

## LS-K CONTACTORS FROM LS 22K TO LS 55K INTERNATIONAL RATINGS



Type	LS 22K		LS 30K		LS 37K		LS 45K		LS 55K
Style	3 pole		3 pole	4 pole	3 pole	4 pole	3 pole	4 pole	3 pole
<b>Rated insulation voltage <math>U_i</math></b>			Pollution degree 3						
	V	1000	1000		1000		1000		1000
<b>Rated impulse voltage <math>U_{imp}</math></b>			8						
	kV	8	8		8		8		8
<b>Mechanical endurance</b>									
AC - operation	Operations	Mil	15	15	15	15	15	15	15
DC - operation	Operations	Mil	15	15	15	15	15	15	15
<b>Utilization category AC-1</b>									
Rated power values at resistive load									
Rated power value $P_N$	3~ 230 V	kW	30	42	42	53	53		53
	<b>3~ 400 V</b>	<b>kW</b>	<b>55</b>	<b>72,5</b>	<b>72,5</b>	<b>92</b>	<b>92</b>		<b>92</b>
	3~ 500 V	kW	69	95	95	121	121		121
	3~ 690 V	kW	95	125	125	160	160		160
Rated current $I_e$ up to 690 V	Amps	<b>90</b>	<b>110</b>	<b>110</b>	<b>140</b>	<b>140</b>		<b>140</b>	
Minimum wire cross-section under rated load $I_e$	mm <sup>2</sup>	35	35	35	50	50		50	
Admissible practical operation frequency	ops/h	1200	1200	1200	1200	1200		1200	
Rated current at 1000 ops/h	A	90	110	110	112	112		112	
<b>Utilization category AC-3</b>									
Rated power values of AC induction type motors									
Rated power value $P_N$	3~ 230 V	kW	15	18,5	22	25	30		30
	<b>3~ 400 V</b>	<b>kW</b>	<b>22</b>	<b>30</b>	<b>37</b>	<b>45</b>	<b>55</b>		<b>55</b>
	3~ 415 V	kW	25	37	45	50	55		55
	3~ 500 V	kW	30	40	45	55	65		65
	3~ 690 V	kW	35	45	45	55	65		65
Rated current $I_e$ up to 440 V	Amps	<b>50</b>	<b>65</b>	<b>80</b>	<b>95</b>	<b>105</b>		<b>105</b>	
Admiss. switching freq. at $P_N$ and cont. cycling	ops/h	1200	1200	1200	1200	1200		1200	
<b>Utilization category AC-4</b>									
Rated power values of AC induction type motors									
Rated power value in $P_N$	3~ 230 V	kW	5,5	7,5	10	11	13		13
	<b>3~ 400 V</b>	<b>kW</b>	<b>11</b>	<b>15</b>	<b>18,5</b>	<b>22</b>	<b>25</b>		<b>25</b>
	3~ 500 V	kW	15	18,5	22	25	30		30
	3~ 690 V	kW	18,5	22	25	30	37		37
Rated current $I_e$ with practical electrical endurance up to	3~ 440 V	Amps	<b>23</b>	<b>30</b>	<b>37</b>	<b>44</b>	<b>50</b>		<b>50</b>
Admissible switching frequency	ops/h	200	200	200	200	200		200	
Maximum permissible load $P_N$	3~ 400 V	kW	22	30	37	45	55		55
$I_e$	3~ 400 V	A	50	65	80	95	105		105
<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~ 230 V	kvar	17/17	21/21	24/24	28/28	30/30		30/30
	<b>3~ 400 V</b>	<b>kvar</b>	<b>30/30</b>	<b>38/38</b>	<b>40/40</b>	<b>50/50</b>	<b>60/50</b>		<b>60/50</b>
	3~ 525 V	kvar	35/35	50/50	50/50	50/50	80/66		80/66
	3~ 690 V	kvar	40/30	40/40	40/40	40/40	60/50		60/50
<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	90	110	110	140	140		140
DC-3 / DC-5	24 ... 110 V $I_e$	A	60	70	70	95	95		95
Admissible switching frequency (DC-1 ... DC-5)			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«			100	125	125	200	200		200
no welding			80	100	100	160	160		160
<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	191	191	191	191	191		191
		cos $\phi$	0,54	0,54	0,54	0,54	0,54		0,54
	Holding $P_{Hs}$	VA	17	17	17	17	17		17
		cos $\phi$	0,26	0,26	0,26	0,26	0,26		0,26
<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	197	197	197	197	197		197
	Holding $P_H$	W	2,6	2,6	2,6	2,6	2,6		2,6
<b>Switching items at AC-operation</b>									
Standard coil, power consumption at 1,0 $U_s$									
Making delay	ms	9 ... 35	9 ... 35	9 ... 35	9 ... 35	9 ... 35	9 ... 35		9 ... 35
Drop-out delay	ms	9 ... 15	9 ... 15	9 ... 15	9 ... 15	9 ... 15	9 ... 15		9 ... 15
<b>Switching items at DC-operation</b>									
Standard coil, power consumption at 1,0 $U_s$									
Making delay	ms	15 ... 40	15 ... 40	15 ... 40	15 ... 40	15 ... 40	15 ... 40		15 ... 40
Drop-out delay	ms	9 ... 15	9 ... 15	9 ... 15	9 ... 15	9 ... 15	9 ... 15		9 ... 15

1) According to VDE 0660 part 102 / IEC 947 -4-1 coordination type permit the following damages: **For technical specifications or larger K contactors through LS450K (1250A), request from factory.**

»2« Slight welding of contacts that can easily be opened, is admitted but no further damages.