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
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## Overview auxiliary contactors - Series SH

Type	SH 04		SH 05		SH 5	
<b>Auxiliary contactors</b> AC operated DC operated	<b>4-pole</b>		<b>4-pole</b> (+1-6 aux. contacts)		<b>4-pole</b> (+1-4 aux. contacts)	
						
	<b>Screw terminals</b> Flat plug terminals Solder pin terminals <b>AC/DC</b>		<b>Screw terminals</b> Flat plug terminals <b>AC/DC</b>		<b>Screw terminals</b> <b>AC/DC</b>	
According to DIN EN 50 011 for example <b>SH 04.31</b> 31E = 3 NO + 1 NC  0 = overlapping contacts	<b>SH 04.22</b> 22E <b>SH 04.31</b> 31E <b>SH 04.40</b> 40E <b>SH 04.13</b> 13E		<b>SH 05.22</b> 22E <b>SH 05.31</b> 31E <b>SH 05.40</b> 40E		<b>SH 5.22</b> 22E <b>SH 5.31</b> 31E <b>SH 5.40</b> 40E <b>SH 5.04</b> 04E <b>SH 5V.22</b> 22Eü	
<b>Rated current</b> <b>le AC - 15</b>	AC 230V AC 400V AC 500V AC 600V	6A		6A 4A 2.5A 1.5A		10A 6A 4A 2A
<b>Rated current</b> <b>le DC - 13</b>	DC 24V DC 48V DC 110V DC 220V	2.5A 1.5A 0.7A 0.36A		5A 3.5A 2A 0.6A		6A 4A 2A 0.7A
<b>Dimensions</b> (screw mounting)	<b>AC-coil</b> W/H/D mm <b>DC-coil</b> W/H/D mm	45/42/44 45/42/44		45/48/56 45/48/68		45/81/85 45/81/115
<b>Accessories</b> for direct mounting				see also type LS 02K, LS 05		see also type LS 4K...LS 7K
<b>Aux. contacts</b>	front side	- -		HS 05K 2/4-poles HS 05K 1-pole		HS 7K/V 1-pole HS 8R 2-poles
<b>Timer</b>	pneumatic electronic	front front	- -	- EV 05		TMD.../TMI... BETL...CG/...DG
<b>Mech. latch</b>	mechanical	front	-	-		WBK
<b>Transient voltage suppressor</b>	RC-unit diode varistor	at A1/A2 at A1/A2 at A1/A2	- with integrated available with integrated available	EB 05 EB 05 -		LR 2K LDK LV 3K
<b>Interlock</b>	mechanical mech.+electr.	side side	- -	VB 05 -		LUV 18K 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
<b>Contactors 3-pole</b> AC Alternating current control DC Direct current control		Screw terminal F-Flat plug terminal Solder-Pin terminal <b>AC, DC .10/.01</b>	Screw terminal F-Flat plug terminal Solder-Pin terminal <b>AC, DC .10/.01</b>	Screw terminal <b>AC, DC .10/.01</b>
				
<b>Contactors 4-pole</b> 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	
				
<b>Motor rating</b> AC-3 duty, 3~	Contactor style	<b>3-pole</b>	<b>3-pole / 4-pole</b>	<b>3-pole</b>
	230 V kW	1.5	3	3
	400 V kW	3	4	5.5
	415 V kW	3	4	5.5
	500 V kW	-	4	5.5
690 V kW	-	4	5.5	
<b>le max. AC-3 (Ue ) 440V)</b>	A	7.3 <sup>(1)</sup>	9	12
<b>Resistive load AC-1</b>	A	16	20	20
<b>Dimensions</b> without auxiliary contacts	width mm	45	45	45
	high mm	42	48	48
	depth mm	44	56 / 68	56
Aux. contact	integrated	.10 / .01	.10/.01 .00	.10/.01 1 .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 suppressor	RC-module at A1/A2	-	EB 05	EB 05
	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
<b>Accessories</b> for direct installation		HS 05K 2-/4-pole, front +36 mm      HS 05 1-pole, side + 9.8 mm   EB 05, front + 21.5 mm      EV 05, front + 32 mm      VB 05   		
<b>Thermal overload relays</b> AC		Thermal overload relays - direct mount to contactor - separate mount adaptor - 15 overlapping current ranges 		
			LS 05K	LS 06K
<b>Type</b> <b>Current rating</b>			b 05 0.11 ... 14A	b 05 0.11 ... 14A


(1) Only up to 400VAC

Order codes ● pg F.8


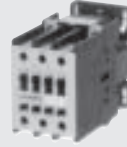







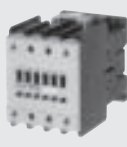
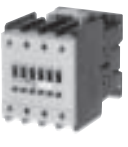

## Overview compact contactors - Series LS...K up to 55 kW

Type		LS 4K	LS 5K	LS 7K	LS 11K	LS 12K
<b>Contactors 3-pole</b> 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
						
<b>Contactors 4-pole</b> AC Alternating current control DC Direct current control AC/DC control with electronic coil energization			LS 5K-4.00 LS 5K-22.00 Screw terminal AC/DC	LS 7K-4.00 LS 7K-22.00 Screw terminal AC/DC	LS 11K-4.00 LS 11K-22.00 Screw terminal AC/DC	
	Main contacts LS...K-4.00 = 4NO LS...K-22.00 = 2NO + 2NC					
<b>Motor rating</b> AC-3 duty, 3~	Contactor style	3-pole	3-pole   4-pole	3-pole   4-pole	3-pole   4-pole	3-pole
	230 V kW	2.2	3	4	7.5	7.5
<b>le max. AC-3 (Ue ≤ 440 V)</b>	A	9	12	18	25	25
	Resistive load AC-1	A	25	25	32	45
<b>Dimensions</b> without auxiliary contacts	width mm	45	45	45	45/55	55
	high mm	81	81	81	81/87	87
	depth mm	85/115	85/115	85/115	85/115   98/134	98/134
<b>Aux. contact</b>	integrated	.00/.10/.01	.00/.10/.01   .00	.00/.10/.01   .00	.00	.10/.01
	front	HS 7K/V	HS 7K/V	HS 7K/V	HS 7K/V	HS 7K/V
	side	HS 8K/R	HS 8K/R	HS 8K/R	HS 8K/R	HS 8K/R
<b>Timer</b>	pneumatic front	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
<b>Mech. latch</b>	mechanical front	WBK	WBK	WBK	WBK	WBK
	RC-module at A1/A2	LR 2K	LR 2K	LR 2K	LR 2K	LR 2K
	diode at A1/A2	LDK	LDK	LDK	LDK	LDK
<b>Interlock</b>	varistor at A1/A2	LV 3K	LV 3K	LV 3K	LV 3K	LV 3K
	mechanical side	LUV 18K	LUV 18K	LUV 18K	LUV 18K	LUV 18K
<b>Interface module</b>	mech. + electr. side	LUV 18E	LUV 18E	LUV 18E	LUV 18E	LUV 18E
	at A1/A2	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG	IMRDG, IMSSDG
<b>Main contacts</b>	spare	CS 4	CS 5   CS 5C	CS 7   CS 7C	CS 11   CS 11C	
<b>Spare coils</b>	AC-operated	C 650-XX	C 650-XX	C 650-XX	C 650 / 652-XX	C 652-XX
	DC-operated	C 660-XX	C 660-XX	C 660-XX	C 660 / 662-XX	C 662-XX

