Short Form Catalogue

Contactors
Motor Protection
Accessories

1SBC100129C0201



Short Form Catalogue

Contactors
Motor Protection
Accessories

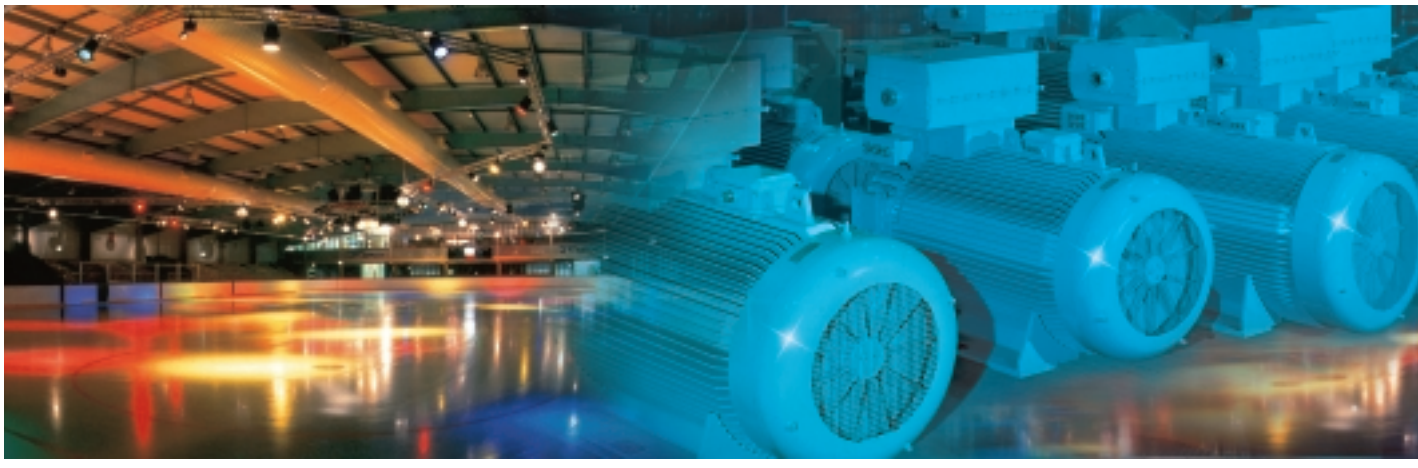





ABB Contactor Universal Range

Tailor-made Products for each Application from 6 to 2000 A



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A 9 ... AF 750 Series

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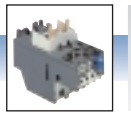
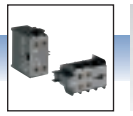
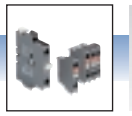
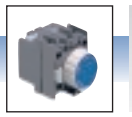
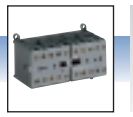
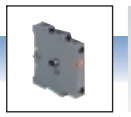
Power rating AC-3, 400 V		4kW	5.5kW		4kW	5.5kW	7.5kW	11kW	15kW	18.5kW	22kW	30kW
Types	**3-pole**	**B6**	**B7**	**3-pole**	**A9**	**A12**	**A16**	**A26**	**A30**	**A40**	**A50**	**A63**
Order code (State coil voltage)		B 6-30-10	B 7-30-10		A 9-30-10	A 12-30-10	A 16-30-10	A 26-30-10	A 30-30-10	A 40-30-10	A 50-30-00	A 63-30-00
Rated current AC-3, 400 V	**A**	**9**	**12**	**A**	**9**	**12**	**17**	**26**	**32**	**37**	**50**	**65**
415 V	A	8.5	11.5	A	9	12	17	26	32	37	50	65
690 V	A	–	–	A	7	9	10	17	21	25	35	43
Rated current AC-1, 40 °C	A	16	20	A	25	27	30	45	55	60	100	115

O/L relays		T7DU 0.10 ... **0.16** 0.16 ... **0.24** 0.24 ... **0.4** 0.4 ... **0.6** 0.6 ... **1.0** 1.0 ... **1.6** 1.6 ... **2.4** 2.4 ... **4.0** 4.0 ... **6.0** 6.0 ... **9.0** 9.0 ... **12.0**		TA 25 DU 0.10...**0.16** 0.16...**0.25** 0.25...**0.4** 0.4 ...**0.63** 0.63 ...**1.0** 1.0 ...**1.4** 1.3 ...**1.8** 1.7 ...**2.4** 2.2...**3.1** 2.8...**4.0** 3.5...**5.0** 4.5...**6.5** 7.5...**11** 10 ...**14** 13 ...**19** 18 ...**25** 24 ...**32**	TA 42 DU 22...**32** 29...**42**	TA 75 DU
Auxiliary contacts		Side mounting 1NO + 1NC CA 6-11 Front mounting 1NO + 1NC CAF 6-11		Front mounting 1 NO CA 5-10 Side mounting 1 NO + 1 NC		
Timers	–	–		Pneumatic direct 0.1 ... 40 s TP 40 DA 10 ... 180 s TP 180 DA	Pneumatic inverse 0.1 ... 40 s TP 40 IA 10 ... 180 s TP 180 IA	
Interlocks		Compact reversing starters VB6A-30-10 VB7A-30-10		Mechanical / electrical VE 5-1		Mec
Surge suppressors	–	Built-in on a.c. operated mini contactors		RV 5/50 24 ... 50 V ≅	RV 5/133 50 ... 133 V ≅	RV 5/250 110 ... 250 V ≅





Rated current AC-1, 40 °C		16 A	20 A		25 A	30 A	45 A	70 A
Types	**4-pole**	**B6**	**B7**	**4-pole**	**A9**	**A16**	**A26**	**A45**
Order code (State coil voltage)		B6-40-00	B7-40-00		A9-40-00	A16-40-00	A26-40-00	A45-40-00

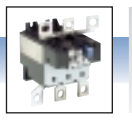
Contactors

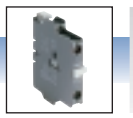
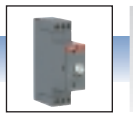
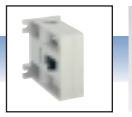
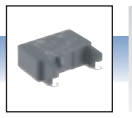




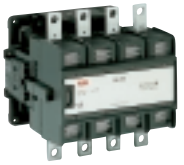



37kW	45kW	55kW		75kW	90kW	110kW	140kW	160kW	200kW	250kW	315kW	400kW
A75	**A95**	**A110**	**3-pole**	**A145**	**A185**	**A210**	**A260**	**A300**	**AF400**	**AF460**	**AF580**	**AF750**
A 75-30-00	A 95-30-00	A 110-30-00		A 145-30-11	A 185-30-11	A 210-30-11	A 260-30-11	A 300-30-11	AF 400-30-11	AF 460-30-11	AF 580-30-11	AF 750-30-11
75	**96**	**110**	**A**	**145**	**185**	**210**	**260**	**300**	**400**	**460**	**580**	**750**
75	96	110	A	145	185	210	260	300	400	460	580	750
46	65	82	A	120	170	210	220	280	350	400	500	650
125	145	160	A	250	275	350	400	500	600	700	800	1050

29...**42** 36...**52** 45...**63** 60...**80**	TA 80 DU 60...**80**	TA 110 DU 65...**90** 80...**110**		TA 200 DU E 200 DU	130 ... **175** 150 ... **200** 60 ... **200**	TA 450 DU E 320 DU	165 ... **235** 220 ... **310** 100 ... **320**		E 500 DU	150 ... **500**	E 800 DU	250 ... **800**

1 NC CA 5-01 CAL 5-11		Side mounting 1 NO + 1 NC CAL 5-11, CAL 5-11B	
Electronic TE5S		Electronic TE5S	
hanical / electrical VE 5-2		Mechanical VM 300H	Mechanical VM 750H
RV 5/440 250 ... 440 V ≅		RC 5-2/50 24 ... 50 V ~ RC 5-2/133 50 ... 133 V ~ RC 5-2/250 110 ... 250 V ~ RC 5-2/440 250 ... 440 V ~	The built-in coil interface eliminates the need of extra surge suppressors on these sizes






100 A	125 A		200 A	250 A	300 A	350 A	550 A	800 A	1000 A	
A50	**A75**	**4-pole**	**EK110**	**EK150**	**EK175**	**EK210**	**EK370**	**EK550**	**EK1000**	
A50-40-00	A75-40-00		EK110-40-11	EK150-40-11	EK175-40-11	EK210-40-11	EK370-40-11	EK550-40-11	EK1000-40-11	


AF750-30
A300-30
A185-30
A110-30
ABB
1 L1
3 L2
5 L3
2 T1
4 T2
6 T3
CAL5



Block Contactors

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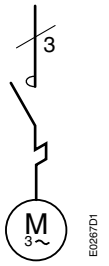
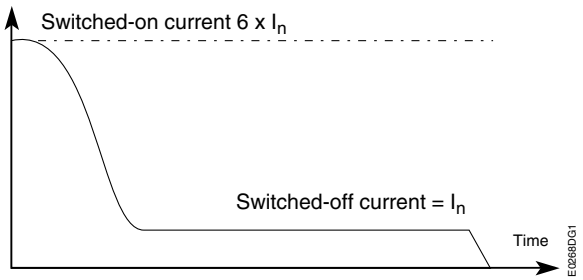
Choose your Components

Switching of Motors AC-3

3-phase cage motors
(1500 r.p.m)





AC-3 utilization category

When **making**, the motor current is about **6 x I_n**.
Breaking while the motor is running at I_n motor F.L.C.
Occasional breaking while motor is starting at **6 x I_n**.

O/L relay class

The table below gives O/L relays
for standard starting times 2 ... 10 s, tripping class **10A**.
Longer starting times require O/L relays tripping class **30** (see page 15).

Motor

Motor rating **Rated current** 3-phase cage motor, 1500 r.p.m (1) 380 V **400 V**		415 V	
kW	**A**	**kW**	**A**
0.06	0.22	0.06	0.20
0.09	0.33	0.09	0.30
0.12	0.42	0.12	0.40
-	-	0.18	0.60
0.18	0.64	-	-
0.25	0.88	0.25	0.85
0.37	1.22	0.37	1.15
0.55	1.5	0.55	1.40
0.75	2	0.75	2
1.1	2.6	1.1	2.5
1.5	3.5	1.5	3.5
2.2	5	2.2	5
2.5	5.7	2.5	5.5
3	6.6	3	6.5
3.7	8.2	3.7	7.5
4	8.5	4	8.4
5	10.5	5	10
5.5	11.5	5.5	11
-	-	6.5	12.5
6.5	13.8	-	-
7.5	15.5	7.5	14
8	16.7	8	15.4
-	-	9	17
9	18.3	-	-
11	22	11	21
-	-	12.5	23
12.5	25	-	-
15	30	15	28
18.5	37	18.5	35
-	-	20	37

Contactor

Rated operational current AC-3 $\theta \leq 55$ °C 380 V **400 V**	415 V	**Type** State coil voltage: ⌊⌋	Auxiliary contacts fitted	
A	**A**			
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
9	9	**A 9-30-10** ⌊⌋	1	-
12	12	**A 12-30-10** ⌊⌋	1	-
12	12	**A 12-30-10** ⌊⌋	1	-
17	17	**A 16-30-10** ⌊⌋	1	-
17	17	**A 16-30-10** ⌊⌋	1	-
17	17	**A 16-30-10** ⌊⌋	1	-
17	17	**A 16-30-10** ⌊⌋	1	-
17	17	**A 16-30-10** ⌊⌋	1	-
26	26	**A 26-30-10** ⌊⌋	1	-
26	26	**A 26-30-10** ⌊⌋	1	-
26	26	**A 26-30-10** ⌊⌋	1	-
26	26	**A 26-30-10** ⌊⌋	1	-
32	32	**A 30-30-10** ⌊⌋	1	-
37	37	**A 40-30-10** ⌊⌋	1	-
37	37	**A 40-30-10** ⌊⌋	1	-

O/L Relay

Setting range		**Type**
A		
0.16 ...	0.25	**TA 25 DU 0.25**
0.25 ...	0.4	**TA 25 DU 0.4**
0.4 ...	0.63	**TA 25 DU 0.63**
0.4 ...	0.63	**TA 25 DU 0.63**
0.63 ...	1.0	**TA 25 DU 1.0**
0.63 ...	1.0	**TA 25 DU 1.0**
1.0 ...	1.4	**TA 25 DU 1.4**
1.3 ...	1.8	**TA 25 DU 1.8**
1.7 ...	2.4	**TA 25 DU 2.4**
2.2 ...	3.1	**TA 25 DU 3.1**
2.8 ...	4.0	**TA 25 DU 4.0**
4.5 ...	6.5	**TA 25 DU 6.5**
4.5 ...	6.5	**TA 25 DU 6.5**
6.0 ...	8.5	**TA 25 DU 8.5**
6.0 ...	8.5	**TA 25 DU 8.5**
7.5 ...	11	**TA 25 DU 11**
7.5 ...	11	**TA 25 DU 11**
10 ...	14	**TA 25 DU 14**
10 ...	14	**TA 25 DU 14**
13 ...	19	**TA 25 DU 19**
13 ...	19	**TA 25 DU 19**
13 ...	19	**TA 25 DU 19**
13 ...	19	**TA 25 DU 19**
13 ...	19	**TA 25 DU 19**
18 ...	25	**TA 25 DU 25**
18 ...	25	**TA 25 DU 25**
24 ...	32	**TA 25 DU 32**
24 ...	32	**TA 25 DU 32**
29 ...	42	**TA 42 DU 42**
29 ...	42	**TA 42 DU 42**

(1) The currents shown in the above table are those given for standard three phase squirrel cage motors, 1500 r.p.m. 50 Hz. Values quoted are for guidance only, they can vary depending on the number of poles and design. For motor duty with plugging, inching (utilization category AC-4), please consult us. Motor current values at other operational voltages, see page 31.

Choose your Components

Switching of Motors AC-3

Motor

Motor rating Rated current 3-phase cage motor, 1500 r.p.m (1) 380 V 400 V kW	A	415 V kW	A
20	40	-	-
22	44	22	40
25	50	25	47
30	60	30	55
37	72	37	66
-	-	40	72
40	79	-	-
45	85	45	80
-	-	51	90
-	-	55	96
51	97	-	-
55	105	-	-
-	-	59	105
59	112	-	-
75	140	75	135
-	-	80	138
80	147	-	-
90	170	90	165
-	-	100	182
100	188	-	-
110	205	110	200
129	242	129	230
132	245	132	242
140	260	140	250
-	-	147	260
147	273	-	-
160	295	160	280
180	333	180	320
184	340	184	325
200	370	200	340
-	-	220	385
220	408	-	-
250	460	250	425
257	475	257	450
295	546	295	500
-	-	315	535
315	580	-	-
355	636	355	580
-	-	400	650
400	710	-	-

Contactor

Rated operational current AC-3 θ ≤ 55 °C 380 V 400 V A	415 V A	Type State coil voltage:	Auxiliary contacts fitted
50	50	**A 50-30-00**	- -
50	50	**A 50-30-00**	- -
50	50	**A 50-30-00**	- -
65	65	**A 63-30-00**	- -
75	72	**A 75-30-00**	- -
75	72	**A 75-30-00**	- -
96	96	**A 95-30-00**	- -
96	96	**A 95-30-00**	- -
96	96	**A 95-30-00**	- -
96	96	**A 95-30-00**	- -
110	110	**A 110-30-00**	- -
110	110	**A 110-30-00**	- -
110	110	**A 110-30-00**	- -
145	145	**A 145-30-11**	1 1
145	145	**A 145-30-11**	1 1
145	145	**A 145-30-11**	1 1
185	185	**A 185-30-11**	1 1
185	185	**A 185-30-11**	1 1
185	185	**A 185-30-11**	1 1
210	210	**A 210-30-11**	1 1
210	210	**A 210-30-11**	1 1
260	260	**A 260-30-11**	1 1
260	260	**A 260-30-11**	1 1
260	260	**A 260-30-11**	1 1
260	260	**A 260-30-11**	1 1
305	300	**A 300-30-11**	1 1
305	300	**A 300-30-11**	1 1
400	400	**AF 400-30-11**	1 1
400	400	**AF 400-30-11**	1 1
400	400	**AF 400-30-11**	1 1
400	400	**AF 400-30-11**	1 1
460	460	**AF 460-30-11**	1 1
460	460	**AF 460-30-11**	1 1
580	580	**AF 580-30-11**	1 1
580	580	**AF 580-30-11**	1 1
580	580	**AF 580-30-11**	1 1
580	580	**AF 580-30-11**	1 1
750	750	**AF 750-30-11**	1 1
750	750	**AF 750-30-11**	1 1
750	750	**AF 750-30-11**	1 1

O/L Relay

Setting range A	Type
29 ... 42	**TA 75 DU 42**
36 ... 52	**TA 75 DU 52**
36 ... 52	**TA 75 DU 52**
45 ... 63	**TA 75 DU 63**
60 ... 80	**TA 75 DU 80**
60 ... 80	**TA 75 DU 80**
65 ... 90	**TA 110 DU 90**
65 ... 90	**TA 110 DU 90**
80 ... 110	**TA 110 DU 110**
80 ... 110	**TA 110 DU 110**
80 ... 110	**TA 110 DU 110**
80 ... 110	**TA 110 DU 110**
80 ... 110	**TA 110 DU 110**
60 ... 200	**E 200 DU**
60 ... 200	**E 200 DU**
60 ... 200	**E 200 DU**
60 ... 200	**E 200 DU**
60 ... 200	**E 200 DU**
60 ... 200	**E 200 DU**
100 ... 320	**E 320 DU**
100 ... 320	**E 320 DU**
100 ... 320	**E 320 DU**
100 ... 320	**E 320 DU**
100 ... 320	**E 320 DU**
100 ... 320	**E 320 DU**
100 ... 320	**E 320 DU**
100 ... 320	**E 320 DU**
150 ... 500	**E 500 DU**
150 ... 500	**E 500 DU**
150 ... 500	**E 500 DU**
150 ... 500	**E 500 DU**
150 ... 500	**E 500 DU**
150 ... 500	**E 500 DU**
250 ... 800	**E 800 DU**
250 ... 800	**E 800 DU**
250 ... 800	**E 800 DU**
250 ... 800	**E 800 DU**
250 ... 800	**E 800 DU**
250 ... 800	**E 800 DU**
250 ... 800	**E 800 DU**

(1) The currents shown in the above table are those given for standard three phase squirrel cage motors, 1500 r.p.m. 50 Hz. Values quoted are for guidance only, they can vary depending on the number of poles and design. For motor duty with plugging, inching (utilization category AC-4), please consult us. Motor current values at other operational voltages, see page 31.

Coil voltage :

For A 9 ... A 300 50 Hz (V)	For AF 400 ... AF 750 50/60 Hz or d.c. (V)
24	24 ... 60 (1)
48	48 ... 130
110	100 ... 250
220 ... 230	-
230 ... 240	-
380 ... 400	-
400 ... 415	-

Other voltages : page 36.

(1) d.c. only

Kit for mounting on the contactors :

For O/L relay :	For mounting on contactor :	Type
E 500 DU	AF 400 … AF 460	DT 500/AF 460
E 800 DU	AF 580 … AF 750	DT 800/AF 750

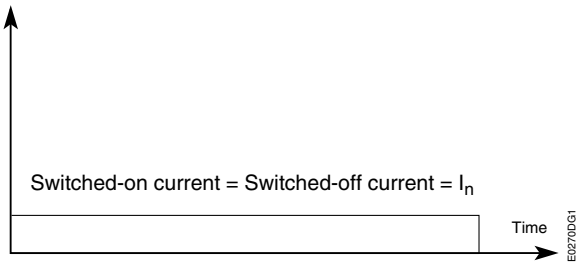
>> Aux. contact arrangements ..... pages 6 and 7 >> Accessories ..... pages 8 and 10 >> Dimensions ..... page 51

Choose your Components

Switching of Resistive Circuits AC-1

Resistive circuit





AC-1 utilization category When **making**, the switched-on current is equal to the **load rated current I_n and cos φ ≥ 0.95**.

Component selection Component selection must take into account the air ambient temperature inside the cabinets. The required cable cross-sections or bar dimensions are indicated below.

3-pole Contactors

Rated operational current AC-1 380 V - **400 V** - 415 V			With cable cross-sections	With bar dimensions	**Type**	Auxiliary contacts fitted	Max. back-up fuse gG
θ ≤ 40 °C **A**	θ ≤ 55 °C **A**	θ ≤ 70 °C **A**	**mm²**	**mm**	State coil voltage: ⌊‗‗⌋		**A**
25	22	18	2.5	-	**A 9-30-10** ⌊‗‗⌋	1 -	25
27	25	20	4	-	**A 12-30-10** ⌊‗‗⌋	1 -	32
30	27	23	4	-	**A 16-30-10** ⌊‗‗⌋	1 -	32
45	40	32	6	-	**A 26-30-10** ⌊‗‗⌋	1 -	50
55	55	39	10	-	**A 30-30-10** ⌊‗‗⌋	1 -	63
60	60	42	16	-	**A 40-30-10** ⌊‗‗⌋	1 -	63
100	85	70	35	-	**A 50-30-00** ⌊‗‗⌋	- -	100
115	95	80	50	-	**A 63-30-00** ⌊‗‗⌋	- -	125
125	105	85	50	-	**A 75-30-00** ⌊‗‗⌋	- -	160
145	135	115	50	-	**A 95-30-00** ⌊‗‗⌋	- -	160
160	145	130	70	-	**A 110-30-00** ⌊‗‗⌋	- -	200
250	230	180	120	-	**A 145-30-11** ⌊‗‗⌋	1 1	315
275	250	180	150	-	**A 185-30-11** ⌊‗‗⌋	1 1	355
350	300	240	185	-	**A 210-30-11** ⌊‗‗⌋	1 1	400
400	350	290	240	-	**A 260-30-11** ⌊‗‗⌋	1 1	500
500	400	325	300	-	**A 300-30-11** ⌊‗‗⌋	1 1	500
600	500	400	2 x 185	-	**AF 400-30-11** ⌊‗‗⌋	1 1	630
700	600	480	2 x 240	-	**AF 460-30-11** ⌊‗‗⌋	1 1	800
800	700	580	2 x 240	-	**AF 580-30-11** ⌊‗‗⌋	1 1	1000
1050	800	720	-	2 x 80 x 5	**AF 750-30-11** ⌊‗‗⌋	1 1	1000

Choose your Components

Switching of Resistive Circuits AC-1

4-pole Contactors - 4 NO Main Poles

Rated operational current AC-1 380 V - **400 V** - 415 V			With cable cross-sections	**Type**	Auxiliary contacts fitted	Max. back-up fuse gG
θ ≤ 40 °C **A**	θ ≤ 55 °C **A**	θ ≤ 70 °C **A**	**mm²**	State coil voltage:		**A**
25	22	18	2.5	**A 9-40-00**	- -	25
30	27	23	4	**A 16-40-00**	- -	32
45	40	32	6	**A 26-40-00**	- -	50
70	60	50	25	**A 45-40-00**	- -	80
100	85	70	35	**A 50-40-00**	- -	100
125	105	85	50	**A 75-40-00**	- -	160
200	180	155	95	**EK 110-40-11**	1 1	250
250	230	200	150	**EK 150-40-11**	1 1	250
300	270	215	185	**EK 175-40-11**	1 1	355
350	310	250	240	**EK 210-40-11**	1 1	355
550	470	400	2 x 185	**EK 370-40-11**	1 1	630
800	650	575	2 x 240	**EK 550-40-11**	1 1	800
1000	800	720	2 x 300	**EK 1000-40-11**	1 1	1000

4-pole Contactors - 2 NO + 2 NC Main Poles

Rated operational current AC-1 380 V - **400 V** - 415 V			With cable cross-sections	**Type**	Auxiliary contacts fitted	Max. back-up fuse gG
θ ≤ 40 °C **A**	θ ≤ 55 °C **A**	θ ≤ 70 °C **A**	**mm²**	State coil voltage:		**A**
25	22	18	2.5	**A 9-22-00**	- -	25
30	27	21	4	**A 16-22-00**	- -	32
45	40	32	6	**A 26-22-00**	- -	50
70	60	50	25	**A 45-22-00**	- -	80
125	105	85	50	**A 75-22-00**	- -	160

Coil voltage (3-pole contactors) :

For A 9 ... A 300 50 Hz (V)	For AF 400 ... AF 750 50/60 Hz or d.c. (V)
24	24 ... 60 (1)
48	48 ... 130
110	100 ... 250
220 ... 230	-
230 ... 240	-
380 ... 400	-
400 ... 415	-

Other voltages : see page 36.

(1) d.c. only

Coil voltage (4-pole contactors) :

For A 9 ... A 75 50 Hz (V)	For EK 110 ... EK 1000 50 Hz (V)
24	-
48	48
110	110
220 ... 230	220 ... 230
230 ... 240	230 ... 240
380 ... 400	380 ... 400
400 ... 415	400 ... 415

Other voltages : see page 36.

>> Aux. contact arrangements and accessories for 3-pole contactors ..... pages 6 to 15

>> Aux. contact arrangements and accessories for 4-pole contactors ..... pages 14 to 19

>> Dimensions ..... page 51

A 9 ... A 110 3-pole Contactors - a.c. Coil

Ordering Details



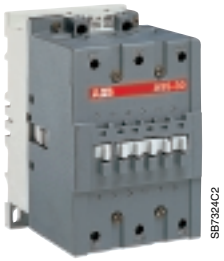
A 9-30-10



A 26-30-10



A 50-30-00



A 9 5-30-00

Rated operational current AC-3 380 V 400 V 415 V A	AC-1 θ ≤ 40 °C A	Aux. contacts fitted 1st stack	2nd stack	Type State coil voltage: ⌊⌋	Order code coil voltage code see table below : ☐☐	Weight kg Packing 1 piece
9	25	1 -	- -	A 9-30-10 ⌊⌋	1SBL 14 1001 R☐☐10	0.340
		- 1	- -	A 9-30-01 ⌊⌋	1SBL 14 1001 R☐☐01	0.340
		- -	2 2	A 9-30-22 ⌊⌋	1SBL 14 1001 R☐☐22	0.400
		1 -	2 2	A 9-30-32 ⌊⌋	1SBL 14 1001 R☐☐32	0.400
12	27	1 -	- -	A 12-30-10 ⌊⌋	1SBL 16 1001 R☐☐10	0.340
		- 1	- -	A 12-30-01 ⌊⌋	1SBL 16 1001 R☐☐01	0.340
		- -	2 2	A 12-30-22 ⌊⌋	1SBL 16 1001 R☐☐22	0.400
		1 -	2 2	A 12-30-32 ⌊⌋	1SBL 16 1001 R☐☐32	0.400
17	30	1 -	- -	A 16-30-10 ⌊⌋	1SBL 18 1001 R☐☐10	0.340
		- 1	- -	A 16-30-01 ⌊⌋	1SBL 18 1001 R☐☐01	0.340
		- -	2 2	A 16-30-22 ⌊⌋	1SBL 18 1001 R☐☐22	0.400
		1 -	2 2	A 16-30-32 ⌊⌋	1SBL 18 1001 R☐☐32	0.400
26	45	1 -	- -	A 26-30-10 ⌊⌋	1SBL 24 1001 R☐☐10	0.600
		- 1	- -	A 26-30-01 ⌊⌋	1SBL 24 1001 R☐☐01	0.600
		1 -	2 2	A 26-30-32 ⌊⌋	1SBL 24 1001 R☐☐32	0.660
32	55	1 -	- -	A 30-30-10 ⌊⌋	1SBL 28 1001 R☐☐10	0.710
		- 1	- -	A 30-30-01 ⌊⌋	1SBL 28 1001 R☐☐01	0.710
		1 -	2 2	A 30-30-32 ⌊⌋	1SBL 28 1001 R☐☐32	0.770
37	60	1 -	- -	A 40-30-10 ⌊⌋	1SBL 32 1001 R☐☐10	0.710
		- 1	- -	A 40-30-01 ⌊⌋	1SBL 32 1001 R☐☐01	0.710
		1 -	2 2	A 40-30-32 ⌊⌋	1SBL 32 1001 R☐☐32	0.770
50	100	- -	- -	A 50-30-00 ⌊⌋	1SBL 35 1001 R☐☐00	1.160
		1 1	- -	A 50-30-11 ⌊⌋	1SBL 35 1001 R☐☐11	1.200
		- -	2 2	A 50-30-22 ⌊⌋	1SBL 35 1001 R☐☐22	1.230
65	115	- -	- -	A 63-30-00 ⌊⌋	1SBL 37 1001 R☐☐00	1.160
		1 1	- -	A 63-30-11 ⌊⌋	1SBL 37 1001 R☐☐11	1.200
		- -	2 2	A 63-30-22 ⌊⌋	1SBL 37 1001 R☐☐22	1.230
75	125	- -	- -	A 75-30-00 ⌊⌋	1SBL 41 1001 R☐☐00	1.160
		1 1	- -	A 75-30-11 ⌊⌋	1SBL 41 1001 R☐☐11	1.200
		- -	2 2	A 75-30-22 ⌊⌋	1SBL 41 1001 R☐☐22	1.230
96	145	- -	- -	A 95-30-00 ⌊⌋	1SFL 43 1001 R☐☐00	2.000
		1 1	- -	A 95-30-11 ⌊⌋	1SFL 43 1001 R☐☐11	2.040
		- -	2 2	A 95-30-22 ⌊⌋	1SFL 43 1001 R☐☐22	2.070
110	160	- -	- -	A 110-30-00 ⌊⌋	1SFL 45 1001 R☐☐00	2.000
		1 1	- -	A 110-30-11 ⌊⌋	1SFL 45 1001 R☐☐11	2.040
		- -	2 2	A 110-30-22 ⌊⌋	1SFL 45 1001 R☐☐22	2.070

Coil voltages and codes: A 9 ... A 110

Voltage (V) 50 Hz : ⌊⌋	Voltage (V) 60 Hz : ⌊⌋	Voltage code : ☐☐
24	24	81
48	48	83
110	110…120	84
220 ... 230	230…240	80
230 ... 240	240…260	88
380 ... 400	400…415	85
400 ... 415	415…440	86

Other voltages : page 36.

