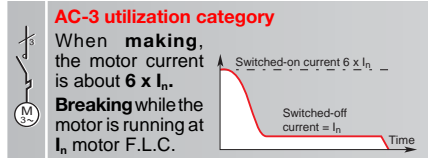


A., AL., AE., AF.,

a.c. Circuit Switching

Switching of 3-phase Cage Motors



AC-3 Power rating	$\theta \leq 55^\circ\text{C}, 400\text{ V}$
AC-3 Rated operational current	$\theta \leq 55^\circ\text{C}, 400\text{ V}$ $\theta \leq 55^\circ\text{C}, 415\text{ V}$ $\theta \leq 55^\circ\text{C}, 690\text{ V}$

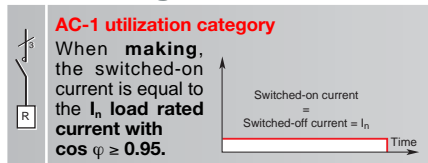


A 9	A 12	A 16	A 26	A 30	A 40
AL 9	AL 12	AL 16	AL 26	AL 30	AL 40

kW	4	5.5	7.5	11	15	18.5
A	9	12	17	26	32	37
A	9	12	17	26	32	37
A	7	9	10	17*	21*	25*

* For AL 26 ... AL 40 see "Technical Data"

Switching of Resistive Circuits



AC-1 Rated operational current	$\theta \leq 40^\circ\text{C}, 690\text{ V}$ $\theta \leq 55^\circ\text{C}, 690\text{ V}$ $\theta \leq 70^\circ\text{C}, 690\text{ V}$
---------------------------------------	--

- With conductor cross-sectional area
- Rated operational voltage

A	25	27	30	45	55	60
A	22	25	27	40	55	60
A	18	20	23	32	39	42
mm²	2.5	4	4	6	10	16
V	690					

3-phase Motor-rating General Use Rating

UL/CSA

Motor-rating	480 V
Amp-rating	600 V
Nema Size	

hp	5	7.5	10	20	25	30
A	21	25	30	40	50	60
	00	0	-	1	1P	-

3-pole Contactors

Selection & Ordering

- ▶ Select contactor type.
- ▶ Select contactor coil voltage on cover folding page 0/1, according to control circuit supply. (Please quote coil voltage in plain text).

Note: The AF contactor range, with a.c./d.c. Electronic Coil Interface, is available from AF 50 up to AF 1650.



a.c. Control supply range Types
A..., AF... Contactors

A 9-30-10	A 26-30-10
A 12-30-10	A 30-30-10
A 16-30-10	A 40-30-10



d.c. Control supply range Types
AL..., AE..., AF... Contactors

AL 9-30-10	AL 26-30-10
AL 12-30-10	AL 30-30-10
AL 16-30-10	AL 40-30-10

Contactor Main Accessories

Selection & Ordering

- ▶ Select accessory type and quote required data in plain text.

Auxiliary contacts



CA 5-..., 1-pole,
CAL ..., 2-pole

CA 5-10 , 1-pole, front mounting 1 x N.O.	CA 5-01 , 1-pole, front mounting 1 x N.C.
--	--

Timers



TP..., Pneumatic (A..., AE..., AF... contactors only)
TE..., Electronic
Supply voltages: 24 V a.c./d.c., 110 ... 120; 220 ... 240; 380 ... 440 V a.c.

TP 40 DA, TP 180 DA Direct timing - Front mounting	TP 40 IA, TP 180 IA
TE5S Direct timing - Separate mounting	

Interlocks



VE 5-..., Mechanical / Electrical
VM..., Mechanical
mounting between 2 contactors

VE 5-1	VM 5-1
---------------	---------------

Surge suppressors



RV..., (Varistor) a.c./d.c.
RC..., (Capacitor) a.c.
RT..., (Transil diode) d.c.

RV 5	RC 5-1	RT 5
-------------	---------------	-------------

Protection of 3-phase motors

Selection & Ordering

- ▶ Select O/L relay type and setting range according to motor F.L.C.

O/L relays



TA..DU..., Thermal O/L relay
E..DU..., Electronic O/L relay
Standard starting time 2 ... 10 s
tripping class 10 A

TA 25 DU...	TA 42 DU...
0.10...0.16	1.0...1.4
0.16...0.25	1.3...1.8
0.25...0.40	1.7...2.4
0.40...0.63	2.2...3.1
0.63...1.0	2.8...4.0
3.5...5.0	13...19
4.5...6.5	18...25
6.0...8.5	24...32
7.5...11	
10...14	
E16 DU...-10	
0.1...0.32	0.9...2.7
0.3...1.0	2...6.3
5.7...18.9	

For further information:

>> Description	Types pages	A.. 2/6, 2/10	AF.. 2/18, 2/20	AL../TAL.. 2/14	AE../TAE 2/14	UA../RA/UA.. 2/34, 2/38	GA../GAE.. 2/44	AM.. 2/46
>> Ordering Details	pages	2/7, 2/11	2/19, 2/21	2/15, 2/16	2/15, 2/16	2/35, 2/39	2/45	2/47
>> Technical Data	pages	2/64		2/75		2/37, 2/41	2/44	2/46