Accessories	LS 4K	LS 5K	LS 7K	LS 11K	LS 12K
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
					

Thermal overload relays	LS 4K	LS 5K	LS 7K	LS 11K	LS 12K
- direct mount to contactor with variable connecting pin locations. - separate mount adaptor. - 17 overlapping current ranges					
<b>Type</b>	b 18K	b 18K	b 18K	b 18K	b 18K
<b>Current rating</b>	0.16 ... 40A	0.16 ... 40A	0.16 ... 40A	0.16 ... 40A	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		LS 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	4-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		LR 2K / LR 3K		LR 2K / LR 3K		LR 2K / LR 3K		LR 2K / LR 3K	
LDK	LDK	LDK / -		LDK / -		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 22		CS 30   CS 30C		CS 37   CS 37C		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



LS 15K

LS 18K

LS 22K

LS 30K

LS 37K

LS 45K

LS 55K

b 18K<sup>(1)</sup>  
0.16 ... 40A

b 18K<sup>(1)</sup>  
0.16 ... 40A

b 18K<sup>(1)</sup>  
0.16 ... 40A

b 55K  
11.5 ... 110A

b 55K  
11.5 ... 110A

b 55K  
11.5 ... 110A

b 55K  
11.5 ... 110A



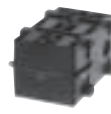
- direct mount to contactor.  
- separate mount adaptor  
- 10 overlapping current ranges



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

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

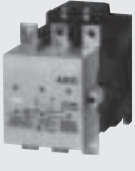
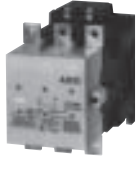



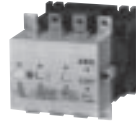


Type	LS 55K-4	LS 75K	LS 90K	LS 110K	LS 132K	LS 160K	
<b>Contactors 3-pole</b> AC Alternating current control AC/DC AC/DC control with electronic coil energization	LS 55K (3-pole) See page F.5	Screw terminal AC .22 AC/DC .11	Screw terminal AC .22 AC/DC .11	Screw terminal AC .22 AC/DC .11	Screw terminal AC/DC .22	Screw terminal AC/DC .22	
<b>Contactors 4-pole</b> 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	
<b>Contactor style</b>	4-pole	3-pole	3-pole   4-pole	3-pole	3-pole   4-pole	3-pole   4-pole	
<b>Motor rating</b>	230 V kW	30	45	55	65	75	90
<b>AC-3 duty, 3~</b>	<b>400 V kW</b>	<b>55</b>	<b>75</b>	<b>90</b>	<b>110</b>	<b>132</b>	<b>160</b>
	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
<b>Ie max. AC-3 (Ue ≤ 440 V)</b>	A	105	150	185	205	250	309
<b>Resistive load AC-1</b>	A	200	250	250   325	315	315   400	450   500
<b>Dimensions</b>	Width mm	173	135	135   253	173	173   253	173   253
	without auxiliary contacts High mm	200	178 <sup>(1)</sup>	178 <sup>(1)</sup>   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
<b>Aux. contact</b>	integrated	.00	.00	.00	.00	.00	.00
	front side	-	-	-	-	-	-
<b>Timer</b>	pneumatic front	HS 8K/R	HS 8K/R	HS 8K/R	HS 8K/R	HS 8K/R	HS 8K/R
	electronic front	-	-	-	-	-	-
<b>Mech. latch</b>	mechanical front	-	-	-	-	-	-
	mechanical front	-	-	-	-	-	-
<b>Transient voltage suppressor</b>	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   -	-	-	-
<b>Interlock</b>	mechanical side	LUV 375	LUV 375H/V	LUV 375H/V	LUV 375H/V	LUV 375H/V	LUV 375H
	mech. + electr. side	-	-	-	-	-	-
<b>Interface module</b>	at A1/A2	-	-	-	-	-	-
<b>Main contact spares</b>		CS 55F	CS 75	CS 90	CS 110	CS 132	CS 160
<b>Spare coils</b>	AC-operated	C 655-XX	C 654-XX	C 654-XX   C 656-XX	C 655-XX	AC/DC <sup>(2)</sup>	AC/DC <sup>(2)</sup>
	DC-operated	AC/DC <sup>(2)</sup>	AC/DC <sup>(2)</sup>	AC/DC <sup>(2)</sup>	AC/DC <sup>(2)</sup>	AC/DC <sup>(2)</sup>	AC/DC <sup>(2)</sup>

Accessories	LS 55K-4, LS 75K up to LS 450K	LS 90K up to LS 110K	LS 132K up to 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	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
<b>Type</b>	-	b 90K	b 160K
<b>Current rating</b>	-	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

Order codes ● pg F.13

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	
<b>220</b>		<b>280</b>		<b>375</b>		<b>450</b>	
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	
-		-		-		-	
<b>HS 8K/R</b>		<b>HS 8K/R</b>		<b>HS 8K/R</b>		<b>HS 8K/R</b>	
-		-		-		-	
-		-		-		-	
-		-		-		-	
-		-		-		-	
-		-		-		-	
<b>LUV 375H</b>		<b>LUV 375H</b>		<b>LUV 375H/V</b>		<b>LUV 450V</b>	
-		-		-		-	
-		-		-		-	
<b>CS 220</b>		<b>CS 280</b>		<b>CS 375</b>		<b>CS 450</b>	
AC/DC <sup>(1)</sup>		AC/DC <sup>(1)</sup>		AC/DC <sup>(1)</sup>		C 668-XX	
AC/DC <sup>(1)</sup>		AC/DC <sup>(1)</sup>		AC/DC <sup>(1)</sup>		AC/DC <sup>(1)</sup>	

