eCatalogue

CONTACTORS

A complete Range of products to fit all your needs in many applications

BU Control


a.c. Circuit Switching

				A 9 / AL 9	A 12 / AL 12	A 16 / AL 16	A 26 / AL 26	A 30 / AL 30	A 40 / AL 40
Switching of 3-phase Cage Motors		**IEC**							
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.	**AC-3**	**Power rating**	θ ≤ 55 °C, 400 V	kW	4	5.5	7.5	11	15	18.5
	AC-3	**Rated operational current**	θ ≤ 55 °C, 400 V	A	9	12	17	26	32	37
			θ ≤ 55 °C, 415 V	A	9	12	17	26	32	37
			θ ≤ 55 °C, 690 V	A	7	9	10	17*	21*	25*
								* For AL 26 ... AL 40 see "Technical Data"		
Switching of Resistive Circuits		**IEC**							
AC-1 utilization category: When **making**, the switched-on current is equal to the **I_n load rated current with cos φ ≥ 0.95.**	**AC-1**	**Rated operational current**	θ ≤ 40 °C, 690 V	A	25	27	30	45	55	60
			θ ≤ 55 °C, 690 V	A	22	25	27	40	55	60
			θ ≤ 70 °C, 690 V	A	18	20	23	32	39	42
	● With conductor cross-sectional area			mm^2	2.5	4	4	6	10	16
	● Rated operational voltage			V	690					
		UL/CSA								
3-phase Motor-rating General Use Rating	**Motor-rating**	480 V		hp	5	7.5	10	20	25	30
	Amp-rating	600 V		A	21	25	30	40	50	60
	Nema Size				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 9-30-10 / A 12-30-10 / A 16-30-10	A 26-30-10 / A 30-30-10 / A 40-30-10
a.c.	**Control supply range** A..., AF... Contactors	*Types*	A 9-30-10 A 12-30-10 A 16-30-10	A 26-30-10 A 30-30-10 A 40-30-10
d.c.	**Control supply range** AL..., AE..., AF... Contactors	*Types*	AL 9-30-10 AL 12-30-10 AL 16-30-10	AL 26-30-10 AL 30-30-10 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	*Types*	**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.*	*Types*	**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*	*Types*	**VE 5-1** **VM 5-1**
Surge suppressors	**RV..**, (Varistor) a.c./d.c. **RC..**, (Capacitor) a.c. **RT..**, (Transil diode) d.c.	*Types*	**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*	*Types & setting range in Amps*	**TA 25 DU...**: 0.10...**0.16**, 0.16...**0.25**, 0.25...**0.40**, 0.40...**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** **E16 DU...-10**: 0.1...**0.32**, 0.3...**1.0**; 0.9...**2.7**, 2...**6.3**; 5.7...**18.9**

For further information:

	Types	A..	AF..	AL../TAL..	AE../TAE	UA..RA/UA..	GA../GAE..	AM..
>> Description	pages	2/6, 2/10	2/18, 2/20	2/14	2/14	2/34, 2/38	2/44	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 AE 50	A 63 AE 63	A 75 AE 75	A 95 AE 95	A 110 AE 110	A 145 AF 145	A 185 AF 185	A 210 AF 210	A 260 AF 260	A 300 AF 300	AF 400	AF 460	AF 580	AF 750	AF 1350	AF 1650
	22	30	37	45	55	75	90	110	140	160	200	250	315	400	475	560
	50 50 35	**65** 65 43	**75** 75 46	**96** 96 65	**110** 110 82	**145** 145 120	**185** 185 170	**210** 210 210	**260** 260 220	**305** 300 280	**400** 400 350	**460** 460 400	**580** 580 500	**750** 750 650	**860** 860 800	**1050** 1050 950
	100 85 70	**115** 95 80	**125** 105 85	**145** 135 115	**160** 145 130	**250** 230 180	**275** 250 180	**350** 300 240	**400** 350 290	**500** 400 325	**600** 500 400	**700** 600 480	**800** 700 580	**1050** 875 720	**1350** 1150 1000	**1650** 1450 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 80	60 90	60 105	60 125	75 140	100 230	125 250	150 300	200 350	250 400	350 550	400 650	500 750	600 900	800 1350	900 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
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** **E 200 DU** 60...**200**	**TA 450 DU...** 165...**235** 220...**310** **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 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.