3-pole Contactors



	A 50	A 63	A 75	A 95	A 110	A 145	A 185	A 210	A 260	A 300	AF 400	AF 460	AF 580	AF 750	AF 1350	AF 1650	
	AE 50	AE 63	AE 75	AE 95	AE 110	AF 145	AF 185	AF 210	AF 260	AF 300							
	22	30	37	45	55	75	90	110	140	160	200	250	315	400	475	560	
	50	65	75	96	110	145	185	210	260	305	400	460	580	750	860	1050	
	50	65	75	96	110	145	185	210	260	300	400	460	580	750	860	1050	
	35	43	46	65	82	120	170	210	220	280	350	400	500	650	800	950	
	100	115	125	145	160	250	275	350	400	500	600	700	800	1050	1350	1650	
	85	95	105	135	145	230	250	300	350	400	500	600	700	875	1150	1450	
	70	80	85	115	130	180	180	240	290	325	400	480	580	720	1000	1270	
	35	50	50	50	70	120	150	185	240	300	2 x 185	2 x 240	2x240	bar / mm 2x50x8	bar / mm 2//100x5	bar / mm 3//100x5	
	1000					690					1000						
	40	60	60	60	75	100	125	150	200	250	350	400	500	600	800	900	
	80	90	105	125	140	230	250	300	350	400	550	650	750	900	1350	1650	
	2	-	3	-	-	4	-	-	5	-	-	6	-	7	-	8	

A 50-30-00 A 63-30-00 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	AF 1350-30-11 AF 1650-30-11
AE 50-30-00 AE 63-30-00 AE 75-30-00	AE 95-30-00 AE 110-30-00	AF 145-30-11 AF 185-30-11	AF 210-30-11 AF 260-30-11 AF 300-30-11	AF 400-30-11 AF 460-30-11	AF 580-30-11 AF 750-30-11	AF 1350-30-11 AF 1650-30-11

CAL 5-11 2-pole, side mounting 1 x N.O. + 1 x N.C.	CAL 18-11 2-pole, side mounting 1 x N.O. + 1 x N.C. (1st block)	CAL 18-11 B 2-pole, side mounting 1 x N.O. + 1 x N.C. (2nd block)
---	--	--

Inverse timing - Front mounting	TE5S Sep. mounting	TE5S Direct timing - Separate mounting
---------------------------------	--------------------	--

VE 5-2	VM 300H	VM 750H	VM 1650H
--------	---------	---------	----------

RV 5 RC 5-2 RT 5	The AF 50 ... AF 1650 contactors are equipped with a built-in electronic coil interface which eliminates the need of extra surge suppressors - For A 145 ... A 300 use RC-EH 300
------------------------	--

TA 75 DU... 29...42 36...52 45...63 60...80	TA 80 DU... 60...80 TA 110 DU... 65...90 80...110	TA 200 DU... 130...175 150...200	TA 450 DU... 165...235 220...310	E 200 DU 60...200	E 320 DU 100...320	E 500 DU 150...500	E 800 DU 250...800	E 1250 DU 375...1250
---	---	--	--	----------------------	-----------------------	-----------------------	-----------------------	-------------------------

Information about:

- >> Accessories section 4
- >> Motor Protection section 5
- >> Approvals section 7

- >> Terminal Marking section 8
- >> Dimensions section 9

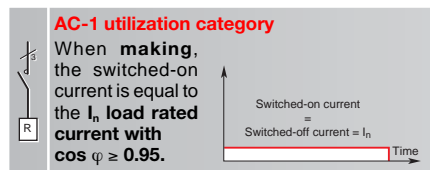
A., AL., AE., EK.,

a.c. Circuit Switching



Switching of Resistive Circuits

IEC



AC-1	Rated	$\theta \leq 40^\circ\text{C}$
	operational	$\theta \leq 55^\circ\text{C}$
	current	$\theta \leq 70^\circ\text{C}$
● With conductor cross-sectional area		
● Rated operational voltage		

	A 9	A 16	A 26
	AL 9	AL 16	AL 26
A	25	30	45
A	22	27	40
A	18	23	32
mm²	2.5	4	6
V	690		

General Use Rating

UL/CSA

Amp-rating	600 V
Nema Size	

	A 9	A 16	A 26
A	21	30	40
	00	0	1

4-pole Contactors

Selection & Ordering

- ▶ Select 4 N.O. or 2 N.O. + 2 N.C. main poles.
- ▶ Select contactor type.
- ▶ Select contactor coil voltage on cover folding page 0/1, according to control circuit supply. (Please quote coil voltage in plain text).

Note: The 4 N.O. or 2 N.O. + 2 N.C. **AF** contactor range with a.c./d.c. **Electronic Coil Interface**, is available from **AF 45** up to **AF 75**.

4 N.O. main poles



a.c. Control supply range Types

A..., EK... Contactors

A 9-40-00	A 16-40-00	A 26-40-00
-----------	------------	------------



d.c. Control supply range Types

AL..., AE..., EK... Contactors

AL 9-40-00	AL 16-40-00	AL 26-40-00
------------	-------------	-------------

2 N.O. + 2 N.C. main poles



a.c. Control supply range Types

A... Contactors

A 9-22-00	A 16-22-00	A 26-22-00
-----------	------------	------------



d.c. Control supply range Types

AL..., AE... Contactors

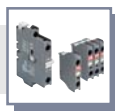
AL 9-22-00	AL 16-22-00	AL 26-22-00
------------	-------------	-------------

Contactors Main Accessories

Selection & Ordering

- ▶ Select accessory type and quote required data in plain text.

