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Soft starters


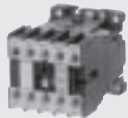
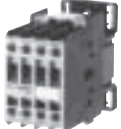
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Overview auxiliary contactors - Series SH

Type		SH 04	SH 05	SH 5
Auxiliary contactors		4-pole	4-pole (+1-6 aux. contacts)	4-pole (+1-4 aux. contacts)
AC operated DC operated				
According DIN EN 50 011 for example SH 04.31 31E = 3 NO + 1 NC 0 = overlapping contacts		Screw terminals Flat plug terminals Solder pin terminals AC/DC SH 04.22 22E SH 04.31 31E SH 04.40 40E SH 04.13 13E	Screw terminals Flat plug terminals AC/DC SH 05.22 22E SH 05.31 31E SH 05.40 40E	Screw terminals AC/DC SH 5.22 22E SH 5.31 31E SH 5.40 40E SH 5.04 04E SH 5V.22 22Eü
Rated current le AC - 15	AC 230V	6A	6A	10A
	AC 400V		4A	6A
	AC 500V		2.5A	4A
	AC 600V		1.5A	2A
Rated current le DC - 13	DC 24V	2.5A	5A	6A
	DC 48V	1.5A	3.5A	4A
	DC 110V	0.7A	2A	2A
	DC 220V	0.36A	0.6A	0.7A
Dimensions (screw mounting)	AC-coil W/H/D mm	45/42/44	45/48/56	45/81/85
	DC-coil W/H/D mm	45/42/44	45/48/68	45/81/115
Accessories for direct mounting			see also type LS 02K, LS 05	see also type LS 4K...LS 7K
Aux. contacts	front	-	HS 05K 2/4-poles	HS 7K/V 1-pole
	side	-	HS 05K 1-pole	HS 8R 2-poles
Timer	pneumatic front	-	-	TMD.../TMI...
	electronic front	-	EV 05	BETL...CG/...DG
Mech. latch	mechanical front	-	-	WBK
Transient voltage suppressor	RC-unit at A1/A2	-	EB 05	LR 2K
	diode at A1/A2	with integrated available	EB 05	LDK
	varistor at A1/A2	with integrated available	-	LV 3K
Interlock	mechanical side	-	VB 05	LUV 18K
	mech.+electr. side	-	-	LUV 18E

Order codes ● pg F.22




















Overview mini and compact contactors - Series LS and LS...K up to 5.5 kW

Type	LS 07	LS 05K	LS 06K	
Contactors 3-pole AC Alternating current control DC Direct current control	Screw terminal F-Flat plug terminal Solder-Pin terminal AC, DC .10/.01 	Screw terminal F-Flat plug terminal Solder-Pin terminal AC, DC .10/.01 	Screw terminal AC, DC .10/.01 	
Contactors 4-pole AC Alternating current control DC Direct current control AC/DC control with electronic coil energization Main contacts LS...K- 4.00 = 4NO LS...K-22.00 = 2NO + 2NC LS...K-04.00 = 4NC		LS 05K-4.00 LS 05K-22.00 LS 05K-04.22 Screw terminals F-Flat plug terminal Solder-Pin terminal 		
Motor rating AC-3 duty, 3~	Contactor style 230 V kW 400 V kW 415 V kW 500 V kW 690 V kW	3-pole 1.5 3 3 - -	3-pole / 4-pole 3 4 4 4 4	3-pole 3 5.5 5.5 5.5 5.5
le max. AC-3 (Ue) 440V	A	7.3 ⁽¹⁾	9	12
Resistive load AC-1	A	16	20	20
Dimensions	width mm	45	45	45
	without auxiliary contacts high mm	42	48	48
	depth mm	44	56 / 68	56
Aux. contact	integrated	.10 / .01	.10/.01/.00	.10/.01 / .00
	front	-	HS 05K 2-/4-pole	HS 05K 2-/4-pole
	side	-	HS 05 1-pole	HS 05 1-pole
Timer	electronic front	-	EV 05	EV 05
Transient voltage	RC-module at A1/A2	-	EB 05	EB 05
surpressor	diode at A1/A2	-	EB 05	EB 05
Interlock	mechanical side	-	VB 05	VB 05
Spare coils	AC-operated	-	C 130-XX	C 130-XX
	DC-operated	-	C 133-XX	C 133-XX
Accessories for direct installation		HS 05K 2-/4-pole, front +36 mm  EB 05, front + 21.5 mm 	HS 05 1-pole, side + 9.8 mm  EV 05, front + 32 mm 	VB 05 
Thermal overload relays AC	Thermal overload relays - direct mount to contactor - separate mount adaptor - 15 overlapping current ranges		LS 05K	LS 06K
Type		b 05	b 05	
Current rating		0.11 ... 14A	0.11 ... 14A	



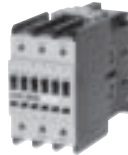









(1) Only up to 400VAC

Order codes ● pg F.8

Overview compact contactors - Series LS...K up to 55 kW

Type	LS 4K	LS 5K	LS 7K	LS 11K	LS 12K																																																																																																																																																																																																																							
Contactors 3-pole AC Alternating current control DC Direct current control AC/DC control with electronic coil energization	Screw terminal AC .10/.01 DC .10/.01	Screw terminal AC .10/.01 DC .10/.01	Screw terminal AC .10/.01 DC .10/.01	Screw terminal AC .00 DC .00	Screw terminal AC .10/.01 DC .10/.01																																																																																																																																																																																																																							
																																																																																																																																																																																																																												
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AC-3 (Ue ≤ 440 V)</td> <td>A</td> <td>9</td> <td>12</td> <td>18</td> <td>18</td> <td>25</td> <td>25</td> <td>25</td> </tr> <tr> <td>Resistive load AC-1</td> <td>A</td> <td>25</td> <td>25</td> <td>32</td> <td>32</td> <td>45</td> <td>45</td> <td>45</td> </tr> <tr> <td rowspan="3">Dimensions without auxiliary contacts</td> <td>width mm</td> <td>45</td> <td>45</td> <td>45</td> <td>45</td> <td>45/55</td> <td>45/55</td> <td>55</td> </tr> <tr> <td>high mm</td> <td>81</td> <td>81</td> <td>81</td> <td>81</td> <td>81/87</td> <td>81/87</td> <td>87</td> </tr> <tr> <td>depth mm</td> <td>85/115</td> <td>85/115</td> <td>85/115</td> <td>85/115</td> <td>85/115 98/134</td> <td>85/115 98/134</td> <td>98/134</td> </tr> <tr> <td rowspan="2">Aux. contact</td> <td>integrated</td> <td>.00/10/01</td> <td>.00/10/01 .00</td> <td>.00/10/01 .00</td> <td>.00/10/01 .00</td> <td>.00</td> <td>.00</td> <td>.00/10/01</td> </tr> <tr> <td>front side</td> <td>HS 7K/V HS 8K/R</td> <td>HS 7K/V HS 8K/R</td> <td>HS 7K/V HS 8K/R</td> <td>HS 7K/V HS 8K/R</td> <td>HS 7K/V HS 8K/R</td> <td>HS 7K/V HS 8K/R</td> <td>HS 7K/V HS 8K/R</td> </tr> <tr> <td rowspan="2">Timer</td> <td>pneumatic front</td> <td>TMD.../TMI...</td> <td>TMD.../TMI...</td> <td>TMD.../TMI...</td> <td>TMD.../TMI...</td> <td>TMD.../TMI...</td> <td>TMD.../TMI...</td> <td>TMD.../TMI...</td> </tr> <tr> <td>electronic front</td> <td>BETL...CG/...DG</td> <td>BETL...CG/...DG</td> <td>BETL...CG/...DG</td> <td>BETL...CG/...DG</td> <td>BETL...CG/...DG</td> <td>BETL...CG/...DG</td> <td>BETL...CG/...DG</td> </tr> <tr> <td>Mech. latch</td> <td>mechanical front</td> <td>WBK</td> <td>WBK</td> <td>WBK</td> <td>WBK</td> <td>WBK</td> <td>WBK</td> <td>WBK</td> </tr> <tr> <td rowspan="3">Transient voltage suppressor</td> <td>RC-module at A1/A2</td> <td>LR 2K</td> <td>LR 2K</td> <td>LR 2K</td> <td>LR 2K</td> <td>LR 2K</td> <td>LR 2K</td> <td>LR 2K</td> </tr> <tr> <td>diode at A1/A2</td> <td>LDK</td> <td>LDK</td> <td>LDK</td> <td>LDK</td> <td>LDK</td> <td>LDK</td> <td>LDK</td> </tr> <tr> <td>varistor at A1/A2</td> <td>LV 3K</td> <td>LV 3K</td> <td>LV 3K</td> <td>LV 3K</td> <td>LV 3K</td> <td>LV 3K</td> <td>LV 3K</td> </tr> <tr> <td rowspan="2">Interlock</td> <td>mechanical side</td> <td>LUV 18K</td> <td>LUV 18K</td> <td>LUV 18K</td> <td>LUV 18K</td> <td>LUV 18K</td> <td>LUV 18K</td> <td>LUV 18K</td> </tr> <tr> <td>mech. + electr. side</td> <td>LUV 18E</td> <td>LUV 18E</td> <td>LUV 18E</td> <td>LUV 18E</td> <td>LUV 18E</td> <td>LUV 18E</td> <td>LUV 18E</td> </tr> <tr> <td>Interface module</td> <td>at A1/A2</td> <td>IMRDG, IMSSDG</td> <td>IMRDG, IMSSDG</td> <td>IMRDG, IMSSDG</td> <td>IMRDG, IMSSDG</td> <td>IMRDG, IMSSDG</td> <td>IMRDG, IMSSDG</td> <td>IMRDG, IMSSDG</td> </tr> <tr> <td>Main contacts</td> <td>spare</td> <td>CS 4</td> <td>CS 5 CS 5C</td> <td>CS 7 CS 7C</td> <td>CS 11 CS 11C</td> <td>CS 11 CS 11C</td> <td>CS 11 CS 11C</td> <td>CS 11 CS 11C</td> </tr> <tr> <td rowspan="2">Spare coils</td> <td>AC-operated</td> <td>C 650-XX</td> <td>C 650-XX</td> <td>C 650-XX</td> <td>C 650 / 652-XX</td> <td>C 650 / 652-XX</td> <td>C 650 / 652-XX</td> <td>C 652-XX</td> </tr> <tr> <td>DC-operated</td> <td>C 660-XX</td> <td>C 660-XX</td> <td>C 660-XX</td> <td>C 660-XX</td> <td>C 660 / 662-XX</td> <td>C 660 / 662-XX</td> <td>C 662-XX</td> </tr> </tbody> </table>	Contactor style	3-pole	3-pole	4-pole	3-pole	4-pole	3-pole	4-pole	3-pole	Motor rating	230 V kW	2.2	3	4	4	7.5	7.5	7.5	AC-3 duty, 3~	400 V kW	4	5.5	7.5	7.5	11	11	12	415 V kW	4	5.5	7.5	7.5	11	11	12	500 V kW	5.5	7.5	10	10	15	15	15	690 V kW	5.5	7.5	10	10	15	15	15	Ie max. AC-3 (Ue ≤ 440 V)	A	9	12	18	18	25	25	25	Resistive load AC-1	A	25	25	32	32	45	45	45	Dimensions without auxiliary contacts	width mm	45	45	45	45	45/55	45/55	55	high mm	81	81	81	81	81/87	81/87	87	depth mm	85/115	85/115	85/115	85/115	85/115 98/134	85/115 98/134	98/134	Aux. contact	integrated	.00/10/01	.00/10/01 .00	.00/10/01 .00	.00/10/01 .00	.00	.00	.00/10/01	front side	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	Timer	pneumatic front	TMD.../TMI...	TMD.../TMI...	TMD.../TMI...	TMD.../TMI...	TMD.../TMI...	TMD.../TMI...	TMD.../TMI...	electronic front	BETL...CG/...DG	BETL...CG/...DG	BETL...CG/...DG	BETL...CG/...DG	BETL...CG/...DG	BETL...CG/...DG	BETL...CG/...DG	Mech. latch	mechanical front	WBK	WBK	WBK	WBK	WBK	WBK	WBK	Transient voltage suppressor	RC-module at A1/A2	LR 2K	LR 2K	LR 2K	LR 2K	LR 2K	LR 2K	LR 2K	diode at A1/A2	LDK	LDK	LDK	LDK	LDK	LDK	LDK	varistor at A1/A2	LV 3K	LV 3K	LV 3K	LV 3K	LV 3K	LV 3K	LV 3K	Interlock	mechanical side	LUV 18K	LUV 18K	LUV 18K	LUV 18K	LUV 18K	LUV 18K	LUV 18K	mech. + electr. side	LUV 18E	LUV 18E	LUV 18E	LUV 18E	LUV 18E	LUV 18E	LUV 18E	Interface module	at A1/A2	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	Main contacts	spare	CS 4	CS 5 CS 5C	CS 7 CS 7C	CS 11 CS 11C	CS 11 CS 11C	CS 11 CS 11C	CS 11 CS 11C	Spare coils	AC-operated	C 650-XX	C 650-XX	C 650-XX	C 650 / 652-XX	C 650 / 652-XX	C 650 / 652-XX	C 652-XX	DC-operated	C 660-XX	C 660-XX	C 660-XX	C 660-XX	C 660 / 662-XX	C 660 / 662-XX	C 662-XX					
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Dimensions without auxiliary contacts	width mm	45	45	45	45	45/55	45/55	55																																																																																																																																																																																																																				
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	depth mm	85/115	85/115	85/115	85/115	85/115 98/134	85/115 98/134	98/134																																																																																																																																																																																																																				
Aux. contact	integrated	.00/10/01	.00/10/01 .00	.00/10/01 .00	.00/10/01 .00	.00	.00	.00/10/01																																																																																																																																																																																																																				
	front side	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R	HS 7K/V HS 8K/R																																																																																																																																																																																																																				
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Interlock	mechanical side	LUV 18K	LUV 18K	LUV 18K	LUV 18K	LUV 18K	LUV 18K	LUV 18K																																																																																																																																																																																																																				
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Interface module	at A1/A2	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG																																																																																																																																																																																																																				
Main contacts	spare	CS 4	CS 5 CS 5C	CS 7 CS 7C	CS 11 CS 11C	CS 11 CS 11C	CS 11 CS 11C	CS 11 CS 11C																																																																																																																																																																																																																				
Spare coils	AC-operated	C 650-XX	C 650-XX	C 650-XX	C 650 / 652-XX	C 650 / 652-XX	C 650 / 652-XX	C 652-XX																																																																																																																																																																																																																				
	DC-operated	C 660-XX	C 660-XX	C 660-XX	C 660-XX	C 660 / 662-XX	C 660 / 662-XX	C 662-XX																																																																																																																																																																																																																				
Accessories for direct installation for contactors type LS 4..K up tot LS 55..K	HS 7K.10 HS 7K.01 HS 7V.10 HS 7V.01 front +29 mm	HS 8K.11 HS 8K.20 HS 8R.11 HS 8R.20 side +12,4 mm	LUV 18K LUV 18E LUV 55K LUV 55E	TMD 30 TMD 60 TMI 30 TMI 60	WBK 24 V WBK 42 V WBK 60 V/DC WBK 110 V WBK 230 V WBK 400 V WBK 500 V																																																																																																																																																																																																																							
																																																																																																																																																																																																																												