>> Accessories ..... page 8
>> Thermal O/L relays ..... page 14
>> Technical data ..... page 32
>> Dimensions ..... page 51

A 145 ... AF 750 3-pole Contactors - a.c. Coil

Ordering Details



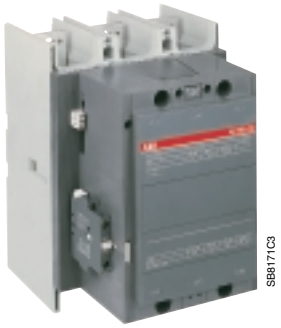
A 145-30-11



A 300-30-11



AF 460-30-11



AF 750-30-11

Rated operational current AC-3 380 V **400 V** 415 V **A**	AC-1 θ ≤ 40 °C **A**	Auxiliary contacts fitted	**Type** State coil voltage: ⌊⌋	**Order code** coil voltage code see table below : ☐☐	Weight **kg** Packing 1 piece
145	250	1 1 2 2	A 145-30-11 ⌊⌋ A 145-30-22 ⌊⌋	1SFL 47 1001 R☐☐11 1SFL 47 1001 R☐☐22	3.500 3.500
185	275	1 1 2 2	A 185-30-11 ⌊⌋ A 185-30-22 ⌊⌋	1SFL 49 1001 R☐☐11 1SFL 49 1001 R☐☐22	3.500 3.500
210	350	1 1 2 2	A 210-30-11 ⌊⌋ A 210-30-22 ⌊⌋	1SFL 51 1001 R☐☐11 1SFL 51 1001 R☐☐22	6.100 6.100
260	400	1 1 2 2	A 260-30-11 ⌊⌋ A 260-30-22 ⌊⌋	1SFL 53 1001 R☐☐11 1SFL 53 1001 R☐☐22	6.100 6.100
305	500	1 1 2 2	A 300-30-11 ⌊⌋ A 300-30-22 ⌊⌋	1SFL 55 1001 R☐☐11 1SFL 55 1001 R☐☐22	6.100 6.100
400	600	1 1 2 2	AF 400-30-11 ⌊⌋ AF 400-30-22 ⌊⌋	1SFL 57 7001 R☐☐11 1SFL 57 7001 R☐☐22	12.000 12.000
460	700	1 1 2 2	AF 460-30-11 ⌊⌋ AF 460-30-22 ⌊⌋	1SFL 59 7001 R☐☐11 1SFL 59 7001 R☐☐22	12.000 12.000
580	800	1 1 2 2	AF 580-30-11 ⌊⌋ AF 580-30-22 ⌊⌋	1SFL 61 7001 R☐☐11 1SFL 61 7001 R☐☐22	15.000 15.000
750	1050	1 1 2 2	AF 750-30-11 ⌊⌋ AF 750-30-22 ⌊⌋	1SFL 63 7001 R☐☐11 1SFL 63 7001 R☐☐22	15.000 15.000

Coil voltages and codes: A 145 ... A 300

Voltage (V) 50 Hz : ⌊⌋	Voltage (V) 60 Hz : ⌊⌋	Voltage code : ☐☐
24	24	81
48	48	83
110	110…120	84
220 ... 230	230…240	80
230 ... 240	240…260	88
380 ... 400	400…415	85
400 ... 415	415…440	86

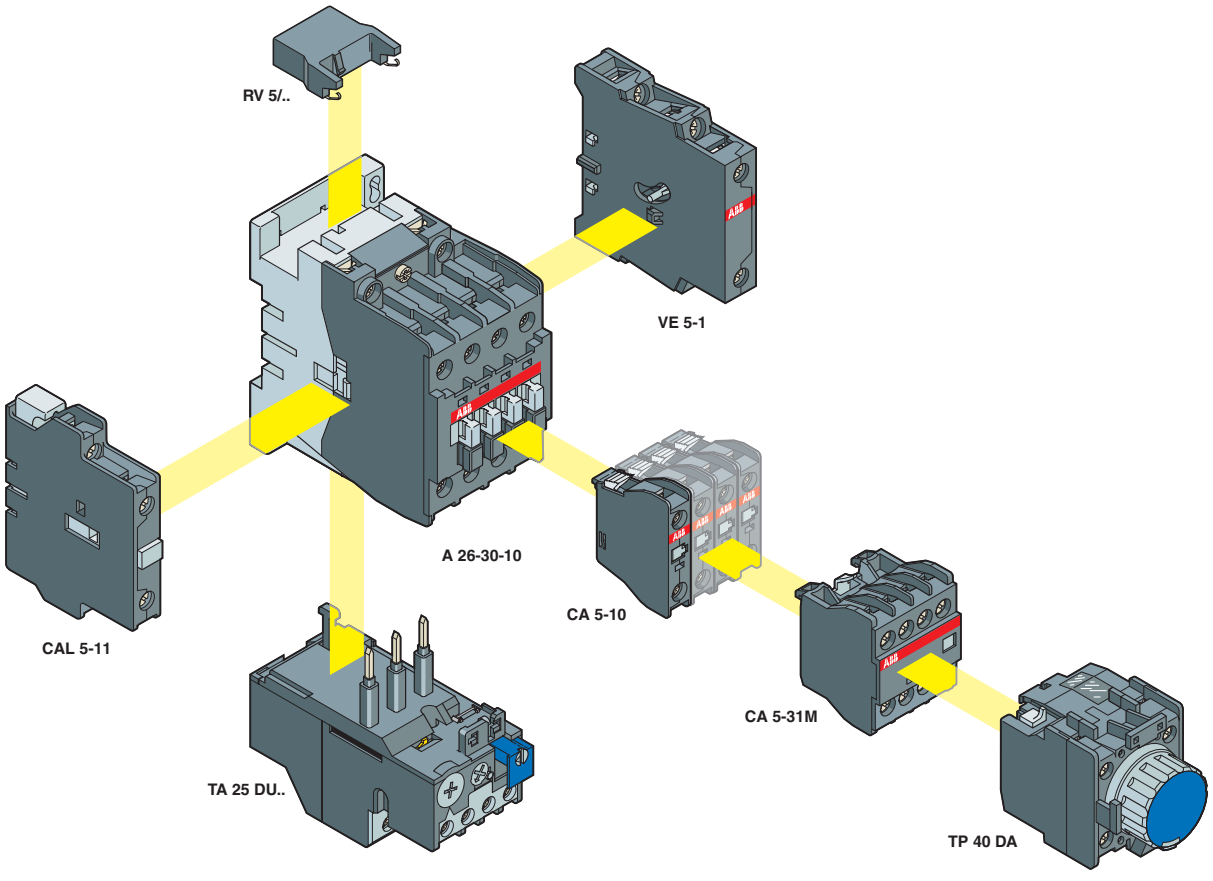
Other voltages : page 36.

Coil voltages and codes: AF 400 ... AF 750

Voltage (V) 50…60 Hz : ⌊⌋	Voltage (V) d.c. ⌊⌋	Voltage code : ☐☐
-	24…60	68
48…130	48…130	69
100…250	100…250	70

>> Accessories ..... page 10
>> Thermal and electronic O/L relays ..... page 15
>> Technical data ..... page 33
>> Dimensions ..... page 51

Accessories for A 9 … A 110 3-pole Contactors



Contactors		A 9 A 12 A 16	A 26 A 30 A 40	A 50 A 63 A 75	A 95 A 110
Thermal O/L relays		TA 25 DU 0.10...**0.16** 0.16...**0.25** 0.25...**0.4** 0.4 ...**0.63** 0.63...**1.0** 1.0 ...**1.4** 1.3 ...**1.8** 1.7 ...**2.4** 2.2...**3.1** 2.8...**4.0** 3.5...**5.0** 4.5...**6.5** 6.0...**8.5** 7.5...**11** 10 ...**14** 13 ...**19** 18 ...**25** 24 ...**32** TA 42 DU 22...**32** 29...**42**		TA 75 DU 29...**42** 36...**52** 45...**63** 60...**80**	TA 80 DU 60...**80** TA 110 DU 65...**90** 80...**110**
Auxiliary contacts		Front mounting 1 NO CA 5-10 1 NC CA 5-01 Side mounting 1 NO + 1 NC CAL 5-11			
Timers		Pneumatic direct 0.1 ... 40 s TP 40 DA 10 ... 180 s TP 180 DA Pneumatic inverse 0.1 ... 40 s TP 40 IA 10 ... 180 s TP 180 IA			Electronic TE5S
Interlocks		Mechanical / electrical VE 5-1		Mechanical / electrical VE 5-2	
Surge suppressors		24 ... 50 V ≅ RV 5/50 50 ... 133 V ≅ RV 5/133 110 ... 250 V ≅ RV 5/250 250 ... 440 V ≅ RV 5/440			

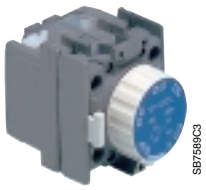
>> Thermal O/L relays ..... page 14 >> Dimensions ..... page 51

Accessories for A9 ... A110 3-pole Contactors

Ordering Details



CAL 5-11 CA 5-10



TP 40 DA



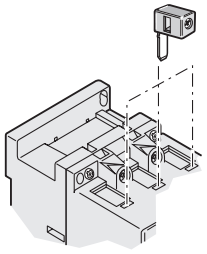
TE5S



VE 5-1



RV 5/50 RC 5-1/50



LK 75-L

Auxiliary Contact Blocks

Positioning	Mounting on :	Contacts		Type	Order code	Packing piece	Weight kg
Front face	A 9...A 110	1	-	CA 5-10	1SBN 01 0010 R1010	10	0.014
		-	1	CA 5-01	1SBN 01 0010 R1001	10	0.014
	A 9...A 40	3	1	CA 5-31 M	1SBN 01 0040 R1131	2	0.060
		2	2	CA 5-22 M	1SBN 01 0040 R1122	2	0.060
Side	A 9...A 110	1	1	CAL 5-11	1SBN 01 0020 R1011	2	0.050

Pneumatic Timers

Mounting on :	Timing range :	Contacts		Type	Order code	Packing piece	Weight kg
A 9...A 75	Direct 0.1...40s	1	1	TP 40 DA	1SBN 02 0300 R1000	1	0.070
	Direct 10...180s	1	1	TP 180 DA	1SBN 02 0300 R1001	1	0.070
	Inverse 0.1...40s	1	1	TP 40 IA	1SBN 02 0301 R1000	1	0.070
	Inverse 10...180s	1	1	TP 180 IA	1SBN 02 0301 R1001	1	0.070

Electronic Timers for star-delta starters (dwelling time 50 ms)

Mounting :	Timing range :	Supply voltage	Type	Order code	Packing piece	Weight kg
Independent	Direct 0.8...8 s or 6...60 s	24 a.c. / d.c.	TE5S-24	1SBN 02 0010 R1001	1	0.080
		110 ... 120 a.c.	TE5S-120	1SBN 02 0010 R1002	1	0.080
		220 ... 240 a.c.	TE5S-240	1SBN 02 0010 R1003	1	0.080
		380 ... 440 a.c.	TE5S-440	1SBN 02 0010 R1004	1	0.080

Interlocks

Feature	Mounting on :	Contacts		Type	Order code	Packing piece	Weight kg
Mech. / elec.	A 9...A 40	-	2	VE 5-1	1SBN 03 0110 R1000	1	0.076
	A 50...A 110	-	2	VE 5-2	1SBN 03 0210 R1000	1	0.146
Mechanical	A 9...A 40	-	-	VM 5-1	1SBN 03 0100 R1000	1	0.066

Note : Use type VE 5-2 for mechanical and electrical interlocking between contactors A 40 and A 50.

Surge Suppressors

Feature	Mounting on :	Voltage range	Type	Order code	Packing piece	Weight kg
Varistor	A 9... A 110	24...50 V ≅	RV 5/50	1SBN 05 0010 R1000	2	0.015
		50...133 V ≅	RV 5/133	1SBN 05 0010 R1001	2	0.015
		110...250 V ≅	RV 5/250	1SBN 05 0010 R1002	2	0.015
		250...440 V ≅	RV 5/440	1SBN 05 0010 R1003	2	0.015
RC	A 9...A 40	24...50 V ~	RC 5-1/50	1SBN 05 0100 R1000	2	0.012
		50...133 V ~	RC 5-1/133	1SBN 05 0100 R1001	2	0.012
		110...250 V ~	RC 5-1/250	1SBN 05 0100 R1002	2	0.012
		250...440 V ~	RC 5-1/440	1SBN 05 0100 R1003	2	0.012
	A 50...A 110	24...50 V ~	RC 5-2/50	1SBN 05 0200 R1000	2	0.015
		50...133 V ~	RC 5-2/133	1SBN 05 0200 R1001	2	0.015
		110...250 V ~	RC 5-2/250	1SBN 05 0200 R1002	2	0.015
		250...440 V ~	RC 5-2/440	1SBN 05 0200 R1003	2	0.015

Auxiliary Lead Terminals

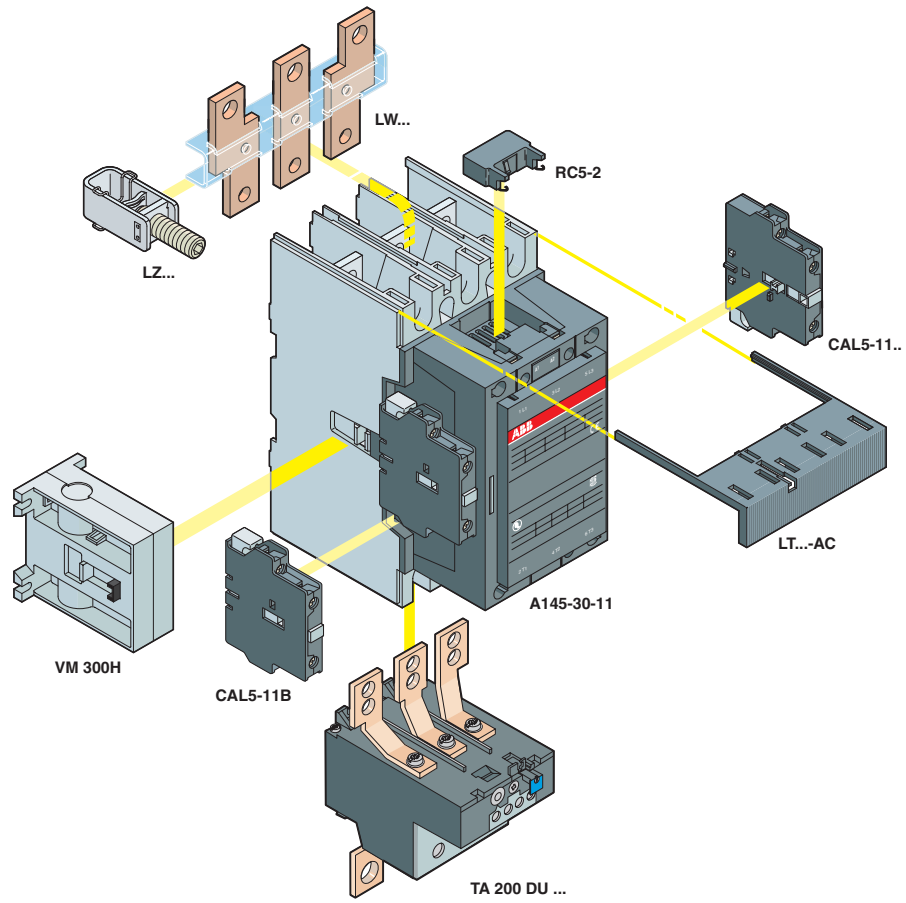
Feature	Mounting on :	Type	Order code	Packing piece	Weight kg
Clip-on	A 50...A 75	LK 75-L	1SBN 07 3552 R1003	2	0.006
	A 95, A 110	LK 110	1SFN 07 4352 R1000	2	0.010

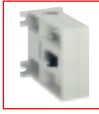
Function Marker

Feature	Mounting on :	Type	Order code	Packing box	Weight kg
50 pcs in a box	A 9...A 110	BA 5-50	1SBN 11 0000 R1000	1	0.017

>> Thermal O/L relays ..... page 14 >> Dimensions ..... page 51

Accessories for A 145 … AF 750 3-pole Contactors



Contactors		A 145 A 185	A 210 A 260 A 300	AF 400 AF 460	AF 580 AF 750
Thermal O/L relays Electronic O/L relays		TA 200 DU 66...200 E 200 DU 60…200	TA 450 DU 130…310 E 320 DU 100…320	- E 500 DU 150…500	- E 800 DU 250…800
Auxiliary contacts		Side mounting: 1 NO + 1 NC CAL 5-11 (first block); 1 NO + 1 NC CAL 5-11B (second block)			
Timers		Electronic TE5S			
Interlocks		Mechanical VM 300H		Mechanical VM 300/460H Mechanical VM 750H	
Surge suppressors		24 ... 50 V ~ RC 5-2/50 A 95…A 300 50…133 V ~ RC 5-2/133 A 145…A 300 110…250 V ~ RC 5-2/250 A 145…A 300 250…440 V ~ RC 5-2/440 A 145…A 300		The built-in coil interface eliminates the need of extra surge suppressors on these sizes	

>> Thermal and electronic O/L relays ..... page 15 >> Dimensions ..... page 51

Accessories for A 145 … AF 750 3-pole Contactors

Ordering Details



CAL 5-11



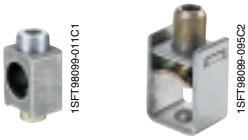
TE5S



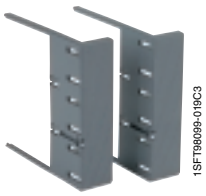
VM 300H



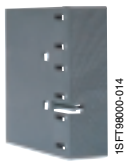
RC…



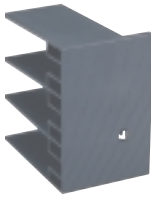
LZ…



LT…-AC



LT…-AY



LT…-AL

Auxiliary Contact Blocks

Positioning	Mounting on :	Contacts	Type	Order code	Packing piece	Weight kg
Side	A 145 ... AF 750	1 1	CAL 5-11	1SBN 01 0020 R1011	1	0.050
		1 1	CAL 5-11B	1SBN 01 0420 R3311	1	0.050

Electronic Timers for star-delta starters (dwelling time 50 ms)

Mounting :	Timing range :	Supply Voltage	Type	Order code	Packing piece	Weight kg
Independent	Direct 0.8 ... 8 s or 6 ... 60 s	24 a.c. / d.c.	TE5S-24	1SBN 02 0010 R1001	1	0.080
		110 ... 120 a.c.	TE5S-120	1SBN 02 0010 R1002	1	0.080
		220 ... 240 a.c.	TE5S-240	1SBN 02 0010 R1003	1	0.080
		380 ... 440 a.c.	TE5S-440	1SBN 02 0010 R1004	1	0.080

Interlocks for two horizontal mounted contactors

Feature	Left Contactor	Right Contactor	Type	Order code	Packing piece	Weight kg
Mechanical	A 95…A 300	A 145…A 300	VM 300H	1SFN 03 4700 R1000	1	0.150
	A 210…A 300	AF 400…AF 460	VM 300/460H	1SFN 03 5100 R1000	1	0.150
	AF 400…AF 750	AF 400…AF 750	VM 750H	1SFN 03 5700 R1000	1	0.200

Surge Suppressors

Feature	Mounting on :	Voltage range	Type	Order code	Packing piece	Weight kg
RC	A 145…A 300	24...50 V ~	RC 5-2/50	1SBN 05 0200 R1000	1	0.015
		50 ...133 V ~	RC 5-2/133	1SBN 05 0200 R1001	1	0.015
		110...250 V ~	RC 5-2/250	1SBN 05 0200 R1002	1	0.015
		250...440 V ~	RC 5-2/440	1SBN 05 0200 R1003	1	0.015

Connectors

Cables	Mounting on :	cable cross section :	Type	Order code	Packing pieces	Weight kg
Single, **Cu**	A 145, A 185	6 … 185 mm^2	–	1SDA 02 3354 R0001	3	0.200
	A 210…AF 460	16 … 240 mm^2	–	1SDA 02 3368 R0001	3	0.400
Single **Al** & **Cu**	A 145, A 185	35 … 95 mm^2	–	1SDA 02 3356 R0001	3	0,100
	A 145, A 185	25 … 150 mm^2	–	1SDA 02 3357 R0001	3	0.100
	A 210…A 300	120 … 240 mm^2	–	1SDA 02 3370 R0001	3	0.200
Double, **Cu**	A 145, A185	2x(50 … 120)mm^2	LZ 185-2C/120	1SFN 07 4709 R1000	3	0.300
Double **Al** & **Cu**	A 210…A 300	2x(95 … 120)mm^2	–	1SDA 02 5766 R0001	3	0.400

Shrouds

Suitable for contactor with :	Mounting on :	Type	Order code	Packing pieces	Weight kg
Cable connectors	A 145, A 185	LT 185-AC	1SFN 12 4701 R1000	2	0.050
Cable lugs	A 145, A 185	LT 185-AL	1SFN 12 4703 R1000	2	0.220
For shorting bar LY and between A 145/185 and TA 200 DU	A 145, A 185	LT 185-AY	1SFN 12 4704 R1000	1	0.050
Cable connectors	A 210…A 300	LT 300-AC	1SFN 12 5101 R1000	2	0.070
Cable lugs	A 210…A 300	LT 300-AL	1SFN 12 5103 R1000	2	0.280
For Shorting bar LY 300	A 210…A 300	LT 300-AY	1SFN 12 5104 R1000	1	0.075
Cable connectors	AF 400, AF 460	LT 460-AC	1SFN 12 5701 R1000	2	0.100
Cable lugs	AF 400, AF 460	LT 460-AL	1SFN 12 5703 R1000	2	0.800
Cable connectors	AF 580, AF 750	LT 750-AC	1SFN 12 6101 R1000	2	0.120
Cable lugs	AF 580, AF 750	LT 750-AL	1SFN 12 6103 R1000	2	0.825

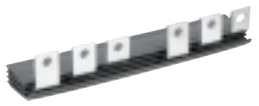
>> Thermal and electronic O/L relays ..... page 15 **>> Dimensions ..... page 51**

Accessories for A 145 … AF 750 3-pole Contactors

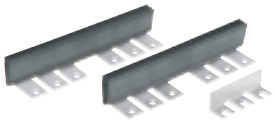
Ordering Details



BEM…



BES…



BED…

Connection bars for reversing contactors

For Contactor :	Type	Order code	Packing set	Weight kg 1 set
A 145, A 185	BEM 185-30	1SFN 08 4701 R1000	1	0.900
A 210…A 300	BEM 300-30	1SFN 08 5101 R1000	1	1.100
AF 400, AF 460	BEM 460-30	1SFN 08 5701 R1000	1	4.400
AF 580, AF 750	BEM 750-30	1SFN 08 6101 R1000	1	7.300

Connection phase to phase for 3-pole contactor pairs

For Contactor :	Type	Order code	Packing set	Weight kg 1 set
A 145, A 185	BES 185	1SFN 08 4704 R1000	1	0.500
A 210…A 300	BES 300	1SFN 08 5104 R1000	1	1.000
AF 400, AF 460	BES 460	1SFN 08 5704 R1000	1	2.200
AF 580, AF 750	BES 750	1SFN 08 6104 R1000	1	3.700

Connection bars for star-delta starters

Contactors Line and Delta	Star	Type	Order code	Packing set	Weight kg 1 set
A 145	A 110	BED 145A	1SFN 08 4703 R1000	1	1.300
A 185	A 145	BED 185	1SFN 08 4903 R1000	1	1.100
A 210	A 185	BED 210	1SFN 08 5103 R1000	1	1.500
A 260, A 300	A 210, A 260	BED 300	1SFN 08 5303 R1000	1	2.100
AF 400/AF 460	A 260/A 300	BED 400	1SFN 08 5503 R1000	1	3.500
AF 460	AF 400	BED 460	1SFN 08 5703 R1000	1	4.700
AF 580	AF 460/AF 400	BED 580	1SFN 08 5903 R1000	1	6.300
AF 750	AF 580	BED 750	1SFN 08 6103 R1000	1	7.700

Accessories for A 145 … AF 750 3-pole Contactors

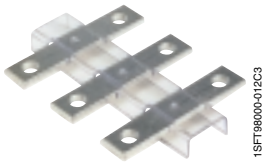
Ordering Details



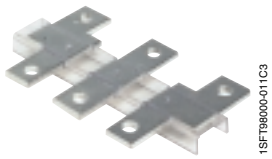
LP…



LY…



LX…



LW…

Connection strip, 2-pole

For Contactor	Type	Order code	Packing pieces	Weight kg
A 145, A 185	LP 185	1SFN 07 4712 R1000	2	0.300
A 210…A 300	LP 300	1SFN 07 5112 R1000	2	0.400
AF 400, AF 460	LP 460	1SFN 07 5712 R1000	2	0.550
AF 580, AF 750	LP 750	1SFN 07 6112 R1000	2	0.950

Connection strip, 3-pole

For Contactor	Type	Order code	Packing piece	Weight kg
A 145, A 185	LY185	1SFN 07 4703 R1000	1	0.200
A 210…A 300	LY 300	1SFN 07 5103 R1000	1	0.300
AF 400, AF 460	LY 460	1SFN 07 5703 R1000	1	0.450
AF 580, AF 750	LY 750	1SFN 07 6103 R1000	1	0.800

Terminal extensions, 3-pole

For Contactor	Type	Order code	Packing piece	Weight kg
A 145, A 185	LX 185	1SFN 07 4710 R1000	1	0.250
A 210…A 300	LX 300	1SFN 07 5110 R1000	1	0.350
AF 400, AF 460	LX 460	1SFN 07 5710 R1000	1	0.500
AF 580, AF 750	LX 750	1SFN 07 6110 R1000	1	0.850

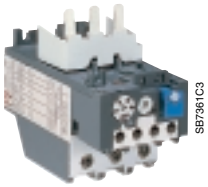
Terminal enlargements, 3-pole

For Contactor	Type	Order code	Packing piece	Weight kg
A 145, A 185	LW 185	1SFN 07 4707 R1000	1	0.250
A 210…A 300	LW 300	1SFN 07 5107 R1000	1	0.400

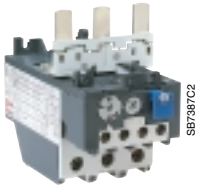
Thermal O/L Relays for A9 ... A110 Contactors
Ordering Details



TA 25 DU



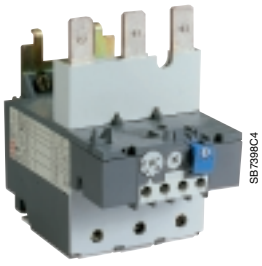
TA 42 DU



TA 75 DU



TA 80 DU



TA 110 DU

A9 A12 A16	A26 A30 A40	A50 A63 A75	A95 A110
TA 25 DU ..		TA 75 DU ..	TA 80 DU ..
	TA 42 DU ..		TA 110 DU ..

Thermal O/L Relays, Class 10A

For contactor :	Setting range A	Type	Order code	Packing piece	Weight kg
A 9 ... A 30	0.1 ... 0.16	TA 25 DU 0.16	1SAZ 21 1201 R1005	1	0.150
	0.16 ... 0.25	TA 25 DU 0.25	1SAZ 21 1201 R1009	1	0.150
	0.25 ... 0.4	TA 25 DU 0.4	1SAZ 21 1201 R1013	1	0.150
	0.4 ... 0.63	TA 25 DU 0.63	1SAZ 21 1201 R1017	1	0.150
	0.63 ... 1.0	TA 25 DU 1.0	1SAZ 21 1201 R1021	1	0.150
	1.0 ... 1.4	TA 25 DU 1.4	1SAZ 21 1201 R1023	1	0.150
	1.3 ... 1.8	TA 25 DU 1.8	1SAZ 21 1201 R1025	1	0.150
	1.7 ... 2.4	TA 25 DU 2.4	1SAZ 21 1201 R1028	1	0.150
	2.2 ... 3.1	TA 25 DU 3.1	1SAZ 21 1201 R1031	1	0.150
	2.8 ... 4.0	TA 25 DU 4.0	1SAZ 21 1201 R1033	1	0.150
	3.5 ... 5.0	TA 25 DU 5.0	1SAZ 21 1201 R1035	1	0.150
	4.5 ... 6.5	TA 25 DU 6.5	1SAZ 21 1201 R1038	1	0.150
	6.0 ... 8.5	TA 25 DU 8.5	1SAZ 21 1201 R1040	1	0.150
	7.5 ... 11	TA 25 DU 11	1SAZ 21 1201 R1043	1	0.150
	10 ... 14	TA 25 DU 14	1SAZ 21 1201 R1045	1	0.150
	13 ... 19	TA 25 DU 19	1SAZ 21 1201 R1047	1	0.150
	18 ... 25	TA 25 DU 25	1SAZ 21 1201 R1051	1	0.150
	24 ... 32	TA 25 DU 32	1SAZ 21 1201 R1053	1	0.170
A 30 ... A 40	18 ... 25	TA 42 DU 25	1SAZ 31 1201 R1001	1	0.330
	22 ... 32	TA 42 DU 32	1SAZ 31 1201 R1002	1	0.330
	29 ... 42	TA 42 DU 42	1SAZ 31 1201 R1003	1	0.330
A 50 ... A 75	18 ... 25	TA 75 DU 25	1SAZ 32 1201 R1001	1	0.330
	22 ... 32	TA 75 DU 32	1SAZ 32 1201 R1002	1	0.330
	29 ... 42	TA 75 DU 42	1SAZ 32 1201 R1003	1	0.330
	36 ... 52	TA 75 DU 52	1SAZ 32 1201 R1004	1	0.330
	45 ... 63	TA 75 DU 63	1SAZ 32 1201 R1005	1	0.330
	60 ... 80	TA 75 DU 80	1SAZ 32 1201 R1006	1	0.330
A 95 ... A 110	29 ... 42	TA 80 DU 42	1SAZ 33 1201 R1003	1	0.360
	36 ... 52	TA 80 DU 52	1SAZ 33 1201 R1004	1	0.360
	45 ... 63	TA 80 DU 63	1SAZ 33 1201 R1005	1	0.360
	60 ... 80	TA 80 DU 80	1SAZ 33 1201 R1006	1	0.360
	65 ... 90	TA 110 DU 90	1SAZ 41 1201 R1001	1	0.750
	80 ... 110	TA 110 DU 110	1SAZ 41 1201 R1002	1	0.750

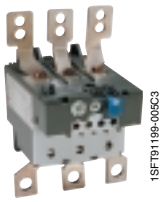
Separate Mounting Kit

For O/L relays :	Type	Order code	Packing piece	Weight kg
TA 25 DU ≤ 25	DB 25/25 A	1SAZ 20 1108 R0001	1	0.050
TA 25 DU 32	DB 25/32 A	1SAZ 20 1108 R0002	1	0.075
TA 42 DU, TA 75 DU, TA 80 DU	DB 80	1SAZ 30 1110 R0001	1	0.170
TA 110 DU	DB 200	1SAZ 40 1110 R0001	1	0.230

>> Dimensions ..... page 51

Thermal O/L Relays and Electronic O/L Relays for A 145 … AF 750 Contactors

Ordering Details



TA 200 DU



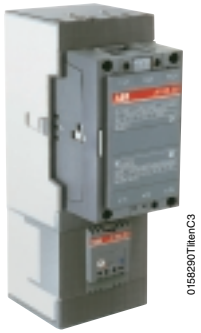
TA 450 DU



E 320 DU



E 800 DU



A 185 contactor with
E 200 DU electronic O/L relay and
LT 200 E terminal shroud

A 145, A 185	A 210, A 260, A 300	AF 400, AF 460	AF 580, AF 750
TA 200 DU … E 200 DU …	TA 450 DU … E 320 DU …	— E 500 DU …	— E 800 DU …

Thermal O/L Relays, Class 10A

For contactor :	Setting range A	Type	Order code	Packing piece	Weight kg
A 145, A 185	66 … 90	TA 200 DU 90	1SAZ 42 1201 R1001	1	0.750
	80 … 110	TA 200 DU 110	1SAZ 42 1201 R1002	1	0.750
	100 … 135	TA 200 DU 135	1SAZ 42 1201 R1003	1	0.750
	110 … 150	TA 200 DU 150	1SAZ 42 1201 R1004	1	0.750
	130 … 175	TA 200 DU 175	1SAZ 42 1201 R1005	1	0.750
	150 … 200	TA 200 DU 200	1SAZ 42 1201 R1006	1	0.750
A 210…A 300	130 … 185	TA 450 DU 185	1SAZ 51 1201 R1001	1	1.500
	165 … 235	TA 450 DU 235	1SAZ 51 1201 R1002	1	1.500
	220 … 310	TA 450 DU 310	1SAZ 51 1201 R1003	1	1.500

Electronic overload relays, Adjustable Class 10, 20 and 30

For contactor :	Setting range A	Type	Order code	Packing piece	Weight kg
A 145, A 185	60 … 200	E 200 DU	1SAX 51 1001 R0001	1	1.120
A 210…A 300	100 … 320	E 320 DU	1SAX 61 1001 R0002	1	1.260
AF 400, AF 460	150 … 500	E 500 DU	1SAX 71 1001 R0001	1	1.210
AF 580, AF 750	250 … 800	E 800 DU	1SAX 81 1001 R0001	1	4.240

Kit for Mounting on the Contactors

For O/L relays :	On contactor :	Type	Order code	Packing piece	Weight kg
TA 450 DU/SU	A 145, A 185	DT 450/A 185	1SAZ 50 1901 R1001	1	0.500
	A 210…A 300	DT 450/A 300	1SAZ 50 1902 R1001	1	0.750
E 500 DU	AF 400, AF 460	DT 500/AF 460	1SAX 70 1902 R0001	1	0.720
E 800 DU	AF 580, AF 750	DT 800/AF 750	1SAX 80 1902 R0001	1	1.400

Separate Mounting Kit

For O/L relay :	Type	Order code	Packing piece	Weight kg
TA 200 DU	DB 200	1SAZ 40 1110 R0001	1	0.230

Terminal shrouds for TA 200 DU thermal O/L relay

Fitting	Type	Order code	Packing piece	Weight kg
Load side	LT 200/A	1SAZ 40 1901 R1001	1	0.070
Between TA 200 DU and A 145, A 185	LT 185-AY	1SFN 12 4704 R1000	1	0.050

Terminal shrouds for E 200 DU ... E 800 DU electronic O/L relays

For O/L relays :	Type	Order code	Packing piece	Weight kg
E 200 DU	LT 200 E	1SAX 50 1904 R1001	1	0.120
E 320 DU	LT 320 E	1SAX 60 1904 R1001	1	0.120
E 500 DU	LT 500 E	1SAX 70 1904 R1001	1	0.240
E 800 DU	LT 800 E	1SAX 80 1904 R1001	1	0.240

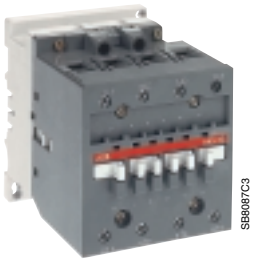
>> Dimensions ..... page 50

A 9 ... A 75 4-pole Contactors - a.c. Coil

Ordering Details



A 9-40-00



A 45-40-00



A 9-22-00

Rated operational current AC-1 θ ≤ 40 °C **A**	Auxiliary contacts fitted	**Type** State coil voltage: ☐☐	**Order code** coil voltage code see table below : ☐☐	Weight **kg** Packing 1 piece
4-pole Contactors - 4 NO Main Poles				
25	- -	A 9-40-00 ☐☐	1SBL 14 1201 R☐☐00	0.340
30	- -	A 16-40-00 ☐☐	1SBL 18 1201 R☐☐00	0.340
45	- -	A 26-40-00 ☐☐	1SBL 24 1201 R☐☐00	0.610
70	- -	A 45-40-00 ☐☐	1SBL 33 1201 R☐☐00	1.390
100	- -	A 50-40-00 ☐☐	1SBL 35 1201 R☐☐00	1.390
125	- -	A 75-40-00 ☐☐	1SBL 41 1201 R☐☐00	1.390
4-pole Contactors - 2 NO + 2 NC Main Poles				
25	- -	A 9-22-00 ☐☐	1SBL 14 1501 R☐☐00	0.340
30	- -	A 16-22-00 ☐☐	1SBL 18 1501 R☐☐00	0.340
45	- -	A 26-22-00 ☐☐	1SBL 24 1501 R☐☐00	0.610
70	- -	A 45-22-00 ☐☐	1SBL 33 1501 R☐☐00	1.400
125	- -	A 75-22-00 ☐☐	1SBL 41 1501 R☐☐00	1.400

Coil voltages and codes: A 9 ... A 75

Voltage (V) 50 Hz : ☐☐	Voltage (V) 60 Hz : ☐☐	Voltage code : ☐☐
24	24	81
48	48	83
110	110…120	84
220 ... 230	230…240	80
230 ... 240	240…260	88
380 ... 400	400…415	85
400 ... 415	415…440	86

Other voltages : page 36.