Auxiliary contacts



CA 5-..., 1-pole
CAL ..., 2-pole

CA 5-10 1-pole, front mounting 1 x N.O.	CA 5-01 1-pole, front mounting 1 x N.C.
---	---

Timers



TP..., Pneumatic for A..., AE... contactors only
TE..., Electronic
Supply voltages: 24 V a.c./d.c., 110 ... 120 / 220 ... 240 / 380 ... 440 V a.c.

TP 40 DA, TP 180 DA Direct timing - Front mounting	TE5S Direct timing - Separate
---	--------------------------------------

Interlocks



VE 5-..., Mechanical / Electrical
VM..., **VH...** Mechanical
mounting between 2 contactors

VE 5-1 VM 5-1

Surge suppressors



RV..., (Varistor) a.c./d.c.
RC..., (Capacitor) a.c.
RT..., (Transil diode) d.c.

RV 5 RC 5-1 RT 5

For further information:

	Types	A..	EK..	AF..	AL../AE..	TAL../TAE..	AM..
>> Ordering Details	pages	2/22	2/24, 2/30	2/31	2/26	2/28	2/47
>> Technical Data	pages	2/64 ... 2/74	2/76 ... 2/80	2/64	2/74		2/46

4-pole Contactors



	A 45 AE 45	A 50 AE 50	A 75 AE 75	EK 110	EK 150	EK 175	EK 210	EK 370	EK 550	EK 1000
	70	100	125	200	250	300	350	550	800	1000
	60	85	105	180	230	270	310	470	650	800
	50	70	85	155	200	215	250	400	575	720
	25	35	50	95	150	185	240	2 x 185	2 x 240	2 x 300
		690					1000			
	80	80	105	170	200	250	300	420	540	-
	2	2	3	-	-	-	-	-	-	-

A 45-40-00	A 50-40-00	A 75-40-00	EK 110-40-11	EK 150-40-11	EK 175-40-11	EK 210-40-11	EK 370-40-11	EK 550-40-11	EK 1000-40-11
AE 45-40-00	AE 50-40-00	AE 75-40-00	EK 110-40-21	EK 150-40-21	EK 175-40-21	EK 210-40-21	EK 370-40-21	EK 550-40-21	EK 1000-40-21
A 45-22-00	A 75-22-00	-	-	-	-	-	-	-	-
AE 45-22-00	AE 75-22-00	-	-	-	-	-	-	-	-

CAL 5-11 2-pole, side mounting
1 x N.O. + 1 x N.C.

CAL 16-11 2-pole, side mounting
1 x N.O. + 1 x N.C.

TP 40 IA, TP 180 IA Inverse timing - Front mounting
mounting

TE5S Direct timing - Separate mounting (interpose an N.. contactor relay for EK 370 ... EK 1000)

VE 5-2
-

VH 145
(Mechanical / Electrical)

VH 300
(Mechanical / Electrical)

VH 800

RV 5
RC 5-2
RT 5

RC-EH 300

RC-EH 800
(Varistor + RC)

Information about:

>> Accessories section 4
>> Approvals section 7

>> Terminal Marking section 8
>> Dimensions section 9

A 9 ... A 110 3-pole Contactors

a.c. Operated



Application

A 9 ... A 110 contactors are mainly used for controlling 3-phase motors and generally for controlling power circuits up to 690 V a.c. / 1000 V a.c. or 220 V d.c. / 440 V d.c. The contactors can also be used for many other applications such as isolation, capacitor switching, lighting.

Description

The A... series 3-pole contactors are of the block type design.

● Main poles and auxiliary contact blocks

A 9 ... A 40 1-stack contactors:

- 3 main poles,
- 1 built-in auxiliary contact,
- front and side mounted add-on auxiliary contact blocks.

A 50 ... A 110 contactors:

- 3 main poles,
- front and side mounted add-on auxiliary contact blocks.

● Control circuit: a.c. operated with laminated magnet circuit.