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Type Current rating	b 18K 0.16 ... 40A	b 18K 0.16 ... 40A	b 18K 0.16 ... 40A	b 18K 0.16 ... 40A	b 18K 0.16 ... 40A																																																																																																																																																																																																																							

Order codes ● pg F.13

LS 15K		LS 18K		LS 22K		LS 30K		LS 37K		LS 45K		LS 55K	
Screw terminal Double box termin. AC .00 DC .00		Screw terminal Double box termin. AC .00 DC .00		Screw terminal Double box termin. AC .00 AC/DC .00		Screw terminal Double box termin. AC .00 AC/DC .00		Screw terminal Double box termin. AC .00 AC/DC .00		Screw terminal Double box termin. AC .00 AC/DC .00		Screw terminal Double box termin. AC .00 AC/DC .00	
													
LS 15K-4.00 LS 15K-22.00 Screw terminal Box termin. AC, AC/DC		LS 18K-4.00 LS 18K-22.00 Screw terminal Double box termin. AC, AC/DC				LS 30K-4.00 LS 30K-22.00 Screw terminal Double box termin. AC, AC/DC		LS 37K-4.00 Screw terminal Double box termin. AC, AC/DC		LS 45K-4.00 Screw terminal Double box termin. AC, AC/DC		LS5 55K-4.00 see page F.6	
													
3-pole	4-pole	3-pole	4-pole	3-pole		3-pole	4-pole	3-pole	4-pole	3-pole	4-pole	3-pole	
9		11		15		18.5		22		25		30	
16		18.5		22		30		37		45		55	
16		22		25		37		45		50		55	
18.5		25		30		40		45		55		65	
18.5		30		35		45		45		55		65	
32		40		50		65		80		95		105	
60	60	90		90		110		110		140		140	
55	55	87		66		66	87	66	87	75	96	75	
87	55	117.5		117.5		117.5		117.5		117.5		117.5	
98/134	98/134	119/147		116/144		116/144	119/147	116/144	119/147	126/154		126/154	
.00	.00	.00		.00		.00		.00		.00		.00	
HS 7K/V	HS 7K/V	HS 7K/V		HS 7K/V		HS 7K/V		HS 7K/V		HS 7K/V		HS 7K/V	
HS 8K/R	HS 8K/R	HS 8K/R		HS 8K/R		HS 8K/R		HS 8K/R		HS 8K/R		HS 8K/R	
TMD.../TMI...	TMD.../TMI...	TMD.../TMI...		TMD.../TMI...		TMD.../TMI...		TMD.../TMI...		TMD.../TMI...		TMD/TMI	
BETL...CG/...DG	BETL...CG/...DG	BETL...CG/...DG		BETL...CG/...DG		BETL...CG/...DG		BETL...CG/...DG		BETL...CG/...DG		BETL...CG/...DG	
WBK	WBK	WBK		WBK		WBK		WBK		WBK		WBK	
LR 2K	LR 2K	LR 2K / LR 3K		LR 2K / LR 3K		LV 3K		LV 3K		LV 3K		LV 3K	
LDK	LDK	LDK / -		LDK / -		-		-		-		-	
LV 3K	LV 3K	LV 3K		LV 3K		LV 3K		LV 3K		LV 3K		LV 3K	
LUV 18K	LUV 18K	LUV 55K		LUV 55K		LUV 55K		LUV 55K		LUV 55K		LUV 55K	
LUV 18E	LUV 18E	LUV 55E		LUV 55E		LUV 55E		LUV 55E		LUV 55E		LUV 55E	
IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG		IMRDG, IMSSDG		IMRDG, IMSSDG		IMRDG, IMSSDG		IMRDG, IMSSDG		IMRDG, IMSSDG	
CS 15 CS 15C	CS 18 CS 18C	CS 22		CS 30 CS 30C		CS 37 CS 37C		CS 45		CS 45		CS 55	
C 652-XX	C 652 / 653-XX	C 653-XX		C 653-XX		C 653-XX		C 653-XX		C 653-XX		C 653-XX	
C 662-XX	C 662 / C664-XX	see page F.19		see page F.19		see page F.19		see page F.19		see page F.19		see page F.19	

LR 2K
24 ... 48 V/AC
50 ... 127 V/AC
130 ... 250 V/AC

BETL02CG
BETL45CG

BETL02DG
BETL45DG

LR 3K
24 ... 48 V/AC
50 ... 127 V/AC
130 ... 250 V/AC

LDK
12 ... 600 V/DC

LV 3K (... V AC/DC)
24 ... 48 V/AC/DC
50 ... 127 V/AC/DC
130 ... 250 V/AC/DC





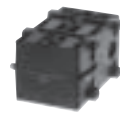
- direct mount to contactor.
- separate mount adaptor
- 10 overlapping current ranges

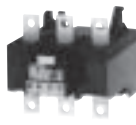
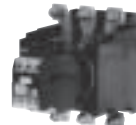
LS 15K		LS 18K		LS 22K		LS 30K		LS 37K		LS 45K		LS 55K	
b 18k ⁽¹⁾ 0.16 ... 40A		b 18k ⁽¹⁾ 0.16 ... 40A		b 18k ⁽¹⁾ 0.16 ... 40A		b 55K 11.5 ... 110A		b 55K 11.5 ... 110A		b 55K 11.5 ... 110A		b 55K 11.5 ... 110A	

(1) Series LS 18K-4.00 / 22.00 only with separate mounted TOR

Overview compact contactors - Series LS...K 75 up to 450 kW


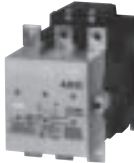


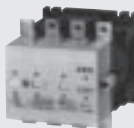



Type	LS 55K-4	LS 75K	LS 90K	LS 110K	LS 132K	LS 160K	
Contactors 3-pole AC Alternating current control AC/DC AC/DC control with electronic coil energization	LS 55K (3-pole) See page F.5	Screw terminal AC .22 AC/DC .11	Screw terminal AC .22 AC/DC .11	Screw terminal AC .22 AC/DC .11	Screw terminal AC/DC .22	Screw terminal AC/DC .22	
Contactors 4-pole AC Alternating current control AC/DC AC/DC control with electronic coil energization Main contacts: LS ...K-4 = 4NO LS ...K-22 = 2NO + 2NC	LS 55K-4 AC, AC/DC .11 Screw terminal Box termin. AC, AC/DC		LS 90K-4 Screw terminal AC, AC/DC .11		LS 132K-4 Screw terminal AC, AC/DC .11	LS 160K-4 Screw terminal AC, AC/DC .11	
Contactor style	4-pole	3-pole	3-pole 4-pole	3-pole	3-pole 4-pole	3-pole 4-pole	
Motor rating	230 V kW	30	45	55	65	75	90
AC-3 duty, 3~	400 V kW	55	75	90	110	132	160
	415 V kW	55	80	100	125	132	185
	500 V kW	65	100	110	132	160	200
	690 V kW	65	100	132	155	200	250
Ie max. AC-3 (Ue ≤ 440 V)	A	105	150	185	205	250	309
Resistive load AC-1	A	200	250	250 325	315	315 400	450 500
Dimensions	Width mm	173	135	135 253	173	173 253	173 253
	without auxiliary contacts High mm	200	178 ⁽¹⁾	178 ⁽¹⁾ 270	212	212 270	212 270
	LS 75K ... LS 450K with .22 Depth mm	176	165.5	165.5 246	208	208 246	208 246
Aux. contact	integrated	.00	.00	.00	.00	.00	.00
	front	-	-	-	-	-	-
Timer	pneumatic front	HS 8K/R	HS 8K/R	HS 8K/R	HS 8K/R	HS 8K/R	HS 8K/R
	electronic front	-	-	-	-	-	-
Mech. latch	mechanical front	-	-	-	-	-	-
Transient voltage suppressor	RC-module at A1/A2	LR 5K	LR 3K	LR 3K LS 5K	LR 5K	-	-
	Diode at A1/A2	-	-	-	-	-	-
	Varistor at A1/A2	LV 3K	LV 3K	LR 3K -	-	-	-
Interlock	mechanical side	LUV 375	LUV 375H/V	LUV 375H/V	LUV 375H/V	LUV 375H/V	LUV 375H
	mech. + electr. side	-	-	-	-	-	-
Interface module	at A1/A2	-	-	-	-	-	-
Main contact spares		CS 55F	CS 75	CS 90	CS 110	CS 132	CS 160
Spare coils	AC-operated	C 655-XX	C 654-XX	C 654-XX C 656-XX	C 655-XX	AC/DC ⁽²⁾	AC/DC ⁽²⁾
	DC-operated	AC/DC ⁽²⁾	AC/DC ⁽²⁾	AC/DC ⁽²⁾	AC/DC ⁽²⁾	AC/DC ⁽²⁾	AC/DC ⁽²⁾