LUV 375V



LUV 450V



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



- Separate mounting
- 1 range



<b>b 375K</b> 120 ... 700 A	<b>b 450K</b> 500 ... 850 A
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(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	
<b>Screw terminal</b>	1.5	3			LS 07.10	251092	251164	10
	1.5	3			LS 07.01	251183	251256	10
	<b>Screw terminal, coil with integrated diode</b>							
	1.5	3			LS 07.10	-	257185	10
	1.5	3			LS 07.01	-	257186	10
	<b>Flat plug terminal 1 x 6.3mm</b>							
	1.5	3			LS 07.10	251142	251174	10
	1.5	3			LS 07.01	251233	251265	10
	<b>Solder pin terminal 1 x 0.8mm (for soldering to PCB's)</b>							
	1.1	1.5			LS 07.10	251275	251344	10
	1.1	1.5			LS 07.01	251322	251353	10
	<b>Screw terminal</b>	1.5	3			LS 07-4.00	251121	251173
1.5		3			LS 07-22.00	251364	251182	10
<b>Flat plug terminal 1 x 6.3mm</b>								
1.5		3			LS 07-4.00	251210	258997	10
<b>Solder pin terminal 1 x 0.8mm (for soldering to PCB's)</b>								
1.1		1.5			LS 07-4.00	251299	259265	10

### Available voltages for contactors type LS 07 (coil not replaceable)<sup>(1)</sup>

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

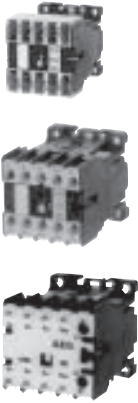
(1) For Ref. No. please contact us  
(2) Price increase has to be considered



# AC contactors

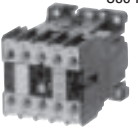
## Compact contactors

**3P**  
Up to 6 auxiliary contacts can be added

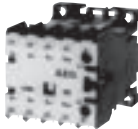


Power rating (kW), AC-3, 3~				Cat. No.	AC operation	DC operation	Pack.
230V	400V	500V	690V		230V 50Hz	24V DC	
<b>Screw terminal</b>							
3	4	4	4	LS 05.10	209624	209652	20/10
3	4	4	4	LS 05.01	209600	209644	20/10
3	5.5	5.5	5.5	LS 06K.10	135718	135728	20/10
3	5.5	5.5	5.5	LS 06K.01	135710	135724	20/10
<b>Flat plug terminal 2 x 2.8mm</b> (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
<b>Solder pin terminal 1 x 1mm</b> (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 / 2 W



<b>Screw terminal</b>							
3	4	4	4	LS 05.10	-	133889	10
3	4	4	4	LS 05.01	-	209671	10
<b>Screw terminal</b>							
3	4	4	4	LS 05.10	-	209682	10
3	4	4	4	LS 05.01	-	209676	10
<b>Solder pin terminal 1 x 1mm</b> (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

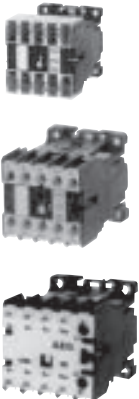
### Available voltages for contactors type LS 02K, LS 05 and LS 06K<sup>(1)</sup>

<b>AC-operation</b>																	
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							
<b>AC-operation</b>																	
Double frequency coil	50/60 Hz	(V)	24	42	48	110-115	120	220	230	240	400	440					
<b>DC-operation</b>																	
(Maximum coil voltage only 250V/DC)	DC	(V)	6 <sup>(2)</sup>	12 <sup>(2)</sup>	24	32 <sup>(2)</sup>	36 <sup>(2)</sup>	42 <sup>(2)</sup>	48	60	72 <sup>(2)</sup>	110	120 <sup>(2)</sup>	125	220	240 <sup>(2)</sup>	250 <sup>(2)</sup>

(1) For Ref. No. please contact us  
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## 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	
<p><b>4P</b> Up to 6 auxiliary contacts can be added</p> 	<b>Screw terminal</b>							
	3	4	4	4	LS 05-4.00	125565	209664	20/10
	3	4	4	4	LS 05-22.00	290131	135122	20/10
	3	4	4	4	LS 05-04.00	209635	-	20/10
	<b>Flat plug terminal 2 x 2.8mm (1 x 6.3/2 x 2.8 on request)</b>							
	3	4	4	4	LS 05-4.00	136749	136750	20/10
	<b>Solder pin terminal 1 x 1mm</b>							
	3	4	4	4	LS 05-4.00	-	133164	-/10
	3	4	4	4	LS 05-22.00	290512	136956	20/10

### Available voltages for contactors type LS 02K, LS 05 and LS 06K<sup>(1)</sup>






<b>AC-operation</b>																
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						
<b>AC-operation</b>																
Double frequency coil																
50/60 Hz	(V)	24	42	48	110-115	120	220	230	240	400	440					
<b>DC-operation</b>																
(Maximum coil voltage only 250V/DC)																
DC	(V)	6 <sup>(2)</sup>	12 <sup>(2)</sup>	24	32 <sup>(2)</sup>	36 <sup>(2)</sup>	42 <sup>(2)</sup>	48	60	72 <sup>(2)</sup>	110	120 <sup>(2)</sup>	125	220	240 <sup>(2)</sup>	250 <sup>(2)</sup>

(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		
		Any design no.	04	HS 05K.04	133610	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		Design no. 10E	20	HS 05.10	133262	10
		for soldering to PCBs		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		Any design no.	10	HS 05.10	125594	10	
	for soldering to PCBs		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><b>Overvoltage suppressor</b> for front mounting to contactor</p>	<b>RC unit</b>					
	US = 12 - 60V 50/60Hz	Any design no.		EB 05	<b>209983</b>	10
	US = 72 - 240V 50/60Hz	Any design no.		EB 05	<b>209984</b>	10
	<b>Diode</b>					
	US = 6 - 240V DC	Any design no.		EB 05	<b>209990</b>	1
 <p><b>Connecting bridge</b> for parallel connection of 2, 3 or 4 poles (also for type LS 07)</p>	<b>Screw terminal</b>					
		Any design no.		PB	<b>137604</b>	10
 <p><b>Mechanical interlock</b> for mounting between 2 contactors with mounting clamps</p>	<b>Set</b>					
		Any design no.		VB 05	<b>209977</b>	20
 <p><b>Spare coils</b></p>	<b>Please note type/order no. end digits -XX</b>					
	LS 02K, LS 05 (3- and 4-pole) LS 06	AC		C 130-XX <sup>(1)</sup>	-	1
	LS 02K, LS 05 (3- and 4-pole) LS 06	DC		C 133-XX <sup>(1)</sup>	-	1
	no coil change possible on LS 07 and Interface contactors					