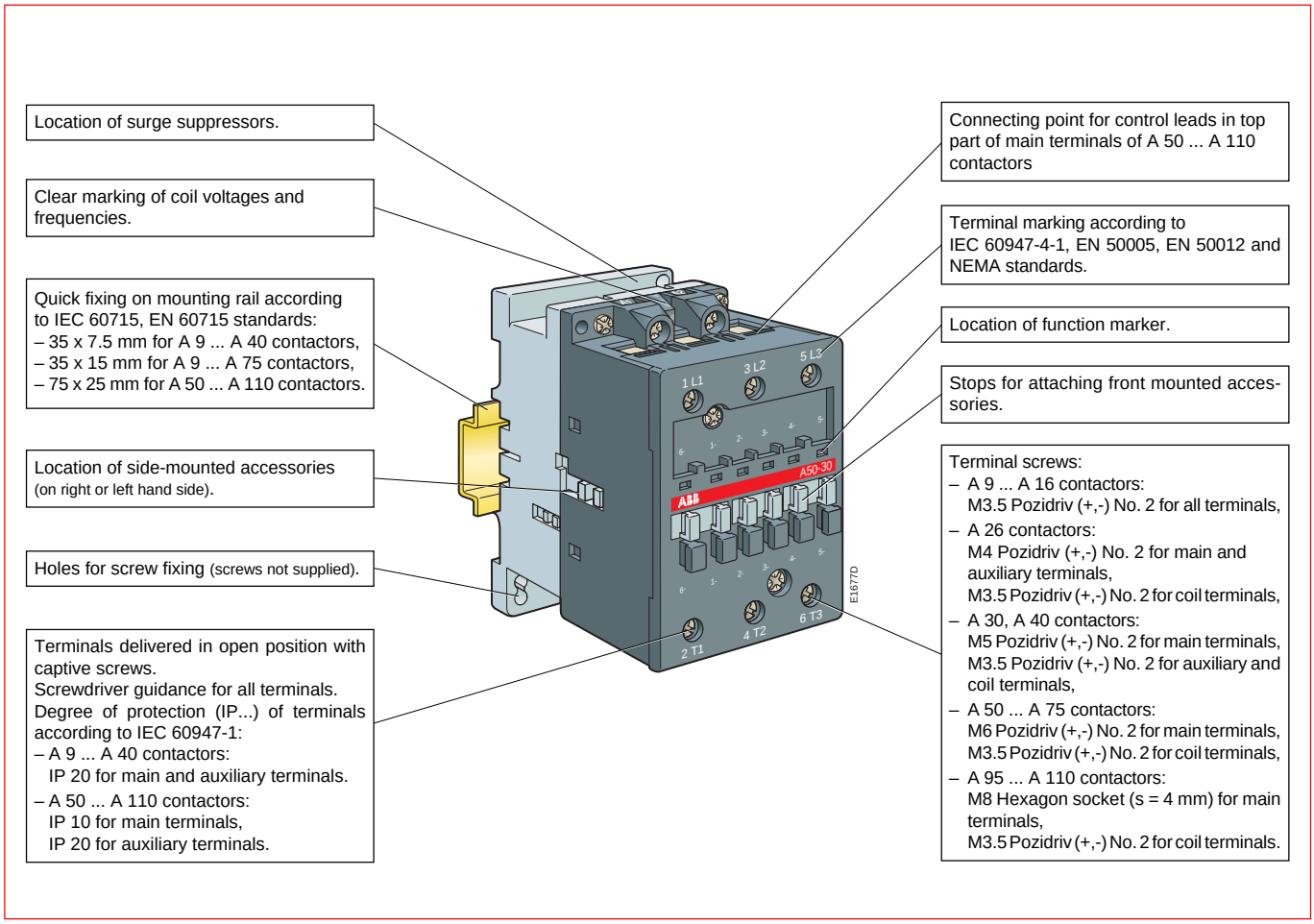
A 50 ... A 110 contactors:
– 3 main poles,
– front and side mounted add-on auxiliary contact blocks.

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.

- Control circuit: a.c. operated with laminated magnet circuit.
- Accessories: a wide range of accessories is available

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 9-30-10

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	Rated current θ ≤ 40°C	3-Phase motor rating	General use rating	1st stack	2nd stack			
AC-3	AC-1	480 V	600 V			state coil voltage ⌊⌋ (see table below)	state coil voltage code ☐☐ (see table below)	Packing 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
				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
				1 –	2 2	A 30-30-32 ⌊⌋	1SBL 281 001 R☐☐32	0.770
18.5	60	30	60	1 –	– –	A 40-30-10 ⌊⌋	1SBL 321 001 R☐☐10	0.710
				– 1	– –	A 40-30-01 ⌊⌋	1SBL 321 001 R☐☐01	0.710
				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
30	115	60	90	– –	– –	A 63-30-00 ⌊⌋	1SBL 371 001 R☐☐00	1.160
				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
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
45	145	60	125	– –	– –	A 95-30-00 ⌊⌋	1SFL 431 001 R☐☐00	2.000
				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
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