Accessories	LS 55K-4	LS 75K	LS 90K	LS 110K	LS 132K	LS 160K
for direct installation	HS 8K .11 HS 8K .20 HS 8R .11 HS 8R .20 side + 12,4 mm		LR 5K ... 24 V/AC 48 ... 260 V/AC 380 ... 415 V/AC		LUV 375H	
						
(Accessories for type LS 55K-4, LS 75K up to LS 450K)						

Thermal overload relays	LS 55K-4	LS 75K	LS 90K	LS 110K	LS 132K	LS 160K
	Only for separate mounting		Thermal overload relays - Direct mount to contactor and separate mounting - 5 overlapping current ranges		Thermal overload relays - Separate mounting - Contactor coupling with connection kit - 3 overlapping current ranges	
						
Type	-		b 90K		b 160K	
Current rating	-		55...190 A		120...310 A	

(1) AC/DC: 182

(2) AC/DC: with electronic modules CM...-XX and coils C...-XX see catalogue page F.27

LS 220K		LS 280K		LS 375K		LS 450K	
Screw terminal AC/DC .22		Screw terminal AC/DC .22		Screw terminal AC/DC .22		Screw terminal AC .22	
							
LS 220K-4 Screw terminal AC/DC .11		LS 280K-4 Screw terminal AC/DC .11		LS 375K-4 Screw terminal AC/DC .11		LS 450K-4 Screw terminal AC .11	
							
3-pole	4-pole	3-pole	4-pole	3-pole	4-pole	3-pole	4-pole
125		160		220		250	
220		280		375		450	
230		315		400		450	
300		400		480		500	
375		450		500		550	
420		550		700		825	
600		700		1000		1250	
160 214		160 214		253 312		464 581	
220		220		270 265		380	
228		228		262 304		327	
.00		.00		.00		.00	
-		-		-		-	
HS 8K/R		HS 8K/R		HS 8K/R		HS 8K/R	
-		-		-		-	
-		-		-		-	
-		-		-		-	
-		-		-		-	
-		-		-		-	
LUV 375H		LUV 375H		LUV 375H/V		LUV 450V	
-		-		-		-	
-		-		-		-	
CS 220		CS 280		CS 375		CS 450	
AC/DC⁽¹⁾		AC/DC⁽¹⁾		AC/DC⁽¹⁾		C 668-XX	
AC/DC⁽¹⁾		AC/DC⁽¹⁾		AC/DC⁽¹⁾		AC/DC⁽¹⁾	

LUV 375V



LUV 450V



- Separate mounting
- Contactor coupling with connection kit
- 5 overlapping current ranges



- Separate mounting
- 1 range



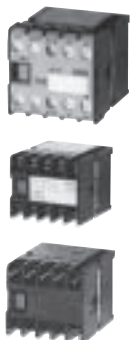
b 375K
120 ... 700 A

b 450K
500 ... 850 A

(1) AC/DC: with electronic modules CM...-XX and coils C...-XX see catalogue page F.27
 (2) with control circuit C 675-XX

AC contactors

Mini-contactors



3P
at 24V DC: 1.2W

4P
at 24V DC: LS 07-4 1.2W
LS 07-22 2.5W

	Power rating (kW), AC-3, 3~				Cat. No.	AC operation	DC operation	Pack.
	230V	400V	500V	690V		230V 50Hz	24V DC	
3P at 24V DC: 1.2W	Screw terminal							
	1.5	3			LS 07.10	251092	251164	10
	1.5	3			LS 07.01	251183	251256	10
	Screw terminal, coil with integrated diode							
	1.5	3			LS 07.10	-	257185	10
	1.5	3			LS 07.01	-	257186	10
	Flat plug terminal 1 x 6.3mm							
	1.5	3			LS 07.10	251142	251174	10
	1.5	3			LS 07.01	251233	251265	10
	Solder pin terminal 1 x 0.8mm (for soldering to PCB's)							
	1.1	1.5			LS 07.10	251275	251344	10
	1.1	1.5			LS 07.01	251322	251353	10
4P at 24V DC: LS 07-4 1.2W LS 07-22 2.5W	Screw terminal							
	1.5	3			LS 07-4.00	251121	251173	10
	1.5	3			LS 07-22.00	251364	251182	10
	Flat plug terminal 1 x 6.3mm							
	1.5	3			LS 07-4.00	251210	258997	10
	Solder pin terminal 1 x 0.8mm (for soldering to PCB's)							
1.1	1.5			LS 07-4.00	251299	259265	10	

Available voltages for contactors type LS 07 (coil not replaceable)⁽¹⁾

AC-operation														
	50 Hz	(V)	110	100	115	125	185	220	230	240	380	400	415	
	60 Hz	(V)	125	115	-	150	220	255	265	280	440	-	-	
AC-operation														
Double frequency coil	50/60 Hz	(V)	24	42	48	110	115	120	200	220	230	240	380	400
DC-operation														
(Maximum coil voltage only DC 180V)	DC	(V)	6 ⁽²⁾	12 ⁽²⁾	24	30 ⁽²⁾	36 ⁽²⁾	42 ⁽²⁾	48	60	72 ⁽²⁾	110	120 ⁽²⁾	125

(1) For Ref. No. please contact us

(2) Price increase has to be considered

AC contactors

Compact contactors

3P
Up to 6 auxiliary contacts can be added

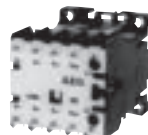


Power rating (kW), AC-3, 3~				Cat. No.	AC operation	DC operation	Pack.
230V	400V	500V	690V		230V 50Hz	24V DC	
Screw terminal							
3	4	4	4	LS 05.10	209624	209652	20/10
3	4	4	4	LS 05.01	209600	209644	20/10
3	5.5	5.5	5.5	LS 06K.10	135718	135728	20/10
3	5.5	5.5	5.5	LS 06K.01	135710	135724	20/10
Flat plug terminal 2 x 2.8mm (1 x 6.3/2 x 2.8mm, AC 1: 20A, on request)							
1.5	2.2	3	3	LS 02K.10	137612	-	20
1.5	2.2	3	3	LS 02K.01	137613	-	20
3	4	4	4	LS 05.10	290158	137430	20/10
3	4	4	4	LS 05.01	136985	137408	20/10
Solder pin terminal 1 x 1mm (for soldering to PCB's)							
1.5	2.2	3	3	LS 02K.10	137614	137619	20/10
1.5	2.2	3	3	LS 02K.01	137615	137620	20/10
3	4	4	4	LS 05.10	137381	209651	20/10
3	4	4	4	LS 05.01	290397	125848	20/10

Interface contactors 3P
Use no extra auxiliary blocks
only 24V DC / 1.2 W



Interface contactors 3P
Additional 2 auxiliary contacts
max. 24V DC / 2W



Screw terminal							
3	4	4	4	LS 05.10	-	133889	10
3	4	4	4	LS 05.01	-	209671	10
Screw terminal							
3	4	4	4	LS 05.10	-	209682	10
3	4	4	4	LS 05.01	-	209676	10
Solder pin terminal 1 x 1mm (for soldering to PCB's)							
1.5	2.2	3	3	LS 02K.01	-	133153	10
3	4	4	4	LS 05.01	-	209675	10

Available voltages for contactors type LS 02K, LS 05 and LS 06k⁽¹⁾

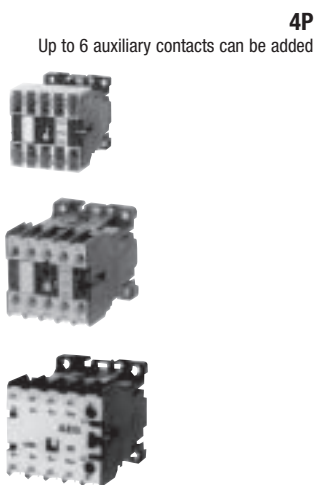
AC-operation																	
50 Hz	(V)	48	-	115-127	-	220-240	-	380-400	415-440	500							
60 Hz	(V)	60	115	-	208-220	240-277	380	440	480	600							
AC-operation																	
Double frequency coil	50/60 Hz	(V)	24	42	48	110-115	120	220	230	240	400	440					
DC-operation																	
(Maximum coil voltage only 250V/DC)	DC	(V)	6 ⁽²⁾	12 ⁽²⁾	24	32 ⁽²⁾	36 ⁽²⁾	42 ⁽²⁾	48	60	72 ⁽²⁾	110	120 ⁽²⁾	125	220	240 ⁽²⁾	250 ⁽²⁾

(1) For Ref. No. please contact us

(2) Price increase has to be considered

AC contactors

Compact contactors (continued)



	Power rating (kW), AC-3, 3~				Cat. No.	AC operation	DC operation	Pack.
	230V	400V	500V	690V		230V 50Hz	24V DC	
						Ref. No.	Ref. No.	
Screw terminal								
3	4	4	4	4	LS 05-4.00	125565	209664	20/10
3	4	4	4	4	LS 05-22.00	290131	135122	20/10
3	4	4	4	4	LS 05-04.00	209635	-	20/10
Flat plug terminal 2 x 2.8mm (1 x 6.3/2 x 2.8 on request)								
3	4	4	4	4	LS 05-4.00	136749	136750	20/10
Solder pin terminal 1 x 1mm								
3	4	4	4	4	LS 05-4.00	-	133164	-/10
3	4	4	4	4	LS 05-22.00	290512	136956	20/10

Available voltages for contactors type LS 02K, LS 05 and LS 06K⁽¹⁾

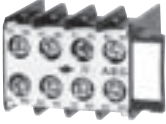
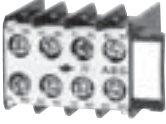



