b			Rated power values of AC capacitors (minimum inductance between parallel connected capacitors 6 µH)										
Single / Parallel operation	3~ 230 V	kvar	2.5/2.5	3/3		3/3		7/6,5		10 /10▲)		12/12▲)	
	3~ 400 V	**kvar**	**4 /4**	**5/5**		**5/5**		**13/11**		**16,7/16▲)**		**20/20▲)**	
	3~ 525 V	kvar	4 /4	6/5		6/5		17/13		20 /20▲)		25/25▲)	
	3~ 690 V	kvar	4 /4	6/5		6/5		17/12,5		19 /16,7▲)		20/20▲)	
DC-switching Rated current I_e			3 contacts connected in series (all DC-motors $L/R \leq 15$ ms)										
DC-1 (resistive load)	24 ... 220 V I_e	A	25	25		25		32		50		50	90
DC-3 / DC-5	**24** ... 110 V I_e	A	15	15		15		20		25		32	60
Admissible switching frequency (DC-1 ... DC-5)			50	50		50		50		50		50	50
Short Circuit protection of main contacts[1])			Maximum permissible fuse (operating category gL)										
Coordination type »2«			25	25		35		50	50	50		63	100
no welding			10	10		25		35	35	35		35	80
Operating coil for AC-operation			Standard coil, power consumption at 50 Hz 1,0 U_s										
Operating range 0,8 ... 1,1 U_s	**Pick-up P_{AS}**	VA	45	45		45		45	88	88		88	191
		cos Ø	0,82	0,82		0,82		0,82	0,76	0,76		0,76	0,54
	Holding P_{HS}	VA	6	6		6		6	9	9		9	17
		cos Ø	0,34	0,34		0,34		0,34	0,31	0,31		0,31	0,26
Operating coil for DC-operation			Standard coil, power consumption at 1,0 U_s										
Operating range 0,8 ... 1,1 U_s	**Pick-up P_A**	W	5,5	5,5		5,5		5,5	7,5	7,5		7,5	197
	Holding P_H	W	5,5	5,5		5,5		5,5	7,5	7,5		7,5	2,6
Switching items at AC-operation			Standard coil, power consumption at 1,0 U_s										
Making delay		ms	6 ... 25	6 ... 25		6 ... 25		6 ... 25	7 ... 25	7 ... 25		7... 25	9... 35
Drop-out delay		ms	6 ... 13	6 ... 13		6 ... 13		6 ... 13	5 ... 25	5 ... 25		5... 25	9... 15
Switching items at DC-operation			Standard coil, power consumption at 1,0 U_s										
Making delay		ms	35 ... 65	35 ... 65		35 ... 65		35... 65	35 ... 70	35 ... 70		35... 70	15... 40
Drop-out delay		ms	30 ... 60	30 ... 60		30 ... 60		30... 60	40 ... 65	40 ... 65		40... 65	9... 15

1) According to VDE 0660 part 102 / IEC 947 -4-1 coordination type permit the following damages:
»2« Slight welding of contacts that can easily be opened, is admitted but no further damages.

2) Minimum inductance between parallel connected capacitor 20 µH