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: Auxiliary contact 1-pole CA 5-.. (or 1-pole CE 5-..)		Auxiliary contact 4-pole CA 5-..		Pneumatic timer TP .. A		Side mounted accessories: Auxiliary contact 2-pole CAL.. (or 1-pole CEL 18-..)		Interlock unit VM 5-.. or VE 5-..
A 9 ... A 26	**3 0**	**1 0**	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 26	**3 0**	**0 1** (5)									
A 9 ... A 16	**3 0**	**2 2**	–		–		–		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 26	**3 0**	**3 2**									
A 30, A 40	**3 0**	**1 0**	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**	**0 1** (5)									
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	**3 0**	**0 0**	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	**3 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 x CAL 5-11	or	1 x VE 5-2
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	**3 0**	**0 0**	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	**3 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 x CAL 18-11 (or 1 x CEL 18-..)	or	1 x VE 5-2
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

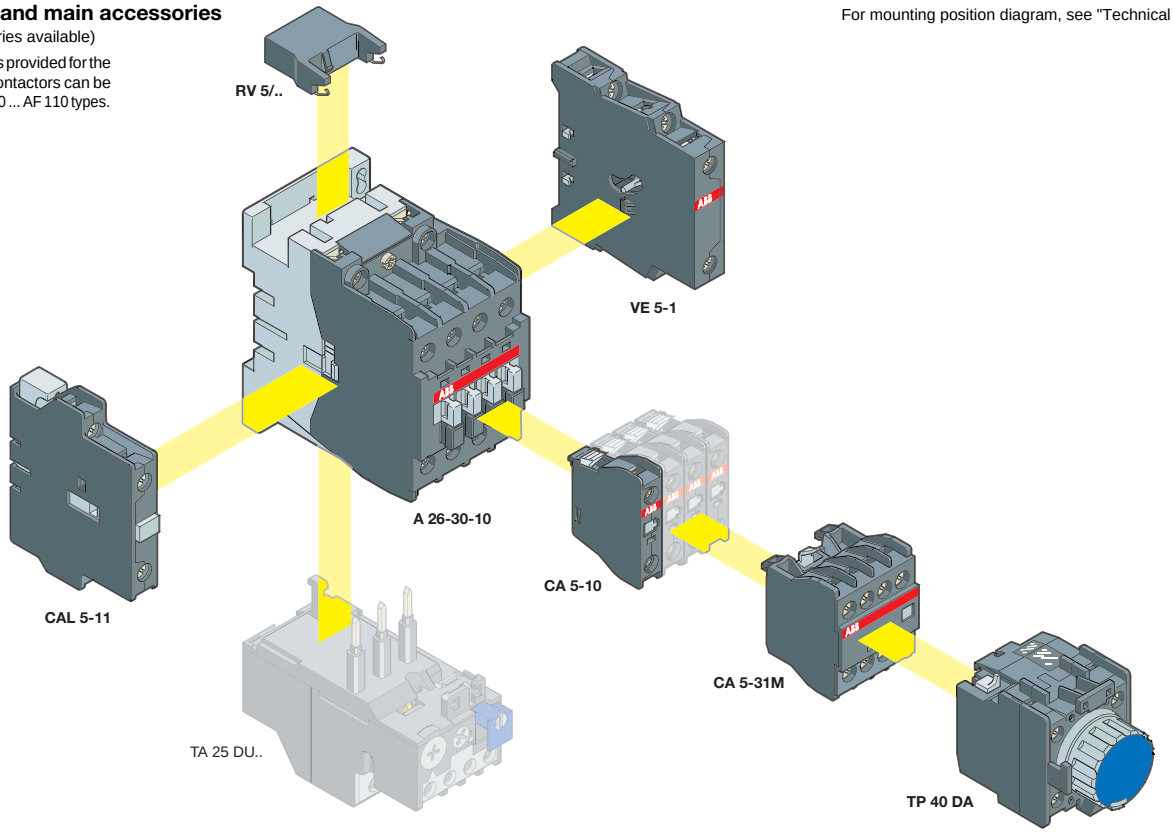
(1) The total number of **N.O.** or **N.C. CE 5-..** and other **additional N.C. CA 5-..** auxiliary contacts is **limited to 2.**
(2) The total number of **N.O.** or **N.C. CE 5-..** and other **additional N.C. CA 5-..** auxiliary contacts is **limited to 3.**
(3) The total number of **N.O.** or **N.C. 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.**

Contactor and main accessories
(other accessories available)

The accessories provided for the A 50 ... A 110 contactors can be used for the AF 50 ... AF 110 types.