F

### Voltage and frequency for spare coils for contactors LS 02K, LS 05 and LS 06K<sup>(1)</sup>

AC-operation		50 Hz	60 Hz	48	60	115-127	-	208-220	220-240	240-277	380-400	440	415-440	480	500	600		
AC-operation		(V)	(V)															
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 <sup>(2)</sup>	12 <sup>(2)</sup>	24	32 <sup>(2)</sup>	36 <sup>(2)</sup>	42 <sup>(2)</sup>	48	60	72 <sup>(2)</sup>	110	120 <sup>(2)</sup>	125	220	240	250

(1) For Ref. No. please contact us

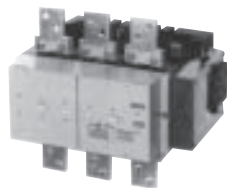
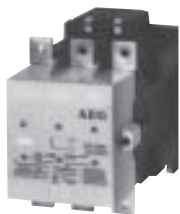
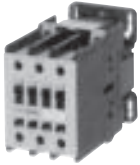
(2) Price increase has to be considered

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

# AC contactors

## LS ... K-contactors

3P



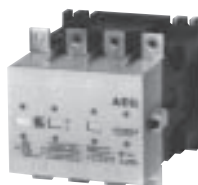
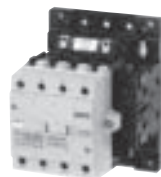
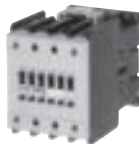
Power rating (kW), AC-3, 3~				Cat. No.	AC operation 230V 50Hz		DC operation 24V DC		Pack.
230V	400V	500V	690V		Ref. No.	Ref. No.			
<b>Screw terminal</b>									
2.2	4	5.5	5.5	LS 4K.10	143011	143631		1	
2.2	4	5.5	5.5	LS 4K.01	143039	143645		1	
3	5.5	7.5	7.5	LS 5K.10	143095	143659		1	
3	5.5	7.5	7.5	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	
<b>Dual box type terminal</b>									
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	
<b>Screw terminal</b>									
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	
					<b>AC/DC operation</b> 220-250V 50/60Hz, DC	<b>AC/DC operation</b> 24-28V 50/60Hz, DC			
<b>Screw terminal with AC/DC electronic coil</b>									
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	
					<b>AC operation</b> 220-240V 50/60Hz				
<b>Screw terminal (220 - 240V 50/60Hz AC)</b>									
250	450	550	550	LS 450K.22	133523			1	

Remark: Available voltages see F.15

## AC contactors

### LS ... K-contactors

4P



Power rating (kW), AC-3, 3~				Cat. No.	AC operation	DC operation	Pack.
230V	400V	AC-1 I <sub>e</sub> (A)	230V 50Hz		24V DC		
<b>Screw terminal</b>							
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	
<b>Dual box type terminal</b>							
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	
<b>Screw terminal</b>							
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		
<b>Screw terminal with AC/DC electronic coil<sup>(1)</sup></b>							
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			
<b>Screw terminal</b>							
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<sup>(1)</sup>

<b>AC-operation</b>															
LS 4K - LS 110K (3P)	50 Hz	(V)	48	-	110	127	-	208 <sup>(1)</sup>	220-230	240	-	380 <sup>(1)</sup>	380-400	415	660-690
LS 5K-4 - LS 90K-4 (4P)	60 Hz	(V)	-	115 <sup>(1)</sup>	120 <sup>(1)</sup>	-	220	240	277	-	380	440	480	-	-
<b>AC-operation double frequency coil<sup>(2)</sup></b>															
LS 4K - LS 55K (3P)	50/60 Hz	(V)	24	42 <sup>(1)</sup>	48	110-115 <sup>(1)</sup>	230	240	400						
LS 5K - LS 15K (4P)															
<b>DC-operation</b>															
LS 4K - LS 18K (3P)	DC	(V)	6 <sup>(2)</sup>	12 <sup>(2)</sup>	24	32 <sup>(2)</sup>	36 <sup>(2)</sup>	42 <sup>(2)</sup>	48	60	72 <sup>(2)</sup>	110	120 <sup>(2)</sup>	125	220
LS 5K - LS 15K (4P)															230 <sup>(2)</sup> 240 <sup>(2)</sup> 250 <sup>(2)</sup> 440 <sup>(2)</sup>
<b>AC/DC-electronic coil</b>															
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														
<b>AC/DC-electronic coil</b>															
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														
<b>AC-operation</b>															
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)
<b>Coordination type 2</b>													
gG/gL (A)	35	35	35	50	63	63	63	80	100	100	125	125	160
<b>Coordination type 1</b>													
gG/gL (A)	50	50	63	63	100	100	100	125	200	200	200	200	250
<b>Without welding</b>													
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)
<b>Coordination type 2</b>													
gG/gL (A)	200	250	250	250	400	315	400	500	500	630	800	1000	1250
<b>Coordination type 1</b>													
gG/gL (A)	250	315	355	355	500	500	500	630	630	1250	1250	1250	2x800
<b>Without welding</b>													
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 Ie (A)	Additional aux. cont.	Cat. No.	DC operation 24 V/DC / Ref. No.	Pack.
	230V	400V	500V	690V					
<b>Screw terminal</b>									
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	
<b>Dual box terminals</b>									
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 <sup>(2)</sup>	103751	1	
15	22	30	35	90	4 contacts	LS22K.00 EWD <sup>(1)</sup>	136490	1	
18.5	30	40	45	110	4 contacts	LS30K.00 DWD <sup>(2)</sup>	103758	1	
18.5	30	40	45	110	4 contacts	LS30K.00 EWD <sup>(1)</sup>	136491	1	
22	37	45	45	110	4 contacts	LS37K.00 DWD <sup>(2)</sup>	103765	1	
22	37	45	45	110	4 contacts	LS37K.00 EWD <sup>(1)</sup>	136492	1	
25	45	55	55	140	4 contacts	LS45K.00 DWD <sup>(2)</sup>	103772	1	
25	45	55	55	140	4 contacts	LS45K.00 EWD <sup>(1)</sup>	136493	1	
30	55	65	65	140	4 contacts	LS55K.00 DWD <sup>(2)</sup>	103779	1	
30	55	65	65	140	4 contacts	LS55K.00 EWD <sup>(1)</sup>	136494	1	
<b>Screw terminals</b>									
45	75	100	100	250	without	LS75K.11EWD	136495	1	
55	90	110	132	250	without	LS90K.11EWD	136496	1	