● Accessories: a wide range of accessories is available

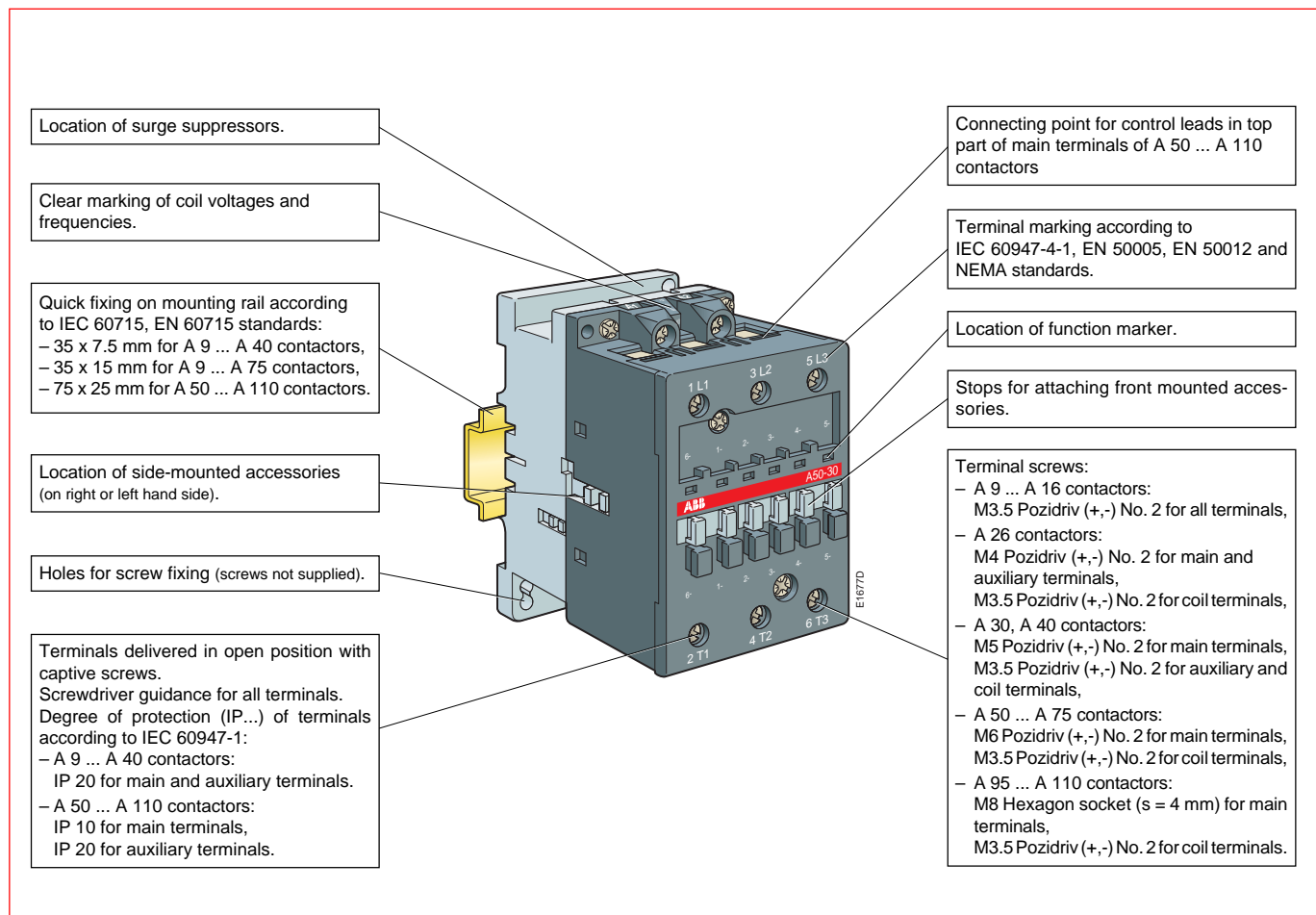
A 9 ... A 40 2-stack contactors:

- 1st stack with 3 main poles and 1 built-in auxiliary contact,
- 2nd stack with 4 built-in auxiliary contacts,
- side mounted add-on auxiliary contact blocks.

The built-in auxiliary contact elements are mechanically linked.

Variants

- 4-pole: A 9 ... A 75 contactors (with 4 N.O. or 2 N.O. + 2 N.C. main poles).
- d.c. operated: AL 9 ... AL 40, AL 9Z ... AL 16Z and AE 50 ... AE 110 contactors.
- d.c. operated with large coil voltage range: TAL 9 ... TAL 40 and TAE 50 ... TAE 110 contactors.
- electronic coil interface (a.c./d.c. operated): AF 50 ... AF 110 contactors.
- contactors for capacitor switching (UA..., UA..RA types).
- contactors for d.c. switching (GA..., GAE... types).
- magnetically latched contactors (AM... types).