>> Accessories ..... page 18 >> Dimensions ..... page 51 >> Technical data ..... page 34

EK 110 ... EK 1000 4-pole Contactors - a.c. Coil

Ordering Details



EK 110-40-11



EK 175-40-11



EK 370-40-11



EK 1000-40-11

Rated operational current **AC-1** θ ≤ 40 °C **A**	Auxiliary contacts fitted	**Type** State coil voltage: ⌊⎓⌋	**Order code** coil voltage code see table below: ☐☐	Weight **kg** Pack[ing] 1 piece
200	1 1	EK 110-40-11 ⌊⎓⌋	SK 824 440 - ☐☐	4.300
	2 2	EK 110-40-22 ⌊⎓⌋	SK 824 450 - ☐☐	4.350
250	1 1	EK 150-40-11 ⌊⎓⌋	SK 824 441 - ☐☐	4.350
	2 2	EK 150-40-22 ⌊⎓⌋	SK 824 451 - ☐☐	4.400
300	1 1	EK 175-40-11 ⌊⎓⌋	SK 825 440 - ☐☐	6.600
	2 2	EK 175-40-22 ⌊⎓⌋	SK 825 448 - ☐☐	6.650
350	1 1	EK 210-40-11 ⌊⎓⌋	SK 825 441 - ☐☐	6.600
	2 2	EK 210-40-22 ⌊⎓⌋	SK 825 451 - ☐☐	6.650
550	1 1	EK 370-40-11 ⌊⎓⌋	SK 827 040 - ☐☐	17.200
	2 2	EK 370-40-22 ⌊⎓⌋	SK 827 042 - ☐☐	17.200
800	1 1	EK 550-40-11 ⌊⎓⌋	SK 827 041 - ☐☐	17.200
	2 2	EK 550-40-22 ⌊⎓⌋	SK 827 043 - ☐☐	17.200
1000	1 1	EK 1000-40-11 ⌊⎓⌋	SK 827 044 - ☐☐	17.500
	2 2	EK 1000-40-22 ⌊⎓⌋	SK 827 045 - ☐☐	17.500

Coil voltages and codes: EK 110 ... EK 1000

Voltage (V) 50 Hz : ⌊⎓⌋	Voltage (V) 60 Hz : ⌊⎓⌋	Voltage code : ☐☐
48	-	A D
-	110	A E
110	120	A F
220 ... 230	- *	A L
230 ... 240	-	A M
-	380	A N
380 ... 400	440	A P
400 ... 415	-	A R

Other voltages : page 37.

* 240 V 60 Hz for EK 370 ... EK 1000

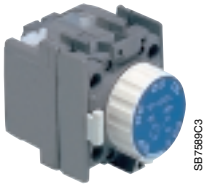
>> Accessories ..... page 19 >> Dimensions ..... page 51 >> Technical data ..... page 35

Accessories for A9 ... A75 4-pole Contactors

Ordering Details



CAL 5-11 CA 5-10



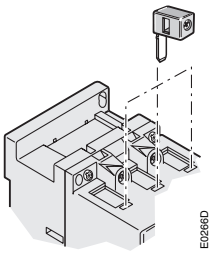
TP 40 DA



VE 5-1



RV 5/50 RC 5-1/50



LK 75-L

Auxiliary Contact Blocks

Positioning	Mounting on :	Contacts		Type	Order code	Packing pieces	Weight kg
Front	A 9...A 75	1	-	CA 5-10	1SBN 01 0010 R1010	10	0.014
		-	1	CA 5-01	1SBN 01 0010 R1001	10	0.014
		4	-	CA 5-40 E	1SBN 01 0040 R1040	2	0.060
		2	2	CA 5-22 E	1SBN 01 0040 R1022	2	0.060
Side	A 9...A 75	1	1	CAL 5-11	1SBN 01 0020 R1011	2	0.050

Pneumatic Timers

Mounting on :	Timing range :	Contacts		Type	Order code	Packing piece	Weight kg
A 9 ... A 75	Direct 0.1...40s	1	1	TP 40 DA	1SBN 02 0300 R1000	1	0.070
	Direct 10 ...180s	1	1	TP 180 DA	1SBN 02 0300 R1001	1	0.070
	Inverse 0.1...40s	1	1	TP 40 IA	1SBN 02 0301 R1000	1	0.070
	Inverse 10 ...180s	1	1	TP 180 IA	1SBN 02 0301 R1001	1	0.070

Interlocks

Feature	Mounting on :	Contacts	Type	Order code	Packing piece	Weight kg
Mech. / elec.	A 9...A 26	2	VE 5-1	1SBN 03 0110 R1000	1	0.076
	A 45...A 75	2	VE 5-2	1SBN 03 0210 R1000	1	0.146
Mechanical	A 9 ...A 26	-	VM 5-1	1SBN 03 0100 R1000	1	0.066

Surge Suppressors

Feature	Mounting on :	Voltage range	Type	Order code	Packing pieces	Weight kg
Varistor	A 9...A 75	24...50 V ≅	RV 5/50	1SBN 05 0010 R1000	2	0.015
		50...133 V ≅	RV 5/133	1SBN 05 0010 R1001	2	0.015
		110...250 V ≅	RV 5/250	1SBN 05 0010 R1002	2	0.015
		250...440 V ≅	RV 5/440	1SBN 05 0010 R1003	2	0.015
RC	A 9...A 26	24...50 V ~	RC 5-1/50	1SBN 05 0100 R1000	2	0.012
		50...133 V ~	RC 5-1/133	1SBN 05 0100 R1001	2	0.012
		110...250 V ~	RC 5-1/250	1SBN 05 0100 R1002	2	0.012
		250...440 V ~	RC 5-1/440	1SBN 05 0100 R1003	2	0.012
	A 45...A 75	24...50 V ~	RC 5-2/50	1SBN 05 0200 R1000	2	0.015
		50...133 V ~	RC 5-2/133	1SBN 05 0200 R1001	2	0.015
		110...250 V ~	RC 5-2/250	1SBN 05 0200 R1002	2	0.015
		250...440 V ~	RC 5-2/440	1SBN 05 0200 R1003	2	0.015

Auxiliary Lead Terminals

Feature	Mounting on :	Type	Order code	Packing pieces	Weight kg
Clip-on	A 45...A 75	LK 75-L	1SBN 07 3552 R1003	2	0.006

Function Marker

Feature	Mounting on :	Type	Order code	Packing box	Weight kg
50 pcs in a box	A 9...A 75	BA 5-50	1SBN 11 0000 R1000	1	0.017

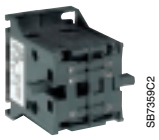
>> Dimensions ..... page 51

Accessories for EK... 4-pole Contactors

Ordering Details



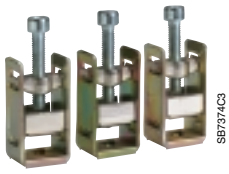
CAL 16-11 B



VH 145



RC-EH 300/48



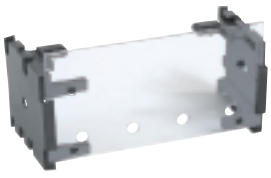
OXFB



TC



TCD



LT 210-EK

Auxiliary Contact Blocks

Positioning	Mounting on :	Contacts	Type	Order code	Packing piece	Weight kg
Side	EK 110...EK 1000	1 1	CAL 16-11 B	SK 829 002-B	1	0.050
		1 1	CAL 16-11 C	SK 829 002-C	1	0.050
		1 1	CAL 16-11 D	SK 829 002-D	1	0.050

Interlocks for two horizontal mounted contactors

Feature	Mounting on :	Contacts	Type	Order code	Packing piece	Weight kg
Mech./elec.	EK 110, EK 150	2	VH 145	SK 829 071-A	1	0.130
	EK 175, EK 210	2	VH 300	SK 829 071-B	1	0.130
Mechanical	EK 370, EK 550 EK 1000	-	VH 800	SK 829 070-F	1	6.000

Note : For interlocking between two contactors of a different size, please consult us.

Surge Suppressors

Feature	Mounting on :	Voltage range	Type	Order code	Packing piece	Weight kg
RC	EK 110 ...EK 210	24...48 V ~	RC-EH 300/48	SK 829 007-A	1	0.015
		110...415 V ~	RC-EH 300/415	SK 829 007-B	1	0.015
	EK 370…EK 1000	48...110 V ~	RC-EH 800/110	SK 829 007-C	1	0.015
		220...600 V ~	RC-EH 800/600	SK 829 007-D	1	0.015

Connectors

Cables	Mounting on :	cable cross section :	Type	Order code	Packing pieces	Weight kg
Single, **Cu**	EK 110	25...120 mm²	OXFB 120	SK 175 0003	3	0.060
	EK 150...EK 210	25...185 mm²	OXFB 185	SK 175 0007	3	0.070
	EK 370...EK 1000	70...300 mm²	OXFB 300	SK 175 0009	3	0.130
Single, **Al & Cu**	EK 110	10...70 mm²	TC 70-15	SK 173 001-AB	3	0.040
	EK 150...EK 210	35...120 mm²	TC 120-20	SK 173 001-AC	3	0.080
	EK 370...EK 1000	70...300 mm²	TC 300-25	SK 173 001-AD	3	0.160
Double, **Al & Cu**	EK 370...EK 1000	2x(35...185)mm²	TCD 185-25	SK 173 001-BD	3	0.250

Shrouds

Suitable for contactor with :	Mounting on :	Type	Order code	Packing piece	Weight kg
cable lugs or cable clamps	EK 110, EK 150	LT 150-EK	SK 178 001-HB	1	0.139
	EK 175, EK 210	LT 210-EK	SK 178 001-KB	1	0.152
	EK 370, EK 550	LT 550-EK	SK 178 001-LB	1	0.190
	EK 1000	LT 1000-EK	SK 178 001-MB	1	0.200

>> Dimensions ..... page 51

N.. Contactor Relays – a.c. Coil

Ordering Details



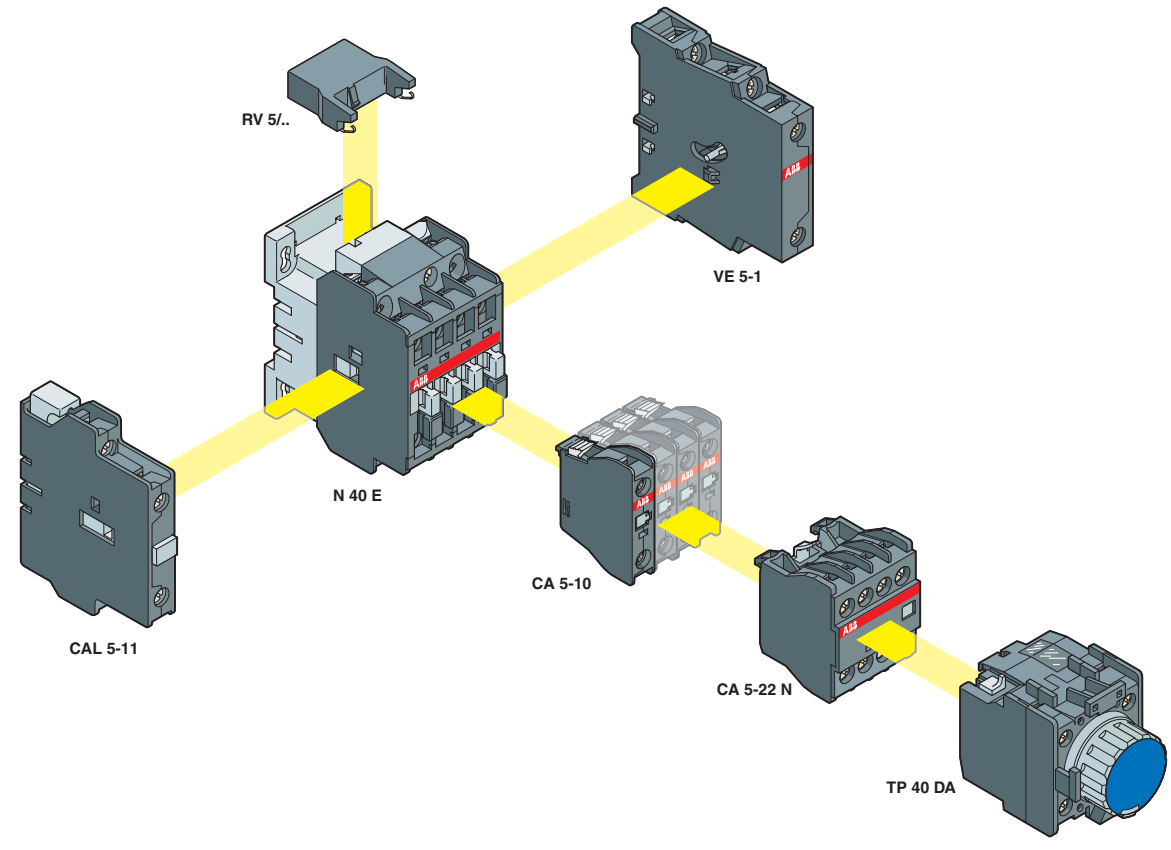
N 40 E

Auxiliary contacts fitted	Type	Order code	Weight kg
	State coil voltage: ⌊‿‿⌋	coil voltage code see table below: ☐ ☐	Packing 1 piece
4 -	N 40 E ⌊‿‿⌋	1SBH 14 1001 R☐☐40	0.340
2 2	N 22 E ⌊‿‿⌋	1SBH 14 1001 R☐☐22	0.340
3 1	N 31 E ⌊‿‿⌋	1SBH 14 1001 R☐☐31	0.340

Coil voltages and codes

Voltage (V) 50 Hz : ⌊‿‿⌋	Voltage (V) 60 Hz : ⌊‿‿⌋	Voltage code : ☐ ☐
24	24	8 1
48	48	8 3
110	110…120	8 4
220 ... 230	230…240	8 0
230 ... 240	240…260	8 8
380 ... 400	400…415	8 5
400 ... 415	415…440	8 6

Other voltages : page 36.



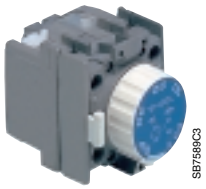
>> Technical data (magnet circuit and built-in auxiliary contacts, same as for A 9 contactor) ..... page 32
>> Dimensions and wiring diagrams ..... page 51

Accessories for N.. Contactor Relays

Ordering Details



CAL 5-11 CA 5-10



TP 40 DA



VE 5-1



RV 5/50 RC 5-1/50

Auxiliary Contact Blocks

Positioning	Contacts	Type	Order code	Packing pieces	Weight kg
Front face	1 -	CA 5-10	1SBN 01 0010 R1010	10	0.014
	- 1	CA 5-01	1SBN 01 0010 R1001	10	0.014
	4 -	CA 5-40 N	1SBN 01 0040 R1240	2	0.060
	2 2	CA 5-22 N	1SBN 01 0040 R1222	2	0.060
	- 4	CA 5-04 N	1SBN 01 0040 R1204	2	0.060
Side	1 1	CAL 5-11	1SBN 01 0020 R1011	2	0.050

Pneumatic Timers

Timing range :	Contacts	Type	Order code	Packing piece	Weight kg
Direct 0.1...40s	1 1	TP 40 DA	1SBN 02 0300 R1000	1	0.070
Direct 10...180s	1 1	TP 180 DA	1SBN 02 0300 R1001	1	0.070
Inverse 0.1...40s	1 1	TP 40 IA	1SBN 02 0301 R1000	1	0.070
Inverse 10...180s	1 1	TP 180 IA	1SBN 02 0301 R1001	1	0.070

Interlocks

Feature	Contacts	Type	Order code	Packing piece	Weight kg
Mech. / elec.	2	VE 5-1	1SBN 03 0110 R1000	1	0.076
Mechanical	-	VM 5-1	1SBN 03 0100 R1000	1	0.066

Surge Suppressors

Feature	Voltage range	Type	Order code	Packing pieces	Weight kg
Varistor	24 ... 50 V ≅	RV 5/50	1SBN 05 0010 R1000	2	0.015
	50 ... 133 V ≅	RV 5/133	1SBN 05 0010 R1001	2	0.015
	110 ... 250 V ≅	RV 5/250	1SBN 05 0010 R1002	2	0.015
	250 ... 440 V ≅	RV 5/440	1SBN 05 0010 R1003	2	0.015
RC	24 ... 50 V ~	RC 5-1/50	1SBN 05 0100 R1000	2	0.012
	50 ... 133 V ~	RC 5-1/133	1SBN 05 0100 R1001	2	0.012
	110 ... 250 V ~	RC 5-1/250	1SBN 05 0100 R1002	2	0.012
	250 ... 440 V ~	RC 5-1/440	1SBN 05 0100 R1003	2	0.012

Function Marker

Feature	Mounting on contactor relays :	Type	Order code	Packing box	Weight kg
50 pcs in a box	N	BA 5-50	1SBN 11 0000 R1000	1	0.017

>> Dimensions ..... page 51



DWA 9-30

D.O.L. Starters, standard voltages (230 V, 400 V)

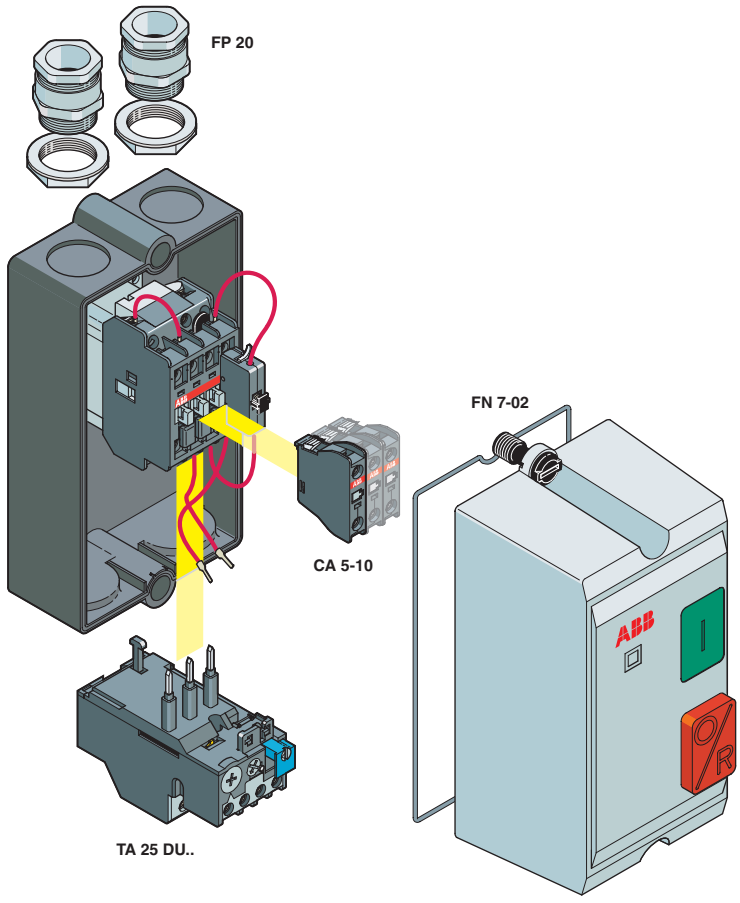
Phase to phase coil supply – c/w a factory-fitted connecting strip.

Enclosure version	**Rated operational current AC-3** 380 V **400 V** 415 V **A**	Mounted aux. contacts		**Type**	**Order code** (1)	Weight **kg**
				state coil voltage: ⌊⌋	to be completed with coil voltage code: ☐	Pack[ing] 1 piece
IP 43	9	1	-	DWA 9-30 ⌊⌋	1SBK 140 118 R8☐00	0.810
	12	1	-	DWA 12-30 ⌊⌋	1SBK 160 118 R8☐00	0.810
	17	1	-	DWA 16-30 ⌊⌋	1SBK 180 118 R8☐00	0.810
IP 65	9	1	-	DYA 9-30 ⌊⌋	1SBK 140 128 R8☐00	0.810
	12	1	-	DYA 12-30 ⌊⌋	1SBK 160 128 R8☐00	0.810
	17	1	-	DYA 16-30 ⌊⌋	1SBK 180 128 R8☐00	0.810

(1) Thermal O/L relay to be ordered separately, see ordering details page 23.

Coil voltages and codes

Voltage (V) 50 Hz : ⌊⌋	Voltage (V) 60 Hz : ⌊⌋	Coil voltage code : ☐
220 ... 230	230…240	0
380 ... 400	400…415	5



>> Technical data ..... page 32 >> Accessories ..... page 23 >> Dimensions and wiring diagrams ..... page 51

D.A 9 ... D.A 16 D.O.L. Starters

Ordering Details



DYA 9-30



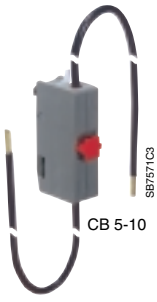
TA 25 DU



CA 5-10



FW 16-12 VARS



CB 5-10



LP 16

Coil voltages and codes

Voltage (V) 50 Hz : ⌊‿‿⌋	Voltage (V) 60 Hz : ⌊‿‿⌋	Coil voltage code : ☐
24	24	1
48	48	3
110	110...120	4

D.O.L. Starters, other voltages

Separate coil supply : control circuit (24 V, 48 V, 110 V) to be connected when putting the starter into service.

Enclosure version	**Rated operational current AC-3** 380 V **400 V** 415 V **A**	Mounted aux. contacts		**Type** State coil voltage: ⌊‿‿⌋	**Order code** (1) to be completed with coil voltage code : ☐	Packing piece	Weight **kg**
IP 43	9	1	-	DWA 9-30 ⌊‿‿⌋	1SBK 140 018 R8☐00	1	0.810
	12	1	-	DWA 12-30 ⌊‿‿⌋	1SBK 160 018 R8☐00	1	0.810
	17	1	-	DWA 16-30 ⌊‿‿⌋	1SBK 180 018 R8☐00	1	0.810
IP 65	9	1	-	DYA 9-30 ⌊‿‿⌋	1SBK 140 028 R8☐00	1	0.810
	12	1	-	DYA 12-30 ⌊‿‿⌋	1SBK 160 028 R8☐00	1	0.810
	17	1	-	DYA 16-30 ⌊‿‿⌋	1SBK 180 028 R8☐00	1	0.810

(1) Thermal O/L relay to be ordered separately, see table below.

Thermal O/L Relays

Setting range **A**			**Type**	**Order code**	Packing piece	Weight **kg**
0.1	...	0.16	TA 25 DU 0.16	1SAZ 21 1201 R1005	1	0.150
0.16	...	0.25	TA 25 DU 0.25	1SAZ 21 1201 R1009	1	0.150
0.25	...	0.4	TA 25 DU 0.4	1SAZ 21 1201 R1013	1	0.150
0.4	...	0.63	TA 25 DU 0.63	1SAZ 21 1201 R1017	1	0.150
0.63	...	1.0	TA 25 DU 1.0	1SAZ 21 1201 R1021	1	0.150
1.0	...	1.4	TA 25 DU 1.4	1SAZ 21 1201 R1023	1	0.150
1.3	...	1.8	TA 25 DU 1.8	1SAZ 21 1201 R1025	1	0.150
1.7	...	2.4	TA 25 DU 2.4	1SAZ 21 1201 R1028	1	0.150
2.2	...	3.1	TA 25 DU 3.1	1SAZ 21 1201 R1031	1	0.150
2.8	...	4.0	TA 25 DU 4.0	1SAZ 21 1201 R1033	1	0.150
3.5	...	5.0	TA 25 DU 5.0	1SAZ 21 1201 R1035	1	0.150
4.5	...	6.5	TA 25 DU 6.5	1SAZ 21 1201 R1038	1	0.150
6.0	...	8.5	TA 25 DU 8.5	1SAZ 21 1201 R1040	1	0.150
7.5	...	11.0	TA 25 DU 11	1SAZ 21 1201 R1043	1	0.150
10.0	...	14.0	TA 25 DU 14	1SAZ 21 1201 R1045	1	0.150
13.0	...	19.0	TA 25 DU 19	1SAZ 21 1201 R1047	1	0.150

Accessories for D.O.L. Starters

Description	**Type**	**Order code**	Packing pieces	Weight **kg**
N.O. 1-pole auxiliary contact block	CA 5-10	1SBN 010010 R1010	10	0.014
N.C. 1-pole auxiliary contact block	CA 5-01	1SBN 010010 R1011	10	0.014
ISO 20 cable gland	FP 20	1SBN 110312 R1000	2	0.008
"Start" button interlocking lever	BD 7	FPMP 307404 R0001	10	0.003
IP 65 sealing gasket set	FN 7-02	FPTN 472619 R0001	1	0.005

D.O.L. Starters, in kit form

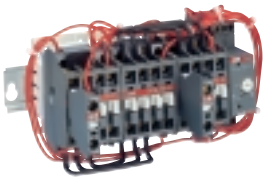
Description	**Type**	**Order code** (1)	Packing pieces	Weight **kg**
Empty enclosure, IP 43 c/w Start and Stop/Reset pushbuttons	FW 16-12 VARS	FPTN 372630 R0050	1	0.495
Empty enclosure, IP 65 c/w Start and Stop/Reset pushbuttons	FY 16-12 VARS	FPTN 372630 R0051	1	0.500
"Start" contact	CB 5-10	1SBN 010013 R1010	1	0.012
Connecting strip	LP 16	FPEP 407000 R0001	10	0.002

1) Contactor and thermal O/L relay to be ordered separately.

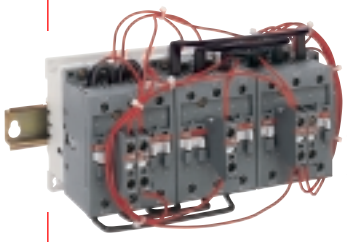
>> Technical data (see A 9 ... A 16 contactors) ..... **page 32** **>> Dimensions** ..... **page 51**

Open Type Star-Delta Starters – a.c. Coil
YKA 9-30 … YKA 75-30

Ordering Details



YKA 16-30



YKA 75-30

Star-Delta starters, factory-assembled. Thermal O/L relay to be ordered separately (1).

Rated operational current AC-3 380 V 400 V A	415 V A	Type State coil voltage: ⌊⌋	Order code to be completed with coil voltage code : ☐	Weight kg Packing 1 piece
15.5	14	YKA 9-30 ⌊⌋	1SBK 14 2301 R8☐00	1.610
22	21	YKA 12-30 ⌊⌋	1SBK 16 2301 R8☐00	1.610
30	28	YKA 16-30 ⌊⌋	1SBK 18 2301 R8☐00	1.610
44	40	YKA 26-30 ⌊⌋	1SBK 24 2301 R8☐00	2.120
50	47	YKA 30-30 ⌊⌋	1SBK 28 2301 R8☐00	3.125
72	66	YKA 40-30 ⌊⌋	1SBK 32 2301 R8☐00	3.135
85	80	YKA 50-30 ⌊⌋	1SBK 35 2301 R8☐00	4.130
105	96	YKA 63-30 ⌊⌋	1SBK 37 2301 R8☐00	4.135
119	126	YKA 75-30 ⌊⌋	1SBK 41 2301 R8☐00	4.480

(1) The setting current value is : motor rated current I_n x 0.58.