4P



<b>Screw terminals</b>									
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	
<b>Dual box terminals</b>									
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 <sup>(2)</sup>	103805	1	
11	18.5	25	30	90	4 contacts	LS18K-4.00 EWD <sup>(1)</sup>	136572	1	
18.5	30	40	45	110	4 contacts	LS30K-4.00 DWD <sup>(2)</sup>	103806	1	
18.5	30	40	45	110	4 contacts	LS30K-4.00 EWD <sup>(1)</sup>	136573	1	
25	45	55	55	140	4 contacts	LS45K-4.00 DWD <sup>(2)</sup>	103807	1	
25	45	55	55	140	4 contacts	LS45K-4.00 EWD <sup>(1)</sup>	136574	1	
<b>Screw terminals</b>									
55	90	110	132	325	without	LS90K-4.11 EWD <sup>(3)</sup>	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)	Suffix	-WD	-WE	-WG	-WI	-WI	-WN
LS 4K-LS 55K (3-pole)	DC (V)	24	33	48	72	72	220
LS 5K-LS 45K (4-pole)							
AC/DC-electronic coil (0.7-1.3 x Us)	Suffix	-WD	-WE	-WG	-WI	-WI	-WN
LS 22K-LS 90K (3-pole)		24	33	48	72	110	220
LS 18K-LS 45K (4-pole)							

- (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 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><b>Auxiliary contact block, 1 contact</b></p>	<b>Screw terminal, for front snap-on mounting, DIN EN 50 005, DIN EN 50 012</b>  extended contact travel	LS 4K - LS 55K, not for LS 55K-4 (4-pole)	HS 7K.10 HS 7K.01	<b>133768</b> <b>133766</b>	10 10																								
			HS 7V.10 HS 7V.01	<b>133769</b> <b>133767</b>	10 10																								
 <p><b>Auxiliary contact block, 2 contacts</b></p>	<b>Screw terminal, for side mounting, DIN EN 50 005, DIN EN 50 012</b>  R: for mounting more than 4 front or 2 side-mounted auxiliary contacts	LS 4K - LS 450K	HS 8K.11 HS 8K.20	<b>135002</b> <b>135004</b>	10 10																								
		LS 22K - LS 450K, LS 18K-4	HS 8R.11 HS 8R.20	<b>133101</b> <b>135003</b>	10 10																								
 <p><b>Timer, pneumatic, 2 contacts</b></p>	<b>Delayed ON, pneumatically delayed auxiliary contact, DIN EN 50 005</b> 0.1 - 30s 1 - 60s	LS 4K - LS 55K, not for LS 55K-4 (4-pole)	TMD 30 TMD 60	<b>135028</b> <b>135030</b>	10 10																								
	<b>Delayed OFF, pneumatically delayed auxiliary contact, DIN EN 50 005</b> 0.1 - 30s 1 - 60s	LS 4K - LS 55K, not for LS 55K-4 (4-pole)	TMI 30 TMI 60	<b>135029</b> <b>135031</b>	10 10																								
 <p><b>Mechanical latch, 1 contact</b></p>	<b>With electronic impulse or manual, for front snap-on mounting, DIN EN 50 005</b>  <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 WBK WBK WBK WBK WBK WBK	<b>135073</b> <b>292913</b> <b>292912</b> <b>292914</b> <b>135077</b> <b>135807</b> <b>135806</b>	5 5 5 5 5 5 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																										
		 <p><b>Overvoltage suppressor</b> Directly parallel to the coil terminals A1/A2 adaptable without cable</p>	<b>RC unit, for AC-operated contactors</b> 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  <b>Diode, for DC-operated contactors</b> Ue 12 - 600V  <b>Varistor, for AC or DC-operated contactors</b> Ue 24 - 48V Ue 50 - 127V Ue 130 - 250V	LS 4K - LS 15K, LS 18K (3-pole)	LR 2K LR 2K LR 2K	<b>135014</b> <b>135015</b> <b>135016</b>	10 10 10																						
LS 18K-4, LS 22K - LS 55K, LS 75K, LS 90K (3-pole), not for LS 55K-4 (4-pole)	LR 3K LR 3K LR 3K			<b>135017</b> <b>135018</b> <b>135019</b>	10 10 10																								
LS 110K, LS 55K-4, LS 90K-4	LR 5K LR 5K LR 5K			<b>292917</b> <b>133586</b> <b>133586</b>	10 10 10																								
LS 4K - LS 15K, LS 18K (3-pole)	LDK			<b>135023</b>	10																								
LS 4K - LS 55K, LS 75K, LS 90K (3-pole), not for LS 55K-4 (4-pole)	LV 3K LV 3K LV 3K			<b>135020</b> <b>135021</b> <b>135022</b>	10 10 10																								
 <p><b>Timer, electronic</b> (outgoing units) Directly parallel to the coil terminals A1/A2 adaptable without cable for contactors with Us: 24 - 250 V 50/60Hz/DC</p>	<b>ON-delay</b> 0.1 - 2s 1.5 - 45s  <b>OFF-delay</b> 0.1 - 2s 1.5 - 45s			LS 4K - LS 55K, not for LS 55K-4 (4-pole)	BETL 02 CG BETL 45 CG	<b>136670</b> <b>136671</b>	5 5																						
				LS 4K - LS 55K, not for LS 55K-4 (4-pole)	BETL 02 DG BETL 45 DG	<b>136672</b> <b>136673</b>	5 5																						


## AG contactors

### Accessories for LS...K contactors

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

- (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><b>Main contact set</b> (3 NO-contacts)</p>	<p><b>1 set = 3 units</b>  <b>1 unit = 2 fixed contacts, 1 contact bridge and accessories</b>                      for 3- and 4-pole contactors                      (order 2 sets for 4-pole contactors)</p>	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
<p><b>Main contact set</b> (2 NO + 2 NC contacts)</p>	<p><b>1 set = 4 units</b>  <b>1 unit = 2 fixed contacts, 1 contact bridge and accessories</b>                      for 4-pole contactors LS ...K-22</p>	LS 15K-22	CS 15C	116573	1
		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.
<b>AC coil (230V, 50Hz)</b>			
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 C 668-23	133574	1
	Control circuit with rectifier C 675-23	133577	1

For contactors with electronic coil "AC/DC"

<b>AC/DC coil incl. electronic module (220V - 250V 50/60Hz, DC)</b>			
LS 18K (4-pole), LS 22K - LS 45K, LS 55K (3-pole)	C 664-44	135787	1
<b>Electronic coil and electronic module (220V - 250V 50/60Hz, DC)</b>			
LS 75K, LS 90K (3-pole)	coil	C 665-44	136038
	AC/DC-module	CM 672-44	133535
LS 110K - LS 160K (3-pole), LS 55K-4 (4-pole)	coil	C 667-44	133563
	AC/DC-module	CM 671-44	136024
LS 375K, LS 90K-4 - LS 160K-4 (4-pole)	coil	C 666-44	133563
	AC/DC-module	CM 670-44	133556
LS 220K, LS 280K (3-, 4-pole)	coil	C 674-44	136401
	AC/DC-module	CM 673-44	136407