A 9 ... A 110 3-pole Contactors

a.c. Operated



A 9-30-10



A 26-30-10



A 50-30-00



A 95-30-00

Ordering Details

IEC	UL/CSA		Auxiliary contacts fitted		Type	Order code	Weight kg
Rated power 400 V AC-3	Rated current $\theta \leq 40^\circ\text{C}$ AC-1	3-Phase motor rating 480 V	General use rating 600 V	1 st stack 2 nd stack	state coil voltage [] [] (see table below)	state coil voltage code [] [] (see table below)	Pack ^{ing} 1 piece
kW	A	hp	A				
4	25	5	21	1 - -	A 9-30-10 [] []	1SBL 141 001 R [] [] 10	0.340
				- 1 - -	A 9-30-01 [] []	1SBL 141 001 R [] [] 01	0.340
				- - 2 2	A 9-30-22 [] []	1SBL 141 001 R [] [] 22	0.400
				1 - 2 2	A 9-30-32 [] []	1SBL 141 001 R [] [] 32	0.400
5.5	27	7.5	25	1 - -	A 12-30-10 [] []	1SBL 161 001 R [] [] 10	0.340
				- 1 - -	A 12-30-01 [] []	1SBL 161 001 R [] [] 01	0.340
				- - 2 2	A 12-30-22 [] []	1SBL 161 001 R [] [] 22	0.400
				1 - 2 2	A 12-30-32 [] []	1SBL 161 001 R [] [] 32	0.400
7.5	30	10	30	1 - -	A 16-30-10 [] []	1SBL 181 001 R [] [] 10	0.340
				- 1 - -	A 16-30-01 [] []	1SBL 181 001 R [] [] 01	0.340
				- - 2 2	A 16-30-22 [] []	1SBL 181 001 R [] [] 22	0.400
				1 - 2 2	A 16-30-32 [] []	1SBL 181 001 R [] [] 32	0.400
11	45	20	40	1 - -	A 26-30-10 [] []	1SBL 241 001 R [] [] 10	0.600
				- 1 - -	A 26-30-01 [] []	1SBL 241 001 R [] [] 01	0.600
				- - 2 2	A 26-30-22 [] []	1SBL 241 001 R [] [] 22	0.660
				1 - 2 2	A 26-30-32 [] []	1SBL 241 001 R [] [] 32	0.660
15	55	25	50	1 - -	A 30-30-10 [] []	1SBL 281 001 R [] [] 10	0.710
				- 1 - -	A 30-30-01 [] []	1SBL 281 001 R [] [] 01	0.710
				- - 2 2	A 30-30-22 [] []	1SBL 281 001 R [] [] 22	0.770
				1 - 2 2	A 30-30-32 [] []	1SBL 281 001 R [] [] 32	0.770
18.5	60	30	60	- - - -	A 40-30-10 [] []	1SBL 321 001 R [] [] 10	0.710
				- 1 - -	A 40-30-01 [] []	1SBL 321 001 R [] [] 01	0.710
				- - 2 2	A 40-30-22 [] []	1SBL 321 001 R [] [] 22	0.770
				1 - 2 2	A 40-30-32 [] []	1SBL 321 001 R [] [] 32	0.770
22	100	40	80	- - - -	A 50-30-00 [] []	1SBL 351 001 R [] [] 00	1.160
				1 1 - -	A 50-30-11 [] []	1SBL 351 001 R [] [] 11	1.200
				- - 2 2	A 50-30-22 [] []	1SBL 351 001 R [] [] 22	1.230
				- - - -	A 50-30-00 [] []	1SBL 351 001 R [] [] 00	1.160
30	115	60	90	1 1 - -	A 63-30-11 [] []	1SBL 371 001 R [] [] 11	1.200
				- - 2 2	A 63-30-22 [] []	1SBL 371 001 R [] [] 22	1.230
				- - - -	A 63-30-00 [] []	1SBL 371 001 R [] [] 00	1.160
				1 1 - -	A 63-30-11 [] []	1SBL 371 001 R [] [] 11	1.200
37	125	60	105	- - - -	A 75-30-00 [] []	1SBL 411 001 R [] [] 00	1.160
				1 1 - -	A 75-30-11 [] []	1SBL 411 001 R [] [] 11	1.200
				- - 2 2	A 75-30-22 [] []	1SBL 411 001 R [] [] 22	1.230
				- - - -	A 75-30-00 [] []	1SBL 411 001 R [] [] 00	1.160
45	145	60	125	1 1 - -	A 95-30-11 [] []	1SFL 431 001 R [] [] 11	2.040
				- - 2 2	A 95-30-22 [] []	1SFL 431 001 R [] [] 22	2.070
				- - - -	A 95-30-00 [] []	1SFL 431 001 R [] [] 00	2.000
				1 1 - -	A 95-30-11 [] []	1SFL 431 001 R [] [] 11	2.040
55	160	75	140	- - - -	A 110-30-00 [] []	1SFL 451 001 R [] [] 00	2.000
				1 1 - -	A 110-30-11 [] []	1SFL 451 001 R [] [] 11	2.040
				- - 2 2	A 110-30-22 [] []	1SFL 451 001 R [] [] 22	2.070
				- - - -	A 110-30-00 [] []	1SFL 451 001 R [] [] 00	2.000

Coil voltages and codes

Voltage [] [] V - 50Hz	Voltage [] [] V - 60Hz	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 0/1.

- >> Accessory Fitting Details page 2/8
- >> Thermal O/L Relays page 2/9
- >> Auxiliary Contacts for Safety Circuits page 2/63
- >> Technical Data page 2/64
- >> General - Approvals section 7
- >> Terminal Marking and Positioning section 8
- >> Dimensions section 9