AC-operation		50 Hz	60 Hz	48	60	115	115-127	208-220	220-240	240-277	380	440	480	415-440	500	600			
AC-operation		50 Hz	(V)	48	-	115-127	-	220-240	-	380-400	415-440	500							
AC-operation		60 Hz	(V)	60	115	-	208-220	240-277	380	440	480	600							
AC-operation		50/60 Hz	(V)	24	42	48	110-115	120	220	230	240	400	440						
DC-operation		(Maximum coil voltage only 250V/DC)	DC	(V)	6 ⁽²⁾	12 ⁽²⁾	24	32 ⁽²⁾	36 ⁽²⁾	42 ⁽²⁾	48	60	72 ⁽²⁾	110	120 ⁽²⁾	125	220	240 ⁽²⁾	250 ⁽²⁾

(1) For Ref. No. please contact us

(2) Price increase has to be considered





AC contactors

Accessories for compact contactors

	Description	For contactors type LS 05, LS 06K	DIN EN...	Cat. No.	Ref. No.	Pack.	
<p>Auxiliary contact block DIN EN 50 012 for front snap-on mounting</p> 	Screw terminal, frame IV S	Design no. 10E	11E	HS 05K.01	133596	10	
		Design no. 10E	21E	HS 05K.11	133591	10	
		Design no. 10E	12E	HS 05K.02	133592	10	
		Design no. 10E	22E	HS 05K.12	133597	10	
		Design no. 10E	23E	HS 05K.13	133595	10	
		Design no. 10E	32E	HS 05K.22	133594	10	
		Design no. 10E	41E	HS 05K.31	133593	10	
<p>Auxiliary contact block DIN EN 50 005 for front snap-on mounting</p> 	Screw terminal, frame IV S	Any design no.	20	HS 05K.20	133598	10	
		Any design no.	11	HS 05K.11	133599	10	
		Any design no.	02	HS 05K.02	133600	10	
		Any design no.	40	HS 05K.40	133606	10	
		Any design no.	31	HS 05K.31	133607	10	
		Any design no.	22	HS 05K.22	133608	10	
		Any design no.	13	HS 05K.13	133609	10	
<p>Auxiliary contact block DIN EN 50 012 for side mounting</p> 	Screw terminal, frame I	Design no. 10E	20	HS 05.10	133258	10	
		Design no. 10E	11E	HS 05.01	133259	10	
	Flat plug terminal 2 x 2.8mm insulated, frame I	Design no. 10E	11E	HS 05.01	133261	10	
		Solder pin terminal 1 x 1mm, frame I for soldering to PCBs for soldering to PCBs	Design no. 10E	20	HS 05.10	133262	10
			Design no. 10E	11E	HS 05.01	133263	10
<p>Auxiliary contact block DIN EN 50 005 for side mounting</p> 	Screw terminal, frame I	Any design no.	10	HS 05.10	137252	10	
		Any design no.	01	HS 05.01	209456	10	
		manual operation possible	Any design no.	10	HT 05.10	133102	10
	Flat plug terminal 2 x 2.8mm insulated, frame I	Any design no.	10	HS 05.10	137243	10	
		Any design no.	01	HS 05.01	263075	10	
	Solder pin terminal 1 x 1mm, frame I for soldering to PCBs for soldering to PCBs	Any design no.	10	HS 05.10	125594	10	
		Any design no.	01	HS 05.01	263076	10	
<p>Pick-up delay 0.5 - 60s</p> 	with connecting wires for coil operating voltages Us = 24 - 240V AC/DC	Any design no.		EV 05	209994	10	
		Pick-up delay mounting			EV 05b	135791	10

AC contactors

Accessories for compact contactors (continued)

	Description	For contactors type LS 05, LS 06K	DIN EN...	Cat. No.	Ref. No.	Pack.
 <p>Overvoltage suppressor for front mounting to contactor</p>	RC unit					
	US = 12 - 60V 50/60Hz	Any design no.		EB 05	209983	10
	US = 72 - 240V 50/60Hz	Any design no.		EB 05	209984	10
	Diode					
	US = 6 - 240V DC	Any design no.		EB 05	209990	1
 <p>Connecting bridge for parallel connection of 2, 3 or 4 poles (also for type LS 07)</p>	Screw terminal					
		Any design no.		PB	137604	10
 <p>Mechanical interlock for mounting between 2 contactors with mounting clamps</p>	Set					
		Any design no.		VB 05	209977	20
 <p>Spare coils</p>	Please note type/order no. end digits -XX					
	LS 02K, LS 05 (3- and 4-pole) LS 06	AC		C 130-XX ⁽¹⁾	-	1
	LS 02K, LS 05 (3- and 4-pole) LS 06	DC		C 133-XX ⁽¹⁾	-	1
	no coil change possible on LS 07 and Interface contactors					

Voltage and frequency for spare coils for contactors LS 02K, LS 05 and LS 06K⁽¹⁾

AC-operation																			
	50 Hz	(V)	48	115-127	-	220-240	380-400	415-440	500										
	60 Hz	(V)	60	-	208-220	240-277	440	480	600										
AC-operation																			
Double frequency coil		50/60 Hz	(V)	24	42	48	110-115	120	220	230	240	400	440						
DC-operation																			
(Maximum coil voltage only 250V/DC)		DC	(V)	6 ⁽²⁾	12 ⁽²⁾	24	32 ⁽²⁾	36 ⁽²⁾	42 ⁽²⁾	48	60	72 ⁽²⁾	110	120 ⁽²⁾	125	220	240	250	

(1) For Ref. No. please contact us

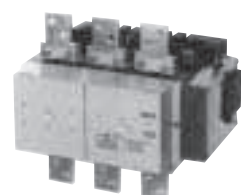
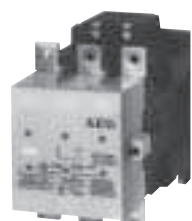
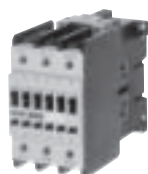
(2) Price increase has to be considered

(3) Coupling contactors (Interface) 1.2W or 2W at DC 24V no coil change possible.

AC contactors

LS ... K-contactors

3P



Power rating (kW), AC-3, 3~				Cat. No.	AC operation 230V 50Hz Ref. No.	DC operation 24V DC Ref. No.	Pack.
230V	400V	500V	690V				
Screw terminal							
2.2	4	5.5	5.5	LS 4K.10	143011	143631	1
2.2	4	5.5	5.5	LS 4K.01	143039	143645	1
3	5.5	7.5	7.5	LS 5K.10	143095	143659	1
3	5.5	7.5	7.5	LS 5K.01	143123	143673	1
4	7.5	10	10	LS 7K.10	143235	143715	1
4	7.5	10	10	LS 7K.01	143263	143729	1
7.5	11	15	15	LS 11K.00	143515	143589	1
Dual box type terminal							
7.5	12	15	15	LS 12K.10	136375	136377	1
7.5	12	15	15	LS 12K.01	136376	-	1
9	16	18.5	18.5	LS 15K.10	135127	-	1
9	16	18.5	18.5	LS 15K.01	135126	-	1
11	18.5	25	30	LS 18K.00	135055	135061	1
15	22	30	35	LS 22K.00	135071	-	1
15	22	30	35	LS 22K.00 AC/DC	135046	135042	1
18.5	30	40	45	LS 30K.00	125583	-	1
18.5	30	40	45	LS 30K.00 AC/DC	135010	135757	1
22	37	45	45	LS 37K.00	125587	-	1
22	37	45	45	LS 37K.00 AC/DC	135769	135012	1
25	45	55	55	LS 45K.00	135104	-	1
25	45	55	55	LS 45K.00 AC/DC	135775	135771	1
30	55	65	65	LS 55K.00	125718	-	1
30	55	65	65	LS 55K.00 AC/DC	135777	135024	1
Screw terminal							
45	75	100	100	LS 75K.22	135819	-	1
45	75	100	100	LS 75K.11 AC/DC	135826	135822	1
55	90	110	132	LS 90K.22	135839	-	1
55	90	110	132	LS 90K.11 AC/DC	135846	135842	1
65	110	132	155	LS 110K.22	135052	-	1
65	110	132	155	LS 110K.11 AC/DC	133411	133407	1
Screw terminal with AC/DC electronic coil							
75	132	160	200	LS 132K.22 AC/DC	135780	136005	1
90	160	200	250	LS 160K.22 AC/DC	133439	133435	1
125	220	300	375	LS 220K.22 AC/DC	133460	133456	1
160	280	400	450	LS 280K.22 AC/DC	133481	133477	1
220	375	480	500	LS 375K.22 AC/DC	133502	133498	1
					AC/DC operation 220-250V 50/60Hz, DC	AC/DC operation 24-28V 50/60Hz, DC	
Screw terminal (220 - 240V 50/60Hz AC)					AC operation 220-240V 50/60Hz		
250	450	550	550	LS 450K.22	133523		1

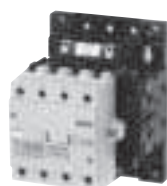
Remark: Available voltages see F.15

AC contactors

LS ... K-contactors

Contactors

4P



Power rating (kW), AC-3, 3~				Cat. No.	AC operation	DC operation	Pack.
230V	400V	AC-1 I _e (A)	230V 50Hz		24V DC		
Screw terminal							
3	5.5	25	LS 5K-4.00	143179	143687	1	
3	5.5	25	LS 5K-22.00	143207	143701	1	
4	7.5	32	LS 7K-4.00	143319	143743	1	
4	7.5	32	LS 7K-22.00	143347	143757	1	
Dual box type terminal							
7.5	11	45	LS 11K-4.00	135034	135037	1	
7.5	11	45	LS 11K-22.00	135032	135036	1	
9	16	60	LS 15K-4.00	135049	135054	1	
9	16	60	LS 15K-22.00	135051	133725	1	
11	18.5	90	LS 18K-4.00	135063		1	
11	18.5	90	LS 18K-22.00	116780		1	
11	18.5	90	LS 18K-4.00 AC/DC	135781	136048	1	
11	18.5	90	LS 18K-22.00 AC/DC	135782	292146	1	
18.5	30	110	LS 30K-4.00	135089		1	
18.5	30	110	LS 30K-22.00	135090		1	
18.5	30	110	LS 30K-4.00 AC/DC	135783	136049	1	
18.5	30	110	LS 30K-22.00 AC/DC	135784	136946	1	
22	37	110	LS 37K-22.00	135103	136054	1	
22	37	110	LS 37K-22.00 AC/DC	135785		1	
25	45	140	LS 45K-4.00	135112		1	
25	45	140	LS 45K-4.00 AC/DC	135786	136053	1	
Screw terminal							
30	55	200	LS 55K-4.11	135796		1	
30	55	200	LS 55K-4.11 AC/DC	133397	133393	1	
55	90	325	LS 90K-4.11	135803		1	
55	90	325	LS 90K-4.11 AC/DC	133404	133400	1	
				AC/DC operation	AC/DC operation		
				220-250V 50/60Hz, DC	24-28V 50/60Hz, DC		
Screw terminal with AC/DC electronic coil⁽¹⁾							
75	132	400	LS 132K-4.11 AC/DC	133704	133700	1	
90	160	500	LS 160K-4.11 AC/DC	133446	133442	1	
125	220	600	LS 220K-4.11 AC/DC	133467	133463	1	
160	280	700	LS 280K-4.11 AC/DC	133488	-	1	
220	375	1000	LS 375K-4.11 AC/DC	133509	133505	1	
				AC operation			
				220-240V 50/60Hz			
Screw terminal							
250	450	1250	LS 450K-4.11	133526		1	