Coil voltages and codes

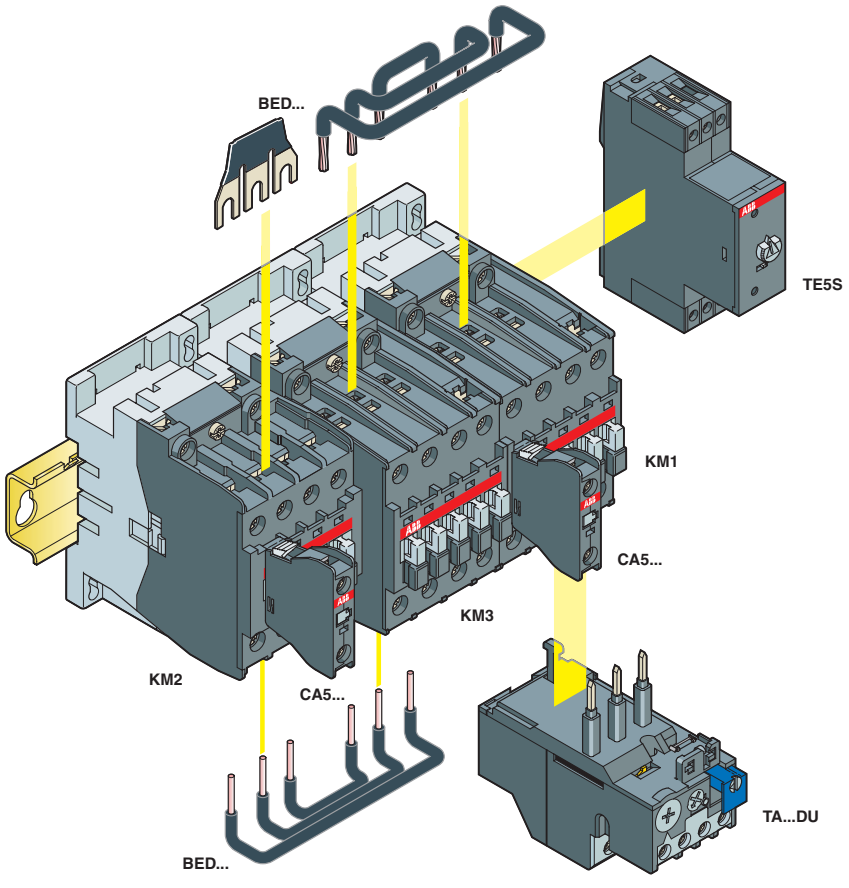
Voltage (V) 50 Hz : ⌊⌋	Voltage (V) 60 Hz : ⌊⌋	Coil voltage code : ☐
24	24	1
110	110…120	4
220 ... 230	230…240	0
380 ... 400	400…415	5

Other Versions:

- starter control circuit is suitable for separate supply. For direct supply version, please consult us.

- starter c/w mechanical interlocking, please consult us.

Starters in kit form



>> Contactor technical data ..... page 32
>> Accessories ..... page 10
>> Thermal O/L relays ..... page 14
>> Dimensions and wiring diagrams ..... page 51

Open Type Star-Delta Starters – a.c. Coil in Kit Form

Ordering details

Components for Star-Delta Starters, in kit form

Rated operational current AC-3 380 V 400 V A	415 V A	Line Contactor KM1 Type, state coil voltage: Order code, to be completed with coil voltage code : ☐	Star Contactor KM2	Delta Contactor KM3	Thermal O/L relay (1) FR1 Type Order code	Required accessories (see table below). Reference letters
15.5	14	A 9-30-10 ☐ 1SBL 14 1001 R8 ☐ 10	A 9-30-01 ☐ 1SBL 14 1001 R8 ☐ 01	A 9-30-01 ☐ 1SBL 14 1001 R8 ☐ 01	TA 25 DU 11 1SAZ 21 1201 R1043	A
22	21	A 12-30-10 ☐ 1SBL 16 1001 R8 ☐ 10	A 9-30-01 ☐ 1SBL 14 1001 R8 ☐ 01	A 12-30-01 ☐ 1SBL 16 1001 R8 ☐ 01	TA 25 DU 14 1SAZ 21 1201 R1045	A
30	28	A 16-30-10 ☐ 1SBL 18 1001 R8 ☐ 10	A 12-30-01 ☐ 1SBL 16 1001 R8 ☐ 01	A 16-30-01 ☐ 1SBL 18 1001 R8 ☐ 01	TA 25 DU 19 1SAZ 21 1201 R1047	A
44	40	A 26-30-10 ☐ 1SBL 24 1001 R8 ☐ 10	A 16-30-01 ☐ 1SBL 18 1001 R8 ☐ 01	A 26-30-01 ☐ 1SBL 24 1001 R8 ☐ 01	TA 25 DU 25 1SAZ 21 1201 R1051	B
50	47	A 30-30-10 ☐ 1SBL 28 1001 R8 ☐ 10	A 26-30-01 ☐ 1SBL 24 1001 R8 ☐ 01	A 30-30-01 ☐ 1SBL 28 1001 R8 ☐ 01	TA 25 DU 32 1SAZ 21 1201 R1053	C
72	66	A 40-30-10 ☐ 1SBL 32 1001 R8 ☐ 10	A 26-30-01 ☐ 1SBL 24 1001 R8 ☐ 01	A 40-30-01 ☐ 1SBL 32 1001 R8 ☐ 01	TA 42 DU 42 1SAZ 31 1201 R1003	C
85	80	A 50-30-00 ☐ 1SBL 35 1001 R8 ☐ 00	A 30-30-01 ☐ 1SBL 28 1001 R8 ☐ 01	A 50-30-00 ☐ 1SBL 35 1001 R8 ☐ 00	TA 75 DU 52 1SAZ 32 1201 R1004	D
105	96	A 63-30-00 ☐ 1SBL 37 1001 R8 ☐ 00	A 40-30-01 ☐ 1SBL 32 1001 R8 ☐ 01	A 63-30-00 ☐ 1SBL 37 1001 R8 ☐ 00	TA 75 DU 63 1SAZ 32 1201 R1005	D
119 –	– 126	A 75-30-00 ☐ 1SBL 41 1001 R8 ☐ 00	A 50-30-00 ☐ 1SBL 35 1001 R8 ☐ 00	A 75-30-00 ☐ 1SBL 41 1001 R8 ☐ 00	TA 75 DU 80 1SAZ 32 1201 R1006	E
140 –	– 135	A 95-30-00 ☐ 1SFL 43 1001 R8 ☐ 00	A 75-30-00 ☐ 1SFL 41 1001 R8 ☐ 00	A 95-30-00 ☐ 1SFL 43 1001 R8 ☐ 00	TA 110 DU 90 1SAZ 41 1201 R1001	F
170 –	– 182	A 110-30-00 ☐ 1SFL 45 1001 R8 ☐ 00	A 95-30-00 ☐ 1SFL 43 1001 R8 ☐ 00	A 110-30-00 ☐ 1SFL 45 1001 R8 ☐ 00	TA 110 DU 110 1SAZ 41 1201 R1002	G

(1) The setting current value is : motor rated current I_n x 0.58.

Required accessories

Ref. letter	Connection set Type Order code	KM1 Aux. contacts Type Order code	KM2 Aux. Contacts Type Order code	KM3 Aux. Contacts Type Order code	Timer Type Order code	Plate Type Order code
A	BED 16.1 1SBN 08 1403 R1001					
B	BED 26.1 1SBN 08 2403 R1001	CA 5-10 1SBN 01 0010 R1010	CA 5-10 1SBN 01 0010 R1010	–	According to the control voltage (50/60Hz) 24 V **TE5S-24 1SBN 02 0010R1001** 110...120 V **TE5S-120 1SBN 02 0010R1002** 220...240 V **TE5S-240 1SBN 02 0010R1003** 380...440 V **TE5S-440 1SBN 02 0010R1004**	–
C	BED 40.1 1SBN 08 2803 R1001					
D	BED 50.1 1SBN 08 3503 R1001	2 x CA 5-10 1SBN 01 0010 R1010	CA 5-10 1SBN 01 0010 R1010	CA 5-01 1SBN 01 0010 R1001		–
E	BED 75.1 1SBN 08 4103 R1001		1 x CA 5-10 1SBN 01 0010 R1010			–
F	BED 95 1 SFN 08 4303 R1000	2 x CA 5-10 1SBN 01 0010 R1010	1 x CA 5-01 1SBN 01 0010 R1001	CA 5-01 1SBN 01 0010 R1001		PN110-41 1 SFN 09 4303 R1000
G	BED 110 1 SFN 08 4503 R1000					PN110-41 1 SFN 09 4303 R1000

Other Version:

- starter c/w mechanical interlocking, please consult us.

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>> Accessories ..... page 10
>> Thermal O/L relays ..... page 14
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Open Type Reversing Contactors – a.c. Coil
VOA 9-30M … VOA 40-30M

Ordering Details



VOA 9-30M



VOA 26-30M

Reversing Contactors, factory-assembled, c/w mechanical interlocking and power connections.

Rated operational current AC-3 380 V **400 V** 415 V **A**	Type State coil voltage: ⌊‗‗⌋	Order code to be completed with coil voltage code: ☐	Weight **kg** Pack[ing] 1 piece
9	VOA 9-30M ⌊‗‗⌋	1SBK 14 1600 R8☐00	0.940
12	VOA 12-30M ⌊‗‗⌋	1SBK 16 1600 R8☐00	0.940
17	VOA 16-30M ⌊‗‗⌋	1SBK 18 1600 R8☐00	0.940
26	VOA 26-30M ⌊‗‗⌋	1SBK 24 1600 R8☐00	1.470
32	VOA 30-30M ⌊‗‗⌋	1SBK 28 1600 R8☐00	1.710
37	VOA 40-30M ⌊‗‗⌋	1SBK 32 1600 R8☐00	1.720

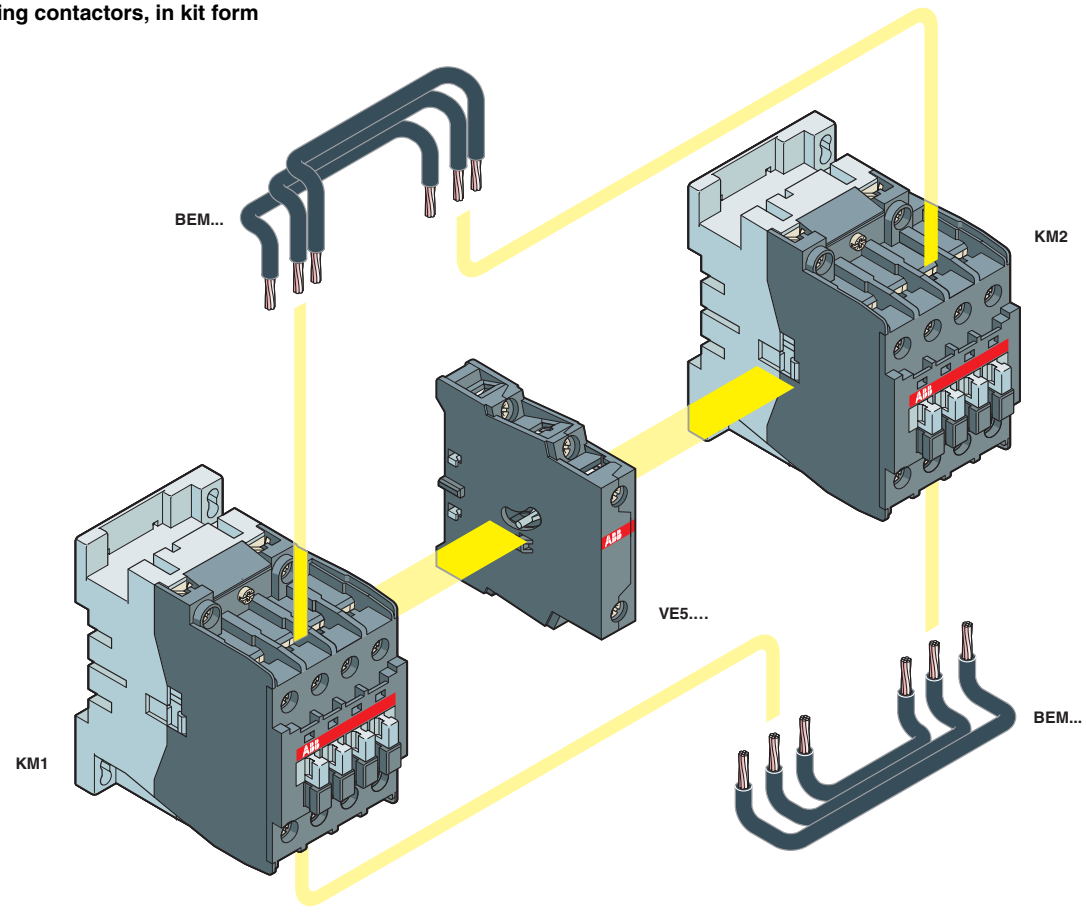
The hold-in function, if necessary, will be carried out with the help of CA 5-10 type N.O. auxiliary contacts (1 on each contactor) to be supplied separately (see page 27).

Coil voltages and codes

Voltage (V) 50 Hz : ⌊‗‗⌋	Voltage (V) 60 Hz : ⌊‗‗⌋	Coil voltage code : ☐
24	24	1
48	48	3
110	110…120	4
220 ... 230	230…240	0
380 ... 400	400…415	5

The control circuit is to be wired when putting the reversing contactor into service.

Reversing contactors, in kit form



>> Contactor technical data ..... page 32
>> Accessories ..... page 27
>> Dimensions and wiring diagrams ..... page 51

Open Type Reversing Contactors – a.c. Coil in Kit Form

Ordering Details

Components for Reversing Contactors, in kit form

Rated operational current AC-3 380 V **400 V** 415 V **A**	**KM1 + KM2 contactors** (1) **Type**, state coil voltage: ⌊‗⌋ **Order code**, to be completed with coil voltage code: ☐	**Interlocking** **Type** **Order code**	**Connection set** **Type** **Order code**
9	2 x A 9-30-10 ⌊‗⌋ 1SBL 14 1001 R8 ☐ 10	1 x VE 5-1 1SBN 03 0110 R1000	1 x BEM 16-30 1SBN 08 1401 R1000
12	2 x A 12-30-10 ⌊‗⌋ 1SBL 16 1001 R8 ☐ 10		
17	2 x A 16-30-10 ⌊‗⌋ 1SBL 18 1001 R8 ☐ 10		
26	2 x A 26-30-10 ⌊‗⌋ 1SBL 24 1001 R8 ☐ 10		1 x BEM 26-30 1SBN 08 2401 R1000
32	2 x A 30-30-10 ⌊‗⌋ 1SBL 28 1001 R8☐ 10		1 x BEM 40-30 1SBN 08 2801 R1000
37	2 x A 40-30-10 ⌊‗⌋ 1SBL 32 1001 R8 ☐ 10		
96	2 x A 95-30-00 ⌊‗⌋ 1SFL 43 1001 R8 ☐ 00	1 x VE 5-2 1SBN 03 0210 R1000	1 x BEM 110-30 1SFN 08 4301 R1000
110	2 x A 110-30-00 ⌊‗⌋ 1SFL 45 1001 R8 ☐ 00		

(1) On each A 9 … A 40 contactor, one N.O. built-in auxiliary contact is available for the hold-in function.

Auxiliary Contact Blocks

Positioning	Contacts	**Type**	**Order code**	Packing pieces	Weight **kg**
Front	1 -	CA 5-10	1SBN 01 0010 R1010	10	0.014
	- 1	CA 5-01	1SBN 01 0010 R1001	10	0.014
	3 1	CA 5-31M	1SBN 01 0040 R1131	2	0.060
	2 2	CA 5-22M	1SBN 01 0040 R1122	2	0.060
Side	1 1	CAL 5-11	1SBN 01 0020 R1011	2	0.050

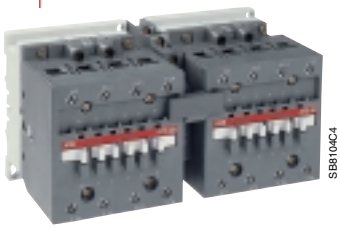
Function Markers

Description	**Type**	**Order code**	Packing box	Weight **kg**
Box of 50 pieces	BA 5-50	1SBN 11 0000 R1000	1	0.090

>> Contactor technical data ..... page 32 >> Accessories ..... page 10 >> Dimensions and wiring diagrams ..... page 51

Open Type Changeover Contactors – a.c. Coil VOA..-40Z

Ordering Details



VOA 75-40Z

Changeover Contactors, factory-assembled, c/w mechanical interlocking.

Power connection set to be ordered separately (see table below).

Rated operational current AC-1 θ ≤ 40 °C A	Mounted aux. contacts	Type state coil voltage:	Order code to be completed with coil voltage code: ☐	Weight kg Packing 1 piece
70	– –	VOA 45-40Z	1SBK 33 1900 R8☐00	3.020
100	– –	VOA 50-40Z	1SBK 35 1900 R8☐00	3.020
125	– –	VOA 75-40Z	1SBK 41 1900 R8☐00	3.020

Connection Set

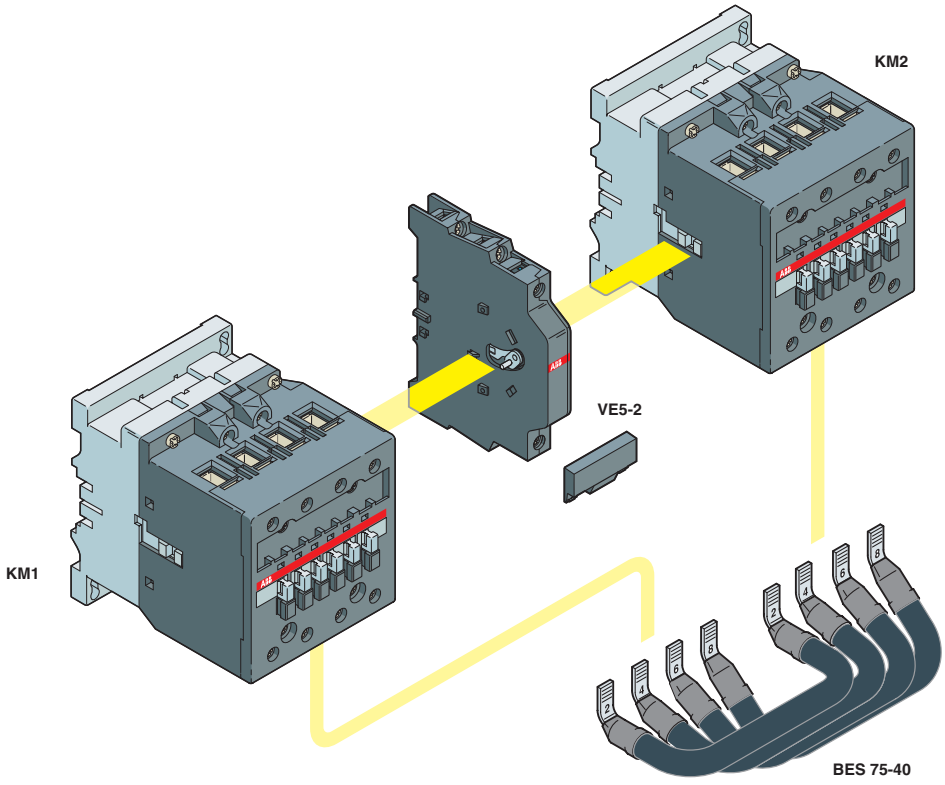
Connection utilization	Type	Order code	Weight kg Packing 1 set
Coupling for the downstream terminals	BES 75-40	1SBN 08 3302 R1000	0.400

Coil voltages and codes

Voltage (V) 50 Hz :	Voltage (V) 60 Hz :	Coil voltage code : ☐
24	24	1
48	48	3
110	110…120	4
220 ... 230	230…240	0
380 ... 400	400…415	5

The control circuit is to be wired when putting the changeover contactor into service.

Changeover contactors, in kit form



>> Contactor technical data ..... page 34 >> Accessories ..... page 29 >> Dimensions and wiring diagrams ..... page 51

Open Type Changeover Contactors – a.c. Coil in Kit Form

Ordering Details

Components for Changeover Contactors, in kit form

Rated operational current AC-1 θ ≤ 40 °C A	KM1 + KM2 Contactors Type, state coil voltage: ⌊‗.‗⌋ Order code, to be completed with coil voltage code: ☐	Interlocking Type Order code	Connection set Type Order code
70	2 x A 45-40-00 ⌊‗.‗⌋ 1SBL 33 1201 R8 ☐ 00		
100	2 x A 50-40-00 ⌊‗.‗⌋ 1SBL 35 1201 R8 ☐ 00	1 x VE 5-2 1SBN 03 0210 R1000	1 x BES 75-40 1SBN 08 3302 R1000
125	2 x A 75-40-00 ⌊‗.‗⌋ 1SBL 41 1201 R8 ☐ 00		

Auxiliary Contacts Blocks

Positioning	Contacts		Type	Order code	Packing pieces	Weight kg
Front	1	-	CA 5-10	1SBN 01 0010 R1010	10	0.014
	-	1	CA 5-01	1SBN 01 0010 R1001	10	0.014
	4	-	CA 5-40E	1SBN 01 0040 R1040	2	0.060
	2	2	CA 5-22E	1SBN 01 0040 R1022	2	0.060
Side	1	1	CAL 5-11	1SBN 01 0020 R1011	2	0.050

Function Markers

Description	Type	Order code	Packing box	Weight kg
Box of 50 pieces	BA 5-50	1SBN 11 0000 R1000	1	0.090

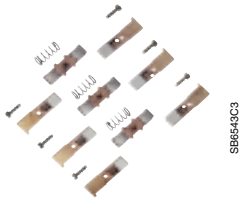
Auxiliary Lead Terminals

Connection	Type	Order code	Packing pieces	Weight kg
Right/left	LK 75-L	1SBN 07 3552 R1003	2	0.006
Front	LK 75-F	1SBN 07 3552 R1002	2	0.006

>> Contactor technical data ..... page 34 >> Other accessories ..... page 18 >> Dimensions and wiring diagrams ..... page 51

Contact Sets - Coils

Ordering Details



ZL 50



ZL 185



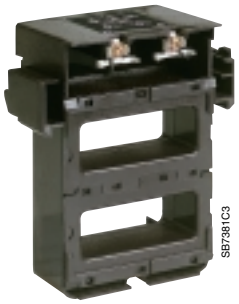
KZK 370



ZA 16



ZA 185



KH 300

Contact Sets

For contactor :		Type	Order code	Packing set	Weight kg
3 -pole	A 50	ZL 50	1SBN 16 3503 R1000	1	0.115
	A 63	ZL 63	1SBN 16 3703 R1000	1	0.130
	A 75	ZL 75	1SBN 16 4103 R1000	1	0.145
	A 95	ZL 95	1SFN 16 4303 R1000	1	0.190
	A 110	ZL 110	1SFN 16 4503 R1000	1	0.190
	A 145	ZL 145	1SFN 16 4703 R1000	1	0.380
	A 185	ZL 185	1SFN 16 4903 R1000	1	0.380
	A 210	ZL 210	1SFN 16 5103 R1000	1	0.670
	A 260	ZL 260	1SFN 16 5303 R1000	1	0.670
	A 300	ZL 300	1SFN 16 5503 R1000	1	0.670
	AF 400	ZL 400	1SFN 16 5703 R1000	1	1.320
	AF 460	ZL 460	1SFN 16 5903 R1000	1	1.320
	AF 580	ZL 580	1SFN 16 6103 R1000	1	1.840
	AF 750	ZL 750	1SFN 16 6303 R1000	1	1.840
4 -pole	A 45	ZLT 45	1SBN 16 3304 R1000	1	0.150
	A 50	ZLT 50	1SBN 16 3504 R1000	1	0.150
	A 75	ZLT 75	1SBN 16 4104 R1000	1	0.160
	EK 110	KZK 110	SK 824 204-A	1	0.450
	EK 150	KZK 150	SK 824 204-B	1	0.450
	EK 175	KZK 175	SK 825 204-A	1	0.700
	EK 210	KZK 210	SK 825 204-B	1	0.700
	EK 370	KZK 370	SK 827 204-A	1	2.400
	EK 550	KZK 550	SK 827 204-B	1	2.400
	EK 1000	KZK 1000	SK 827 204-F	1	2.400

Coils

For contactor :		Type State coil voltage: ⌊‗‗⌋	Order code coil voltage code see table below: ☐☐	Packing piece	Weight kg
3 -pole	A 9 ... A 16	ZA 16 ⌊‗‗⌋	1SBN 15 1410 R☐☐06	1	0.093
	A 26 ... A 40	ZA 40 ⌊‗‗⌋	1SBN 15 2410 R☐☐06	1	0.148
	A 50 ... A 75	ZA 75 ⌊‗‗⌋	1SBN 15 3510 R☐☐06	1	0.166
	A 95 ... A 110	ZA 110 ⌊‗‗⌋	1SFN 15 4310 R☐☐06	1	0.195
	A 145, A 185	ZA 185 ⌊‗‗⌋	1SFN 15 4710 R☐☐06	1	0.180
	A 210 ... A 300	ZA 300 ⌊‗‗⌋	1SFN 15 5110 R☐☐06	1	0.410
	AF 400, AF 460	ZAF 460 ⌊‗‗⌋	1SFN 15 5770 R☐☐06	1	0.525
	AF 580, AF 750	ZAF 750 ⌊‗‗⌋	1SFN 15 6170 R☐☐06	1	1.335
4 -pole	A 9 ... A 16	ZA 16 ⌊‗‗⌋	1SBN 15 1410 R☐☐06	1	0.093
	A 26	ZA 40 ⌊‗‗⌋	1SBN 15 2410 R☐☐06	1	0.148
	A 45, A 75	ZA 75 ⌊‗‗⌋	1SBN 15 3510 R☐☐06	1	0.166
	EK 110, EK 150	KH 210 ⌊‗‗⌋	SK 825 400 - ☐☐	1	0.360
	EK 175, EK 210	KH 300 ⌊‗‗⌋	SK 826 400 - ☐☐	1	0.440
	EK 370 ... EK 1000	KH 800 ⌊‗‗⌋	SK 828 100 - ☐☐	1	0.950
Cont. relay	N	ZA 16 ⌊‗‗⌋	1 SBN 15 1410 R☐☐06	1	0.093

Coil voltages and codes: A 9 ... A 300 and N..

Voltage (V) 50 Hz : ⌊‗‗⌋	Voltage (V) 60 Hz : ⌊‗‗⌋	Voltage code : ☐☐
24	24	8 1
48	48	8 3
110	110...120	8 4
220 ... 230	230...240	8 0
230 ... 240	240...260	8 8
380 ... 400	400...415	8 5
400 ... 415	415...440	8 6

Other voltages : page 36.

Coil voltages and codes: AF 400 ... AF 750

Voltage (V) 50 Hz : ⌊‗‗⌋	Voltage (V) 60 Hz : ⌊‗‗⌋	Voltage code : ☐☐
-	24 ... 60	6 8
48 ... 130	48 ... 130	6 9
100 ... 250	100 ... 250	7 0

Coil voltages and codes: EK 110 ... EK 1000

Voltage (V) 50 Hz : ⌊‗‗⌋	Voltage (V) 60 Hz : ⌊‗‗⌋	Voltage code : ☐☐
48	-	A D
-	110	A E
110	120	A F
220 ... 230	-	A L
230 ... 240	-	A M
-	380	A N
380 ... 400	440	A P
400 ... 415	-	A R

Other voltages : page 37.

Motor Rating and Rated Current

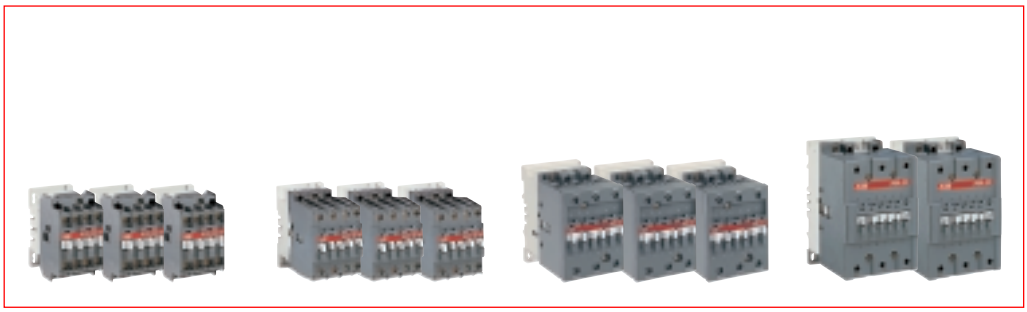
The currents shown in the table below are those given for standard three phase squirrel-cage motors. 1500 r.p.m. 50 Hz.
Values quoted are for guidance only, they can vary depending on the number of poles and design.