A 9 ... A 110 3-pole Contactors

Main Accessories

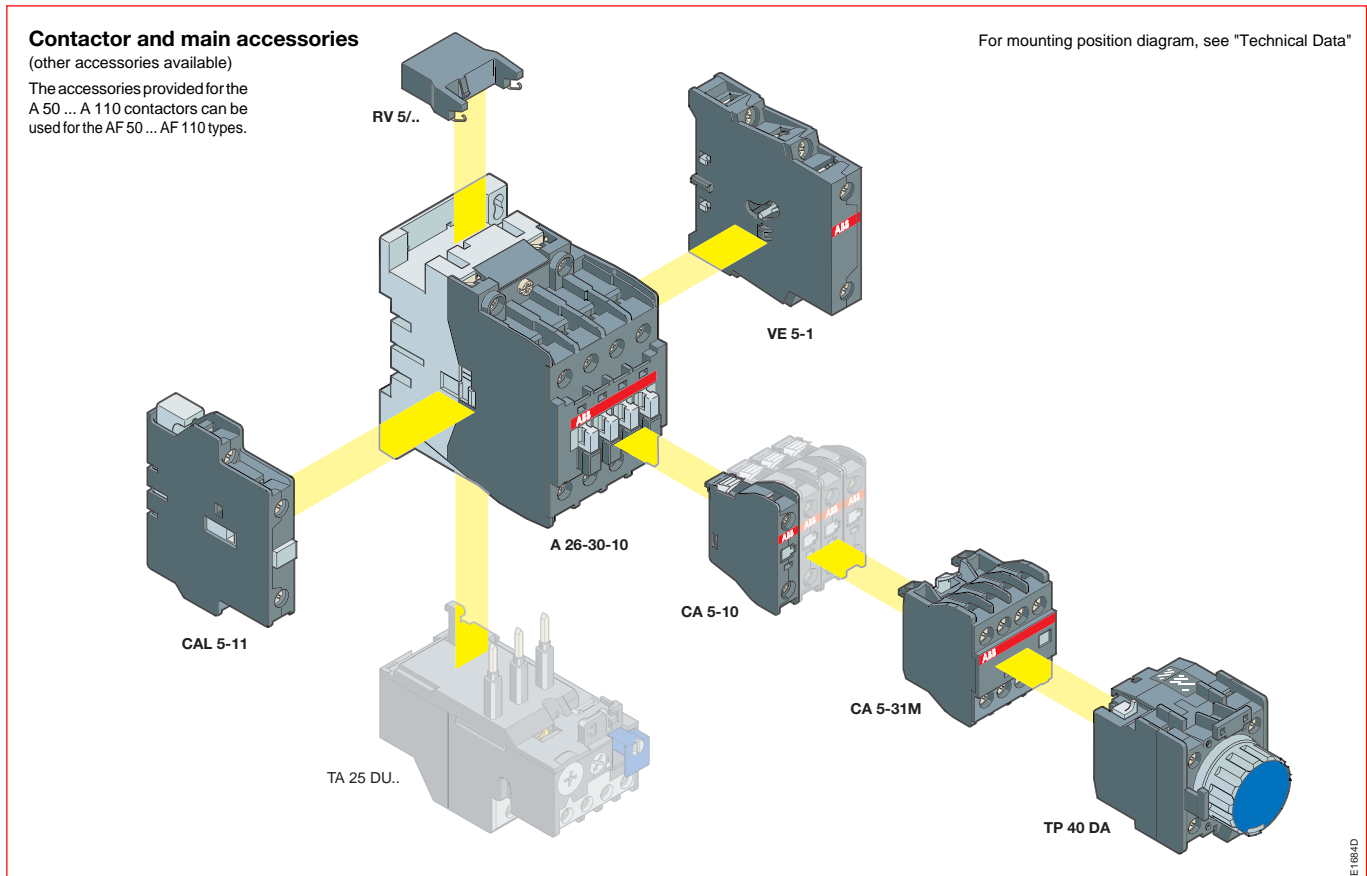
Fitting Details - For Ordering Details, see "Accessories"

Many configurations of accessories are possible depending on whether these are front mounted or side mounted.

Contactor types	Main poles	Available auxiliary contacts	Front mounted accessories			Side mounted accessories	
			Auxiliary contact 1-pole CA 5-.. (or 1-pole CE 5-..)	Auxiliary contact 4-pole CA 5-..	Pneumatic timer TP .. A	Auxiliary contact 2-pole CAL.. (or 1-pole CEL 18-..)	Interlock unit VM 5-.. or VE 5-..
A 9 ... A 26 A 9 ... A 26	3 0	1 0 0 1 (5)	1 to 4 x CA 5-.. (1 to 2 x CE 5-.. max.) (1)	or 1 x CA 5-.. (4-pole)	or 1 x TP .. A (6)	+	1 to 2 x CAL 5-11 or 1 x VM 5-1 or VE 5-1 + 1 x CAL 5-11
A 9 ... A 16 A 9 ... A 26	3 0	2 2 3 2	—	—	—	+	1 to 2 x CAL 5-11 or 1 x VM 5-1 or VE 5-1 + 1 x CAL 5-11
A 30, A 40 A 30, A 40	3 0	1 0 0 1 (5)	1 to 5 x CA 5-.. (1 to 3 x CE 5-.. max.) (2)	or 1 x CA 5-.. (4-pole) + 1 x 1-pole CA 5-.. or CE 5-.. (2)	or 1 x TP .. A + 1 x CA 5-.. (1-pole)	+	1 to 2 x CAL 5-11 or 1 x VM 5-1 or VE 5-1 + 1 x CAL 5-11
A 30, A 40	3 0	3 2 (5)	1 x CA 5-.. (or 1 x CE 5-..) (4)	—	—	+	1 to 2 x CAL 5-11 or 1 x VM 5-1 or VE 5-1 + 1 x CAL 5-11
A 50 ... A 75 A 50 ... A 75	3 0	0 0 1 1	1 to 6 x CA 5-.. (1 to 5 x CE 5-.. max.) (3)	or 1 x CA 5-.. (4-pole) + 2 x 1-pole CA 5-.. or CE 5-.. (3)	or 1 x TP .. A + 2 x CA 5-.. (1-pole)	+	1 to 2 x CAL 5-11 or 1 x VE 5-2 + 1 x CAL 5-11
A 50 ... A 75 A 50 ... A 75	3 0	2 2	1 to 2 x CA 5-.. (1 to 2 x CE 5-.. max.)	—	—	+	1 to 2 x CAL 5-11 or 1 x VE 5-2 + 1 x CAL 5-11
A 95, A 110 A 95, A 110	3 0	0 0 1 1	1 to 6 x CA 5-.. (1 to 5 x CE 5-.. max.) (3)	or 1 x CA 5-.. (4-pole) + 2 x 1-pole CA 5-.. or CE 5-.. (3)	—	+	1 to 2 x CAL 18-11 (or 1 to 2 x CEL 18-..) or 1 x VE 5-2 + 1 x CAL 18-11
A 95, A 110 A 95, A 110	3 0	2 2	1 to 2 x CA 5-.. (1 to 2 x CE 5-.. max.)	—	—	+	1 to 2 x CAL 18-11 (or 1 to 2 x CEL 18-..) or 1 x VE 5-2 + 1 x CAL 18-11