For mounting position diagram, see "Technical Data"



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

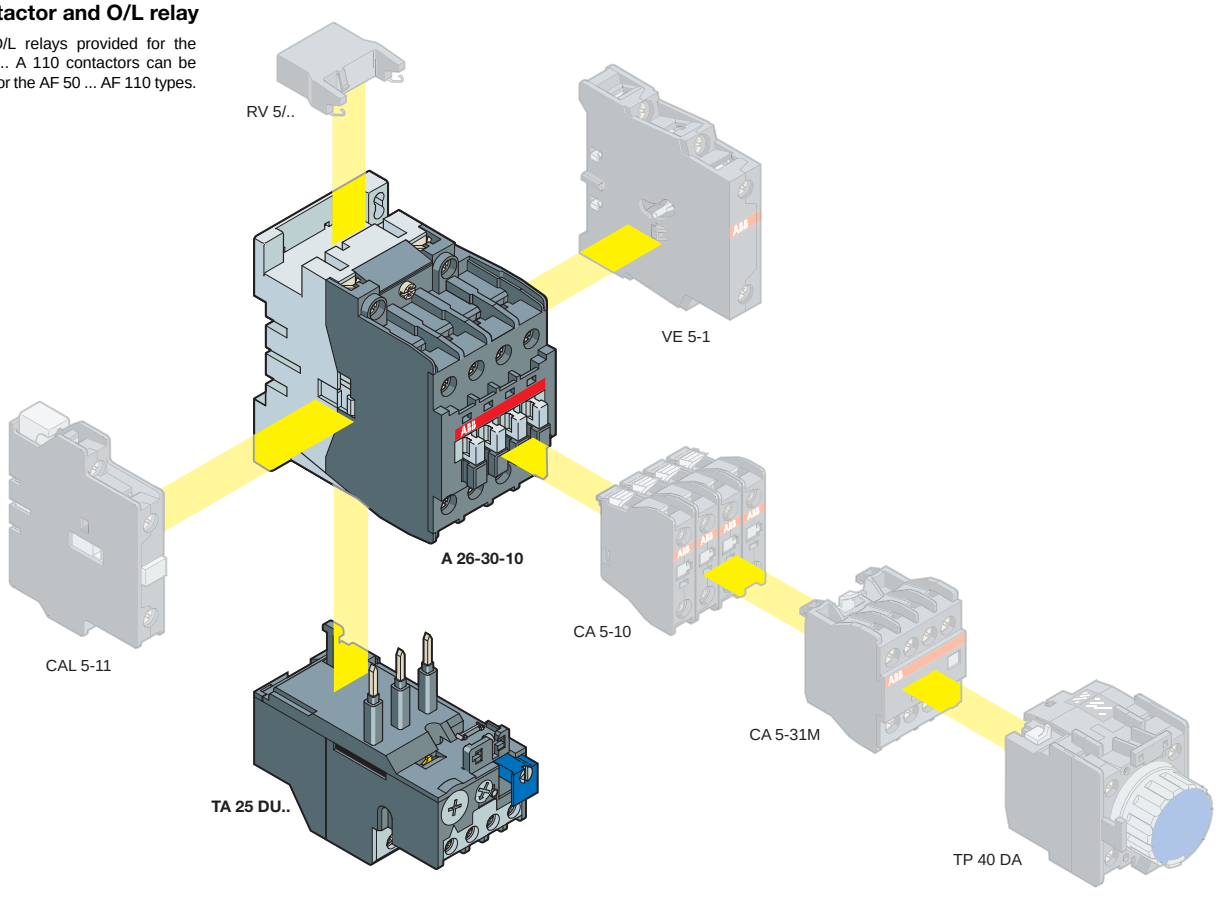
The addition of a thermal O/L relay on the contactor does not prevent fitting of many other accessories as shown below.

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.

Contactor and O/L relay

The O/L relays provided for the A 50 ... A 110 contactors can be used for the AF 50 ... AF 110 types.