Motor rating		Motor rated current at :							
		220-230 V	240 V	380 V 380-400 V	415 V	440 V	500 V	600 V	660-690 V
kW	PS = hp	A	A	A	A	A	A	A	A
0.06	1/12	0.38	0.35	0.22	0.20	0.19	0.16	0.12	–
0.09	1/8	0.55	0.50	0.33	0.30	0.28	0.24	0.21	–
0.12	1/6	0.76	0.68	0.42	0.40	0.37	0.33	0.27	–
0.18	1/4	1.1	1	0.64	0.60	0.55	0.46	0.40	–
0.25	1/3	1.4	1.38	0.88	0.85	0.76	0.59	0.56	–
0.37	1/2	2.1	1.93	1.22	1.15	1.06	0.85	0.77	0.7
0.55	3/4	2.7	2.3	1.5	1.40	1.25	1.20	1.02	0.9
0.75	1	3.3	3.1	2	2	1.67	1.48	1.22	1.1
1.1	1.5	4.9	4.1	2.6	2.5	2.26	2.1	1.66	1.5
1.5	2	6.2	5.6	3.5	3.5	3.03	2.6	2.22	2
2.2	3	8.7	7.9	5	5	4.31	3.8	3.16	2.9
2.5	3.4	9.8	8.9	5.7	5.5	4.9	4.3	3.59	3.3
3	4	11.6	10.6	6.6	6.5	5.8	5.1	4.25	3.5
3.7	5	14.2	13	8.2	7.5	7.1	6.2	5.2	4.4
4	5.5	15.3	14	8.5	8.4	7.6	6.5	5.6	4.9
5	6.8	18.9	17.2	10.5	10	9.4	8.1	6.9	6
5.5	7.5	20.6	18.9	11.5	11	10.3	8.9	7.5	6.7
6.5	8.8	23.7	21.8	13.8	12.5	12	10.4	8.7	8.1
7.5	10	27.4	24.8	15.5	14	13.5	11.9	9.9	9
8	11	28.8	26.4	16.7	15.4	14.4	12.7	10.6	9.7
9	12.5	32	29.3	18.3	17	15.8	13.9	11.6	10.6
11	15	39.2	35.3	22	21	19.3	16.7	14.1	13
12.5	17	43.8	40.2	25	23	21.9	19	16.1	15
15	20	52.6	48.2	30	28	26.3	22.5	19.3	17.5
18.5	25	64.9	58.7	37	35	32	28.5	23.5	21
20	27	69.3	63.4	40	37	34.6	30.6	25.4	23
22	30	75.2	68	44	40	37.1	33	27.2	25
25	34	84.4	77.2	50	47	42.1	38	30.9	28
30	40	101	92.7	60	55	50.1	44	37.1	33
37	50	124	114	72	66	61.9	54	45.4	42
40	54	134	123	79	72	67	60	49.1	44
45	60	150	136	85	80	73.9	64.5	54.2	49
51	70	168	154	97	90	83.8	73.7	61.4	56
55	75	181	166	105	96	90.3	79	66.2	60
59	80	194	178	112	105	96.9	85.3	71.1	66
75	100	245	226	140	135	123	106	90.3	82
80	110	260	241	147	138	131	112	96.3	86
90	125	292	268	170	165	146	128	107	98
100	136	325	297	188	182	162	143	119	107
110	150	358	327	205	200	178	156	131	118
129	175	420	384	242	230	209	184	153	135
132	180	425	393	245	242	214	186	157	140
140	190	449	416	260	250	227	200	167	145
147	200	472	432	273	260	236	207	173	152
160	220	502	471	295	280	256	220	188	170
180	245	578	530	333	320	289	254	212	190
184	250	590	541	340	325	295	259	217	200
200	270	626	589	370	340	321	278	235	215
220	300	700	647	408	385	353	310	260	235
250	340	803	736	460	425	401	353	295	268
257	350	826	756	475	450	412	363	302	280
295	400	948	868	546	500	473	416	348	320
315	430	990	927	580	535	505	445	370	337
355	480	1080	1010	636	580	549	483	405	366
400	545	1250	1130	710	650	611	538	450	410
450	610	1410	1270	800	740	688	608	508	460
475	645	1490	1340	850	780	730	645	540	485
500	680	1570	1420	890	830	770	680	565	510
560	760	1750	1580	1000	920	860	760	630	570
600	810	–	–	1080	990	920	810	680	610
670	910	–	–	1200	1100	1030	910	760	680

Technical Data

A 9 ... A 110 3-pole Contactors

A.. 3-pole Contactors



Types			A 9	A 12	A 16	A 26	A 30	A 40	A 50	A 63	A 75	A 95	A 110
Rated operational current I_e / AC-3													
	220-230-240 V	A	9	12	17	26	33	40	53	65	75	96	110
	380-400 V	A	9	12	17	26	32	37	50	65	75	96	110
	415 V	A	9	12	17	26	32	37	50	65	72	96	110
for air temperature around the contactor :	440 V	A	9	12	16	26	32	37	45	65	70	93	100
$\theta \leq$ 55 °C	500 V	A	9	12	14	22	28	33	45	55	65	80	100
	690 V	A	7	9	10	17	21	25	35	43	46	65	82
	1000 V	A	-	-	-	-	-	-	23	25	28	30	30
Rated operational current I_e / AC-1													
for air temperature around the contactor :	$\theta \leq$ 40 °C	A	25	27	30	45	55	60	100	115	125	145	160
	$\theta \leq$ 55 °C	A	22	25	27	40	55	60	85	95	105	135	145
	$\theta \leq$ 70 °C	A	18	20	23	32	39	42	70	80	85	115	130
with connecting cross-section		mm²	2.5	4	4	6	10	16	35	50	50	50	70
rated operational voltage U_e max.		V	690	690	690	690	690	690	690	690	690	690	690
Max. back-up fuse gG		A	25	32	32	50	63	63	100	125	160	160	200
Fixing			See fixing details and dimensions page 51										
Connecting terminals			Cable clamp			Cable clamp	Double cable connector		Single cable connector			Single cable connector	
Connecting capacity													
Main conductors (poles)													
Rigid solid (≤ 4 mm²) or rigid stranded (≥ 6 mm²)		1x mm²	1 ... 4			1.5 ... 6	2.5 ... 16		6 ... 50			10 ... 95	
		2x mm²	1 ... 4			1.5 ... 6	2.5 ... 16		6 ... 16			6 ... 35	
Flexible with cable end		1x mm²	0.75 ... 2.5			0.75 ... 4	2.5 ... 10		6 ... 35			10 ... 70	
		2x mm²	0.75 ... 2.5			0.75 ... 4	2.5 ... 10		6 ... 25			6 ... 35	
Bars or lugs : max. width		mm ≤	8			10	-		-			-	
hole Ø		mm >	3.7			4.2	-		-			-	
Auxiliary conductors													
Rigid solid		1x mm²	1 ... 4			1 ... 4			1 ... 4			0.75 ... 2.5	
		2x mm²	1 ... 4			1 ... 4			1 ... 4			0.75 ... 2.5	
Flexible with cable end		1x mm²	0.75 ... 2.5			0.75 ... 2.5			1 ... 2.5			0.75 ... 2.5	
		2x mm²	0.75 ... 2.5			0.75 ... 2.5			0.75 ... 2.5			0.75 ... 2.5	
Degree of protection of terminals			All terminals IP 20			All terminals IP 20			Main terminals IP 10 Auxiliary terminals IP 20				
Coil consumption													
50 Hz pull-in		VA	70			120			180			350	
50 Hz holding		VA/W	8/2			12/3			18/5.5			22/6.5	

Built-in or Add-on Auxiliary Contacts

Rated operational current I_e / AC-15	24 ... 127 V : 6 A	220 ... 240 V : 4 A	380 ... 440 V : 3 A
Max. back-up fuse gG	10 A		
Min. switching capacity	17 V / 5 mA		

>> Dimensions ..... page 51

A.., AF.. 3-pole Contactors



Types			A 145	A 185	A 210	A 260	A 300	AF 400	AF 460	AF 580	AF 750
Rated operational current I_e / AC-3											
	220-230-240 V	A	145	185	210	260	305	400	460	580	750
	380-400 V	A	145	185	210	260	305	400	460	580	750
	415 V	A	145	185	210	260	300	400	460	580	750
for air temperature around the contactor :	440 V	A	145	185	210	240	280	400	460	580	750
$\theta \leq$ 55 °C	500 V	A	145	170	210	240	280	400	460	580	750
	690 V	A	120	170	210	220	280	350	400	500	650
	-	-	-	-	-	-	-	-	-	-	-
Rated operational current I_e / AC-1											
for air temperature around the contactor :	$\theta \leq$ 40 °C	A	250	275	350	400	500	600	700	800	1050
	$\theta \leq$ 55 °C	A	230	250	300	350	400	500	600	700	800
	$\theta \leq$ 70 °C	A	180	180	240	290	325	400	480	580	720
with connecting cross-section		mm²	120	150	185	240	300	2 x 185	2 x 240	2 x 240	-
with bar dimensions		mm	-	-	-	-	-	-	-	-	2 x 80 x 5
rated operational voltage U_e max.		V	690	690	690	690	690	690	690	690	690
Max. back-up fuse gG		A	315	355	400	500	500	630	800	1000	1000
Fixing			See fixing details and dimensions page 51								
Connecting terminals			Flat type c/w screws and bolts								
Connecting capacity											
Main conductors (poles)											
Rigid with connector :											
- single for Cu cable		mm²	6 ... 185		16 ... 240			240		300	
- single for Al/Cu cable		mm²	25 ... 150		120 ... 240			240		300	
- double for Al/Cu cable		mm²	-		2 x (95 ... 120)			2 x 240		3 x 185	
Bars or lugs :											
max. width		mm ≤	24		32			47/45		52/50	
hole Ø		mm >	8		10			10		12	
Auxiliary conductors											
Rigid solid		1x mm²					1 ... 4				
		2x mm²					1 ... 4				
Flexible with cable end		1x mm²					0.75 ... 2.5				
		2x mm²					0.75 ... 2.5				
Degree of protection of terminals			Main terminals IP 00 - Auxiliary terminals IP 20								
Coil consumption											
50 Hz pull-in		VA	550		1350			890		850	
50 Hz holding		VA/W	35/11		60/16			12/4		12/4.5	

Add-on Auxiliary Contacts

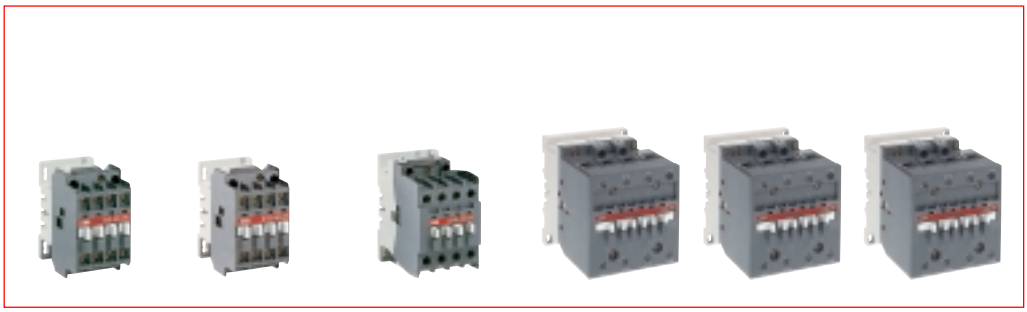
Rated operational current I_e / AC-15	24 ... 127 V : 6 A	220 ... 240 V : 4 A	380 ... 440 V : 3 A
Max. back-up fuse gG A	10 A		
Min. switching capacity	17 V / 5 mA		

>> Dimensions ..... page 51

Technical Data

A 9 ... A 75 4-pole Contactors

A.. 4-pole Contactors



Types			A 9	A 16	A 26	A 45	A 50	A 75
Rated operational current I_e / AC-1								
for air temperature around the contactor :	θ ≤ 40 °C	A	25	30	45	70	100	125
	θ ≤ 55 °C	A	22	27	40	60	85	105
	θ ≤ 70 °C	A	18	23	32	50	70	85
with connecting cross-section		mm²	2.5	4	6	25	35	50
rated operational voltage U_e max.		V	690	690	690	690	690	690
Max. back-up fuse gG		A	25	32	50	80	100	160
Fixing			See fixing details and dimensions page 51					
Connecting terminals			Cable clamp		Cable clamp	Single cable connector		
Connecting capacity								
Main conductors (poles)								
Rigid solid (≤ 4 mm²) or rigid stranded (≥ 6 mm²)		1 x mm²	1 ... 4		1.5 ... 6	6 ... 50		
		2 x mm²	1 ... 4		1.5 ... 6	6 ... 16		
Flexible with cable end		1 x mm²	0.75 ... 2.5		0.75 ... 4	6 ... 35		
		2 x mm²	0.75 ... 2.5		0.75 ... 4	6 ... 25		
Bars or lugs : max. width		mm ≤	8		10	-		
hole Ø		mm >	3.7		4.2	-		
Auxiliary conductors								
Rigid solid		1 x mm²	1 ... 4		1 ... 4	1 ... 4		
		2 x mm²	1 ... 4		1 ... 4	1 ... 4		
Flexible with cable end		1 x mm²	0.75 ... 2.5		0.75 ... 2.5	1 ... 2.5		
		2 x mm²	0.75 ... 2.5		0.75 ... 2.5	0.75 ... 2.5		
Degree of protection of terminals			All terminals IP 20		All terminals IP 20	Main terminals IP 10 Auxiliary terminals IP 20		
Coil consumption								
50 Hz pull-in		VA	70		120	180		
50 Hz holding		VA/W	8/2		12/3	18/5.5		

Add-on Auxiliary Contacts

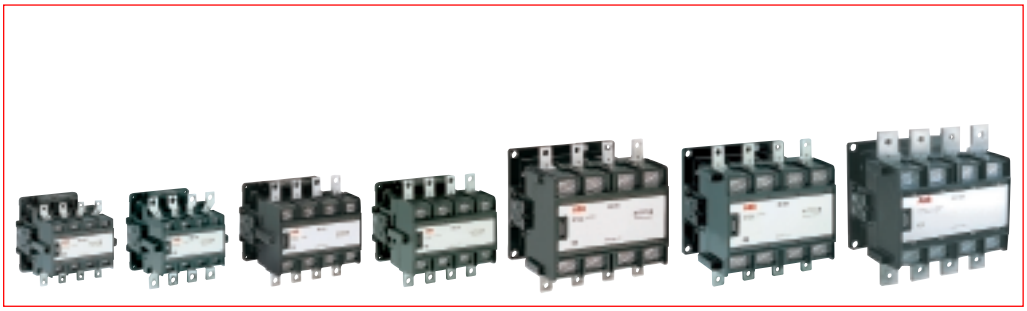
Rated operational current I_e / AC-15	24 ... 127 V : 6 A	220 ... 240 V : 4 A	380 ... 440 V : 3 A
Max. back-up fuse gG	10 A		
Min. switching capacity	17 V / 5 mA		

>> Dimensions ..... page 51

Technical Data

EK 110 ... EK 1000 4-pole Contactors

EK.. 4-pole Contactors



Types			EK 110	EK 150	EK 175	EK 210	EK 370	EK 550	EK 1000
Rated operational current I_e / AC-1									
for air temperature around the contactor :	θ ≤ 40 °C	A	200	250	300	350	550	800	1000
	θ ≤ 55 °C	A	180	230	270	310	470	650	800
	θ ≤ 70 °C	A	155	200	215	250	400	575	720
with connecting cross-section		mm²	95	150	185	240	2 x 185	2 x 240	2 x 300
rated operational voltage U_e max.		V	690	690	690	690	690	690	690
Max. back-up fuse gG		A	250	250	355	355	630	800	1000
Fixing			See fixing details and dimensions page 51						
Connecting terminals			Flat type c/w screws and bolts						
Connecting capacity									
Main conductors (poles)									
Rigid with connector :									
- single for Cu cable		mm²	25 ... 120	25 ... 185	25 ... 185		70 ... 300		-
- single for Al/Cu cable		mm²	10 ... 70	35 ... 120	35 ... 120		70 ... 300		95 ... 300
- double for Al/Cu cable		mm²	-	-	-		2 x (35 ... 185)		2 x (95 ... 300)
Bars or lugs :									
max. width		mm ≤	30	30	33		55		
hole Ø		mm >	6	10	10		10		
Auxiliary conductors									
Rigid solid		1 x mm²	0.5 ... 2.5		0.5 ... 2.5		0.5 ... 2.5		
		2 x mm²	0.5 ... 2.5		0.5 ... 2.5		0.5 ... 2.5		
Flexible with cable end		1 x mm²	0.5 ... 2.5		0.5 ... 2.5		0.5 ... 2.5		
		2 x mm²	0.5 ... 2.5		0.5 ... 2.5		0.5 ... 2.5		
Degree of protection of terminals			Main terminals IP 00 - Auxiliary terminals IP 20						
Coil consumption									
50 Hz pull-in		VA	800		1100		3500		
50 Hz holding		VA/W	44/15		52/18		125/50		

Add-on Auxiliary Contacts

Rated operational current I_e / AC-15	24 ... 127 V : 6 A	220 ... 240 V : 6 A	380 ... 440 V : 4 A
Max. back-up fuse gG	10 A		
Min. switching capacity	0.25 VA / 12 V or 0.25 VA / 5 mA		

>> Dimensions ..... page 51

Coil Voltages and Codes

A 9 ... A 300 Contactors, N.. Contactor Relays

V (50 Hz)	V (60 Hz)	Code ☐ ☐
24	24	8 1
26	28	1 6
28	32	1 7
42	42	8 2
48	48	8 3
60	60	7 3
100	100 ... 110	7 4
110	110 ... 120	8 4
110 ... 115	115 ... 127(2)	8 9
120	140	2 9
125 ... 127	150	3 0
175	208	3 4
190	220	3 6
200	200 ... 220	7 5
220 ... 230	230 ... 240	8 0
230 ... 240	240 ... 260	8 8
230 ... 240	277	4 2
230/400 (1)	–	6 2
–	230/400 (1)	6 3
380 ... 400	400 ... 415	8 5
400 ... 415	415 ... 440	8 6
440	500	5 3
500	600	5 5
550	–	5 6
660 ... 690	–	5 8

(1) Only for A9 ... A16, N
(2) A 145 … A 300 at 60 Hz 115 V only

AF 400 … AF 750 Contactors

V (50 … 60 Hz)	V (d.c.)	Code ☐ ☐
–	24 … 60	6 8
48 … 130	48 … 130	6 9
100 … 250	100 … 250	7 0

Coil Voltages and Codes

EK 110 ... EK 210 Contactors

V (50 Hz)	V (60 Hz)	Code □ □
–	24	A A
24	–	A B
–	48	A C
48	–	A D
–	110	A E
110	120	A F
–	–	– –
–	–	– –
127	–	A G
–	208	A Z
190	220	A H
–	240	A K
220 ... 230	–	A L
–	–	– –
–	–	– –
230 ... 240	–	A M
–	380	A N
380 ... 400	440	A P
–	–	– –
–	–	– –
400 ... 415	–	A R
–	480	A S
440	–	A T
500	–	A U
–	600	A V

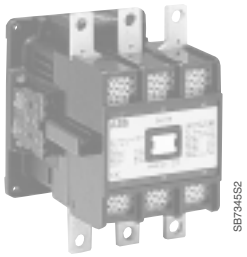
EK 370 … EK 1000 Contactors

V (50 Hz)	V (60 Hz)	Code □ □
–	–	– –
–	–	– –
–	–	– –
48	–	A D
–	110	A E
110	120	A F
110	110 ... 120	E F
110 ... 115	115 ... 127	E G
127	–	A G
–	208	A Z
190	220	A H
–	240	A K
220 ... 230	240	A L
220	220 ... 240	E L
220 ... 230	230 ... 255	E M
230 ... 240	–	A M
–	380	A N
380 ... 400	440	A P
380	380 ... 415	E P
380 ... 400	400 ... 440	E R
400 ... 415	–	A R
–	480	A S
440	–	A T
500	–	A U
–	600	A V

Conversion Tables
B.., EH.. Series to A.. Series



B 9 ...



EH 175 ...



A 9 ...



A 210 ...

B.., EH.. Series, 3-pole Contactors

Motor rating AC-3 380 V / 400 V kW	Contactor type	Rated operational current AC-3 380 V 400 V A	AC-1 θ ≤ 40 °C A	Thermal O/L relay type
4	B 9-30-10	9	22	T 25 DU ..
	B 9-30-01	9	22	T 25 DU ..
	B 9-30-22	9	22	T 25 DU ..
	B 9-30-32	9	22	T 25 DU ..
5.5	B 12-30-10	12	24	T 25 DU ..
	B 12-30-01	12	24	T 25 DU ..
	B 12-30-22	12	24	T 25 DU ..
	B 12-30-32	12	24	T 25 DU ..
7.5	B 16-30-10	16	28	T 25 DU ..
	B 16-30-01	16	28	T 25 DU ..
	B 16-30-22	16	28	T 25 DU ..
	B 16-30-32	16	28	T 25 DU ..
11	B 25-30-10	25	45	T 25 DU ..
	B 25-30-01	25	45	T 25 DU ..
	B 25-30-32	25	45	T 25 DU ..
15	B 30-30-00	30	55	T 25 DU ..
	-	-	-	-
	B 30-30-22	30	55	T 25 DU ..
18.5	B 40-30-00	37	70	T 75 DU ..
	B 40-30-11	37	70	T 75 DU ..
	B 40-30-22	37	70	T 75 DU ..
22	B 50-30-00	50	100	T 75 DU ..
	B 50-30-11	50	100	T 75 DU ..
	B 50-30-22	50	100	T 75 DU ..
30	B 63-30-00	65	115	T 75 DU ..
	B 63-30-11	65	115	T 75 DU ..
	B 63-30-22	65	115	T 75 DU ..
37	B 75-30-00	75	125	T 75 DU ..
	B 75-30-11	75	125	T 75 DU ..
	B 75-30-22	75	125	T 75 DU ..
40	-	-	-	-
	EH 80-30-11	80	145	T 80 DU ..
45	-	-	-	-
	EH 90-30-11	96	160	T 100 DU ..
	EH 90-30-22	96	160	T 100 DU ..
55	EH 100-30-11	120	200	T 135 DU ..
	-	-	-	-
	EH 100-30-22	120	200	T 135 DU ..
75	EH 145-30-11	145	230	T 200 DU ..
	EH 145-30-22	145	230	T 200 DU ..
90	EH 175-30-11	185	260	T 200 DU ..
	EH 175-30-22	185	260	T 200 DU ..
110	EH 210-30-11	210	300	T 450 DU ..
	EH 210-30-22	210	300	T 450 DU ..

A.. Series, 3-pole Contactors

Contactor type	Rated operational current AC-3 380 V 400 V A	AC-1 θ ≤ 40 °C A	Thermal O/L relay type
A 9-30-10	9	25	TA 25 DU ..
A 9-30-01	9	25	TA 25 DU ..
A 9-30-22	9	25	TA 25 DU ..
A 9-30-32	9	25	TA 25 DU ..
A 12-30-10	12	27	TA 25 DU ..
A 12-30-01	12	27	TA 25 DU ..
A 12-30-22	12	27	TA 25 DU ..
A 12-30-32	12	27	TA 25 DU ..
A 16-30-10	17	30	TA 25 DU ..
A 16-30-01	17	30	TA 25 DU ..
A 16-30-22	17	30	TA 25 DU ..
A 16-30-32	17	30	TA 25 DU ..
A 26-30-10	26	45	TA 25 DU ..
A 26-30-01	26	45	TA 25 DU ..
A 26-30-32	26	45	TA 25 DU ..
A 30-30-10	32	55	TA 25 DU ..
A 30-30-01	32	55	TA 25 DU ..
A 30-30-32	32	55	TA 25 DU ..
A 40-30-10	37	60	TA 42 DU ..
A 40-30-01	37	60	TA 42 DU ..
A 40-30-32	37	60	TA 42 DU ..
A 50-30-00	50	100	TA 75 DU ..
A 50-30-11	50	100	TA 75 DU ..
A 50-30-22	50	100	TA 75 DU ..
A 63-30-00	65	115	TA 75 DU ..
A 63-30-11	65	115	TA 75 DU ..
A 63-30-22	65	115	TA 75 DU ..
A 75-30-00	75	125	TA 75 DU ..
A 75-30-11	75	125	TA 75 DU ..
A 75-30-22	75	125	TA 75 DU ..
A 95-30-00	96	145	TA 110 DU ..
A 95-30-11	96	145	TA 110 DU ..
A 95-30-00	96	145	TA 110 DU ..
A 95-30-11	96	145	TA 110 DU ..
A 95-30-22	96	145	TA 110 DU ..
A 110-30-11	110	160	TA 110 DU ..
A 110-30-00	110	160	TA 110 DU ..
A 110-30-22	110	160	TA 110 DU ..
A 145-30-11	145	250	E 200 DU ..
A 145-30-22	145	250	E 200 DU ..
A 185-30-11	185	275	E 200 DU ..
A 185-30-22	185	275	E 200 DU ..
A 210-30-11	210	350	E 320 DU ..
A 210-30-22	210	350	E 320 DU ..

Conversion Tables
EH.., B.., EK.. Series to A.., EK.. Series

EH.. Series, 3-pole Contactors (cont.)

Motor rating AC-3 380 V / 400 V kW	Contactor type	Rated operational current AC-3 380 V 400 V A	AC-1 θ ≤ 40 °C A	Thermal O/L relay type
140	EH 260-30-11 EH 260-30-22	260 260	400 400	T 450 DU .. T 450 DU ..
160	EH 300-30-11 EH 300-30-22	305 305	445 445	T 450 DU .. T 450 DU ..
200	EH 370-30-11 EH 370-30-22	400 400	550 550	T 450 DU .. T 450 DU ..
250	- -	- -	- -	- -
280	EH 550-30-11 EH 550-30-22	550 550	800 800	T 900 DU .. T 900 DU ..
315	- -	- -	- -	- -
370	EH 700-30-11 EH 700-30-22	700 700	1000 1000	T 900 DU .. T 900 DU ..
400	EH 800-30-11 EH 800-30-22	750 750	1000 1000	T 900 DU .. T 900 DU ..

A.. Series, 3-pole Contactors (cont.)

Contactor type	Rated operational current AC-3 380 V 400 V A	AC-1 θ ≤ 40 °C A	Thermal O/L relay type
A 260-30-11 A 260-30-22	260 260	400 400	E 320 DU .. E 320 DU ..
A 300-30-11 A 300-30-22	305 305	500 500	E 320 DU .. E 320 DU ..
AF 400-30-11 AF 400-30-22	400 400	600 600	E 500 DU .. E 500 DU ..
AF 460-30-11 AF 460-30-22	460 460	700 700	E 500 DU .. E 500 DU ..
- -	- -	- -	- -
AF 580-30-11 AF 580-30-22	580 580	800 800	E 800 DU .. E 800 DU ..
- -	- -	- -	- -
AF 750-30-11 AF 750-30-22	750 750	1050 1050	E 800 DU .. E 800 DU ..

B.., EK.. Series, 4-pole Contactors - 4 NO

–	Contactor type	Rated operational current AC-1 θ ≤ 40 °C A
	B 9-40-00	22
	B 12-40-00	24
	B 16-40-00	28
	B 25-40-00	45
	-	-
	B 40-40-00	80
	B 50-40-00	125
	EK 100-40-11 -	200 -
	EK 145-40-11 -	250 -
	EK 160-40-11 -	300 -
	EK 200-40-11 -	350 -
	EK 370-40-11 -	550 -
	EK 550-40-11 -	800 -
	- -	- -

A.., EK.. Series, 4-pole Contactors - 4 NO

Contactor type	Rated operational current AC-1 θ ≤ 40 °C A
A 9-40-00	25
A 9-40-00	25
A 16-40-00	30
A 26-40-00	45
A 45-40-00	70
A 50-40-00	100
A 75-40-00	125
EK 110-40-11 EK 110-40-22	200 200
EK 150-40-11 EK 150-40-22	250 250
EK 175-40-11 EK 175-40-22	300 300
EK 210-40-11 EK 210-40-22	350 350
EK 370-40-11 EK 370-40-22	550 550
EK 550-40-11 EK 550-40-22	800 800
EK 1000-40-11 EK 1000-40-11	1000 1000

B.. Series, 4-pole Contactors - 2 NO + 2 NC

–	Contactor type	Rated operational current AC-1 θ ≤ 40 °C A
	B 9-22-00	22
	B 12-22-00	24
	B 16-22-00	28
	B 25-22-00	45
	-	-
	-	-

A.. Series, 4-pole Contactors - 2 NO + 2 NC

Contactor type	Rated operational current AC-1 θ ≤ 40 °C A
A 9-22-00	25
A 9-22-00	25
A 16-22-00	30
A 26-22-00	45
A 45-22-00	70
A 75-22-00	125


VB6A-30-10
B6-30-10
B7-30-10

Mini Contactors



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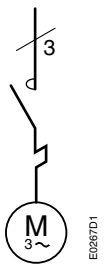
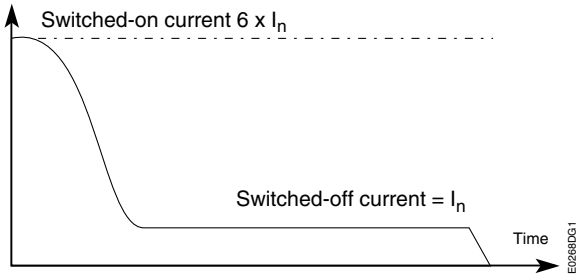
Choose your Components

Switching of Motors AC-3

3-phase cage motors
(1500 r.p.m)





AC-3 utilization category

When **making**, the motor current is about **6 x I_n**.
Breaking while the motor is running at I_n motor **F.L.C.**
Occasional breaking while motor is starting at **6 x I_n**.

O/L relay class

The table below gives thermal O/L relays,
for standard starting times 2 ... 10 s, tripping class **10A**.

Motor

Motor rating **Rated current** 3-phase cage motor, 1500 r.p.m (1)			
380 V / **400 V**		415 V	
kW	**A**	**kW**	**A**
0.06	0.22	0.06	0.20
0.09	0.33	0.09	0.30
0.12	0.42	0.12	0.40
0.18	0.64	0.18	0.60
0.25	0.88	0.25	0.85
0.37	1.22	0.37	1.15
0.55	1.5	0.55	1.40
0.75	2	0.75	2
1.1	2.6	1.1	2.5
1.5	3.5	1.5	3.5
2.2	5	2.2	5
2.5	5.7	2.5	5.5
3	6.6	3	6.5
-	-	3.7	7.5
3.7	8.2	-	-
4	8.5	4	8.4
-	-	5	10
5	10.5	-	-
5.5	11.5	5.5	11

Mini Contactor

Rated operational current AC-3 θ ≤ 55 °C		**Type**	Auxiliary contacts fitted	
380 V **400 V**	415 V	State coil voltage: ⌊_ _⌋		
A				
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
9	8.5	B 6-30-10 ⌊_ _⌋	1	-
12	11.5	B 7-30-10 ⌊_ _⌋	1	-
12	11.5	B 7-30-10 ⌊_ _⌋	1	-
12	11.5	B 7-30-10 ⌊_ _⌋	1	-

Thermal O/L Relay

Setting range	**Type**
A	
0.16 ... 0.24	T 7 DU 0.24
0.24 ... 0.40	T 7 DU 0.4
0.4 ... 0.6	T 7 DU 0.6
0.6 ... 1.0	T 7 DU 1.0
0.6 ... 1.0	T 7 DU 1.0
1.0 ... 1.6	T 7 DU 1.6
1.0 ... 1.6	T 7 DU 1.6
1.6 ... 2.4	T 7 DU 2.4
2.4 ... 4.0	T 7 DU 4.0
2.4 ... 4.0	T 7 DU 4.0
4.0 ... 6.0	T 7 DU 6.0
4.0 ... 6.0	T 7 DU 6.0
6.0 ... 9.0	T 7 DU 9.0
6.0 ... 9.0	T 7 DU 9.0
6.0 ... 9.0	T 7 DU 9.0
6.0 ... 9.0	T 7 DU 9.0
9.0 ... 12.0	T 7 DU 12.0
9.0 ... 12.0	T 7 DU 12.0
9.0 ... 12.0	T 7 DU 12.0

(1) The currents shown in the above table are those given for standard three phase squirrel cage motors, 1500 r.p.m. 50 Hz. Values quoted are for guidance only, they can vary depending on the number of poles and design. For motor duty with plugging, inching (utilization category AC-4), please consult us. Motor current values at other operational voltages, see page 31.

Coil voltage B 6, B 7

50 Hz (V)
24
42
48
110 ... 127
220 ... 240
380 ... 415

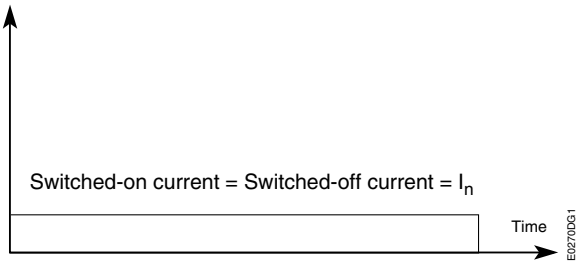
>> Aux. contact arrangements ..... page 44
>> Accessories ..... page 44
>> Dimensions ..... page 51

Choose your Components

Switching of Resistive Circuits AC-1

Resistive circuit





AC-1 utilization category When **making**, the switched-on current is equal to the **load rated current I_n and cos φ ≥ 0.95**.

Component selection Component selection must take into account the air ambient temperature inside the cabinets. The required cable cross-sections are indicated below.