Remark: Available voltages see F.15

AC contactors

Available voltages for contactors type LS 4K up to LS 450K⁽¹⁾

AC-operation																			
LS 4K - LS 110K (3P)	50 Hz	(V)	48	-	110	127	-	208 ⁽¹⁾	220-230	240	-	380 ⁽¹⁾	380-400	415	660-690				
LS 5K-4 - LS 90K-4 (4P)	60 Hz	(V)	-	115 ⁽¹⁾	120 ⁽¹⁾	-	220	240	277	-	380	440	480	-	-				
AC-operation double frequency coil⁽²⁾																			
LS 4K - LS 55K (3P)	50/60 Hz	(V)	24	42 ⁽¹⁾	48	110-115 ⁽¹⁾	230	240	400										
LS 5K - LS 15K (4P)																			
DC-operation																			
LS 4K - LS 18K (3P)	DC	(V)	6 ⁽²⁾	12 ⁽²⁾	24	32 ⁽²⁾	36 ⁽²⁾	42 ⁽²⁾	48	60	72 ⁽²⁾	110	120 ⁽²⁾	125	220	230 ⁽²⁾	240 ⁽²⁾	250 ⁽²⁾	440 ⁽²⁾
LS 5K - LS 15K (4P)																			
AC/DC-electronic coil																			
LS 22K - LS 55K (3P)	50/60 Hz	(V)	24-28	42-48	60-72	110-125	220-250	440											
LS 18K - LS 45K (4P)	DC																		
AC/DC-electronic coil																			
LS 75K - LS 375K (3P- 4P)	50/60 Hz	(V)	24-28	42-48	110-127	220-250	380-415	440-500											
LS 55K-4 (4P)	DC																		
AC-operation																			
only for LS 450K	50/60 Hz	(V)	110-120	220-240	360-440														

(1) For Ref. No. please contact us

(2) Price increase has to be considered

Contactors type LS...K

Protection against short-circuit.

Protection with fuses, max. values, according coordination type 1 and 2 and without welding, contactors without TOR

Type	LS 4K	LS 5K (3+4P)	LS 7K (3+4P)	LS 11K	LS 12K LS 11K (4P)	LS 15K	LS 15K (4P)	LS 18K	LS 18K (4P)	LS 22K (3+4P)	LS 30K (3+4P)	LS 37K (3+4P)	LS 45K (3+4P)
Coordination type 2													
gG/gL (A)	35	35	35	50	63	63	63	80	100	100	125	125	160
Coordination type 1													
gG/gL (A)	50	50	63	63	100	100	100	125	200	200	200	200	250
Without welding													
gG/gL (A)	10	10	25	35	35	35	35	50	80	80	100	100	140
Type	LS 55K (3+4P)	LS 55K (4p)	LS 75K	LS 90K	LS 90K (4p)	LS 110K	LS 132K	LS 132K (4p)	LS 160K (3+4P)	LS 220K (3+4P)	LS 280K (3+4P)	LS 375K (3+4P)	LS 450K (3+4P)
Coordination type 2													
gG/gL (A)	200	250	250	250	400	315	400	500	500	630	800	1000	1250
Coordination type 1													
gG/gL (A)	250	315	355	355	500	500	500	630	630	1250	1250	1250	2x800
Without welding													
gG/gL (A)	160	200	200	200	250	250	315	315	425	500	630	800	1000

AC contactors

With DC wide range coils



3P



DC operated with wide range coil 0,7 - 1,3 x Us								
Power rating, (kW), AC-3, 3				AC-1	Additional aux. cont.	Cat. No.	DC operation	
230V	400V	500V	690V	Ie (A)			24 V/DC / Ref. No.	Pack.
Screw terminal								
2.2	4	5.5	5.5	25	2NO or 1NC	LS4K.10 DWD	136484	1
3	5.5	7.5	7.5	25	2NO or 1NC	LS5K.10 DWD	136485	1
4	7.5	10	10	32	2NO or 1NC	LS7K.10 DWD	136486	1
Dual box terminals								
7.5	12	15	15	45	1NO and 1NC	LS12K.00 DWD	136487	1
9	16	18.5	18.5	60	1NO and 1NC	LS15K.00 DWD	136488	1
11	18.5	25	30	60	1NO and 1NC	LS18K.00 DWD	136489	1
15	22	30	35	90	4 contacts	LS22K.00 DWD ⁽²⁾	103751	1
15	22	30	35	90	4 contacts	LS22K.00 EWD ⁽¹⁾	136490	1
18.5	30	40	45	110	4 contacts	LS30K.00 DWD ⁽²⁾	103758	1
18.5	30	40	45	110	4 contacts	LS30K.00 EWD ⁽¹⁾	136491	1
22	37	45	45	110	4 contacts	LS37K.00 DWD ⁽²⁾	103765	1
22	37	45	45	110	4 contacts	LS37K.00 EWD ⁽¹⁾	136492	1
25	45	55	55	140	4 contacts	LS45K.00 DWD ⁽²⁾	103772	1
25	45	55	55	140	4 contacts	LS45K.00 EWD ⁽¹⁾	136493	1
30	55	65	65	140	4 contacts	LS55K.00 DWD ⁽²⁾	103779	1
30	55	65	65	140	4 contacts	LS55K.00 EWD ⁽¹⁾	136494	1
Screw terminals								
45	75	100	100	250	without	LS75K.11EWD	136495	1
55	90	110	132	250	without	LS90K.11EWD	136496	1

4P



Screw terminals								
3	5.5	7.5	7.5	25	2NO or 1NC	LS5K-4.00 DWD	136568	1
4	7.5	10	10	32	2NO or 1NC	LS7K-4.00 DWD	136569	1
Dual box terminals								
7.5	11	15	15	45	1NO and 1NC	LS11K-4.00 DWD	136570	1
9	16	18.5	18.5	60	1NO and 1NC	LS15K-4.00 DWD	136571	1
11	18.5	25	30	90	4 contacts	LS18K-4.00 DWD ⁽²⁾	103805	1
11	18.5	25	30	90	4 contacts	LS18K-4.00 EWD ⁽¹⁾	136572	1
18.5	30	40	45	110	4 contacts	LS30K-4.00 DWD ⁽²⁾	103806	1
18.5	30	40	45	110	4 contacts	LS30K-4.00 EWD ⁽¹⁾	136573	1
25	45	55	55	140	4 contacts	LS45K-4.00 DWD ⁽²⁾	103807	1
25	45	55	55	140	4 contacts	LS45K-4.00 EWD ⁽¹⁾	136574	1
Screw terminals								
55	90	110	132	325	without	LS90K-4.11 EWD ⁽³⁾	136575	1

Cat. No. voltage suffix

for contactors Type LS 4..K up to LS 90...K with wide range coil

DC operation (0.7-1.3 x Us) LS 4K-LS 55K (3-pole) LS 5K-LS 45K (4-pole)	Suffix DC (V)	-WD 24	-WE 33	-WG 48	-WI 72	-WI 72	-WN 220
AC/DC-electronic coil (0.7-1.3 x Us) LS 22K-LS 90K (3-pole) LS 18K-LS 45K (4-pole)	Suffix	-WD 24	-WE 33	-WG 48	-WI 72	-WI 110	-WN 220

(1) DC-electronic coil for DC operation

(2) DC operation (DC coil, PA = PH = 20 W)

(3) Type LS 90K.11EWD only with DC-electronic coil DC 24V available

Remark:



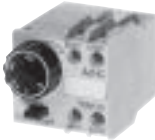





Ordering, pls. mention Cat. No. and Ref. No. If you need the contactor with the above mentioned control voltage 24V DC.

If you need the contactor with an other control voltage pls. mention only the designation and instead of the voltage suffix **WD** use the suffix according to the control voltage you need, see above suffix schedule. Ordering example see below. Ref. No. on request.

Ordering example: Contactor type LS 4K.10DWJ (3-pole, screw terminal) with DC wide range coil for DC 110V

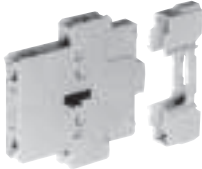
AC contactors

Accessories for LS...K contactors

	Description	Fits contactors type ...	Cat. No.	Ref. No.	Pack.																								
 <p>Auxiliary contact block, 1 contact</p>	Screw terminal, for front snap-on mounting, DIN EN 50 005, DIN EN 50 012 extended contact travel	LS 4K - LS 55K, not for LS 55K-4 (4-pole)	HS 7K.10	133768	10																								
			HS 7K.01	133766	10																								
			HS 7V.10	133769	10																								
			HS 7V.01	133767	10																								
 <p>Auxiliary contact block, 2 contacts</p>	Screw terminal, for side mounting, DIN EN 50 005, DIN EN 50 012 R: for mounting more than 4 front or 2 side-mounted auxiliary contacts	LS 4K - LS 450K LS 22K - LS 450K, LS 18K-4	HS 8K.11	135002	10																								
			HS 8K.20	135004	10																								
			HS 8R.11	133101	10																								
			HS 8R.20	135003	10																								
 <p>Timer, pneumatic, 2 contacts</p>	Delayed ON, pneumatically delayed auxiliary contact, DIN EN 50 005 0.1 - 30s 1 - 60s	LS 4K - LS 55K, not for LS 55K-4 (4-pole)	TMD 30	135028	10																								
			TMD 60	135030	10																								
	Delayed OFF, pneumatically delayed auxiliary contact, DIN EN 50 005 0.1 - 30s 1 - 60s	LS 4K - LS 55K, not for LS 55K-4 (4-pole)	TMI 30	135029	10																								
			TMI 60	135031	10																								
 <p>Mechanical latch, 1 contact</p>	With electronic impulse or manual, for front snap-on mounting, DIN EN 50 005 <table border="1"> <thead> <tr> <th>50 Hz (V)</th> <th>60 Hz (V)</th> <th>DC (V)</th> </tr> </thead> <tbody> <tr> <td>24 - 32</td> <td>24 - 32</td> <td>24 - 36</td> </tr> <tr> <td>42 - 48</td> <td>48 - 60</td> <td>42 - 48</td> </tr> <tr> <td>-</td> <td>-</td> <td>60 - 72</td> </tr> <tr> <td>110 - 127</td> <td>110 - 127</td> <td>110 - 125</td> </tr> <tr> <td>220 - 240</td> <td>208 - 277</td> <td>220 - 250</td> </tr> <tr> <td>380 - 480</td> <td>380 - 480</td> <td>440</td> </tr> <tr> <td>500 - 690</td> <td>600</td> <td></td> </tr> </tbody> </table>	50 Hz (V)	60 Hz (V)	DC (V)	24 - 32	24 - 32	24 - 36	42 - 48	48 - 60	42 - 48	-	-	60 - 72	110 - 127	110 - 127	110 - 125	220 - 240	208 - 277	220 - 250	380 - 480	380 - 480	440	500 - 690	600		LS 4K - LS 55K, not for LS 55K-4 (4-pole)	WBK	135073	5
		50 Hz (V)	60 Hz (V)	DC (V)																									
		24 - 32	24 - 32	24 - 36																									
		42 - 48	48 - 60	42 - 48																									
		-	-	60 - 72																									
		110 - 127	110 - 127	110 - 125																									
		220 - 240	208 - 277	220 - 250																									
		380 - 480	380 - 480	440																									
		500 - 690	600																										
		WBK	292913	5																									
WBK	292912	5																											
WBK	292914	5																											
WBK	135077	5																											
WBK	135807	5																											
WBK	135806	5																											
 <p>Overvoltage suppressor Directly parallel to the coil terminals A1/A2 adaptable without cable</p>	RC unit, for AC-operated contactors Ue 24 - 48V Ue 50 - 127V Ue 130 - 250V Ue 24 - 48V Ue 50 - 127V Ue 130 - 250V Ue 24V Ue 48 - 260V Ue 380 - 415V	LS 4K - LS 15K, LS 18K (3-pole) LS 18K-4, LS 22K - LS 55K, LS 75K, LS 90K (3-pole), not for LS 55K-4 (4-pole) LS 110K, LS 55K-4, LS 90K-4	LR 2K	135014	10																								
			LR 2K	135015	10																								
			LR 2K	135016	10																								
			LR 3K	135017	10																								
			LR 3K	135018	10																								
			LR 3K	135019	10																								
			LR 5K	292917	10																								
			LR 5K	133586	10																								
			LR 5K	133586	10																								
 <p>Diode, for DC-operated contactors Ue 12 - 600V</p>	Diode, for DC-operated contactors Ue 12 - 600V	LS 4K - LS 15K, LS 18K (3-pole)	LDK	135023	10																								
 <p>Varistor, for AC or DC-operated contactors Ue 24 - 48V Ue 50 - 127V Ue 130 - 250V</p>	Varistor, for AC or DC-operated contactors Ue 24 - 48V Ue 50 - 127V Ue 130 - 250V	LS 4K - LS 55K, LS 75K, LS 90K (3-pole), not for LS 55K-4 (4-pole)	LV 3K	135020	10																								
			LV 3K	135021	10																								
			LV 3K	135022	10																								
 <p>Timer, electronic (outgoing units) Directly parallel to the coil terminals A1/A2 adaptable without cable for contactors with Us: 24 - 250 V 50/60Hz/DC</p>	ON-delay 0.1 - 2s 1.5 - 45s OFF-delay 0.1 - 2s 1.5 - 45s	LS 4K - LS 55K, not for LS 55K-4 (4-pole)	BETL 02 CG	136670	5																								
			BETL 45 CG	136671	5																								
			BETL 02 DG	136672	5																								
			BETL 45 DG	136673	5																								