Main Pole - Utilization Characteristics acc. to IEC

Contactor types: A...			9	12	16	26	30	40	45	50	63	75	95	110
	AL..., TAL...		9	12	16	26	30	40	–	–	–	–	–	–
	AE..., TAE..., AF...		–	–	–	–	–	–	45	50	63	75	95	110
Rated operational voltage U_e max.		V	690						1000 (690 for AF.. contactors)				1000	
Rated frequency limits		Hz	25 ... 400											
Conventional free-air thermal current I_{th}														
acc. to IEC 60947-4-1, open contactors, θ ≤ 40 °C		A	26	28	30	45	65	65	100	100	125	125	145	160
with conductor cross-sectional area		mm²	4	4	4	6	16	16	35	35	50	50	50	70
Rated operational current I_e / AC-1														
for air temperature close to contactor	θ ≤ **40 °C**	A	**25**	**27**	**30**	**45**	**55**	**60**	**70**	**100**	**115**	**125**	**145**	**160**
U_e max. 690 V - 50/60 Hz	θ ≤ 55 °C	A	22	25	27	40	55	60	60	85	95	105	135	145
	θ ≤ 70 °C (3)	A	18	20	23	32	39	42	50	70	80	85	115	130
with conductor cross-sectional area		mm²	2.5	4	4	6	10	16	25	35	50	50	50	70
Utilization category AC-3														
for air temperature close to contactor ≤ 55 °C														
Max. rated operational current I_e AC-3 (1)														
	220-230-240 V	A	9	12	17	26	33	40	40	53	65	75	96	110
3-phase motors	380-400 V	A	9	12	17	26	32	37	37	50	65	75	96	110
	415 V	A	9	12	17	26	32	37	37	50	65	75	96	110
	440 V	A	9	12	16	26	32	37	37	45	65	70	93	100
	500 V	A	9	12	14	22	28	33	33	45	55	65	80	100
	690 V	A	7	9	10	17 (4)	21 (4)	25 (4)	25	35	43	46	65	82
	1000 V	A	–	–	–	–	–	–	–	23 (6)	25 (6)	28 (6)	30	30
Rated operational power AC-3 (1)														
	220-230-240 V	kW	2.2	3	4	6.5	9	11	11	15	18.5	22	25	30
1500 r.p.m. 50 Hz 1800 r.p.m. 60 Hz 3-phase motors	380-400 V	kW	4	5.5	7.5	11	15	18.5	18.5	22	30	37	45	55
	415 V	kW	4	5.5	9	11	15	18.5	18.5	25	37	40	55	59
	440 V	kW	4	5.5	9	15	18.5	22	22	25	37	40	55	59
	500 V	kW	5.5	7.5	9	15	18.5	22	22	30	37	45	55	59
	690 V	kW	5.5	7.5	9	15 (4)	18.5 (4)	22 (4)	22	30	37	40	55	75
	1000 V	kW	–	–	–	–	–	–	–	30 (6)	33 (6)	37 (6)	40	40
Rated operational current I_e / AC-8a														
without thermal O/L relay - U_e 400 V - θ ≤ 40 °C		A	12	16	22	30	40	50	–	63	85	95	120	140
Rated making capacity AC-3			10 x I_e AC-3 acc. to IEC 60947-4-1											
Rated breaking capacity AC-3			8 x I_e AC-3 acc. to IEC 60947-4-1											
Short-circuit protection for contactors														
without thermal O/L relay - Motor protection excluded (2)														
U_e ≤ 500 V a.c. - gG type fuse		A	25	32	32	50	63		80	100	125	160	160	200
Rated short-time withstand current I_{cw}														
at 40 °C ambient temp., in free air, from a cold state	1 s	A	250	280	300	400	600		1000				1320	1320
	10 s	A	100	120	140	210	400		650				800	800
	30 s	A	60	70	80	110	225		370				500	500
	1 min	A	50	55	60	90	150		250				350	350
	15 min	A	26	28	30	45	65		110	110	135	135	160	175
Maximum breaking capacity (5)														
cos φ = 0.45	at 440 V	A	250			420	820 (5)		900	1300			1160	
(cos φ = 0.35 for I_e > 100 A)	at 690 V	A	90 (5)			170 (5)	340 (5)		490	630			800	
Heat dissipation per pole I_e / AC-1		W	0.8	1	1.2	1.8	2.5	3	2.5	5	6.5	7	6.5	7.5
I_e / AC-3		W	0.1	0.2	0.35	0.6	0.9	1.3	0.65	1.3	1.5	2	2.7	3.6
Max. electrical switching frequency														
– for AC-1		cycles/h	600						600 (300 for AF.., AE... TAE...)				300	
– for AC-3		cycles/h	1200						600 (300 for AF.., AE... TAE...)				300	
– for AC-2, AC-4		cycles/h	300						150				150	
Mechanical durability														
– millions of operating cycles			10 (5 for AE... and TAE... contactors)											
– max. switching frequency		cycles/h	3600 (300 for AF... contactors)											

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m., 50Hz or 1800 r.p.m., 60Hz, 3-phase motors, see "Motor Rated Operational Powers and Currents".
(2) For the protection of motor starters against short circuits, see "Coordination with Short-circuit Protection Devices".
(3) Unauthorized for TAL..., TAE... contactors.
(6) AF... contactors excluded.