3-pole Mini Contactors

Rated operational current AC-1 380 V - **400 V** - 415 V		With cable cross-sections	**Type**	Auxiliary contacts fitted	Max. back-up fuse gG Co.ordination :	
θ ≤ 40 °C	θ ≤ 55 °C		State coil voltage: ⌊‗‗⌋		Type 1	Type 2
A	**A**	**mm²**			**A**	**A**
16	16	2.5	B 6-30-10 ⌊‗‗⌋	1 -	20	20
20	16	2.5	B 7-30-10 ⌊‗‗⌋	1 -	25	20

4-pole Mini Contactors

Rated operational current AC-1 380 V - **400 V** - 415 V		With cable cross-sections	**Type**	Auxiliary contacts fitted	Max. back-up fuse gG Co.ordination :	
θ ≤ 40 °C	θ ≤ 55 °C		State coil voltage: ⌊‗‗⌋		Type 1	Type 2
A	**A**	**mm²**			**A**	**A**
16	16	2.5	B 6-40-00 ⌊‗‗⌋	- -	20	20
20	16	2.5	B 7-40-00 ⌊‗‗⌋	- -	25	20

Coil voltage B 6, B 7

50 Hz (V)
24
42
48
110 ... 127
220 ... 240
380 ... 415

>> Aux. contact combinations ..... page 44 >> Accessories ..... page 44 >> Dimensions ..... page 51

Mini Contactors
Compact Reversing Contactors
For Screw Connection - a.c. coil



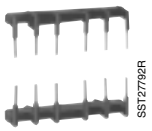
B6 30-10



CAF 6-11M



VB 6A-30-10



BSM 6-30

Coil voltages and codes

Voltage (V) 50 Hz :	Voltage code ☐ . . ☐
24	0 . . 1
42	0 . . 2
48	0 . . 3
110 ... 127	8 . . 4
220 ... 240	8 . . 0
380 ... 415	8 . . 5

B 6 and B 7 Mini Contactors

Rated operational current AC-3 380 V 400 V A	415 V A	AC-1 θ ≤ 40 °C A	Auxiliary contacts fitted	Type State coil voltage: ☐	Order code coil voltage code see table below : ☐ . . ☐	Packing pieces	Weight each kg
9	8.5	16	1 - - 1 - -	B 6-30-10 ☐ B 6-30-01 ☐ B 6-40-00 ☐	GJL 121 1001 R☐10☐ GJL 121 1001 R☐01☐ GJL 121 1201 R☐00☐	10 10 10	0.180 0.180 0.180
12	11.5	20	1 - - 1 - -	B 7-30-10 ☐ B 7-30-01 ☐ B 7-40-00 ☐	GJL 131 1001 R☐10☐ GJL 131 1001 R☐01☐ GJL 131 1201 R☐00☐	10 10 10	0.180 0.180 0.180

Auxiliary contact blocks for B 6 and B 7 Types CA 6 and CAF 6 must not be fitted together

Positioning	Mounting on :	Contacts	Type	Order code	Packing pieces	Weight kg
Side	B 6-30-10 and B 7-30-10	1 1	CA 6-11M	GJL 120 1317 R0003	10	0.030
	B 6-30-01 and B 7-30-01	1 1	CA 6-11N	GJL 120 1317 R0004	10	0.030
	B 6-40-00 and B 7-40-00	1 1	CA 6-11E	GJL 120 1317 R0002	10	0.030
Front face	B 6-30-10 and B 7-30-10	1 1 2 - - 2	CAF 6-11M CAF 6-20M CAF 6-02M	GJL 120 1330 R0003 GJL 120 1330 R0007 GJL 120 1330 R0011	10 10 10	0.035 0.035 0.035
	B 6-30-01 and B 7-30-01	1 1 2 - - 2	CAF 6-11N CAF 6-20N CAF 6-02N	GJL 120 1330 R0004 GJL 120 1330 R0008 GJL 120 1330 R0012	10 10 10	0.035 0.035 0.035
	B 6-40-00 and B 7-40-00	1 1 2 - - 2	CAF 6-11E CAF 6-20E CAF 6-02E	GJL 120 1330 R0002 GJL 120 1330 R0006 GJL 120 1330 R0010	10 10 10	0.035 0.035 0.035

Other accessories for B 6 and B 7

Feature	Mounting on :	Type	Order code	Packing pieces	Weight kg
With soldering pins	B 6, B 7 CA 6-11	LB 6 LB 6-CA	GJL 120 1902 R0001 GJL 120 1903 R0001	10 10	0.014 0.006
Identification marker	Front face	BA 5-50	1SBN 11 0000 R1000	50	0.017
Protective cover (IP 20 category)		LT 6 B	GJL 120 1906 R0001	10	0.001

VB 6A and VB 7A Compact Reversing Contactors

Rated operational current AC-3 380 V 400 V A	415 V A	AC-1 θ ≤ 40 °C A	Auxiliary contacts fitted	Type State coil voltage: ☐	Order code coil voltage code see table below: ☐ . . ☐	Packing pieces	Weight each kg
9	8.5	16	1 - - 1	VB 6A-30-10 ☐ VB 6A-30-01 ☐	GJL 121 1911 R☐10☐ GJL 121 1911 R☐01☐	5 5	0.340 0.340
12	11.5	20	1 - - 1	VB 7A-30-10 ☐ VB 7A-30-01 ☐	GJL 131 1911 R☐10☐ GJL 131 1911 R☐01☐	5 5	0.340 0.340

Accessories for VB 6A and VB 7A

Feature	Type	Order code	Packing pieces	Weight kg
Connection link (cable cross-section 1.8 mm²)	BSM 6-30	GJL 120 1908 R0001	10	0.010
Function marker	BA 5-50	1SBN 11 0000 R1000	50	0.017

>> Thermal O/L relays ..... page 45 >> Dimensions ..... page 51

Thermal O/L Relays - Mini Contactor Relays
Technical Data for Mini Contactors



T 7 DU



K 6-40 E



CA 6-11K



LT 6-B

Coil voltages and codes

Voltage (V) 50 Hz :	Voltage code ☐ . . ☐
24	0 . . 1
42	0 . . 2
48	0 . . 3
110 ... 127	8 . . 4
220 ... 240	8 . . 0
380 ... 415	8 . . 5

Thermal O/L Relays, Tripping Class 10A for mini contactors B6, B7, VB 6A and VB 7A

Setting range A	Type	Order code	Pack[ing] piece	Weight kg
0.10 ... 0.16	T 7 DU 0.16	1SAZ 111 301 R0001	1	0.070
0.16 ... 0.24	T 7 DU 0.24	1SAZ 111 301 R0002	1	0.070
0.24 ... 0.40	T 7 DU 0.4	1SAZ 111 301 R0003	1	0.070
0.4 ... 0.6	T 7 DU 0.6	1SAZ 111 301 R0004	1	0.070
0.6 ... 1.0	T 7 DU 1.0	1SAZ 111 301 R0005	1	0.070
1.0 ... 1.6	T 7 DU 1.6	1SAZ 111 301 R0006	1	0.070
1.6 ... 2.4	T 7 DU 2.4	1SAZ 111 301 R0007	1	0.070
2.4 ... 4.0	T 7 DU 4.0	1SAZ 111 301 R0008	1	0.070
4.0 ... 6.0	T 7 DU 6.0	1SAZ 111 301 R0009	1	0.070
6.0 ... 9.0	T 7 DU 9.0	1SAZ 111 301 R0010	1	0.070
9.0 ... 12.0	T 7 DU 12.0	1SAZ 111 301 R0011	1	0.070

Mini Contactor Relays K 6

Auxiliary contacts fitted		Type	Order code	Pack[ing] pieces	Weight each kg
		State coil voltage: ⌊‗‗⌋	coil voltage code see table below: ☐ . . ☐		
4	-	K 6-40 E ⌊‗‗⌋	GJH 121 1001 R☐40☐	10	0.180
3	1	K 6-31 Z ⌊‗‗⌋	GJH 121 1001 R☐31☐	10	0.180
2	2	K 6-22 Z ⌊‗‗⌋	GJH 121 1201 R☐22☐	10	0.180

Auxiliary contact block for K 6 Types CA 6 and CAF 6 must not be fitted together.

Positioning	Contacts		Type	Order code	Pack[ing] pieces	Weight kg
Side	1	1	CA 6-11K	GJL 120 1317 R0001	10	0.030
Front face	1	1	CAF 6-11K	GJL 120 1330 R0001	10	0.035
	2	-	CAF 6-20K	GJL 120 1330 R0005	10	0.035
	-	2	CAF 6-02K	GJL 120 1330 R0009	10	0.035

Other accessories for mini contactor relays K 6

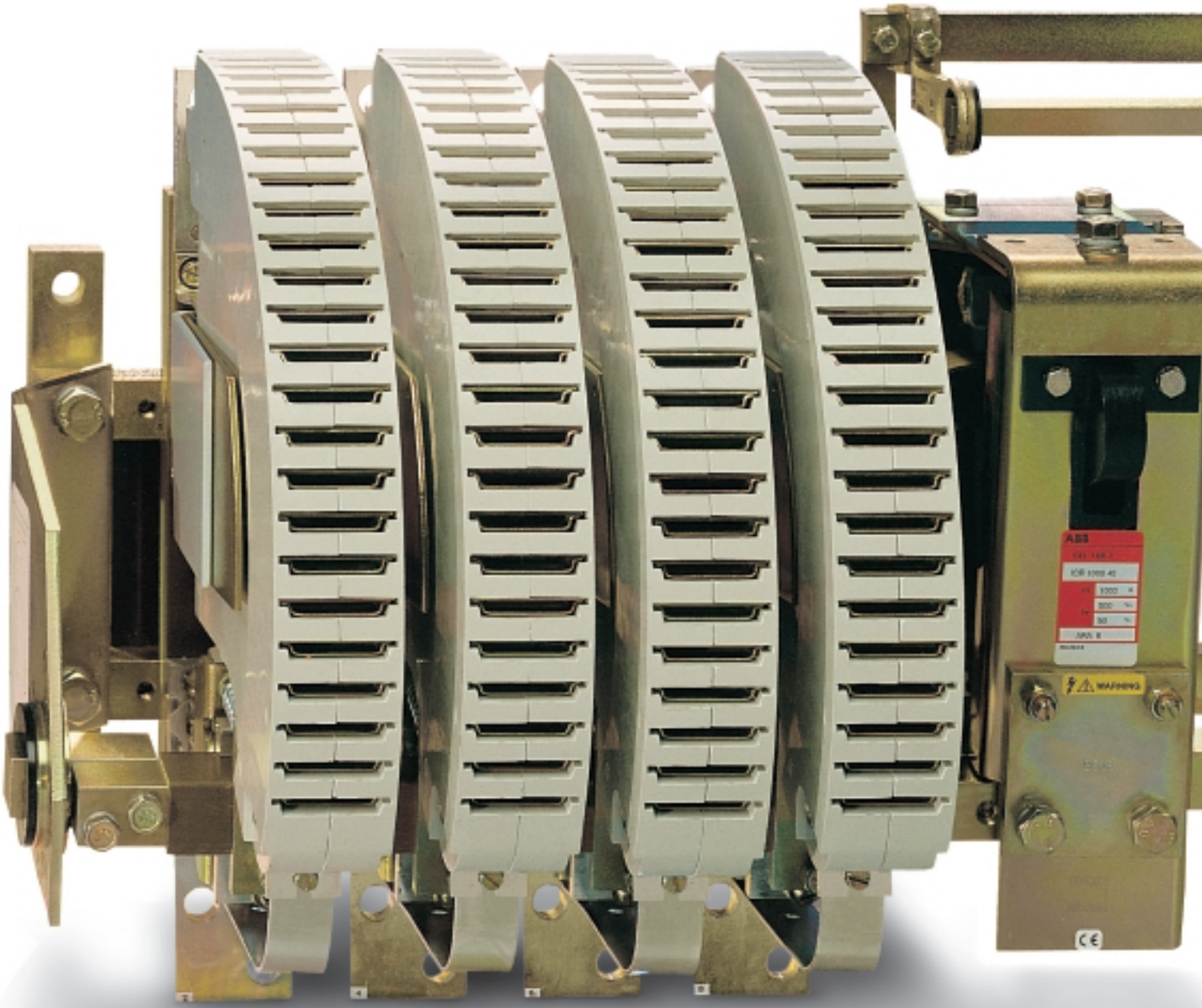
Feature	Type	Order code	Pack[ing] pieces	Weight kg
Function marker	BA 5-50	1SBN 11 0000 R1000	50	0.017
Protective cover (IP 20 category)	LT 6-B	GJL 120 1906 R0001	10	0.001

Technical Data for Mini Contactors

Types		B 6, VB 6A	B 7, VB 7A
Rated operational current I_e / AC-3			
220-240 V	A	9	12/11
380-440 V	A	9/8	12/11
500 V	A	5.5	7
Max. back-up fuse gG			
Co.ordination type 1	A	20	25
Co.ordination type 2	A	20	20

Types			All types
Cable cross-section	rigid	mm²	2 x (1 ... 2.5)
	flexible	mm²	2 x (0.75 ... 2.5)
Degree of protection of the terminals			VBG 4
Coil consumption	pull-in / holding	VA	3.5
Auxiliary contacts - I_e / AC-15	220-240 V	A	4
	380-440 V	A	3
	500 V	A	2
Max. back-up gG		A	10

>> Dimensions ..... page 51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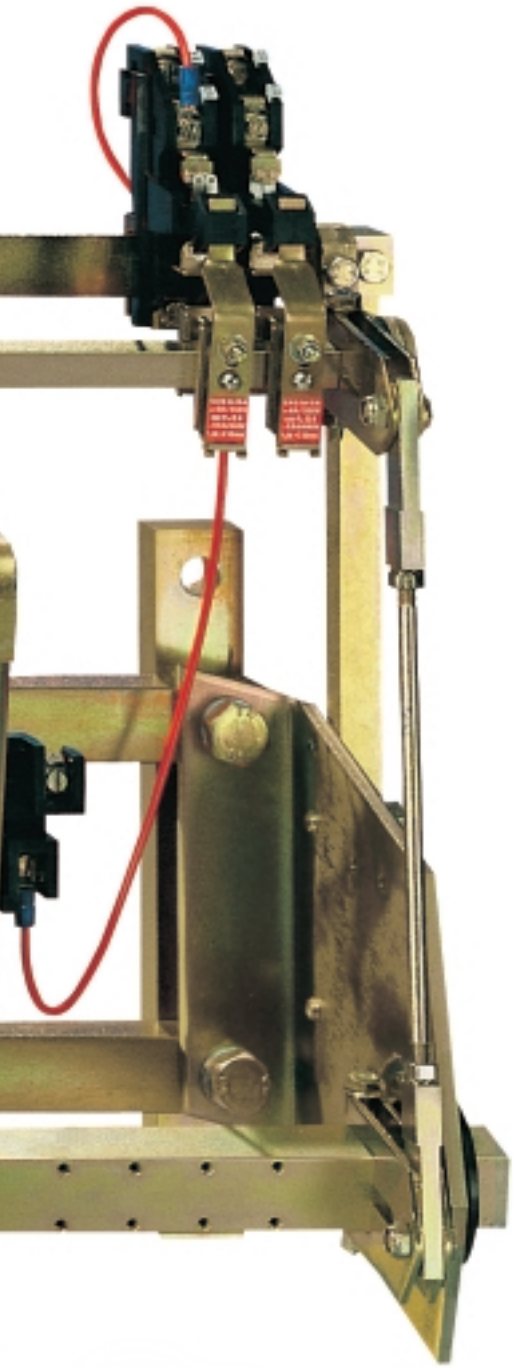
WARNING
CE



Bar Mounted Contactors

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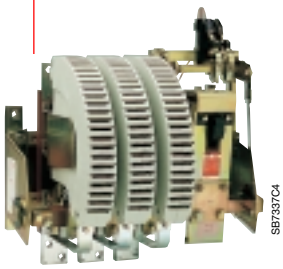
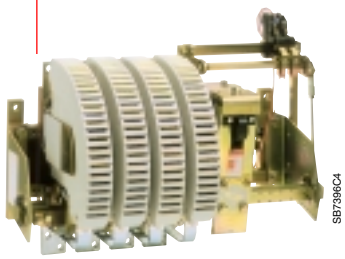
Bar Mounted Contactors - a.c. Coil

Ordering Details



IOR 800 30



IOR 1000 40

3-pole Contactors

Motor rating AC-3	Rated operational current AC-3	AC-1	Auxiliary contacts fitted	Type	Order code	Weight kg
400 V kW	400 V A	θ ≤ 40 °C A		State coil voltage: ⌊⌋	coil voltage code see table below : ☐ . . ☐	Packing 1 piece
40	77	85	1 1	IOR 85 30 ⌊⌋	FPL 721 1316 R☐00☐	4.000
80	150	170	1 1	IOR 170 30 ⌊⌋	FPL 751 1315 R☐00☐	6.200
132	240	260	1 1	IOR 260 30 ⌊⌋	FPL 781 1315 R☐00☐	10.300
200	370	420	1 1	IOR 420 30 ⌊⌋	FPL 811 1315 R☐00☐	13.500
300	550	550	1 1	IOR 550 30 ⌊⌋	FPL 841 1315 R☐00☐	25.000
440	800	900	1 1	IOR 800 30 ⌊⌋	FPL 861 1315 R☐00☐	48.000

4-pole Contactors

Rated operational current AC-1	Auxiliary contacts fitted	Type	Order code	Weight kg
θ ≤ 40 °C A		State coil voltage: ⌊⌋	coil voltage code see table below: ☐ . . ☐	Packing 1 piece
85	1 1	IOR 85 40 ⌊⌋	FPL 721 1416 R☐00☐	4.700
170	1 1	IOR 170 40 ⌊⌋	FPL 751 1415 R☐00☐	7.600
260	1 1	IOR 260 40 ⌊⌋	FPL 781 1415 R☐00☐	12.700
420	1 1	IOR 420 40 ⌊⌋	FPL 811 1415 R☐00☐	16.600
550	1 1	IOR 550 40 ⌊⌋	FPL 841 1415 R☐00☐	30.800
900	1 1	IOR 800 40 ⌊⌋	FPL 861 1415 R☐00☐	58.000
1000	1 1	IOR 1000 40 ⌊⌋	FPL 871 1415 R☐00☐	58.000
1250	1 1	IORR 1250 40 ⌊⌋	FPL 881 5415 R☐00☐	85.000
1500	1 1	IORR 1500 40 ⌊⌋	FPL 891 5415 R☐00☐	85.000
2000	1 1	IORR 2000 40 ⌊⌋	FPL 901 5415 R☐00☐	105.000

Coil voltages and codes

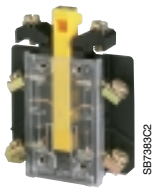
Voltage (V) 50 Hz : ⌊⌋	Voltage code : ☐ ☐
24	0 1
48	1 7
110	0 4
220 ... 230	0 6
230 ... 240	2 9
380 ... 400	0 7
400 ... 415	3 4

Other voltages : please consult us.

>> Accessories ..... page 49 >> Dimensions ..... Please consult us

Accessories for Bar Mounted Contactors

Ordering Details



CA 12-1

Extra Auxiliary Contacts

Mounting on :	Contacts		Type	Order code	Packing piece	Weight kg
IOR 85 ... IOR 550 (on mounting bracket - 3 blocks max.)	1	1	CA 12-1	FPTN 410 004 R0001	1	0.042
IOR 800 ... IOR 1000	1	-	CA 15 F 85	FPL 710 1301 R0001	1	0.138
(on auxiliary frame - 3 blocks max.)	-	1	CA 15 O 85	FPL 710 1302 R0001	1	0.138
IORR 1250 ... IORR 2000	1	-	CA 15 F 85	FPL 710 1301 R0001	1	0.138
(on auxiliary frame - 2 blocks max.)	-	1	CA 15 O 85	FPL 710 1302 R0001	1	0.138

Mounting Bracket for CA 12 blocks

Mounting on :	Type	Order code	Packing piece	Weight kg
IOR 85 ... IOR 260 (On magnet circuit)	FPTN 410 056 R1	FPTN 410 056 R0001	1	0.105
IOR 420 ... IOR 550 (On magnet circuit)	FPTN 410 056 R2	FPTN 410 056 R0002	1	0.121

Mounting Feet for "wall" mounting of the contactors

Mounting on :	Type	Order code	Packing set	Weight kg
IOR 85, IOR 170	4 NMW 1009	FPL 710 8201 P0001	1	0.062
IOR 260	4 NMW 1039	FPL 760 8201 P0001	1	0.062
IOR 420	4 NMW 1040	FPL 800 8201 P0001	1	0.316
IOR 550	4 NMW 1041	FPL 830 8201 P0001	1	0.304

Note : contactors IOR 800 ... IORR 2000 require no mounting feet.

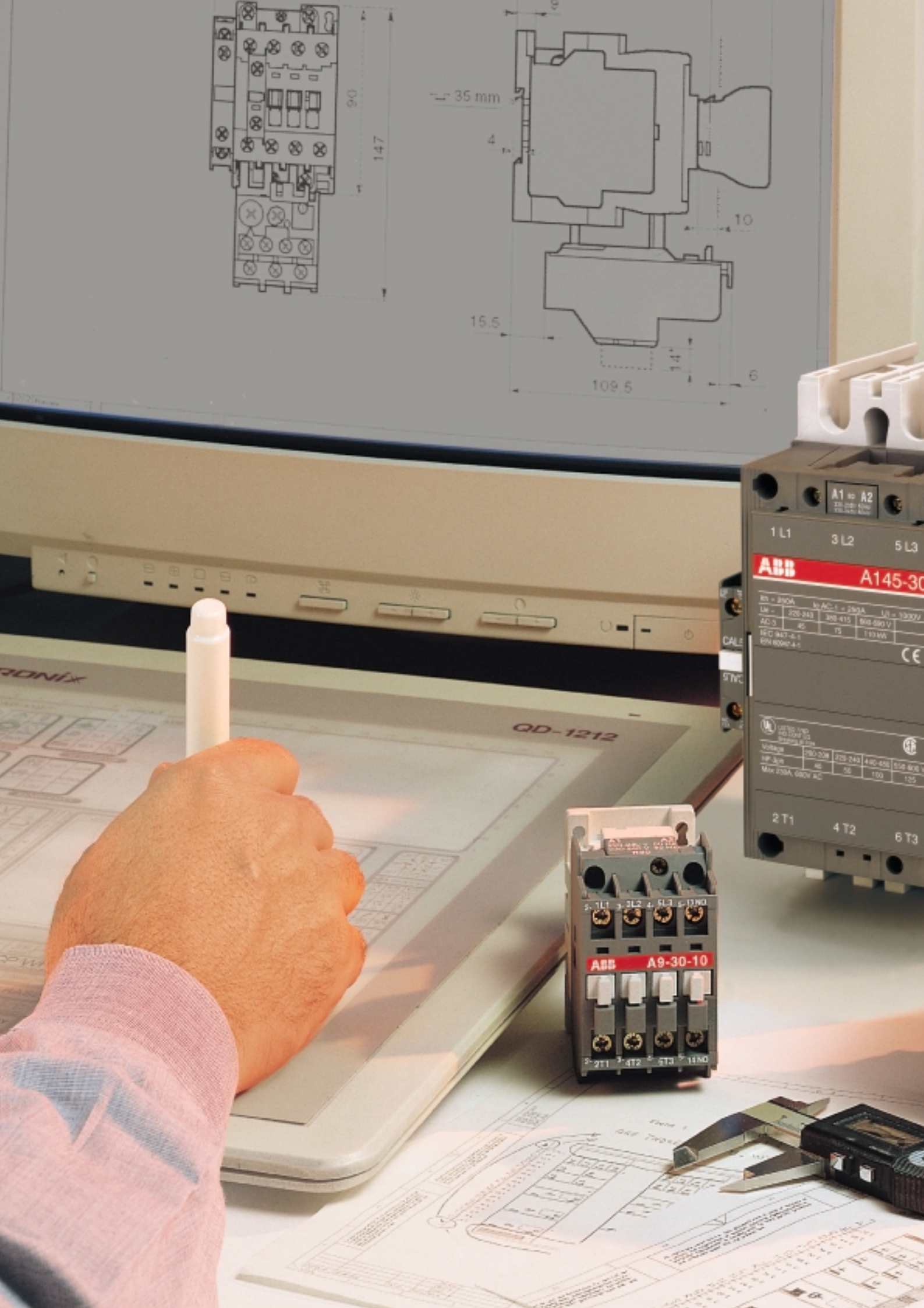


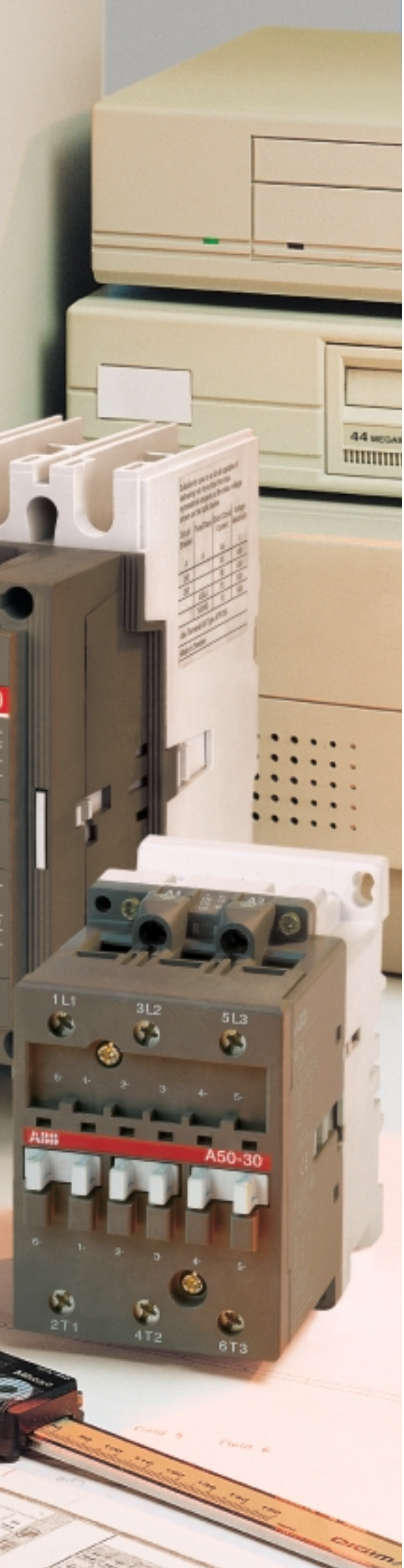
RKR..

Thermal-magnetic O/L Relays

Mounting on :	Setting range Thermal A	Magnetic A	Type	Order code	Packing piece	Weight kg
IOR 85	12.5 ... 25	125 ... 250	RKR 3 AHDM 225	FPU 793 1323 R2000	1	2.700
	20 ... 40	200 ... 400	RKR 3 AHDM 240	FPU 803 1323 R2000	1	2.700
	31.5 ... 63	315 ... 630	RKR 3 AHDM 263	FPU 813 1323 R2000	1	2.700
	50 ... 100	500 ... 1000	RKR 3 AHDM 310	FPU 823 1323 R2000	1	2.700
IOR 170	80 ... 160	800 ... 1600	RKR 3 AKDM 316	FPU 833 1324 R2000	1	2.700
IOR 260	125 ... 250	1250 ... 2500	RKR 3 ALDM 325	FPU 843 1325 R2000	1	2.800
IOR 420	200 ... 400	2000 ... 4000	RKR 3 AMDM 340	FPU 853 1326 R2000	1	3.600
IOR 550	315 ... 630	3150 ... 6300	RKR 3 ANDM 363	FPU 863 1327 R2000	1	4.200
IOR 800	500 ...1000	5000 ...10000	RKR 3 ANDM 410	FPU 873 1327 R2000	1	5.700

>> Dimensions ..... Please consult us


35 mm
90
147
10
15.5
4
6
109.5
A1 to A2
1 L1
3 L2
5 L3
ABB
A145-30
2 T1
4 T2
6 T3
A9-30-10
QD-1212



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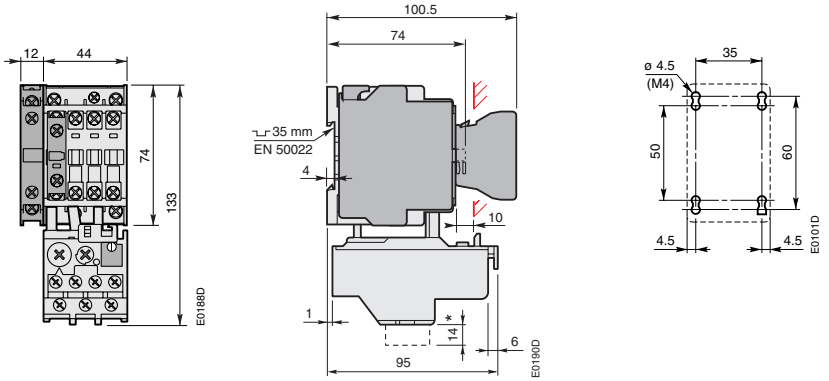
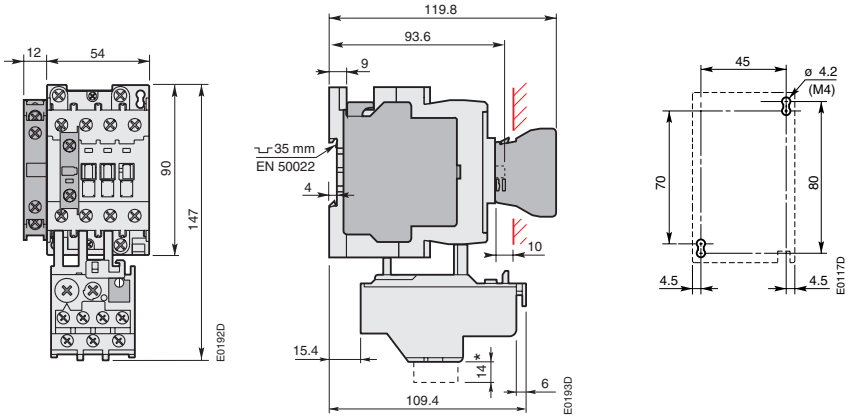
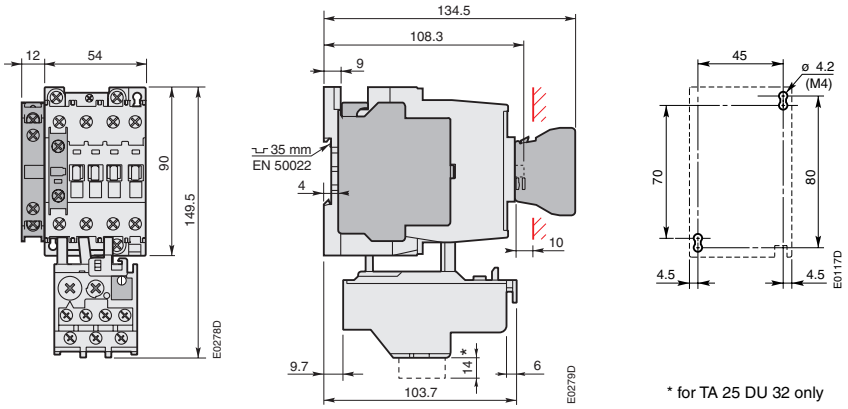
Dimensions (in mm)



A 9, A 12, A 16 + CA 5 + CAL 5 + TA 25 DU



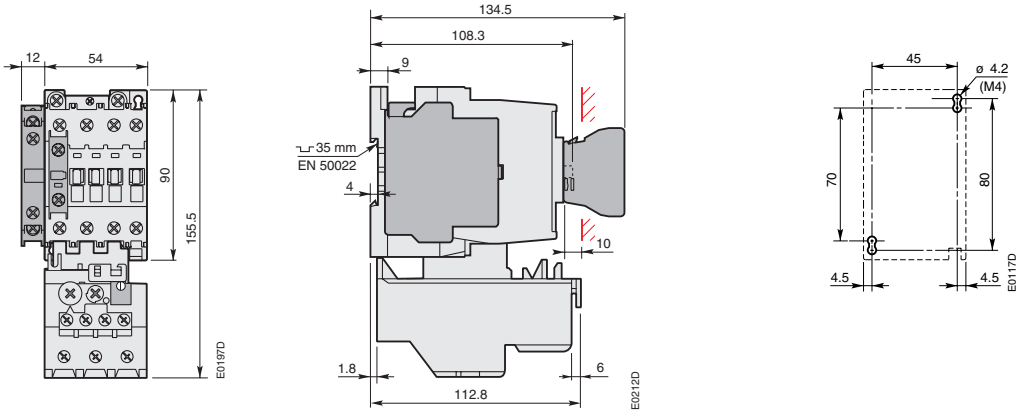
A 26 + CA 5 + CAL 5 + TA 25 DU



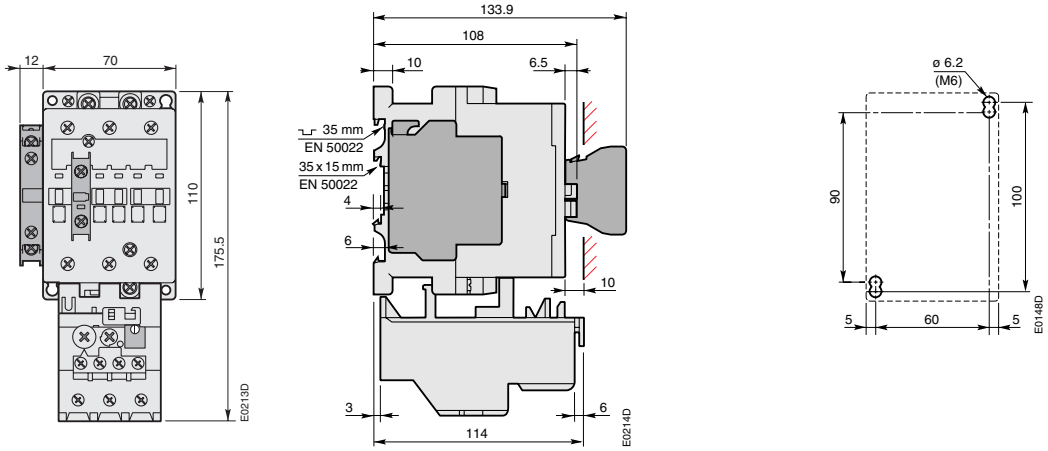
A 30 + CA 5 + CAL 5 + TA 25 DU

Detailed dimension drawings available in DXF and PDF formats.