AC contactors

Accessories for LS...K contactors

	Description	Fits contactors type...	Cat. No.	Ref. No.	Pack.
 <p>Interlock</p> <p>Terminal cover For the main terminals used with busbars, protection acc. to DIN VDE 0106 Part 100</p>	Mechanical	LS 4K - LS 18K ⁽¹⁾	LUV18K	135007	5
		LS 22K - LS 55K ⁽²⁾	LUV55K	135008	5
	Mechanical/ electrical 2NC contacts	LS 4K - LS 18K ⁽¹⁾	LUV18E	135005	5
		LS 22K - LS 55K ⁽²⁾	LUV55E	135006	5
	Mechanical, horizontal contactor mounting	LS 75K - LS 375K	LUV375H	133588	1
	Mechanical, vertical contactor mounting	LS 75K - LS 160K, LS 375K ⁽³⁾	LUV375V	133589	1
		LS 450 K	LUV450V	133590	1
	For fitting to screw ends M M8 (1 set = 2 items) for 1-pole units, order 3 for 3-pole contactors	LS 75K, LS 90K (3-pol.)	KLA 90K	139672	1
		M10 (1 set = 6 items) order 2 for 4-pole contactors	LS 110K - LS 375K LS 90K-4	KLA 10-2	204799
	Device marking parts for identification and marking	Labelling system 10 sheets with 260 labels each Label carrier	LS 4K - LS 450K	EAT-260 SPR	133773
				133774	20

(1) Not for type LS 55K-4 (4-pole)
 (2) Not for type LS 18K-4 (4-pole)
 (3) LS 220K and LS 280K only with Type LUV 375H (horizontal)

Spare parts LS...K contactors

	Description	Fits contactors type ...	Cat. No.	Ref. No.	Pack.
 <p>Main contact set (3 NO-contacts)</p>	1 set = 3 units 1 unit = 2 fixed contacts, 1 contact bridge and accessories for 3- and 4-pole contactors (order 2 sets for 4-pole contactors)	LS 22K	CS 22	116576	1
		LS 30K	CS 30	116577	1
		LS 37K	CS 37	116579	1
		LS 45K	CS 45	116581	1
		LS 55K	CS 55	116582	1
		LS 55K-4	CS 55F	136055	1
		LS 75K	CS 75	136056	1
		LS 90K	CS 90	136057	1
		LS 110K	CS 110	136058	1
		LS 132K	CS 132	136062	1
		LS 160K	CS 160	136060	1
		LS 220K	CS 220	133581	1
		LS 280K	CS 280	133582	1
		LS 375K	CS 375	133583	1
		LS 450K	CS 450	133584	1
		Main contact set (2 NO + 2 NC contacts)	1 set = 4 units 1 unit = 2 fixed contacts, 1 contact bridge and accessories for 4-pole contactors LS ...K-22	LS 15K-22	CS 15C
LS 18K-22	CS 18C			116575	1
LS 30K-22	CS 30C			116578	1
LS 37K-22	CS 37C			116580	1

AC contactors

Spare coils for alteration of control voltages of existing contactors

For alternation of control voltages of existing contactors



For contactors with AC operation

Description	Cat. No.	Ref. No.	Pack.
AC coil (230V, 50Hz)			
LS4K-LS7K (3-, 4-pole), LS11K (3-pole), LS12KCWN - LS25KCWN	C 650-00	143851	1
LS11K (4-pole), LS12K, LS15K (3-, 4-pole), LS18K (3-pole), LS30KCWN	C 652-00	116591	1
LS18K (4-pole), LS22K - LS45K (3-, 4-pole), LS55K (3-pole), LS45KCWN - LS70KCWN	C 653-00	116599	1
for LS 75K, LS 90K (3-pole)	C 654-00	133876	1
for LS 55K-4 (4-pole), LS 110K (3-pole)	C 655-00	135937	1
LS 90K-4 (4-pole)	C 675-23	133577	1
LS 450K (3-, 4-pole)	coil Control circuit with rectifier	C 668-23 C 675-23	1 1

For contactors with electronic coil "AC/DC"

AC/DC coil incl. electronic module (220V - 250V 50/60Hz, DC)			
LS 18K (4-pole), LS 22K - LS 45K, LS 55K (3-pole)	C 664-44	135787	1
Electronic coil and electronic module (220V - 250V 50/60Hz, DC)			
LS 75K, LS 90K (3-pole)	coil AC/DC-module	C 665-44 CM 672-44	1 1
LS 110K - LS 160K (3-pole), LS 55K-4 (4-pole)	coil AC/DC-module	C 667-44 CM 671-44	1 1
LS 375K, LS 90K-4 - LS 160K-4 (4-pole)	coil AC/DC-module	C 666-44 CM 670-44	1 1
LS 220K, LS 280K (3-, 4-pole)	coil AC/DC-module	C 674-44 CM 673-44	1 1

For contactors with DC operation

LS 4K - LS 7K, LS 11K (3-pole)	DC coil	C 660-00	143869	1
LS 11K (4-pole), LS 15K, LS 18K (3-pole)		C 662-00	116612	1

Cat. No. suffix for spare coils for contactors type LS 4K - LS 450K

AC-operation	Suffix	-8E	-86	-88	-8K	-69	-8M	-00	-81	-8P	-63	-83	-80	-8S				
(not for LS 450K)	50 Hz (V)	48	-	110	127	-	208 ⁽¹⁾	220-230	240	-	380 ⁽¹⁾	380-400	415	660-690				
	60 Hz (V)	-	115 ⁽¹⁾	120 ⁽¹⁾	-	220	240	277	-	380	440	480	-	-				
AC-operation Double frequency coil ⁽¹⁾	Suffix	-55	-54	-57	-56	-50	-51	-59										
(not for LS 450K)	50/60 Hz (V)	24	42	48	110-115	230	240	400										
DC-operation	Suffix	-1A	-1B	-00	-1C	-1D	-1E	-16	-17	-1F	-18	-16	-14	-19	-1H	-1J	-20	-1K
LS 4K - LS 18K (3P)	DC (V)	6 ⁽²⁾	12 ⁽²⁾	24	32 ⁽²⁾	36 ⁽²⁾	42 ⁽²⁾	48	60	72 ⁽²⁾	110	120 ⁽²⁾	125	220	230 ⁽²⁾	240 ⁽²⁾	250 ⁽²⁾	440 ⁽²⁾
LS 5K - LS 15K (4P)																		
AC/DC-electronic coil/mod.	Suffix	-40	-41	-42	-43	-44	-46											
LS 22K - LS 55K (3P)	50/60 Hz (V)	24-28	42-48	60-72	110-125	220-250	440											
LS 18K - LS 45K (4P)	DC (V)																	
AC/DC-electronic coil/mod.	Suffix	-40	-41	-43	-44	-45	-46											
LS 75K - LS 375K (3P- 4P)	50/60 Hz (V)	24-28	42-48	110-127	220-250	380-415	440-500											
LS 55K-4 (4P)	DC (V)																	
AC-operation only for LS 450K	Suffix	-88	-23	-63														
	50/60 Hz (V)	110-120	220-240	360-440														

Remark:

Use suffix only with Cat. No. of the basic execution, e.g. suffix for DC only with contactors with DC-coil.

On the table of the contactors and the coils, you will find the suffix according to above table, e.g. 48V, 50 Hz = suffix -8E.

Ordering example for spare coils:

Spare coil for contactor type LS 4K e.g. coil 48V 50Hz: Type C 650-8E (Ref. No. on request)
or spare coil for contactor type LS 11K e.g. coil DC 48V: Type C 662-16 (Ref. No. on request)

(1) Only for LS 4K - LS 55K (3-pole) and LS 5K-4 - LS 45K-4 (4-pole)

(2) Price increase has to be considered

AC contactors

Contactors for capacitor switching

kVAR values at ambient temperature +55°C



Power rating kVA AC 6b, 3~				Cat. No.	AC operation 230V 50Hz	
230V	400V	500V	690V		Ref. No.	Pack.
Connection by screws						
7.5	12.5	16	15	LS12KCWN.20A00	247281	1
7.5	12.5	16	15	LS12KCWN.11A00	247282	1
7.5	12.5	16	15	LS12KCWN.02A00	247520	1
10	16.7	21	20	LS16KCWN.20A00	247283	1
10	16.7	21	20	LS16KCWN.11A00	247284	1
10	16.7	21	20	LS16KCWN.02A00	247251	1
12.5	20	25	25	LS20KCWN.10A00	247285	1
12.5	20	25	25	LS20KCWN.21A00	247522	1
12.5	20	25	25	LS20KCWN.12A00	247523	1
15	25	31	30	LS25KCWN.10A00	247286	1
15	25	31	30	LS25KCWN.21A00	247288	1
15	25	31	30	LS25KCWN.12A00	247524	1
Dual box terminals						
20	30	38	35	LS30KCWN.10A00	247289	1
20	30	38	35	LS30KCWN.21A00	247525	1
20	30	38	35	LS30KCWN.12A00	247526	1
25	45	56	55	LS45KCWN.10A00	247290	1
25	45	56	55	LS45KCWN.11A00	247527	1
25	45	56	55	LS45KCWN.12A00	247528	1
35	55	69	65	LS55KCWN.10A00	247291	1
35	55	69	65	LS55KCWN.11A00	247292	1
35	55	69	65	LS55KCWN.12A00	247293	1
45	70	88	85	LS70KCWN.10A00	247294	1
45	70	88	85	LS70KCWN.11A00	247295	1
45	70	88	85	LS70KCWN.12A00	247529	1