(4) **AC-3, 690 V values for AL... and TAL... contactors**

Types		AL 26 TAL 26	AL 30 TAL 30	AL 40 TAL 40
Rated current I_e	A	13	18	21
Rated power	kW	11	15	18.5

(5) **Max. breaking capacity for AL... and TAL... contactors**

Types		AL 9 ... AL 16 TAL 9 ... TAL 16	AL 26 TAL 26	AL 30, AL 40 TAL 30, TAL 40
440 V	A	250	420	470
690 V	A	100	106	175

>> Electrical Durability Curves ..... page 2/81 >> Motor Rated Powers and Currents ..... page 0/0 >> Coordination with SCPD ..... section 7

A... and AF... Contactors
AL..., TAL... and AE..., TAE... Contactors
Technical Data

Main Pole - Utilization Characteristics acc. to UL/CSA

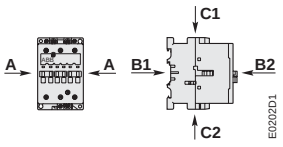
Contactor types:	A...		9	12	16	26	30	40	45	50	63	75	95	110
	AL..., TAL...		9	12	16	26	30	40	–	–	–	–	–	–
	AE..., TAE..., AF...		–	–	–	–	–	–	45	50	63	75	95	110
NEMA size			00	0	–	1	1P	–	2	2	–	3	–	–
General use rating														
Amp-rating	600 V	**A**	21	25	30	40	50	60	80	80	90	105	125	140
3-phase motor rating														
Amp-rating (1)														
	200-208 V	**A**	7.8	11	17.5	25.3	32.2	32.2	48.3	48.3	62.1	78.2	92	92
	220-240 V	**A**	6.8	9.6	15.2	28	28	42	54	54	68	80	80	104
	440-480 V	**A**	7.6	11	14	27	34	40	52	52	77	77	77	96
	550-600 V	**A**	9	11	17	27	32	41	52	52	77	77	77	99
Motor power (1)														
	200-208 V	**hp**	2	3	5	7.5	10	10	15	15	20	25	30	30
	220-240 V	**hp**	2	3	5	10	10	15	20	20	25	30	30	40
	440-480 V	**hp**	5	7.5	10	20	25	30	40	40	60	60	60	75
	550-600 V	**hp**	7.5	10	15	25	30	40	50	50	75	75	75	100
Short-circuit protection for contactors without thermal O/L relay - Motor protection excluded														
Fuse rating		**A**	35	35	60	90	150	150	175	175	200	200	200	200
Fuse type, 600 V			FRS-R								J			
Max. electrical switching frequency														
– for general use		**cycles/h**	600						600 (300 for AF..., AE...)				300	
– for motor use		**cycles/h**	1200						600 (300 for AF..., AE...)				300	

(1) For the corresponding kW/A or hp/A values of 1500 r.p.m., 50Hz or 1800 r.p.m., 60Hz, 3-phase motors, see "Motor Rated Operational Powers and Currents".

General Technical Data

Contactor types:	A...		9	12	16	26	30	40	45	50	63	75	95	110
	AL..., TAL...		9	12	16	26	30	40	–	–	–	–	–	–
	AE..., TAE..., AF...		–	–	–	–	–	–	45	50	63	75	95	110
Rated insulation voltage U_i														
according to IEC 60947-4-1		**V**	1000											
according to UL/CSA		**V**	600											
Rated impulse withstand voltage $U_{imp.}$		**kV**	8											
Standards			Devices complying with IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1											
Air temperature close to contactor			see "Conditions for use", for control voltage limits and authorized mounting positions											
– fitted with thermal O/L relay		**°C**	-25 to +55											
– without thermal O/L relay		**°C**	-40 to +70 (1)											
– for storage		**°C**	-60 to +80										-40 to +70	
Climatic withstand			acc. to IEC 60068-2-30 and 60068-2-11 - UTE C 63-100 specification II										acc. to IEC 68-2-30	
Operating altitude		**m**	≤ 3000											