Dimensions (in mm)



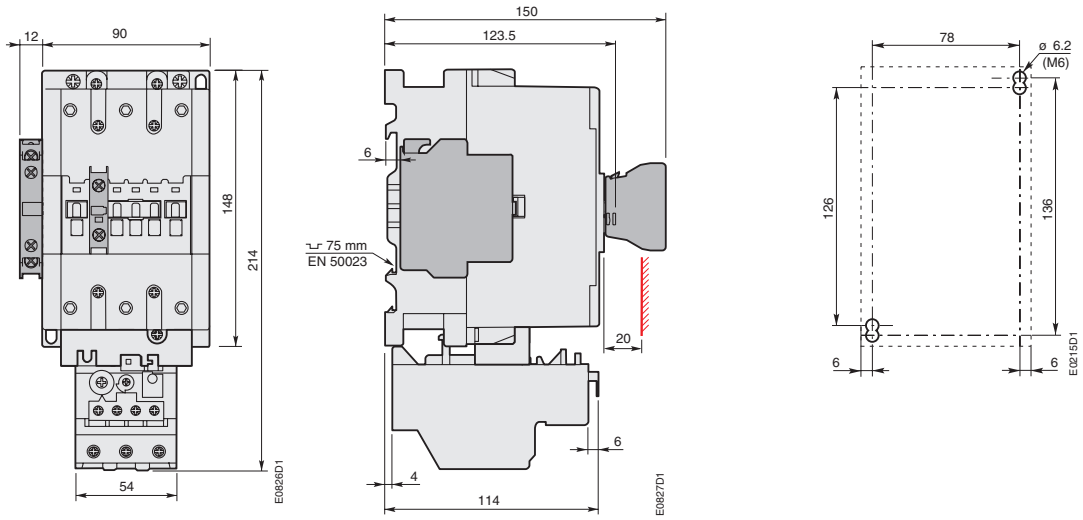
A 40 + CA 5 + CAL 5 + TA 42 DU



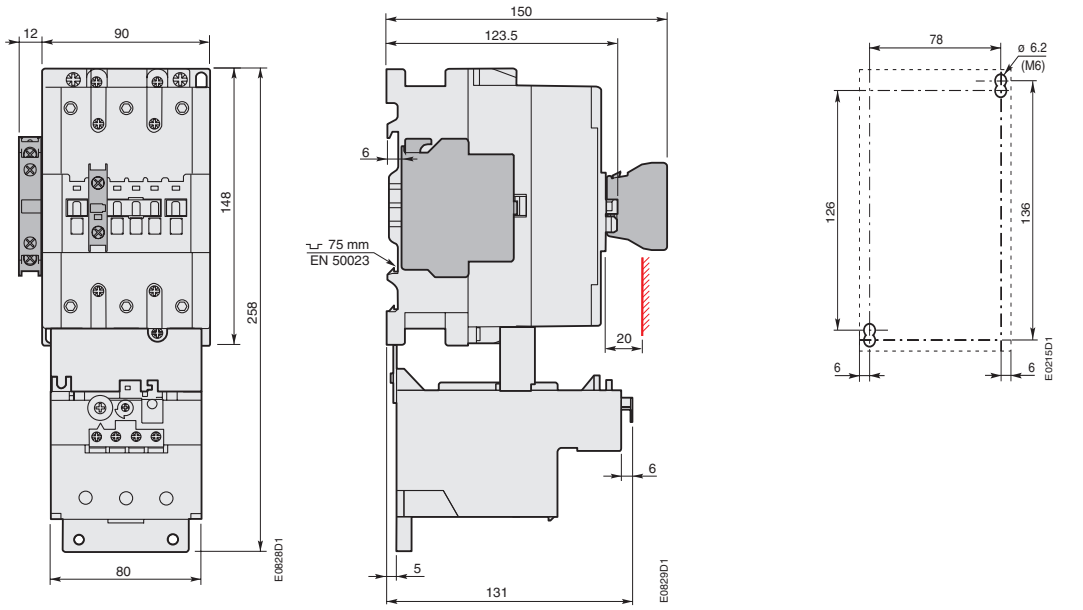
A 50, A 63, A 75 + CA 5 + CAL 5 + TA 75 DU

Detailed dimension drawings available in DXF and PDF formats.

Dimensions (in mm)



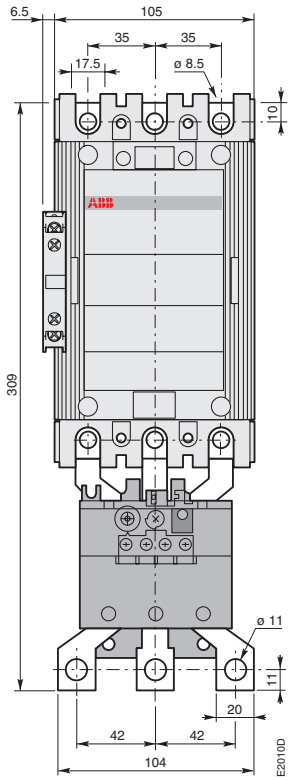
A 95, A 110 + CA 5 + CAL 5 + TA 80 DU

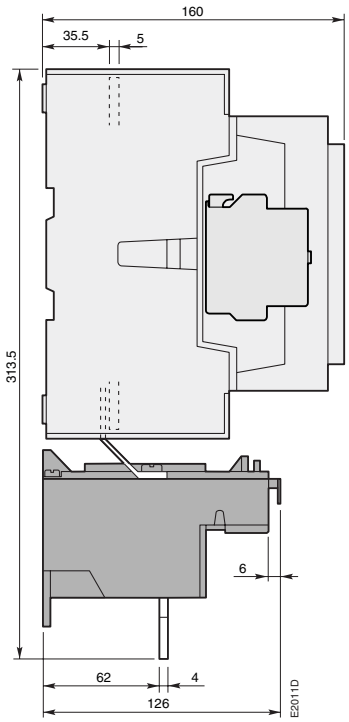


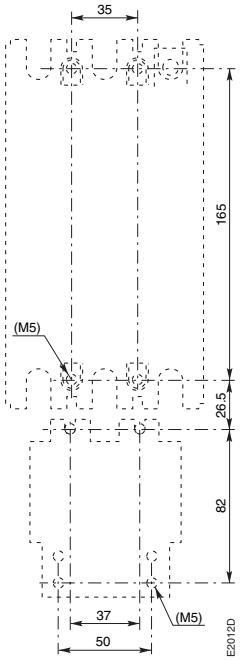
A 95, A 110 + CA 5 + CAL 5 + TA 110 DU

Detailed dimension drawings available in DXF and PDF formats.

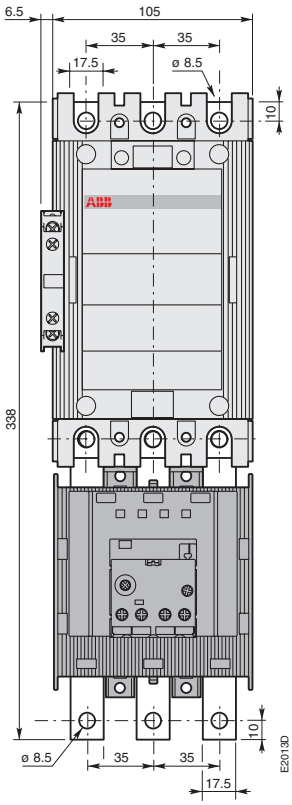
Dimensions (in mm)

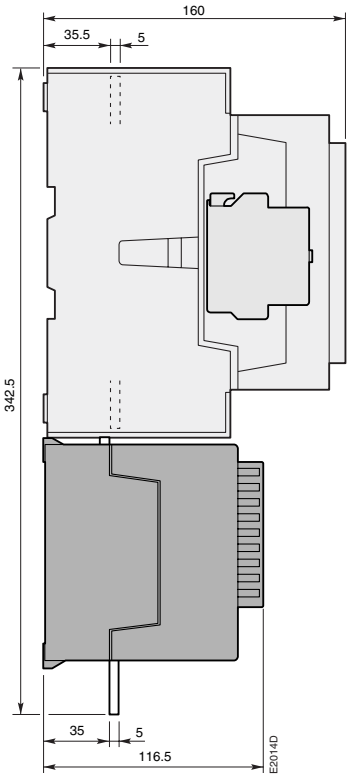


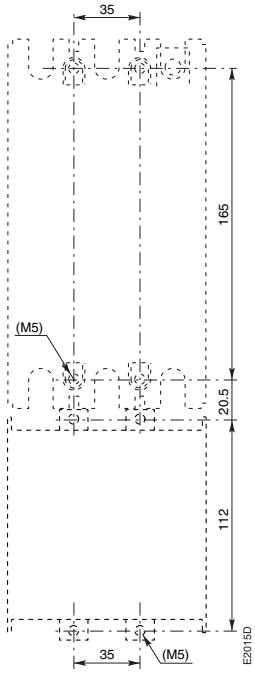




A 145, A 185 c/w **CAL 5 + TA 200 DU**



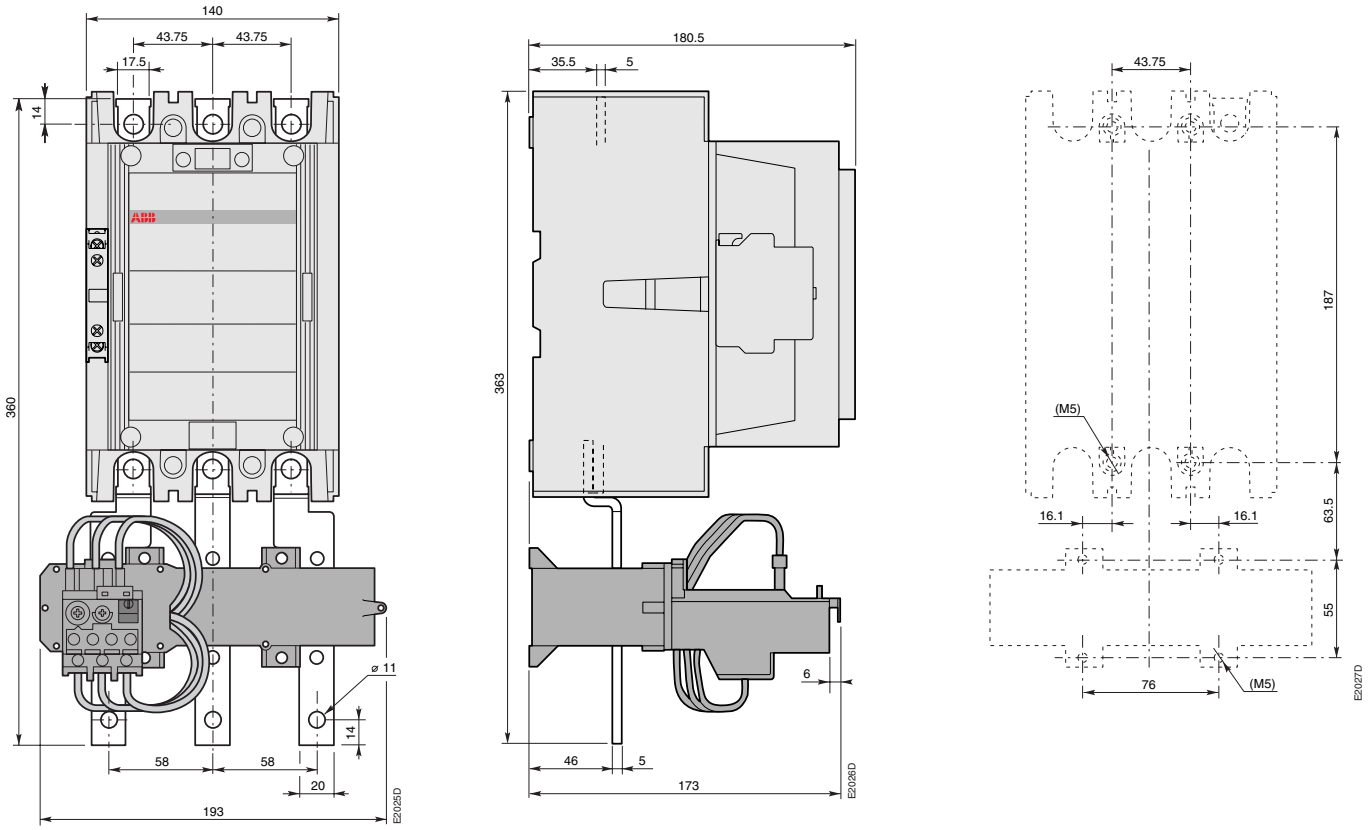




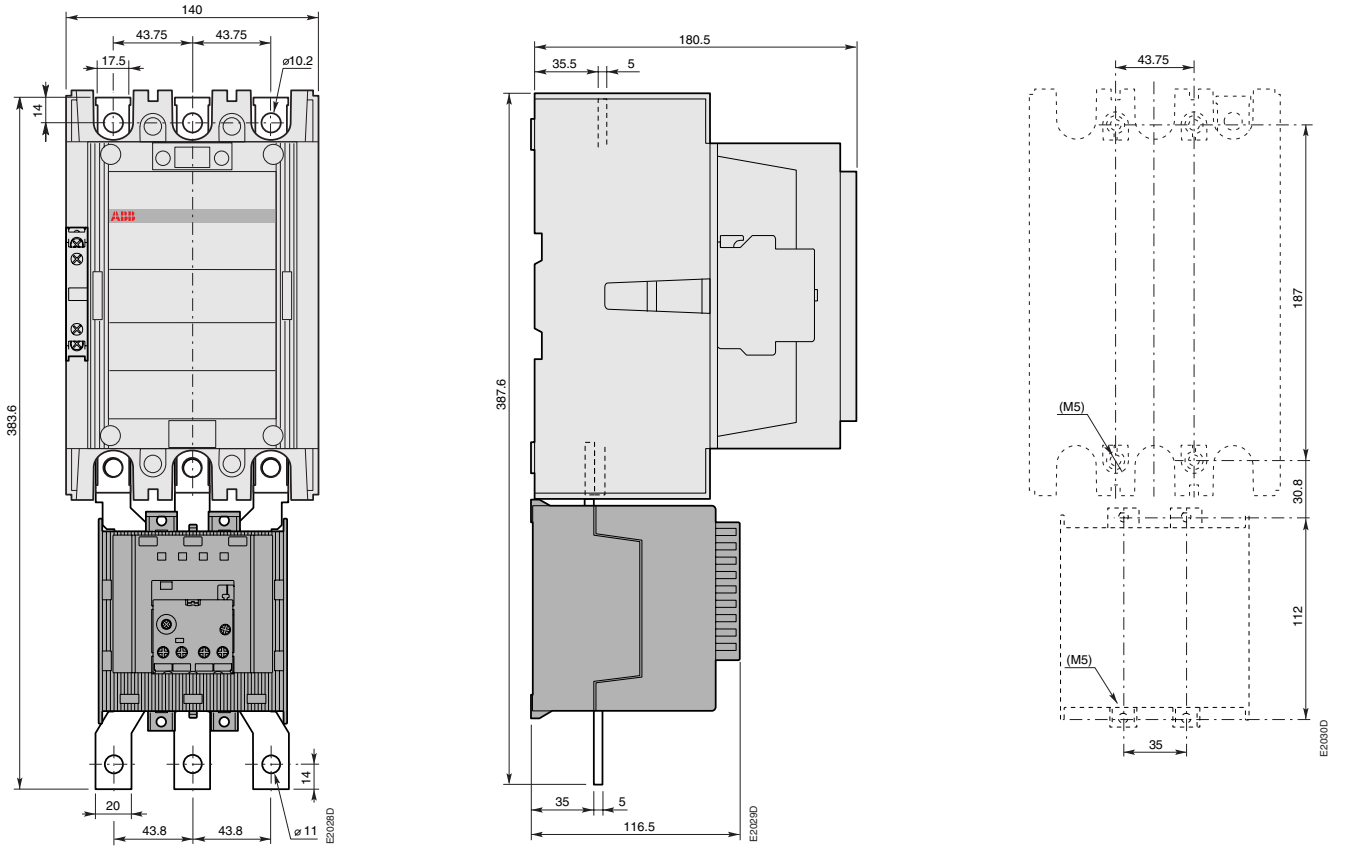
A 145, A 185 c/w **CAL 5 + E 200 DU**

Detailed dimension drawings available in DXF and PDF formats.

Dimensions (in mm)



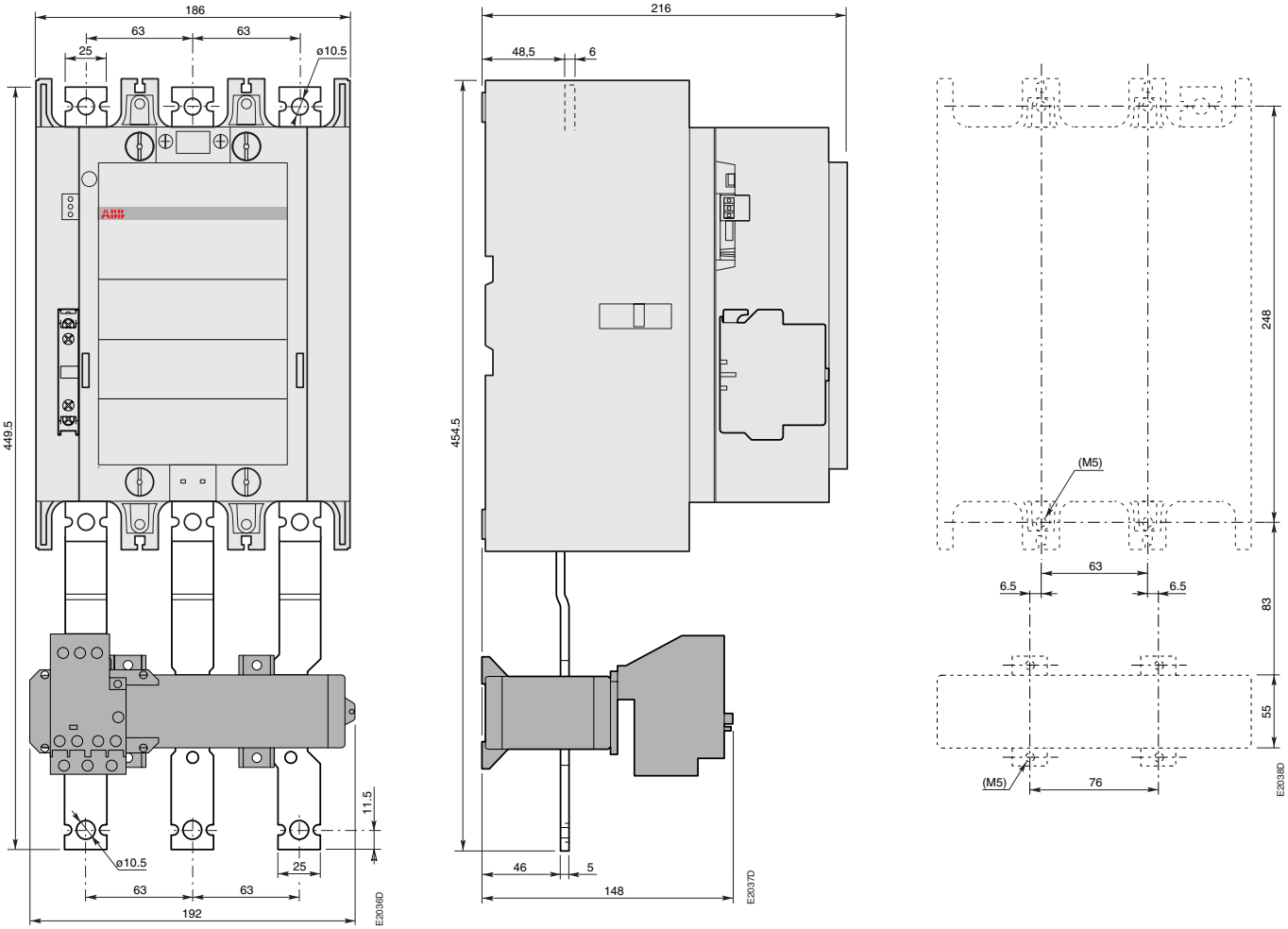
A 210 ... A 300 c/w **CAL 5 + TA 450 DU**



A 210 ... A 300 c/w **CAL 5 + E 320 DU**

Detailed dimension drawings available in DXF and PDF formats.

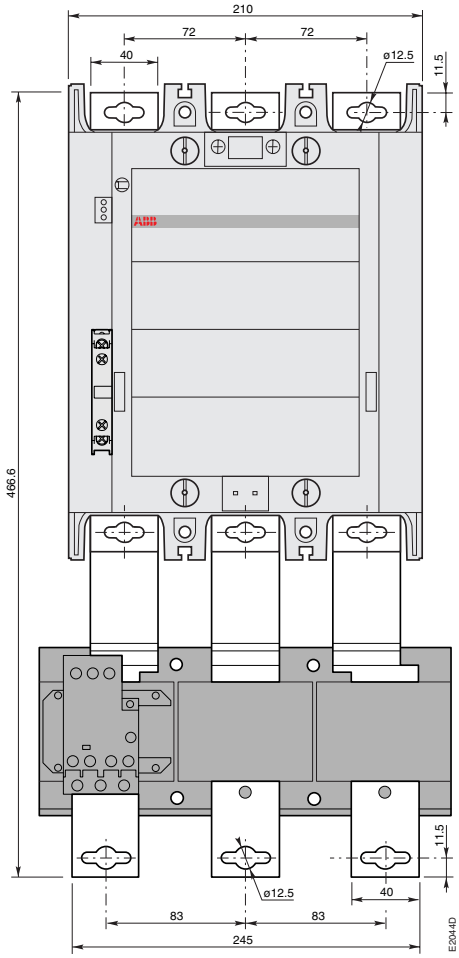
Dimensions (in mm)

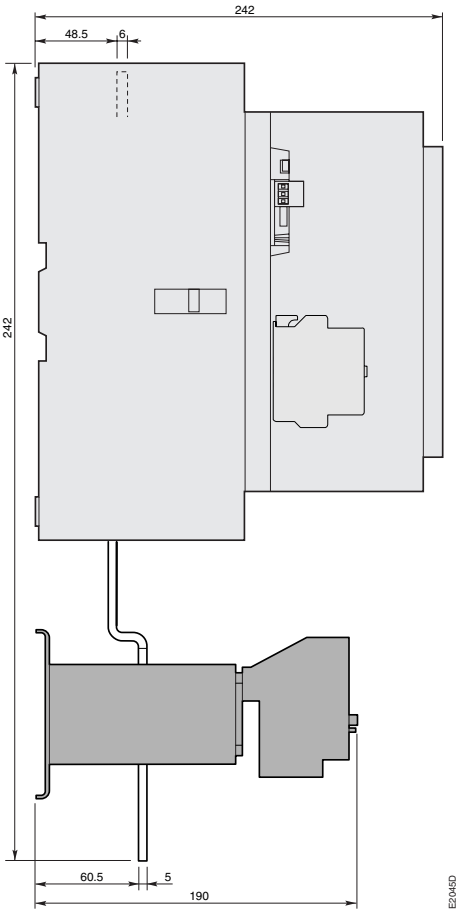


AF 400, AF 460 c/w **CAL 5 + E 500 DU**

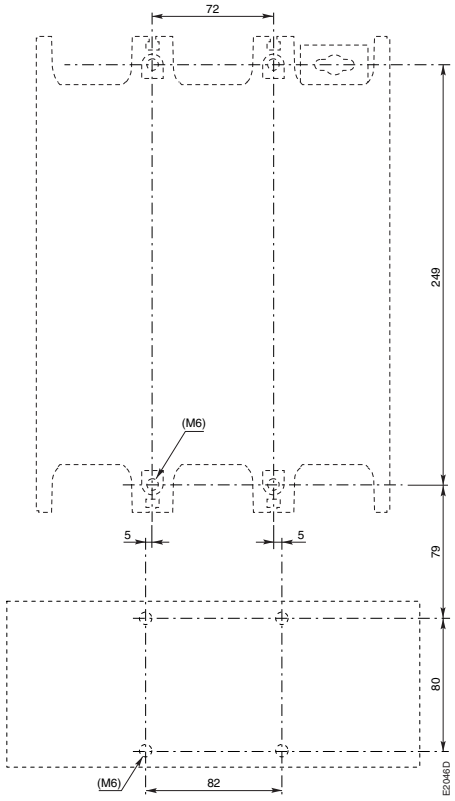
Detailed dimension drawings available in DXF and PDF formats.

Dimensions (in mm)



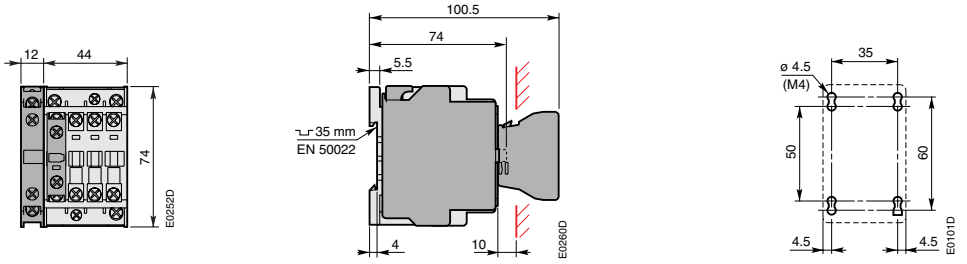


AF 580, AF 750 c/w **CAL 5 + E 800 DU**

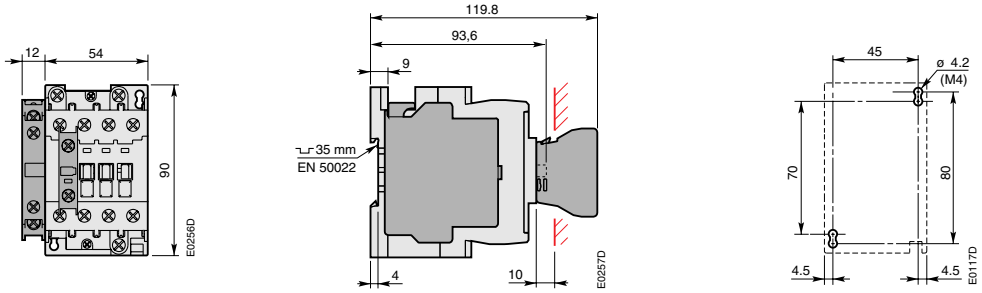


Detailed dimension drawings available in DXF and PDF formats.

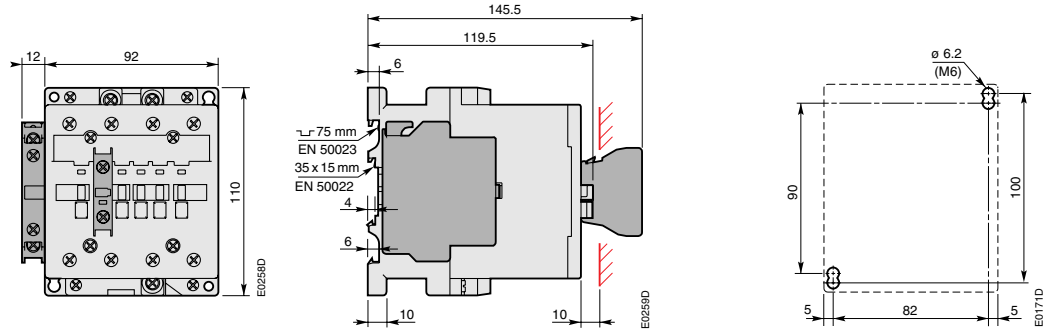
Dimensions (in mm)



A 9, A 12, A 16 + CA 5 + CAL 5



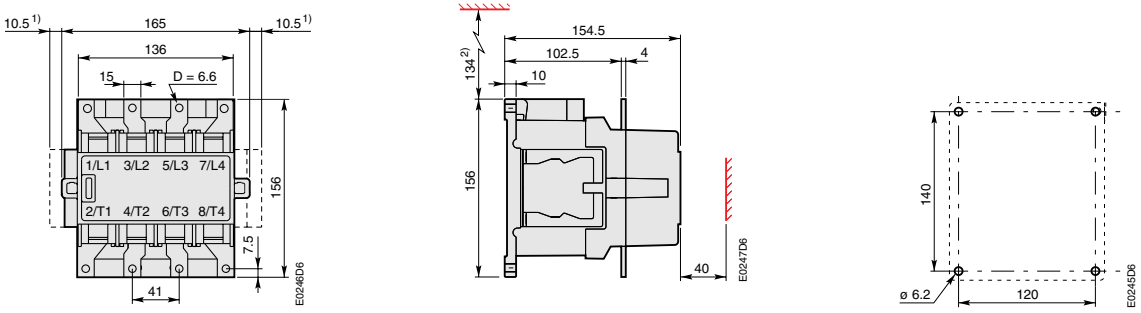
A 26 + CA 5 + CAL 5



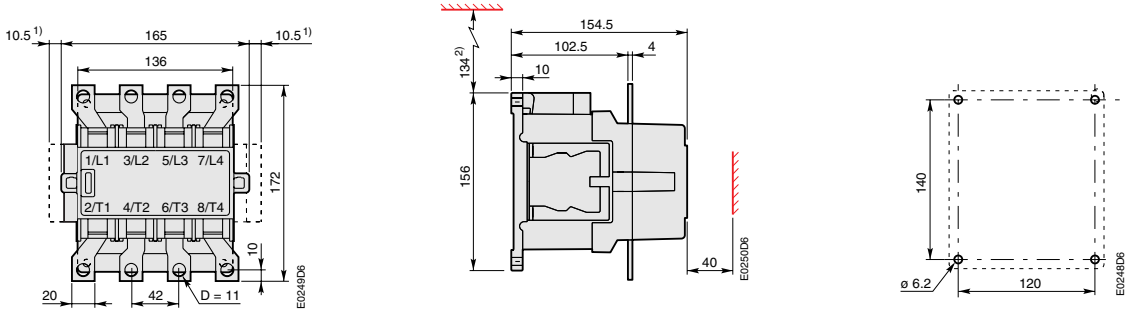
A 45, A 50, A 75 + CA 5 + CAL 5

Detailed dimension drawings available in DXF and PDF formats.