- (1) The total number of N.O. or N.C. CE 5-.. and other additional N.C. CA 5-.. auxiliary contacts is limited to 2.
 (2) The total number of N.O. or N.C. CE 5-.. and other additional N.C. CA 5-.. auxiliary contacts is limited to 3.
 (3) The total number of N.O. or N.C. CE 5-.. and other additional N.C. CA 5-.. auxiliary contacts is limited to 5.
 (4) CE 5-.. auxiliary contacts not allowed in mounting position 5.
 (5) 2 N.C. CA 5-.. auxiliary contacts maximum in mounting position 5.
 (6) A 9, A 12, A 16-30-01 in mounting position 5, TP..DA not allowed.

CE 5-.. auxiliary contacts not allowed in mounting position 5.
 CE 5-.. auxiliary contacts not allowed in mounting position 5.



A 9 ... A 110 3-pole Contactors

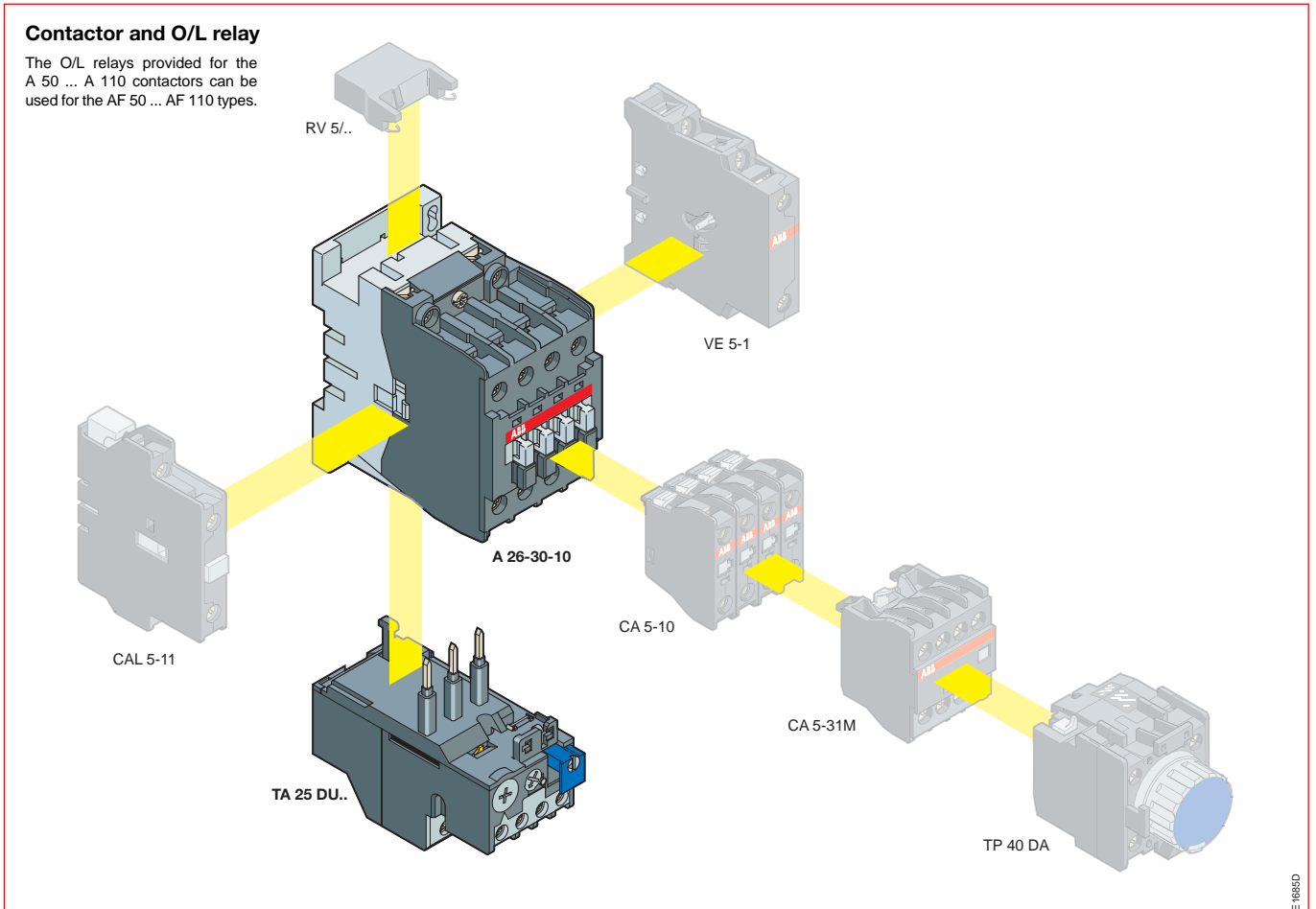
Thermal O/L Relays

Fitting Details - For Ordering Details, see "Motor Protection"

The addition of a thermal O/L relay on the contactor does not prevent fitting of many other accessories as shown below.

Contactor types	Thermal O/L relays - No mounting kit required, direct mounting				
	TA 25 DU.. 0.1 ... 0.16 to 24 ... 32 A	TA 42 DU 18 ... 25 to 29 ... 42 A	TA 75 DU 18 ... 25 to 60 ... 80 A	TA 80 DU 29 ... 42 to 60 ... 80 A	TA 110 DU 65 ... 90 to 80 ... 110 A
A 9 ... A 26	TA 25 DU..	–	–	–	–
A 30, A 40	TA 25 DU.. (1)	or TA 42 DU.. (1)	–	–	–
A 50 ... A 75	–	–	TA 75 DU..	–	–
A 95, A 110	–	–	–	TA 80 DU.. (1)	or TA 110 DU.. (1)

(1) According to the current value.



Auxiliary Contacts for Safety Circuits

3-pole Contactors

Mechanically Linked Contact Elements for Contactors

(known as "forced contacts", "positively activated contacts" or "linked contacts").


Definitions from standards: mechanically linked contact elements  according to IEC 60947-5-1, Annex L 3.0.

Combination of "n" Make auxiliary contact element(s) and "m" Break auxiliary contact element(s) are designed in such a way that they cannot be in the closed position simultaneously.

One control circuit device may have more than one group of mechanically linked contact elements.

The table below gives the contactors that offer mechanically linked auxiliary contacts according to IEC 60947-5-1, Annex L.

Mirror Contacts