Cat. No. suffix for capacitor switching type LS 12KCWN up to LS 70KCWN

AC	Suffix	-88	-8K	-69	-8M	-00	-81	-8P	-63	-83	-80	-8S
LS 12KCWN - LS 70KCWN (3-P)	50 Hz (V)	110	127	-	208	220-230	240	-	380	380-400	415	660-690
	60 Hz (V)	120	-	220	240	277	-	380	440	480	-	-
AC-Dual frequency	Suffix	-55	-54	-57	-56	-50	-51	-59				
LS 12KCWN - LS 70KCWN (3-P)	50/60 Hz (V)	24	42	48	110-115	230	240	400				

Remark:

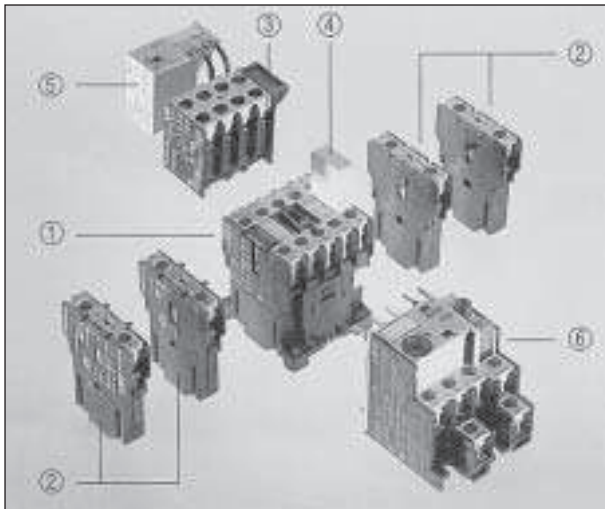
Ordering, pls. mention Cat. No. If you need the contactor with the above mentioned control voltage 230V 50Hz.

If you need the contactor with an other control voltage pls. mention only the Cat. No. and instead of the voltage suffix **00** use the suffix according the control voltage you need, see above suffix schedule. Ordering example see below.

Ordering example: Contactor type LS 12KCWN-20A **88** (3-pole, screw terminal) with coil for AC 110V 50Hz 120V 60Hz.

Spare coils: See page F.19

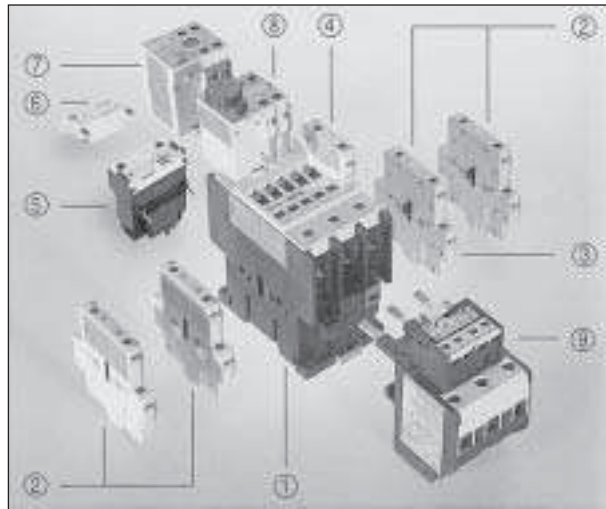
System compact contactors



Compact contactors type LS 02K, LS 05, LS 06K

- ① contactor
- ② auxiliary contact block for side mounting
- ③ auxiliary contact block for front mounting
- ④ overvoltage suppressor
- ⑤ timer, electronic
- ⑥ thermal overload relay

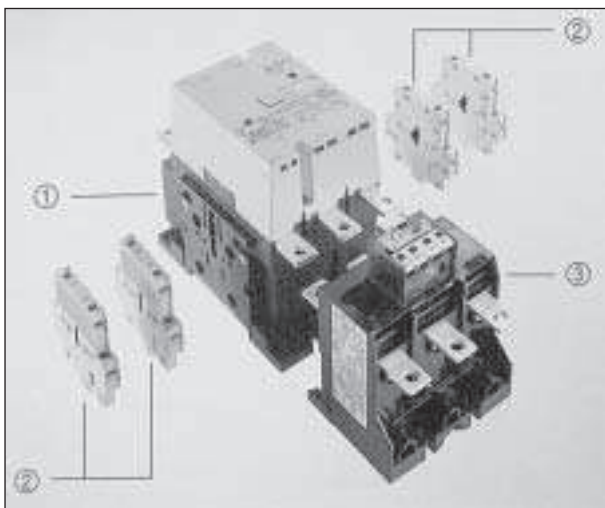
System LS...K contactors up to 55 kW



Contactors type LS 4K up to LS 55K

- ① contactor
- ② auxiliary contact block for side mounting
- ③ mechanical interlock
- ④ auxiliary contact block for front mounting
- ⑤ timer, electronic
- ⑥ overvoltage suppressor
- ⑦ mechanical latch
- ⑧ timer, pneumatic
- ⑨ thermal overload relay

System LS...K contactors from 75 kW up to 450 kW



Contactors from type LS 75K up to LS 450 K

- ① contactor
- ② auxiliary contact block for side mounting
- ③ thermal overload relay

Contactor combinations

Small insulated enclosure

Empty enclosure for housing of motorstarters (contactors + therm. overload relay)

Empty enclosure
For compact contactors Type LS 02K,
LS 05 or LS 06K with overload relay Type b 05



	Power rating (kW), AC-3, 3~			Combination	Contactors	Cat. No.	Ref. No.	Pack.			
	230V	400V	690V								
	With push-buttons I-O/R, (O/R protruding) ⁽¹⁾⁽³⁾										
	1.5 - 3	2.2 - 4	3-4	Lbi 02K, Lbi 05, Lbi 06K	LS 02K, LS 05, LS 06K	LGHV 65 IP65	137558	1			
	With push-button R ⁽¹⁾⁽³⁾										
	1.5 - 3	2.2 - 4	3-4	Lbi 02K, Lbi 05, Lbi 06K	LS 02K, LS 05, LS 06K	LGHR 65 IP65	116662	1			
	Empty enclosure for compact contactors with overload relay Type b 18K										
	With push-buttons I-O/R, (O/R protruding) ⁽¹⁾⁽²⁾										
	2.2 - 4	4 - 7.5	5.5 - 10	Lbi 4K - 7K	LS 4K - 7K	I01K6P IP65	136733	1			
	With push-button R ⁽¹⁾⁽³⁾										
	2.2 - 4	4 - 7.5	5.5 - 10	Lbi 4K - 7K	LS 4K - 7K	I01K6R IP65	136737	1			
	Without push-buttons										
	2.2 - 4	4 - 7.5	5.5 - 10	Lbi 4K - 7K	LS 4K - 7K	I01K60 IP65	136735	1			
With push-buttons I-O/R, (O/R protruding) ⁽¹⁾⁽²⁾											
7.5	11	15	Lbi 11K	LS 11K	I02K6P IP65	136739	1				
With push-button R ⁽¹⁾⁽³⁾											
7.5	11	15	Lbi 11K	LS 11K	I02K6R IP65	136741	1				
Without push-buttons											
7.5	11	15	Lbi 11K	LS 11K	I02K60 IP65	136741	1				
With push-button I-O/R, (O/R protruding) ⁽¹⁾⁽²⁾											
7.5	12	15	Lbi12K	LS12K	I02K6P IP65	136739	1				
With push-button R ⁽¹⁾⁽³⁾											
7.5	12	15	Lbi12K	LS12K	I02K6R IP65	136741	1				
	Neutral wire terminal for I01K... and I02K...						IKNL	136729	10		
	Auxiliary contact block "I" (Start) for I01K... and I02K... as spare part					For mounting on the front of the contactor Operation via "Start"/"I" button on enclosure			IKHT	136731	10

(1) Operating push-button: I = ON, O/R = OFF and Reset, R = Reset

(2) Multifunction button on overload relay set to "M-0".

(3) Multifunction button on overload relay set to "M" resp. "H".

Contactor combinations

Reversing contactor - AC operation 230V 50Hz

Please note the new LS Compact-Contactors with extensive, modular accessories



Power rating (kW), AC-3, 3~				Rated current (A) AC3, I _e , 400V	Cat. No.	Ref. No.	Pack.
230V	400V	500V	690V				
Screw terminal							
0.37	0.75			2.15	LUV 07.10	251369	5
0.37	0.75			2.15	LUV 07.01	251371	5
Flat plug terminal 1 x 6.3mm							
0.37	0.75			2.15	LUV 07.10	251375	5
0.37	0.75			2.15	LUV 07.01	251376	5
Solder pin terminal 1 x 0.8mm							
0.37	0.75			2.15	LUV 07.10	251377	4
0.37	0.75			2.15	LUV 07.01	251381	4

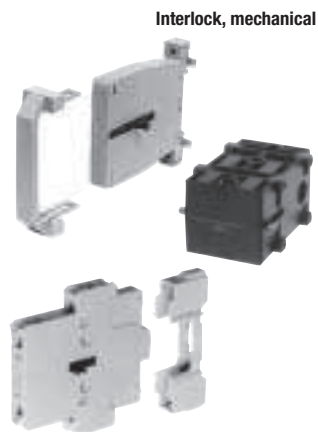
For soldering to PCBs

Deviating operation voltages see table "E-No. voltage suffix":

LUV 07 see page F.8 (contactor LS 07) AC-operation between 24 V and 400 V. (0.75% coils double frequency and DC coils are not available for LUV 07

Ordering example: Reversing contactor type LUV 07.10 with e.g. coil 110V 50Hz E-No. 910-302205-880.