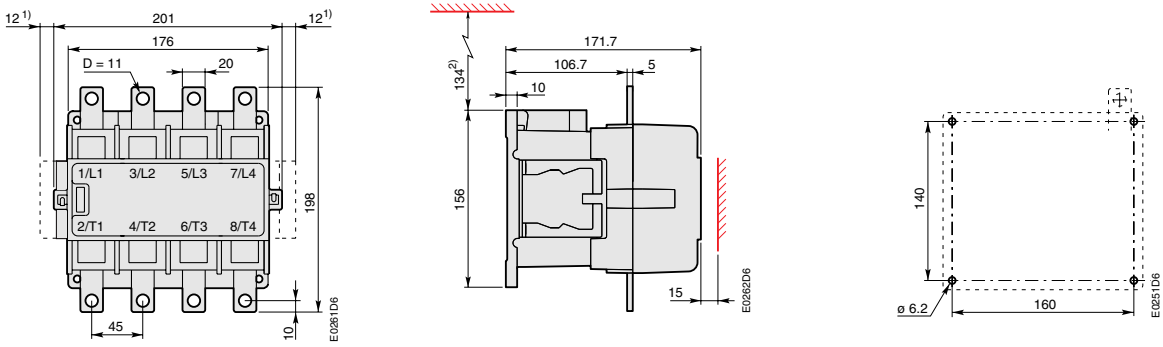
Dimensions (in mm)



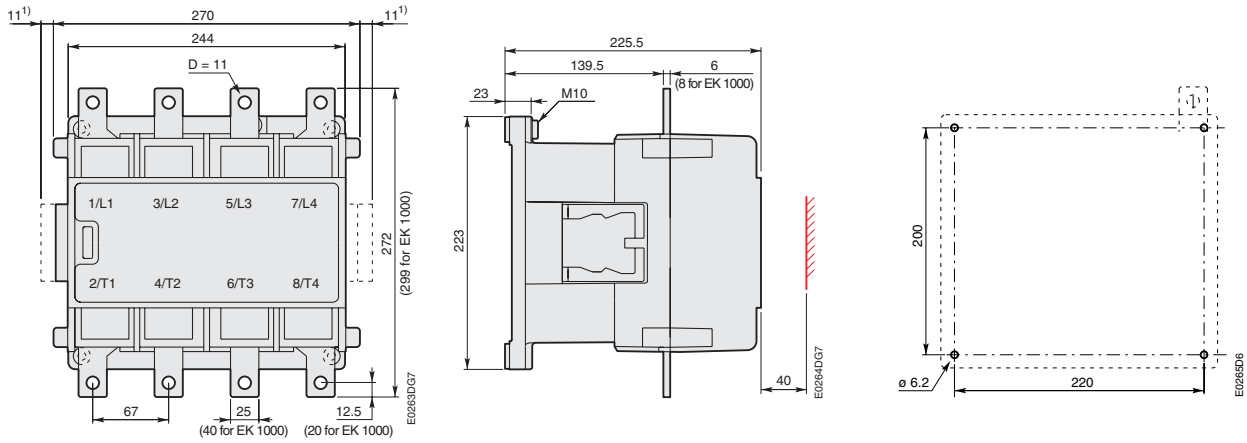
EK 110 c/w **CAL 16-11A**



EK 150 c/w **CAL 16-11A**



EK 175, EK 210 c/w **CAL 16-11A**

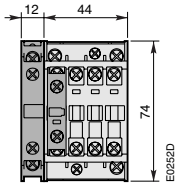


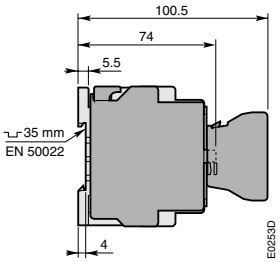
EK 370, EK 550, EK 1000 c/w **CAL 16-11A**

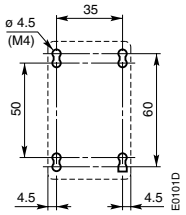
1) Dimensions for extra auxiliary contact block.
2) Minimum distance to remove coil.

Detailed dimension drawings available in DXF and PDF formats.

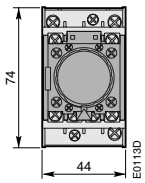
Dimensions (in mm)

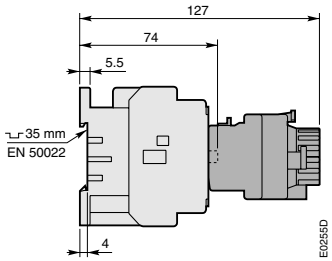


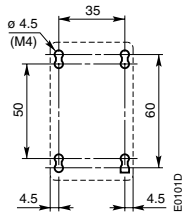




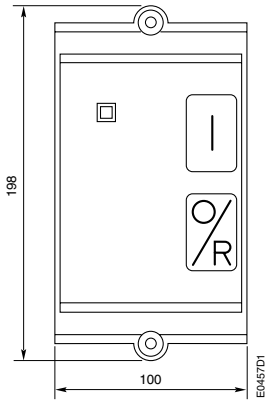
N.. + CA 5 + CAL 5

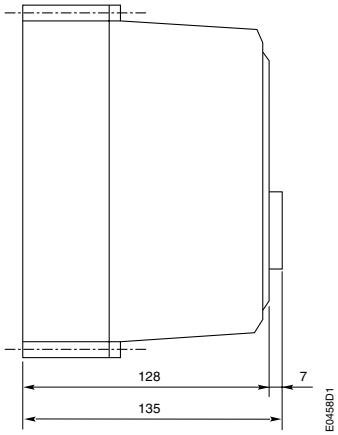


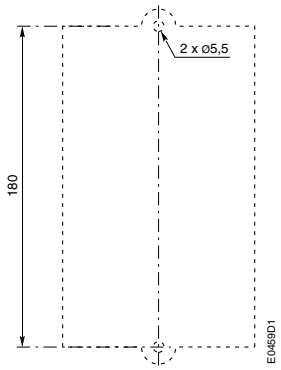




N.. + TP.. A



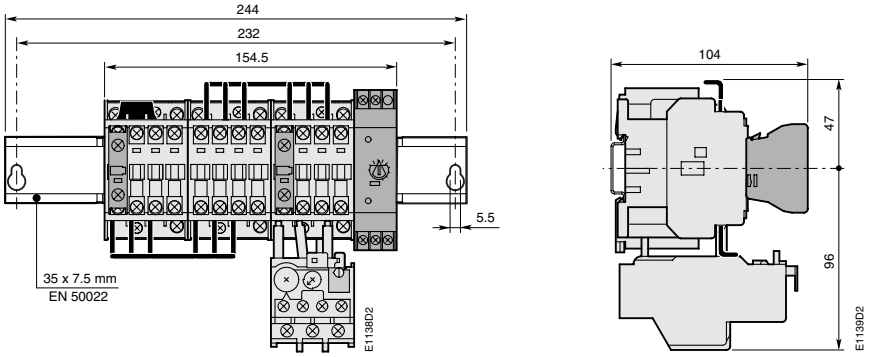




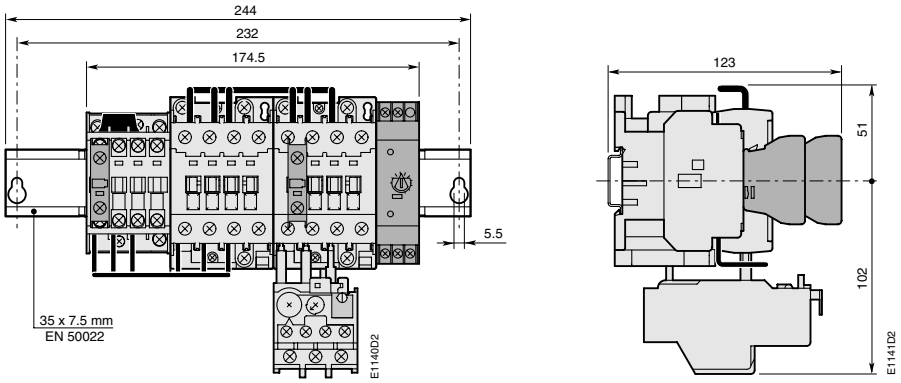
D.A 9, D.A 12, D.A 16

Detailed dimension drawings available in DXF and PDF formats.

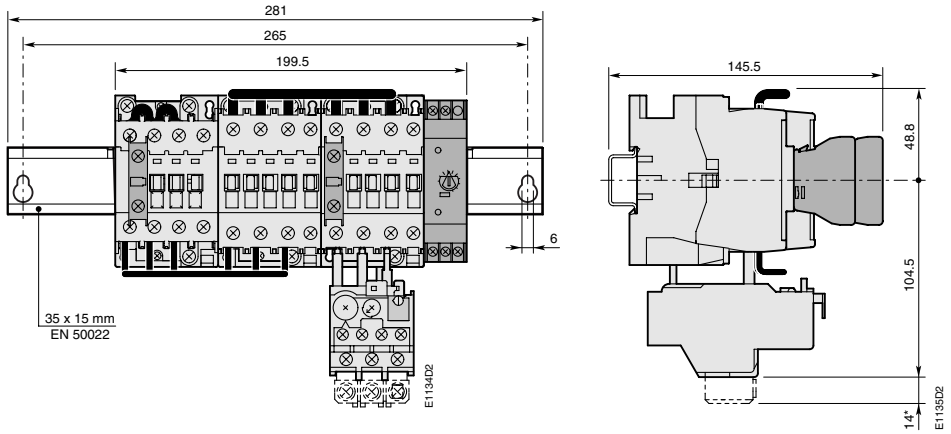
Dimensions (in mm)



YKA 9-30 ... YKA 16-30 + TA 25 DU



YKA 26-30 + TA 25 DU

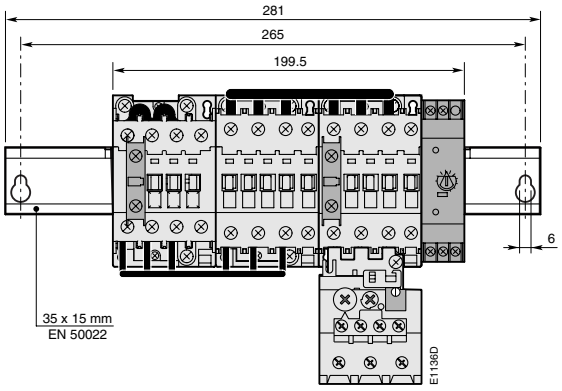


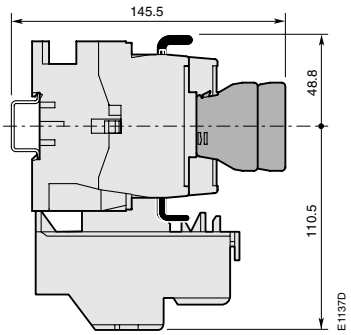
YKA 30-30 + TA 25 DU

* for TA 25 DU 32 only

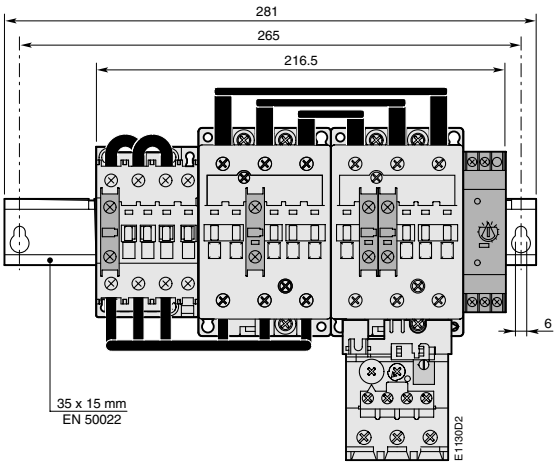
Detailed dimension drawings available in DXF and PDF formats.

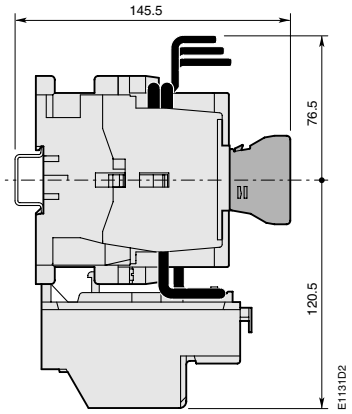
Dimensions (in mm)



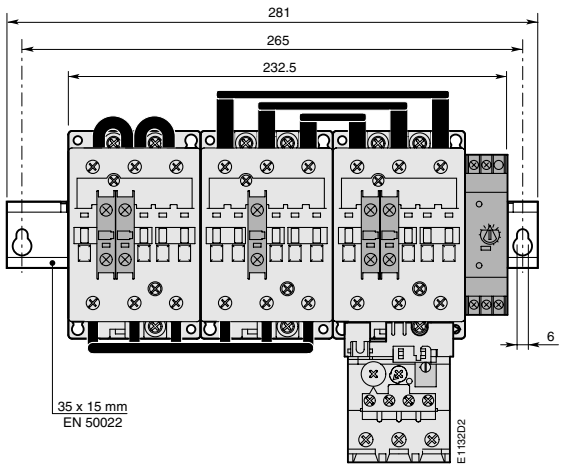


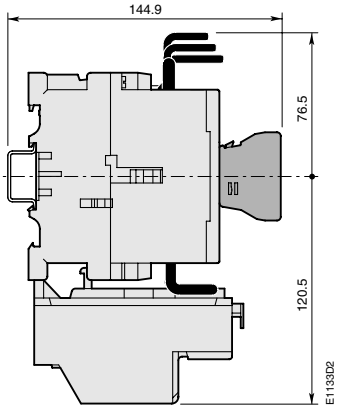
YKA 40-30 + TA 42 DU





YKA 50-30 + TA 75 DU, YKA 63-30 + TA 75 DU



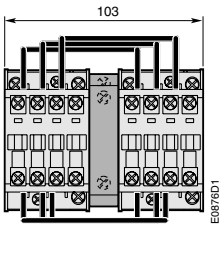


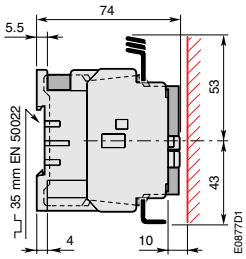
YKA 75-30 + TA 75 DU

Detailed dimension drawings available in DXF and PDF formats.

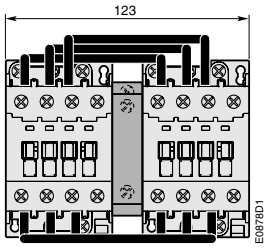
VOA..-30M Reversing Contactors
VOA..-40Z Changeover Contactors

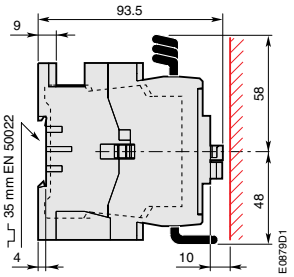
Dimensions (in mm)



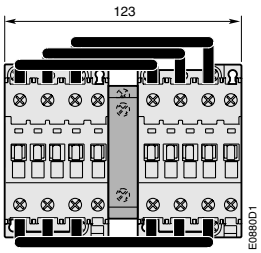


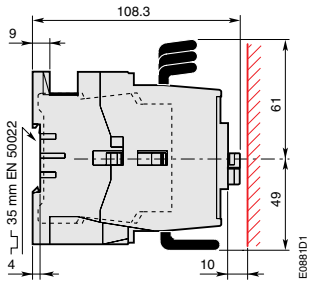
VOA 9-30M ... VOA 16-30M



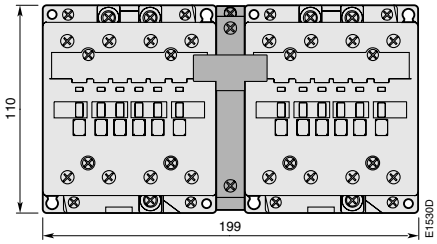


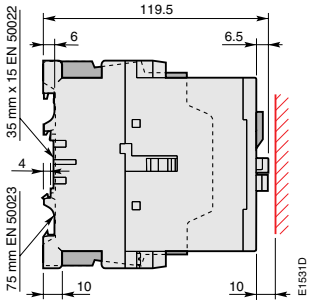
VOA 26-30M





VOA 30-30M, VOA 40-30M

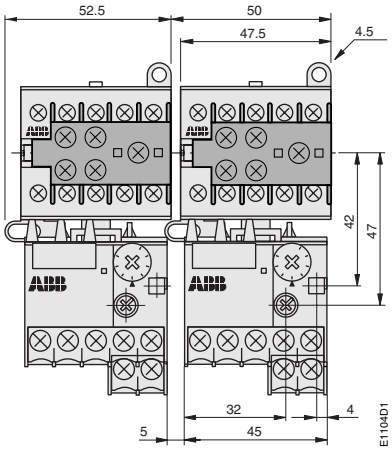


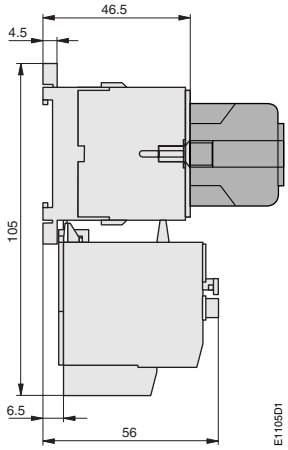


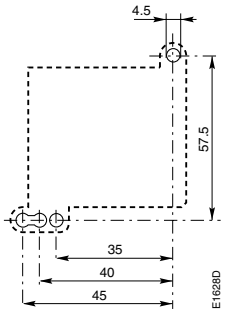
VOA 45-40Z ... VOA 75-40Z

Detailed dimension drawings available in DXF and PDF formats.

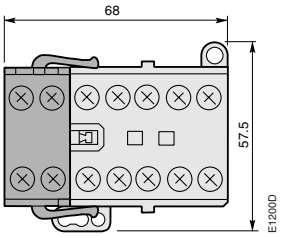
Dimensions (in mm)

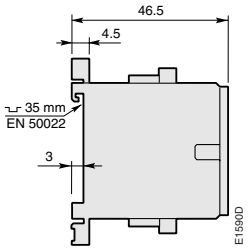


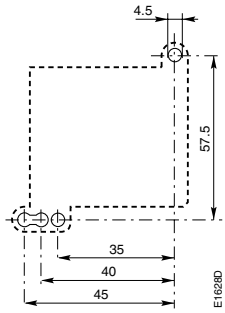




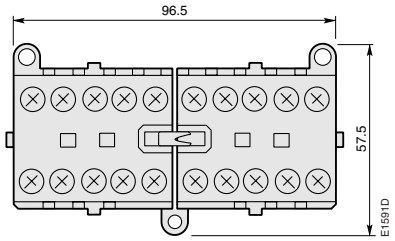
B 6, B 7 + CAF 6 + T 7 DU

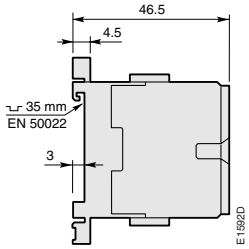


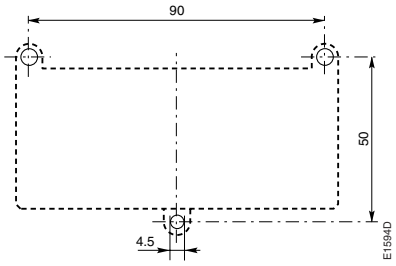




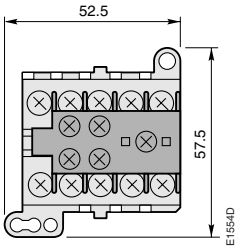
B 6, B 7, K 6 + CA 6

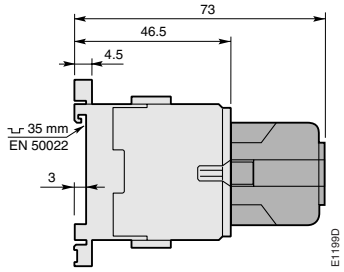


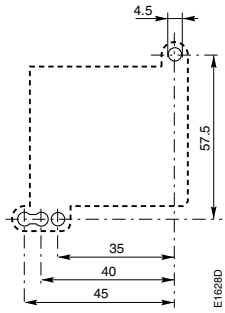




VB 6, VB 7





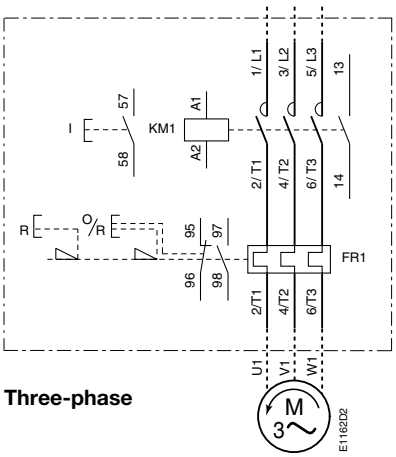


B 6, B 7, K 6 + CAF 6..

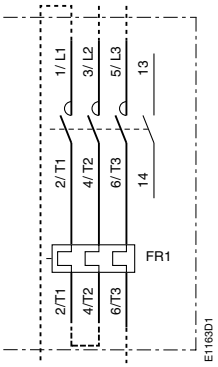
Detailed dimension drawings available in DXF and PDF formats.

Wiring diagrams

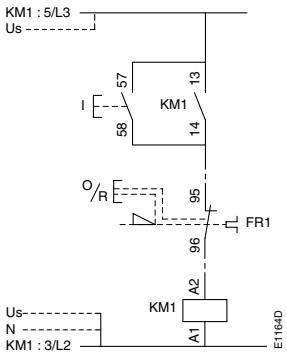
D.A 9 ... D.A 16 starters in enclosure, factory assembled or kit form version



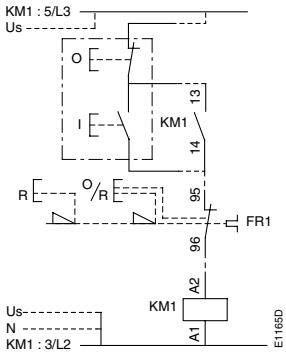
Three-phase



Single-phase



Local control

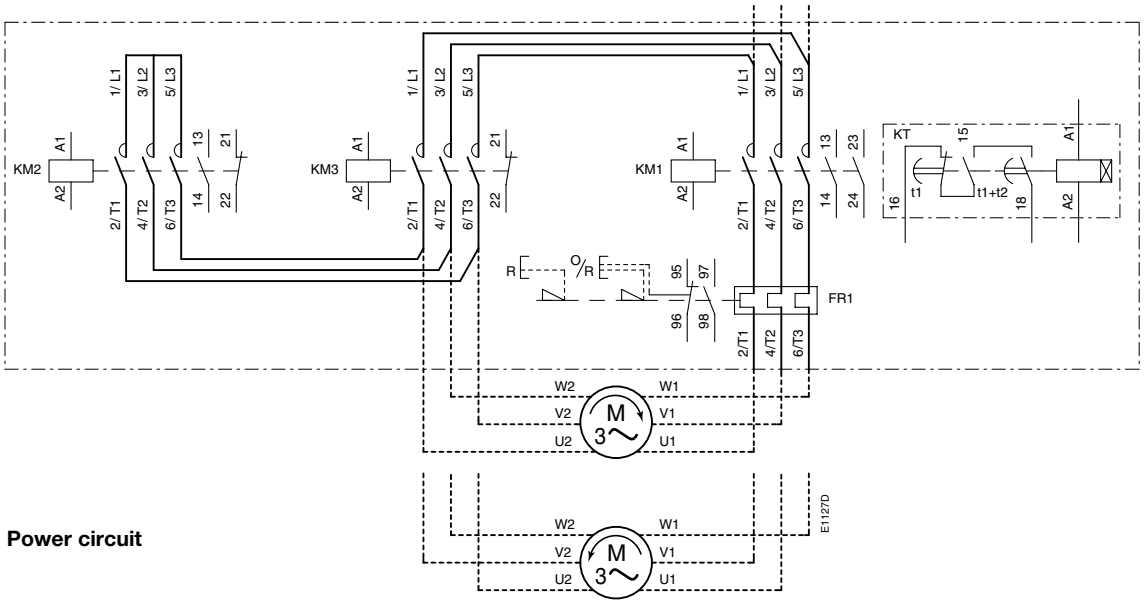


Remote control

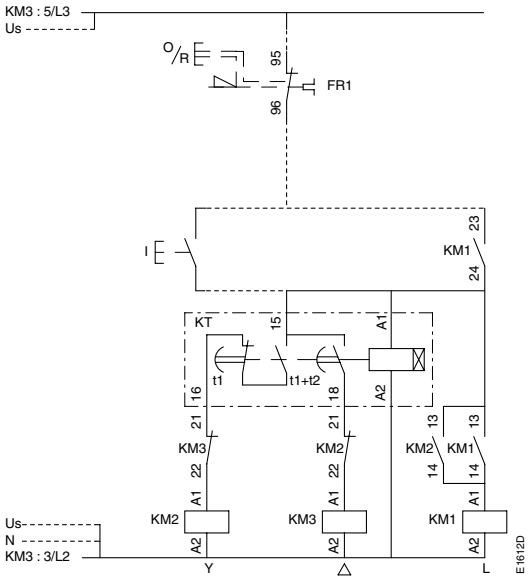
Wiring diagrams available in DXF and PDF formats.

Wiring diagrams

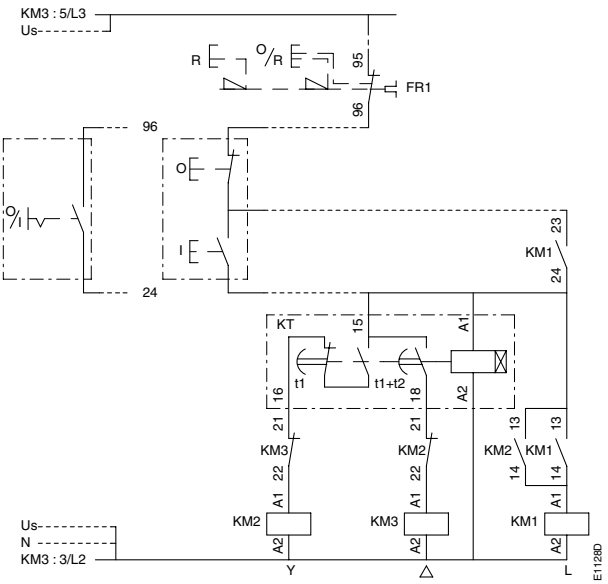
YKA..-30 star-delta starters, factory assembled or kit form version



Power circuit



Local control

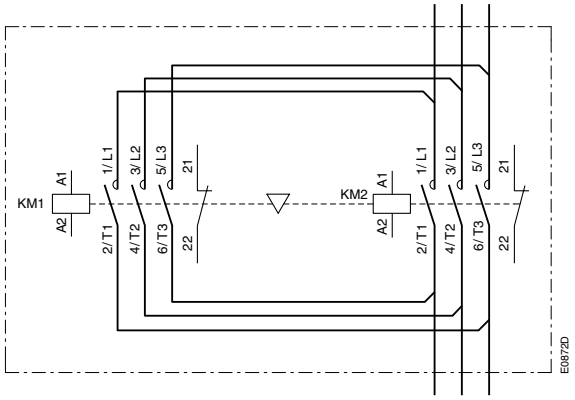


Remote control

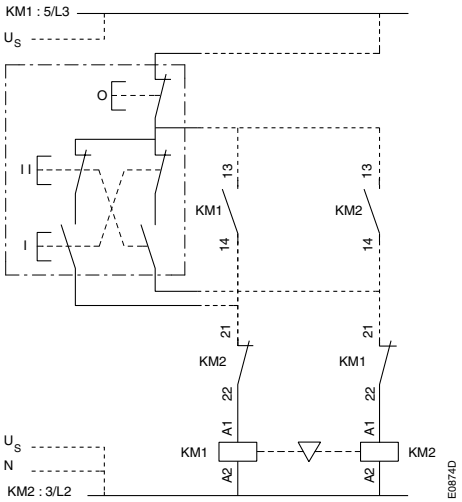
Wiring diagrams available in DXF and PDF formats.

Wiring diagrams

VOA 9-30M ... VOA 40-30M reversing contactors, factory-assembled version
with VM 5-1 mechanical interlocking, electrical interlocking by built-in auxiliary contacts.



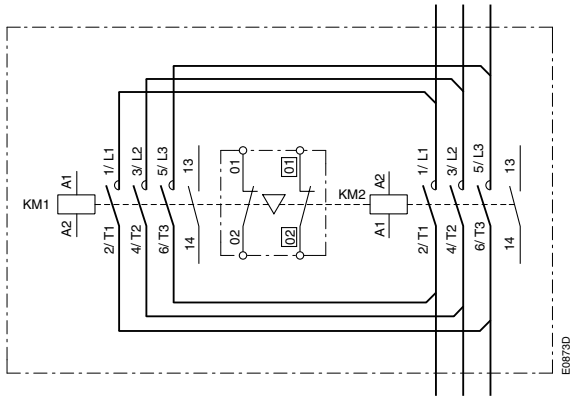
Power circuit



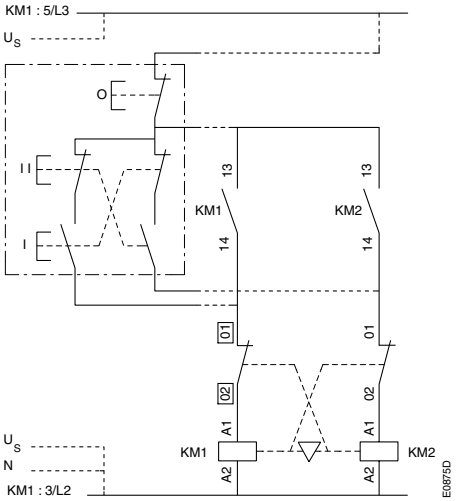
Remote control

For the hold-in contacts (13-14) of the KM1 and KM2 contactors, supply separately 2 x CA 5-10 type N.O. auxiliary contacts (see page 27).

VOA 9-30M ... VOA 40-30M reversing contactors, kit form version
with VE 5-1 mechanical and electrical interlocking.



Power circuit



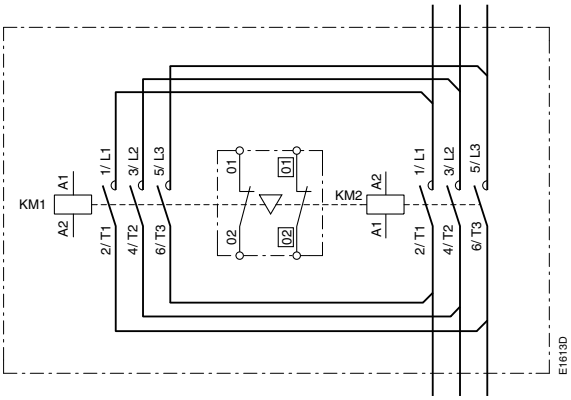
Remote control

N.O. auxiliary contacts (13-14) built into the KM1 and KM2 contactors, are available for the hold-in function of the KM1 and KM2 contactors.

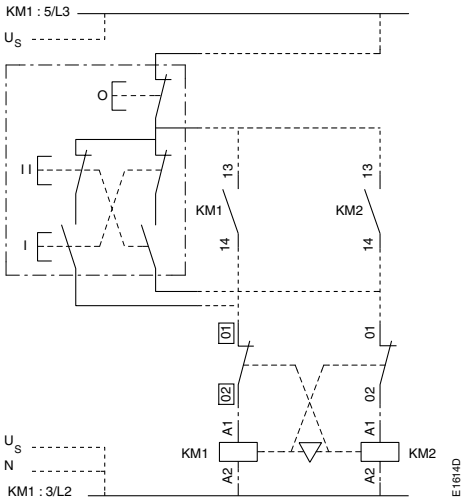
Wiring diagrams available in DXF and PDF formats.

Wiring diagrams

Reversing contactors in kit form version built with:
– 2 x A 95-30-00 or A 110-30-00 contactors,
– VE 5-2 mechanical and electrical interlocking.



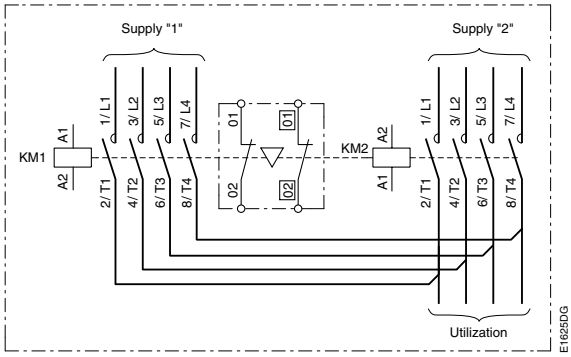
Power circuit



Remote control

For the hold-in contacts (13-14) of the KM1 and KM2 contactors, supply separately 2 x CA 5-10 type N.O. auxiliary contacts (see page 27).

VOA 45-40Z ... VOA 75-40Z changeover contactors, factory-assembled or kit form version
with VE 5-1 mechanical and electrical interlocking.



Power circuit

Wiring diagrams available in DXF and PDF formats.



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