

## LS-K CONTACTORS FROM LS 220K TO LS 450K INTERNATIONAL RATINGS

Type	LS 220K		LS 280K		LS 375K	LS 450K	
Style	3 pole	4 pole	3 pole	4 pole	3 pole	3 pole	4 pole
Rated insulation voltage $U_{imp}$	V 1000		1000		1000	1000	
Rated impulse voltage $U_{imp}$	kV -		-		-	-	
Mechanical endurance							
AC/DC	Operations	Mill Operations	10	10	10	3	3
	Operations	Per/H	1200	1200	900	600	600
<b>Utilization category AC-1</b> Rated power values at resistive load							
Rated power value $P_N$	3~230 V	kW	228	266	381	476	
	<b>3~400 V</b>	<b>kW</b>	<b>395</b>	<b>460</b>	<b>658</b>	<b>822</b>	
	3~500 V	kW	519	606	866	1082	
	3~690 V	kW	686	800	1143	1428	
	3~1000V	KW	1039	1212	1732	2165	
Rated current $I_e$ up to 690 V		Amps	<b>600</b>	<b>700</b>	<b>1000</b>	<b>1250</b>	
Minimum wire cross-section under rated load $I_e$		mm <sup>2</sup>	2X(30X8)	2X(30X10)   2X(40X10)			
Admissible practical operation frequency		opsh	300	300	300	120	
Rated current at 1000 opsh		A	<b>510</b>	<b>546</b>	<b>736</b>	<b>1125</b>	
<b>Utilization category AC-3</b> Rated power values of AC induction type motors							
Rated power value $P_N$	3~230 V	kW	125	160	220	250	
	<b>3~400 V</b>	<b>kW</b>	<b>220</b>	<b>280</b>	<b>375</b>	<b>450</b>	
	3~415/440 V	kW	230	315	400	450	
	3~500 V	kW	300	400	480	500	
	3~690 V	kW	375	450	500	550	
	3~1000V	kW	300	375	450	500	
Rated current $I_e$ up to 440 V		Amps	<b>420</b>	<b>550</b>	<b>700</b>	<b>825</b>	
Admiss. switching freq. at $P_N$ and cont. cycling		opsh	300	300	300	120	
<b>Utilization category AC-4</b> Rated power values of AC induction motors (high switching, plugging duty)							
Rated power value in $P_N$	3~230 V	kW	45	50	80	110	
	<b>3~400 V</b>	<b>kW</b>	<b>80</b>	<b>90</b>	<b>132</b>	<b>165</b>	
	3~500 V	kW	100	110	225	250	
	3~690 V	kW	132	150	250	315	
Rated current $I_e$ with practical element endurance up to	3~1000 V	Amps	<b>150</b>	<b>165</b>	<b>250</b>	<b>350</b>	
		Opsh	150	150	120	120	
Admissible switching frequency	3~400 V	kW	220	280	375	450	
Maximum permissible load $P_N$	3~400 V	A	420	550	700	825	
<b>Utilization category AC-6b</b> Rated values of AC capacitors (minimum inductance between parallel connected capacitors 6 $\mu$ H)							
Single / Parallel operation	3~230 V	kvar	121	171	225	283	
	<b>3~400 V</b>	<b>kvar</b>	<b>234</b>	<b>292</b>	<b>360</b>	<b>472</b>	
<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	600	700	1000	1250	
DC-3 / DC-5	24 ... 110 V $I_e$	A	420/250	550/300	700/400	825/700	
Admissible switching frequency (DC-1 ... DC-5)			50	50	50	50	
<b>Short Circuit protection of main contacts<sup>1)</sup></b> Maximum permissible fuse (operating category gL)							
Coordination type »2«			630	800	1000	1250	
no welding			400	500	630	1000	
<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	680	680	750	2760	
		cos $\emptyset$	-	-	-	-	
	Holding $P_{HS}$	VA	23	23	25	6	
		cos $\emptyset$	-	-	-	-	
<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	600	600	600		
	Holding $P_H$	W	4	4	4,5		
<b>Switching items at AC-operation</b> Standard coil, power consumption at 1,0 $U_s$							
Making delay		ms	80 ... 90	80 ... 90	70 ... 80	50 ... 55	
Drop-out delay		ms	40 ... 50	40 ... 50	70 ... 80	115 ... 130	
<b>Switching items at DC-operation</b> Standard coil, power consumption at 1,0 $U_s$							
Making delay		ms	80 ... 90	80 ... 90		-	
Drop-out delay		ms	40 ... 50	40 ... 50		-	
<b>Dimensions</b>							
Without auxiliary contacts	Width mm		160   214	160   214	253	312	464   581
LS 75 ... LS 450K with .22	Height mm		220	220	270	265	380
	Depth mm		228	228	262	304	327

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.