Reversing contactor - Modular technique, self-assembling technique

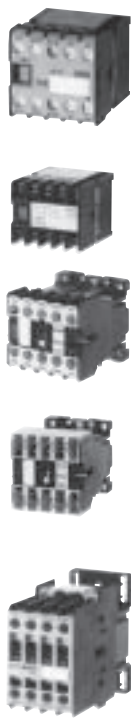


Description	Cat. No.	Ref. No.	Pack.
For fitting between 2 identical LS ..K-Contactors			
for LS 02K, LS 05	VB 05	209977	1
for LS 4K - LS 18K	LUV 18K	135007	1
for LS 22K - LS 55K	LUV 55K	135008	1
for LS 75K - LS 375K, horizontal design	LUV 375H	133588	1
for LS 75K - LS 160K, LS 375K, vertical design	LUV 375V ⁽¹⁾	133589	1
for LS 450K, vertical design	LUV 450V	133590	1

(1) LS 220K and LS 280K only with type LUV 375H (horizontal)

Auxiliary contactors


Mini, compact, SH5- contactors

	Rated current (A) AC-14/15 230V	Rated current (A) DC-13 24V	DIN EN 50 011 Design no.	Cat. No.	AC operation 230V 50Hz	DC operation 24V DC	Pack.
					Ref. No.	Ref. No.	
 <p>4 contacts</p>	Mini-relay, screw terminal						
	6	2.5	22E	SH 04.22	250179	250249	10
	6	2.5	31E	SH 04.31	250141	250165	10
	6	2.5	40E	SH 04.40	250003	250052	10
	6	2.5	13E	SH 04.13	250179	250246	10
	Mini-relay, flat plug terminal 1 x 6.3mm resp. 2 x 2.8mm						
	6	2.5	22E	SH 04.22	250289	250310	10
	6	2.5	31E	SH 04.31	250262	250283	10
	6	2.5	40E	SH 04.40	250029	250061	10
	6	2.5	13E	SH 04.13	250225	-	10
	Mini-relay, solder pin terminal						
	6	2.5	22E	SH 04.22	250343	250364	10
	6	2.5	31E	SH 04.31	250316	250337	10
	6	2.5	40E	SH 04.40	250091	250117	10
	Compact-relay, screw terminal up to 6 auxiliary contacts can be added						
	6	5	22E	SH 05.22	209696	209748	1
	6	5	31E	SH 05.31	209710	209757	1
	6	5	40E	SH 05.40	209721	209763	1
	Compact-relay, flat plug terminal 2 x 2.8mm insulated up to 6 auxiliary contacts can be added						
	6	5	22E	SH 05.22	136994	125868	1
	6	5	31E	SH 05.31	136991	137525	1
	6	5	40E	SH 05.40	136988	137539	1
	SH 5-relay, screw terminal up to 4 auxiliary contacts can be added						
	10	6	22E	SH 5.22	143431	143799	1
	10	6	31E	SH 5.31	143403	143785	1
	10	6	40E	SH 5.40	143375	143771	1
	10	6	04E	SH 5.04	143459	143813	1
	10	6	22E	SH 5V.22	143487	143827	1


Remark: Available voltages see F.27

Coupling relays (interface)

For operation on electronic controls, only available for 24V DC operating voltage screw terminal

	Rated current (A) AC-14/15 230V	Rated current (A) DC-13 24V	DIN EN 50 011 Design no.	Power consumption at 24V DC	Cat. No.	DC operation 24V DC	Pack.
						Ref. No.	
 <p>4 contacts</p>	Compact relay, no auxiliary contacts can be added						
	6	5	22E	1.2W (0.8 - 1.25 Us)	SH 05.22	209769	1
	6	5	31E	1.2W (0.8 - 1.25 Us)	SH 05.31	209771	1
	6	5	40E	1.2W (0.8 - 1.25 Us)	SH 05.40	125877	1
	Compact relay, up to 2 auxiliary contacts can be added						
	6	5	22E	2W (0.7 - 1.25 Us)	SH 05.22	209774	1
	6	5	31E	2W (0.7 - 1.25 Us)	SH 05.31	137554	1
	6	5	40E	2W (0.7 - 1.25 Us)	SH 05.40	209777	1

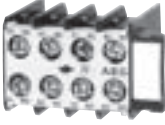






Integrated coil overvoltage suppressor - Screw terminal

	Rated current (A) AC-14/15 230V	Rated current (A) DC-13 24V	DIN EN 50 011 Design no.	Cat. No.	AC operation 230V 50Hz	DC operation 24V DC	Pack.
					Ref. No.	Ref. No.	
 <p>4 contacts</p>	Mini relay						
	6	2.5	22E	SH 04.22 (V/D) ⁽¹⁾	250130	250128	1
	6	2.5	31E	SH 04.31 (V/D) ⁽¹⁾	250131	250129	1
	6	2.5	40E	SH 04.40 (V/D) ⁽¹⁾	259016	259112	1

(1) AC-operated with integrated varistor (V)
DC-operated with integrated diode (D).







Auxiliary contactors

Accessories - compact contactors series SH 05

	Description	Attachable to relay series SH05	DIN EN..	Cat. No.	Ref. No.	Pack.		
 <p>Auxiliary switch DIN EN 50 011 for front snap-on mounting</p>	Screw terminal, frame IV S	Design no. 40E	44E	HS 05K.04	133605	10		
			53E	HS 05K.13	133604	10		
			62E	HS 05K.22	133603	10		
			71E	HS 05K.31	133602	10		
			80E	HS 05K.40	133601	10		
 <p>Auxiliary switch DIN EN 50 005 for front snap-on mounting</p>	Screw terminal, frame IV S	Any design no.	20	HS 05K.20	133598	10		
			11	HS 05K.11	133599	10		
			02	HS 05K.02	133600	10		
			40	HS 05K.40	133606	10		
			31	HS 05K.31	133607	10		
			22	HS 05K.22	133608	10		
			13	HS 05K.13	133609	10		
			04	HS 05K.04	133610	10		
 <p>Auxiliary switch DIN EN 50 005 for side mounting</p>	Screw terminal, frame I	Any design no.	10	HS 05.10	137252	10		
			10	HS 05.01	209456	10		
			10	HT 05.10	133102	10		
			Flat plug terminal 2 x 2.8mm insulated, frame I					
				Any design no.	10	HS 05.10	137243	10
		10	HS 05.01	263075	10			
 <p>Pick-up delay 0,5 - 60s for front or side mounting</p>	With connecting wires for relay operating voltages $U_S = 24 - 240V$ AC/DC	Any design no.		EV 05	209994	10		
 <p>Pick-up delay mounting</p>	For fixing to rails DIN EN 50 022			EV 05b	135791	10		
 <p>Overvoltage suppressor for front snap-on mounting</p>	RC-unit $U_S = 12 - 60V$ 50/60Hz $U_S = 72 - 240V$ 50/60Hz	Any design no.		EB 05	209983	10		
				EB 05	209984	10		
	Diode $U_S = 6 - 240V$ DC	Any design no.		EB 05	209990	10		
 <p>Mechanical interlock for mounting between 2 relays with clamps</p>	Set	Any design no.		VB 05	209977	10		

Auxiliary contactors

Accessories - contactors series SH 5

		Description	Cat. No.	Ref. No.	Pack.	
 <p>Auxiliary switch, 1 contact for front snap-on mounting, DIN EN 50 005, DIN EN 50 011</p>	Screw terminal		HS 7K.10	133768	10	
	extended contact travel		HS 7K.01	133766	10	
	extended contact travel		HS 7V.10	133769	10	
			HS 7V.01	133767	10	
 <p>Auxiliary switch, 2 contacts for side mounting, DIN EN 50 005, DIN EN 50 012</p>	Screw terminal		HS 8R.11	133101	10	
			HS 8R.20	135003	10	
 <p>Timer, pneumatic, 2 contacts pneumatically delayed auxiliary contacts, DIN EN 50 005</p>	ON-delay					
	0.1 - 30s		TMD 30	135028	10	
	1 - 60s		TMD 60	135030	10	
	OFF-delay					
		0.1 - 30s	TMI 30	135029	10	
		1 - 60s	TMI 60	135031	10	
 <p>Mechanical latch, 1 contact for front snap-on mounting, DIN EN 50 005</p>	With electronic impulse or manual					
	50 Hz (V)			60 Hz (V)	DC (V)	
	24 - 32	24 - 32	24 - 36	WBK	135073	5
	42 - 48	48 - 60	42 - 48	WBK	292913	5
	-	-	60 - 72	WBK	292912	5
	110 - 127	110 - 127	110 - 125	WBK	292914	5
	220 - 240	208 - 277	220 - 250	WBK	135077	5
	380 - 480	380 - 480	- 440	WBK	135807	5
	500 - 690	600	-	WBK	135806	5
 <p>Overvoltage suppressor directly connected parallel to the coil terminals A1/A2 without cable</p>	RC unit, for AC-operated contactors					
	Ue 24 - 48V			LR 2K	135014	10
	Ue 50 - 127V			LR 2K	135015	10
	Ue 130 - 250V			LR 2K	135016	10
	Diode, for DC-operated contactors					
	Ue 12 - 600V			LDK	135023	10
	Varistor, for AC or DC-operated contactors					
Ue 24 - 48V			LV 3K	135020	10	
Ue 50 - 127V			LV 3K	135021	10	
Ue 130 - 250V			LV 3K	135022	10	
 <p>Interlock for side mounting</p>	Mechanical		LUV18K	135007	5	
	Mechanical/ electrical		LUV18E	135005	5	
		2NO (NC)				

Auxiliary contactors

Spare coils for SH 05 and SH 5



Description	Attachable for relays type ...	Cat. No.	Ref. No. ⁽¹⁾	Pack.
No coil exchange possible	SH 04	-	-	-
230V AC	SH 05, LS 02K,	C-130-00	133631	1
24V DC	LS 05, LS 06K	C-133-00	137282	1
230V AC	SH 5	C-650-00	143851	1
24V DC		C-660-00	143869	1

Available voltages for control relays series SH 05 and Cat. No. suffix for spare coils⁽¹⁾

AC-operation	Suffix	8E	-86	-8K	-69	-00	-8P	-63	-80	-82						
50 Hz	(V)	48	-	115-127	-	220-240	-	380-400	415-400	500						
60 Hz	(V)	60	115	-	208-220	240-277	380	440	480	600						
AC-operation	Suffix	-55	-54	-57	-56	-5C	-5D	-50	-51	-59	-53					
Double frequency coil	50/60 Hz (V)	24	42	48	110-115	120	220	230	240	400	440					
DC-operation	Suffix	-1A	-1B	-00	-1C	-1D	-1E	-16	-17	-1F	-18	-1G	-14	-19	-1J	-20
(Maximum coil voltage only 250V/DC)	DC (V)	6 ⁽²⁾	12 ⁽²⁾	24	32 ⁽²⁾	36 ⁽²⁾	42 ⁽²⁾	48	60	72 ⁽²⁾	110	120 ⁽²⁾	125	220	240 ⁽²⁾	250 ⁽²⁾

Available voltages for control relays series SH 5 and Cat. No. suffix for spare coils⁽¹⁾

AC-operation	Suffix	8E	-86	-88	-8K	-69	-8M	-00	-81	-8P	-63	-83	-80	-8S				
50 Hz	(V)	48	-	110	127	-	208	220-240	240	-	380	380-400	415	660-690				
60 Hz	(V)	-	115	120	-	220	240	277	-	380	440	480	-	-				
AC-operation	Suffix	-55	-54	-57	-56	-50	-51	-59										
Double frequency coil	50/60 Hz (V)	24	42	48	110-115	230	240	400										
DC-operation	Suffix	-1A	-1B	-00	-1C	-1D	-1E	-16	-17	-1F	-18	-1G	-14	-19	-1H	-1J	-20	-1K
	DC (V)	6 ⁽²⁾	12 ⁽²⁾	24	32 ⁽²⁾	36 ⁽²⁾	42 ⁽²⁾	48	60	72 ⁽²⁾	110	120 ⁽²⁾	125	220	230 ⁽²⁾	240 ⁽²⁾	250 ⁽²⁾	440 ⁽²⁾

Available voltages for control relays series SH 04 and Cat. No. suffix for spare coils⁽¹⁾

AC-operation	Suffix	-88	-86	-8H	-8K	69	-89	-64	-00	-81	-63	-83	-80		
50 Hz	(V)	110	100	115	125	185	200	220	230	240	380	400	415		
60 Hz	(V)	125	115	-	150	220	230	255	265	280	440	-	-		
AC-operation	Suffix	-55	-54	-77	-58	-56	-68	-5D	-50	-51	-5E	-59	-53		
Double frequency coil	50/60 Hz (V)	24	42	48	110	115	00	220	230	240	380	400	440		
DC-operation	Suffix	-00	-16	-17	-18	-14									
	DC (V)	24	48	60	110	125									

(1) For Ref. No. please contact us

(2) Price increase has to be considered