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

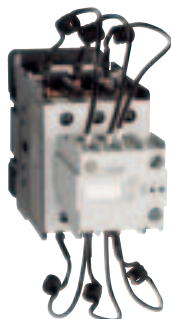
**Ordering example for spare coils:**

(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

kVA 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.
<b>Connection by screws</b>						
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
<b>Dual box terminals</b>						
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

F

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

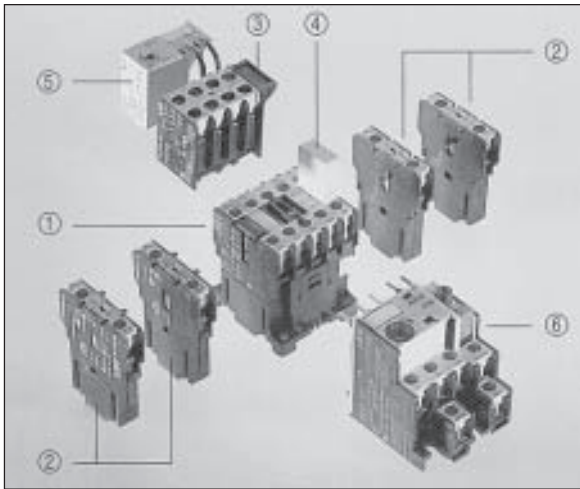
AC	Suffix	-88	-8K	-69	-8M	-00	-81	-8P	-63	-83	-80	-8S
LS 12KCWN - LS 70KCWN (3-P)	50 Hz (V)	110	127	-	208	220-230	240	-	380	380-400	415	660-690
	60 Hz (V)	120	-	220	240	277	-	380	440	480	-	-
AC-Dual frequency	Suffix	-55	-54	-57	-56	-50	-51	-59				
LS 12KCWN - LS 70KCWN (3-P)	50/60 Hz (V)	24	42	48	110-115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

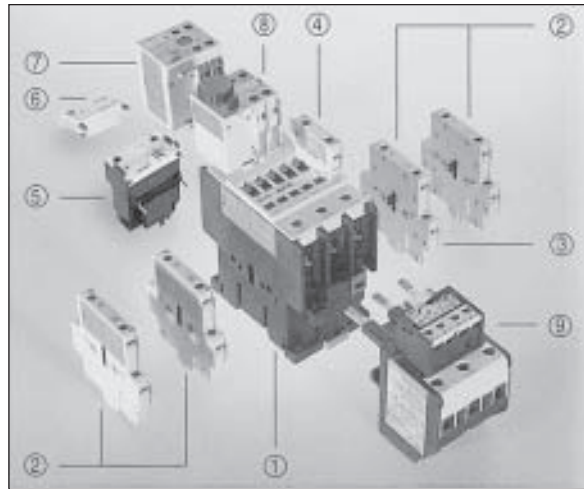
### System compact contactors



#### 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

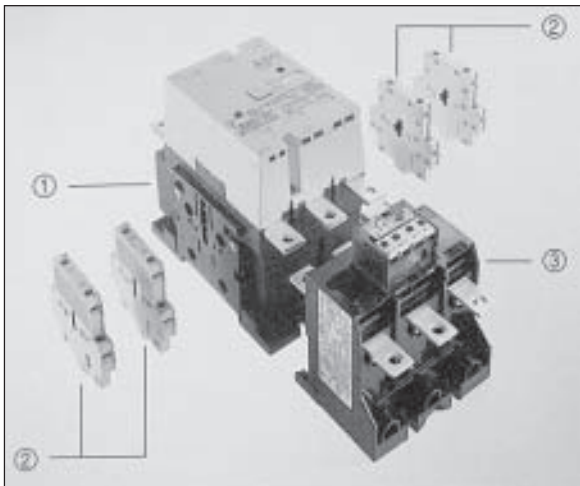
### System LS...K contactors up to 55 kW



#### 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					
<b>With push-buttons I-O/R, (O/R protruding)</b> <sup>(1)(3)</sup>	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
	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
<b>With push-button R</b> <sup>(1)(3)</sup>	2.2 - 4	4 - 7.5	5.5 - 10	Lbi 4K - 7K	LS 4K - 7K	I01K6P IP65	136733	1
<b>Without push-buttons</b>	2.2 - 4	4 - 7.5	5.5 - 10	Lbi 4K - 7K	LS 4K - 7K	I01K6R IP65	136737	1
<b>Without push-buttons</b>	2.2 - 4	4 - 7.5	5.5 - 10	Lbi 4K - 7K	LS 4K - 7K	I01K60 IP65	136735	1
<b>With push-buttons I-O/R, (O/R protruding)</b> <sup>(1)(2)</sup>	7.5	11	15	Lbi 11K	LS 11K	I02K6P IP65	136739	1
<b>With push-button R</b> <sup>(1)(3)</sup>	7.5	11	15	Lbi 11K	LS 11K	I02K6R IP65	136741	1
<b>Without push-buttons</b>	7.5	11	15	Lbi 11K	LS 11K	I02K60 IP65	136741	1
<b>With push-button I-O/R, (O/R protruding)</b> <sup>(1)(2)</sup>	7.5	12	15	Lbi12K	LS12K	I02K6P IP65	136739	1
<b>With push-button R</b> <sup>(1)(3)</sup>	7.5	12	15	Lbi12K	LS12K	I02KGR IP65	136741	1
<b>Neutral wire terminal</b> for I01K... and I02K...						IKNL	136729	10
<b>Auxiliary contact block "I" (Start)</b> for I01K... and I02K... as spare part						IKHT	136731	10

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

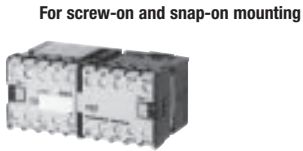
(2) Multifunction button on overload relay set to "M-0".

