

## LS-K CONTACTORS FROM LS 75K TO LS 160K INTERNATIONAL RATINGS



Type	LS 75K		LS 90K		LS 110K		LS 132K		LS 160K		
Style	3 pole		3 pole   4 pole		3 pole		3 pole   4 pole		3 pole   4 pole		
<b>Rated insulation voltage <math>U_i</math></b>			Pollution degree 3								
	V	1000	1000	1000	1000	1000	1000	1000	1000	1000	
<b>Rated impulse voltage <math>U_{imp}</math></b>			kV								
	kV	8	8	8	8	8	8	8	8	8	
<b>Mechanical endurance</b>											
AC - operation		Operations	Mil	10	10	10	10	10	10	10	
		Operations	Per/H	1200	1200	1200	1200	1200	1200	1200	
<b>Utilization category AC-1</b>											
			Rated power values at resistive load								
Rated power value $P_N$		3~230V	kW	90	90	123	114	114	152	170	191
		3~400V	kW	155	155	214	196	196	263	310	329
		3~500V	kW	200	200	281	259	259	346	389	415
		3~690V	kW	270	270	371	341	341	457	537	572
		3~1000V	kW	400	400	562	517	517	692	780	866
Rated current $I_e$ up to 690 V			Amps	250	250	325	315	315	400	450	500
Minimum wire cross-section under rated load $I_e$			mm <sup>2</sup>	120	120	185	185	185	2X(25X5)	2X(30X5)	2X(25X5)
Admissible practical operation frequency			opsh	600	600	600	600	600	600	600	600
Rated current at 1000 opsh			A	200	200	260	252	252	320	382	425
<b>Utilization category AC-3</b>											
			Rated power values of AC induction type motors								
Rated power value $P_N$		3~230V	kW	45	55	65	75	75	90	90	
		3~400V	kW	75	90	110	132	132	160	160	
		3~415/440V	kW	80	100	125	132	132	185	185	
		3~500V	kW	100	110	132	160	160	200	200	
		3~690V	kW	100	132	155	200	200	250	250	
		3~1000V	kW	65	100	110	150	150	200	200	
Rated current $I_e$ up to 440 V			Amps	150	185	205	250	250	309	309	
Admiss. switching freq. at $P_N$ and cont. cycling			opsh	600	600	600	600	600	600	600	
<b>Utilization category AC-4</b>											
			Rated power values of AC induction type motors (High Switching, Plugging)								
Rated power value in $P_N$		3~230V	kW	18,5	22	25	33	33	37	37	
		3~400V	kW	33	40	45	55	55	63	63	
		3~500V	kW	45	50	63	75	75	90	90	
		3~690V	kW	55	63	80	100	100	110	110	
Rated current $I_e$ with practical electrical endurance up to		3~690V	Amps	65	75	90	110	110	125	125	
			Opsh	150	150	150	150	150	150	150	
Admissible switching frequency		3~400V	kW	75	90	110	132	132	160	160	
Maximum permissible load $P_N$		3~400V	A	150	185	205	250	250	309	309	
<b>Utilization category AC-6b</b>											
			Rated power values of AC capacitors (minimum inductance between parallel connected capacitors 6 $\mu$ H)								
Single / Parallel operation		3~230V	kvar	54	63	72	85	85	94	94	
		3~400V	kvar	100	112	135	148	148	171	171	
<b>DC-switching Rated current <math>I_e</math></b>											
			3 contacts connected in series (all DC-motors $L/R \leq 15$ ms)								
DC-1 (resistive load)		24 ... 220 V $I_e$	A	250	250	315	315	315	500	500	
DC-3 / DC-5		24 ... 110 V $I_e$	A	150/95	185/105	205/150	250/185	250/185	309/205	309/205	
Admissible switching frequency (DC-1 ... DC-5)				50	50	50	50	50	50	50	
<b>Short Circuit protection of main contacts<sup>1)</sup></b>											
			Maximum permissible fuse (operating category gL)								
Coordination type »2« no welding				250	250	400	315	315	500	500	500
				160	200	250	250	250	315	315	
<b>Operating coil for AC-operation</b>											
			Standard coil, power consumption at 50 Hz 1,0 $U_s$								
Operating range 0,8 ... 1,1 $U_s$		Pick-up $P_{As}$	VA	400	400	830	425	750	425	750	
		cos $\emptyset$		0,6	0,6	0,6	-	-	-	-	
		Holding $P_{Hs}$	VA	32	32	60	20	25	20	25	
		cos $\emptyset$		0,4	0,4	0,37	-	-	-	-	
<b>Operating coil for DC-operation</b>											
			Standard coil, power consumption at 1,0 $U_s$								
Operating range 0,8 ... 1,1 $U_s$		Pick-up $P_A$	W	135	135	650	350	350	650	350	650
		Holding $P_H$	W	3	3,5	4,5	3,5	3,5	4,5	3,5	4,5
<b>Switching items at AC-operation</b>											
			Standard coil, power consumption at 1,0 $U_s$								
Making delay		ms		20 ... 25	20...25	70...80	36 ... 40	60...70	70...80	60...70	70...80
Drop-out delay		ms		10 ... 13	10...13	70...80	10 ... 15	13...17	70...80	60...70	70...80
<b>Switching items at DC-operation</b>											
			Standard coil, power consumption at 1,0 $U_s$								
Making delay		ms		60 ... 70	60...70	70...80	60 ... 70	60...70	70...80	60...70	70...80
Drop-out delay		ms		13 ... 17	13...17	70...80	13 ... 17	13...17	70...80	60...70	70...80
<b>Dimensions</b>											
Without auxiliary contacts		Width mm		135	135	253	173	253	173	253	
LS 75 ... LS 450K with .22		Height mm		178	178	270	212	270	212	270	
		Depth mm		165,5	165,5	246	208	246	208	246	

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.

For technical specifications or larger K contactors through LS450K (1250A), request from factory.