Definitions from standards: mirror contact  according to IEC 60947-4-1, Annex F 2.1.

Normally closed **auxiliary contact** (N.C.) which cannot be in the closed position simultaneously with the normally open (N.O.) **main contact**.

The table below indicates the contactors that offer a built-in auxiliary mirror contact.





The **CA 5-13, CA 5-22, CA 5-31, CA 5-04** and **CA 5-01** (respectively 4-pole and 1-pole auxiliary contact blocks) and the **CAL 5-11** (2-pole auxiliary contact block) when fitted on **A 9 ... A 75, AF 45 ... AF 75** or **AL 9 ... AL 40** contactors **have their own N.C. auxiliary mirror contacts**.

The **CAL 18-11** 2-pole auxiliary contact blocks when fitted on **A 95 ... A 300** and **AF 95 ... AF 750** contactors **have their own N.C. auxiliary mirror contacts**.

For **AF 1350, AF 1650** use 2 N.C. auxiliary contacts in series for mirror contact, one **CAL 18-11** on each side of the contactor.

3-pole A... and AL... contactors

+ one CA 5-... 4-pole add-on auxiliary contact block

Contactors	Built-in auxiliary contacts 	Add-on auxiliary contact blocks			
		+ CA 5-22... 	or CA 5-31... 	or CA 5-40... 	
A/AL 9-30-10	1 –	2 2	3 1		
A/AL 9-30-01	– 1	2 2	3 1	4 –	
A/AL 12-30-10	1 –	2 2	3 1		
A/AL 12-30-01	– 1	2 2	3 1	4 –	
A/AL 16-30-10	1 –	2 2	3 1		
A/AL 16-30-01	– 1	2 2	3 1	4 –	
A/AL 26-30-10	1 –	2 2	3 1		
A/AL 26-30-01	– 1	2 2	3 1	4 –	
A/AL 30-30-10	1 –	2 2	3 1		
A/AL 30-30-01	– 1	2 2	3 1	4 –	
A/AL 40-30-10	1 –	2 2	3 1		
A/AL 40-30-01	– 1	2 2	3 1	4 –	

The information provided for **AL** contactors can also be used for **AL..Z...** and **TAL...** contactors.

For each contactor type, see "Accessory Fitting Details".

Direct Opening Action of N.C. Built-in Auxiliary Contacts

Annex K2.1 of IEC 60947-5-1 defines a control switch with direct opening action: "the full contact opening of the break contact element(s) is obtained when the actuator is moved through the direct opening travel by applying the force stated by the manufacturer".

The N.C. built-in auxiliary contacts of contactors **ARE NOT CONCERNED** by the annex K.

Nevertheless, N.C. auxiliary contacts are designed to have "direct opening action" and are suitable for uses such as lifts / elevators (acc. to EN 81-1).