Shock withstand
acc. IEC 60068-2-27 and EN 60068-2-27
Mounting position 1



1/2 sinusoidal shock for 11 ms: no change in contact position

Shock direction	A 9 ... A 40 contactors Closed position	A 9 ... A 40 contactors Open position	AL 9 ... AL 40 contactors TAL 9 ... TAL 40 contactors Closed position	AL 9 ... AL 40 contactors TAL 9 ... TAL 40 contactors Open position	A 45 ... A 110 and AF 45 ... AF 110 contactors AE 45 ... AE 110 and TAE 45 ... TAE 110 contactors Closed position	A 45 ... A 110 and AF 45 ... AF 110 contactors AE 45 ... AE 110 and TAE 45 ... TAE 110 contactors Open position
A	20 g	20 g	20 g	10 g	20 g	20 g
B1	10 g	5 g	15 g	5 g	10 g	5 g (2)
B2	15 g	15 g	10 g	10 g	15 g (3)	15 g (3)
C1	20 g	20 g	20 g	8 g	20 g	20 g
C2	20 g	20 g	14 g	8 g	20 g	20 g

Note : for A 95, AE 95, TAE 95, AF 95 A 110, AE110, TAE110, AF 110 contactors, these values are not valid for rail mounting.

(1) 55 °C max. for TAL... and TAE... contactors

(2) 3 g for AF 45-22, AE 45-22, AF 75-22 and AE 75-22
(3) 10 g for AF 45-22, AE 45-22, AF 75-22 and AE 75-22

>> Motor Rated Powers and Currents ..... page 0/0
>> Motor Protection ..... section 5
>> Certification - Approvals ..... section 7
>> Conditions for Use ..... page 2/72
>> Mounting Positions ..... page 2/72
>> Dimensions ..... section 9

Magnet System Characteristics for A... Contactors

Contactor types: A...			**9**	**12**	**16**	**26**	**30**	**40**	**45**	**50**	**63**	**75**	**95**	**110**
Rated control circuit voltage U_c														
– at 50 Hz		**V**	24 ... 690											
– at 60 Hz		**V**	24 ... 690											
Coil operating limits acc. to IEC 60947-4-1			0.85 ... 1.1 x **U_c** (at θ ≤ 55 °C)										0.85 ... 1.1 x **U_c** (at θ ≤ 70 °C)	
			Please also refer to "Conditions for Use"											
Drop-out voltage in % of **U_c**			approx. 40 ... 65 %											
Coil consumption														
Average pull-in value	50 Hz	**VA**	70			120			180				350	
	60 Hz	**VA**	80			140			210				450	
	50/60 Hz(1)	**VA/VA**	74/70			125/120			190/180				410/365	
Average holding value	50 Hz	**VA/W**	8/2			12/3			18/5.5				22/6.5	
	60 Hz	**VA/W**	8/2			12/3			18/5.5				26/8	
	50/60 Hz(1)	**VA/W**	8/2			12/3			18/5.5				27/7.5	
Operating time														
between coil energization and:														
– N.O. contact closing		**ms**	10 ... 26			8 ... 21			8 ... 27				10 ... 25	
– N.C. contact opening		**ms**	7 ... 21			6 ... 18			7 ... 22				7 ... 22	
between coil de-energization and:														
– N.O. contact opening		**ms**	4 ... 11			4 ... 11			4 ... 11				7 ... 15	
– N.C. contact closing		**ms**	9 ... 16			7 ... 14			7 ... 14				10 ... 18	

(1) 50/60 Hz coils: see "Coil Voltage Code Table".

Magnet System Characteristics for AF... Contactors

Contactor types: AF...			**–**	**–**	**–**	**–**	**–**	**–**	**45**	**50**	**63**	**75**	**95**	**110**
Rated control circuit voltage U_c														
– at 50 Hz		**V**							48 ... 250				48 ... 250	
– at 60 Hz		**V**							48 ... 250				48 ... 250	
– d.c.		**V**							20 ... 250				20 ... 250	
Coil operating limits acc. to IEC 60947-4-1									0.85 x **U_c** min. ... 1.1 x **U_c** max. (at θ ≤ 70 °C)					
									Please also refer to "Conditions for Use"					
Drop-out voltage in % of **U_c** min.									55 %					
Coil consumption														
Average pull-in value	50 Hz	**VA**							210				350	
	60 Hz	**VA**							210				350	
	d.c.	**W**							190				400	
Average holding value	50 Hz	**VA/W**							7/2.8				7/3.5	
	60 Hz	**VA/W**							7/2.8				7/3.5	
	d.c.	**W**							2.8				2	
Operating time														
between coil energization and:														
– N.O. contact closing		**ms**							30 ... 100				30 ... 80	
– N.C. contact opening		**ms**							27 ... 95				27 ... 77	
between coil de-energization and:														
– N.O. contact opening		**ms**							30 ... 110				55 ... 125	
– N.C. contact closing		**ms**							35 ... 115				60 ... 130	