(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 <sub>e</sub> , 400V	Cat. No.	Ref. No.	Pack.
230V	400V	500V	690V				
<b>Screw terminal</b>							
0.37	0.75			2.15	LUV 07.10	251369	5
0.37	0.75			2.15	LUV 07.01	251371	5
<b>Flat plug terminal 1 x 6.3mm</b>							
0.37	0.75			2.15	LUV 07.10	251375	5
0.37	0.75			2.15	LUV 07.01	251376	5
<b>Solder pin terminal 1 x 0.8mm</b>							
0.37	0.75			2.15	LUV 07.10	251377	4
0.37	0.75			2.15	LUV 07.01	251381	4

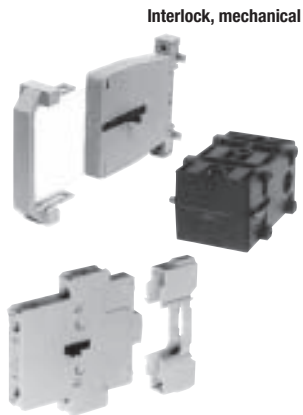
For soldering to PCBs

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



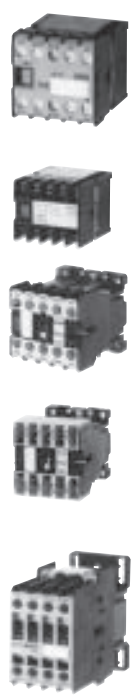
Description	Cat. No.	Ref. No.	Pack.
<b>For fitting between 2 identical LS ..K-Contactors</b>			
for LS 02K, LS 05	VB 05	209977	1
for LS 4K - LS 18K	LUV 18K	135007	1
for LS 22K - LS 55K	LUV 55K	135008	1
for LS 75K - LS 375K, horizontal design	LUV 375H	133588	1
for LS 75K - LS 160K, LS 375K, vertical design	LUV 375V <sup>(1)</sup>	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	Rated current (A) DC-13	DIN EN 50 011	Cat. No.	AC operation	DC operation	Pack.	
					230V 50Hz	24V DC		
	230V	24V	Design no.		Ref. No.	Ref. No.		
	<b>4 contacts</b>							
	<b>Mini-relay, screw terminal</b>							
		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
	<b>Mini-relay, flat plug terminal 1 x 6.3mm resp. 2 x 2.8mm</b>							
		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
	<b>Mini-relay, solder pin terminal</b>							
		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
	<b>Compact-relay, screw terminal up to 6 auxiliary contacts can be added</b>							
		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
	<b>Compact-relay, flat plug terminal 2 x 2.8mm insulated up to 6 auxiliary contacts can be added</b>							
		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
	<b>SH 5-relay, screw terminal up to 4 auxiliary contacts can be added</b>							
	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


F

### Coupling relays (interface)

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

	Rated current (A) AC-14/15	Rated current (A) DC-13	DIN EN 50 011	Power consumption at 24V DC	Cat. No.	DC operation	Pack.	
						24V DC		
	230V	24V	Design no.			Ref. No.		
	<b>4 contacts</b>							
	<b>Compact relay, no auxiliary contacts can be added</b>							
		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
	<b>Compact relay, up to 2 auxiliary contacts can be added</b>							
		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

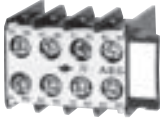




	Rated current (A) AC-14/15	Rated current (A) DC-13	DIN EN 50 011	Cat. No.	AC operation	DC operation	Pack.	
					230V 50Hz	24V DC		
	230V	24V	Design no.		Ref. No.	Ref. No.		
	<b>4 contacts</b>							
	<b>Mini relay</b>							
		6	2.5	22E	SH 04.22 (V/D) <sup>(1)</sup>	250130	250128	1
		6	2.5	31E	SH 04.31 (V/D) <sup>(1)</sup>	250131	250129	1
	6	2.5	40E	SH 04.40 (V/D) <sup>(1)</sup>	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.
<b>Auxiliary switch DIN EN 50 011</b> for front snap-on mounting  	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
<b>Auxiliary switch DIN EN 50 005</b> for front snap-on mounting	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
<b>Auxiliary switch DIN EN 50 005</b> for side mounting  	Screw terminal, frame I  may be hand-operated	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
<b>Pick-up delay 0,5 - 60s</b> for front or side mounting  	With connecting wires for relay operating voltages $U_S = 24 - 240V AC/DC$	Any design no.		EV 05	209994	10
<b>Pick-up delay mounting</b>	For fixing to rails DIN EN 50 022			EV 05b	135791	10
<b>Overvoltage suppressor</b> for front snap-on mounting  	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
<b>Mechanical interlock</b> for mounting between 2 relays with clamps  	Set	Any design no.		VB 05	209977	10

## Auxiliary contactors

### Accessories - contactors series SH 5

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

## Auxiliary contactors

### Spare coils for SH 05 and SH 5



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

### Available voltages for control relays series SH 05 and Cat. No. suffix for spare coils<sup>(1)</sup>

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						
<b>AC-operation</b>	<b>Suffix</b>	<b>-55</b>	<b>-54</b>	<b>-57</b>	<b>-56</b>	<b>-5C</b>	<b>-5D</b>	<b>-50</b>	<b>-51</b>	<b>-59</b>	<b>-53</b>					
Double frequency coil	50/60 Hz (V)	24	42	48	110-115	120	220	230	240	400	440					
<b>DC-operation</b>	<b>Suffix</b>	<b>-1A</b>	<b>-1B</b>	<b>-00</b>	<b>-1C</b>	<b>-1D</b>	<b>-1E</b>	<b>-16</b>	<b>-17</b>	<b>-1F</b>	<b>-18</b>	<b>-1G</b>	<b>-14</b>	<b>-19</b>	<b>-1J</b>	<b>-20</b>
(Maximum coil voltage only 250V/DC)	DC (V)	6 <sup>(2)</sup>	12 <sup>(2)</sup>	24	32 <sup>(2)</sup>	36 <sup>(2)</sup>	42 <sup>(2)</sup>	48	60	72 <sup>(2)</sup>	110	120 <sup>(2)</sup>	125	220	240 <sup>(2)</sup>	250 <sup>(2)</sup>

### Available voltages for control relays series SH 5 and Cat. No. suffix for spare coils<sup>(1)</sup>

AC-operation	Suffix	8E	-86	-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	-	-				
<b>AC-operation</b>	<b>Suffix</b>	<b>-55</b>	<b>-54</b>	<b>-57</b>	<b>-56</b>	<b>-50</b>	<b>-51</b>	<b>-59</b>										
Double frequency coil	50/60 Hz (V)	24	42	48	110-115	230	240	400										
<b>DC-operation</b>	<b>Suffix</b>	<b>-1A</b>	<b>-1B</b>	<b>-00</b>	<b>-1C</b>	<b>-1D</b>	<b>-1E</b>	<b>-16</b>	<b>-17</b>	<b>-1F</b>	<b>-18</b>	<b>-1G</b>	<b>-14</b>	<b>-19</b>	<b>-1H</b>	<b>-1J</b>	<b>-20</b>	<b>-1K</b>
	DC (V)	6 <sup>(2)</sup>	12 <sup>(2)</sup>	24	32 <sup>(2)</sup>	36 <sup>(2)</sup>	42 <sup>(2)</sup>	48	60	72 <sup>(2)</sup>	110	120 <sup>(2)</sup>	125	220	230 <sup>(2)</sup>	240 <sup>(2)</sup>	250 <sup>(2)</sup>	440 <sup>(2)</sup>

### Available voltages for control relays series SH 04 and Cat. No. suffix for spare coils<sup>(1)</sup>

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	-	-			
<b>AC-operation</b>	<b>Suffix</b>	<b>-55</b>	<b>-54</b>	<b>-77</b>	<b>-58</b>	<b>-56</b>	<b>-68</b>	<b>-5D</b>	<b>-50</b>	<b>-51</b>	<b>-5E</b>	<b>-59</b>	<b>-53</b>			
Double frequency coil	50/60 Hz (V)	24	42	48	110	115	00	220	230	240	380	400	440			
<b>DC-operation</b>	<b>Suffix</b>	<b>-00</b>	<b>-16</b>	<b>-17</b>	<b>-18</b>	<b>-14</b>										
	DC (V)	24	48	60	110	125										

(1) For Ref. No. please contact us

(2) Price increase has to be considered



## Marking



The cUL, is achieved for all range of ASTAT S, except for 58A models, items QA02P058S, QA12P058S, QA22P058S, QA32P058S.

## ASTAT S

### Small soft starter with integral bypass

ASTAT S is compact, easy to operate soft starter, designed for use with standard 3-phase squirrel cage motors. It provides an advanced method of reducing current during motor starting and stopping. ASTAT S will start supplying a reduced voltage to the motor, increasing up to the rated voltage, so avoiding, high currents and generating soft starting and stopping. The motor has to be able to start in a reduced voltage.

- Solid soft starter for standard 3ph AC motors up to 30kW at 400V AC
- Voltage ratings up to 600V
- Two phase control with integral bypass
- Compact, small case
- DIN rail mounting. Optional from 31A
- Start and soft stop features

## Technical data

### Ratings

Voltage ratings	3ph AC systems
	220/230V (+10%, -15%) for units QA02P ___ S
	380/415V (+10%, -15%) for units QA12P ___ S
	480/500V (+10%, -15%) for units QA22P ___ S
575/600V (+10%, -15%) for units QA32P ___ S	
Frequency range	50/60Hz, ±5%
Load	3ph, AC standard motors

### Control specifications

Ramp up	0,5 - 10 s
Ramp down	0,5 - 10 s
Initial voltage	0 - 80% Un
Starting torque	0 - 64% Tn

### I/O control

Inputs	one input for Start/Stop
Outputs	one output for «End of Ramp» signal for ratings 31, 44, 58A

### Ambient conditions

Operating temperature	0 to 40°C. Up to 60°C derating by 1,2% per °C
Storage temperature	-20 to 70°C
Relative humidity	up to 80%, without condensation
Max. altitude	up to 1000m. Above this derate by 5% each 100m
Protection degree	IP20

Order codes ● pg. F.29

### ASTAT S - Small soft starter with integral bypass



Input voltage V CA	Current rating <sup>(2)</sup> A	Maximum current A	Maximum motor power <sup>(1)</sup>				Cat. No.	Ref. No.	Pack
			220/230V kW/Hp	380/415V kW/Hp	480/500V kW/Hp	575/600V kW/Hp			
220	8	28	1.5 / 2	-	-	-	QA02P008S	120881	1
	17	60	4 / 5.5	-	-	-	QA02P017S	120882	1
	22	77	5.5 / 7.5	-	-	-	QA02P022S	120883	1
	31	110	7.5 / 10	-	-	-	QA02P031S	120884	1
	44	150	11 / 15	-	-	-	QA02P044S	120885	1
	58	200	15 / 20	-	-	-	QA02P058S	120886	1
400	8	28	-	4 / 5.5	-	-	QA12P008S	120892	1
	17	60	-	7.5 / 10	-	-	QA12P017S	120893	1
	22	77	-	11 / 15	-	-	QA12P022S	120894	1
	31	110	-	15 / 20	-	-	QA12P031S	120895	1
	44	150	-	22 / 30	-	-	QA12P044S	120896	1
	58	200	-	30 / 40	-	-	QA12P058S	120897	1
500	8	28	-	-	5.5 / 7.5	-	QA22P008S	120898	1
	17	60	-	-	11 / 15	-	QA22P017S	120899	1
	22	77	-	-	15 / 20	-	QA22P022S	120900	1
	31	110	-	-	22 / 30	-	QA22P031S	120901	1
	44	150	-	-	30 / 40	-	QA22P044S	120902	1
	58	200	-	-	45 / 60	-	QA22P058S	120903	1
600	8	28	-	-	-	7.5 / 10	QA32P008S	120904	1
	17	60	-	-	-	15 / 20	QA32P017S	120905	1
	22	77	-	-	-	22 / 30	QA32P022S	120906	1
	31	110	-	-	-	30 / 40	QA32P031S	120907	1
	44	150	-	-	-	37 / 50	QA32P044S	120908	1
	58	200	-	-	-	55 / 75	QA32P058S	120909	1
Accessory: DIN rail mounting kit for types 31A, 44A and 58A							QA0PTDIN	120910	1

### Times between rampings Start/Stop

	Starting current	Ramp 1 sec.	Ramp 2 sec.	Ramp 5 sec.	Ramp 10 sec.
QA_2P008S	8	7	15	35	70
	16	16	33	77	155
	24	26	51	125	250
	28 <sup>(3)</sup>	32	62	155	-
QA_2P017S	17	7	15	35	70
	34	16	33	77	155
	51	26	51	125	250
	60 <sup>(3)</sup>	32	62	155	-
QA_2P022S	22	7	15	35	70
	44	16	33	77	155
	66	26	51	125	250
	77 <sup>(3)</sup>	32	62	155	-
QA_2P031S	31	4	8	20	40
	62	8	15	38	76
	93	12	24	62	124
	110 <sup>(3)</sup>	15	31	80	-
QA_2P044S	44	4	8	20	40
	88	8	15	38	76
	132	12	24	62	124
	155 <sup>(3)</sup>	15	31	80	-
QA_2P058S	58	4	8	20	40
	116	8	15	38	76
	174	12	24	62	124
	200 <sup>(3)</sup>	15	31	80	-

(1) Ratings for standard 4-poles AC motors  
(2) See Operations/hour in table below  
Cycles/hour includes both soft start and soft stop  
(3) Maximum starting current at all

**Notes**

A large grid of graph paper for taking notes, consisting of 20 columns and 40 rows of small squares.