>> Coil Voltage Code Table ..... page 0/1 >> Conditions for Use ..... page 2/72 >> Terminal Marking and Positioning ..... section 8

Built-in Auxiliary Contacts - Other auxiliary contacts see "Accessories"

Utilization characteristics acc. to IEC

Contactor types: A..., AL..., TAL...		9	12	16	26	30	40
AL..Z...		9	12	16	–	–	–
Rated operational voltage U_e max.	**V**	690					
Conventional free air thermal current I_{th} - $\theta \leq 40$ °C	**A**	16					
Rated frequency limits	**Hz**	25 ... 400					
Rated operational current I_e / AC-15 according to IEC 60947-5-1							
24-127 V 50/60 Hz	**A**	6					
220-240 V 50/60 Hz	**A**	4					
380-440 V 50/60 Hz	**A**	3					
500 V 50/60 Hz	**A**	2					
690 V 50/60 Hz	**A**	2					
Rated operational current I_e / DC-13 according to IEC 60947-5-1							
24 V d.c.	**A**	6 (144 W)					
48 V d.c.	**A**	2.8 (134 W)					
72 V d.c.	**A**	2 (144 W)					
110 V d.c.	**A**	1.1 (121 W)					
125 V d.c.	**A**	1.1 (138 W)					
220 V d.c.	**A**	0.55 (121 W)					
250 V d.c.	**A**	0.55 (138 W)					
Making capacity acc. to IEC 60947-5-1		10 x I_e / AC-15					
Breaking capacity acc. to IEC 60947-5-1		10 x I_e / AC-15					
Short-circuit protection gG type fuse	**A**	10					
Rated short-time withstand current I_{cw}							
for 1.0 s	**A**	100					
for 0.1 s	**A**	140					
Minimum switching capacity	**V / mA**	17 / 5 (1)					
Non-overlapping time between N.O. and N.C. contacts	**ms**	≥ 2					
Heat dissipation per pole at 6 A	**W**	0.10					

(1) For AL..., AL..Z..., TAL... contactors, failure rate ≤ 10^{-7} according to IEC 60947-5-4.

Utilization characteristics acc. to UL/CSA

Contactor types: A..., AL..., TAL...	9	12	16	26	30	40
AL..Z...	9	12	16	–	–	–
Max. rated voltage **V**	600					
Pilot duty	A 600, P 300					

>> Electrical Durability Curves ..... section 4 >> Auxiliary Contacts for Safety Circuits .... page 2/63 >> Terminal Marking and Positioning ..... section 8

Mounting Characteristics

Contactor types:	**A...**	**9**	**12**	**16**	**26**	**30**	**40**	**45**	**50**	**63**	**75**	**95**	**110**
	AL..., TAL...	**9**	**12**	**16**	**26**	**30**	**40**	**–**	**–**	**–**	**–**	**–**	**–**
	AE..., TAE..., AF...	**–**	**–**	**–**	**–**	**–**	**–**	**45**	**50**	**63**	**75**	**95**	**110**
Mounting positions		see "Conditions for use"											
Mounting distances		The contactors can be assembled side by side - Except for TAL... contactors: see "Dimensions"											
Fixing													
on rail		⊓ 35 x 7.5 mm						⊓ 35 x 15 mm				⊓	
according to IEC 60715, EN 60715		⊓ 35 x 15 mm						⊓ 75 x 25 mm				75 x 25 mm	
by screws (not supplied)		2 x M4						2 x M6					

Conditions for Use

Sustainable utilization conditions for contactors involving at the same time the Mounting position, Ambient temperature and Control voltage operating limits are summarized in the table below.

Contactor types:	**A...,**	**9**	**12**	**16**	**26**	**30**	**40**	**45**	**50**	**63**	**75**	**95**	**110**
	AL...	**9**	**12**	**16**	**26**	**30**	**40**	**–**	**–**	**–**	**–**	**–**	**–**
	AE...	**–**	**–**	**–**	**–**	**–**	**–**	**45**	**50**	**63**	**75**	**95**	**110**
Control voltage / Ambient temperature													
Mounting positions 1, 2, 3, 4, 5	**≤ 55 °C**	0.85 ... 1.1 x **U_c**											
	55 ... 70 °C	**U_c**										0.85 ... 1.1 x **U_c**	
Mounting pos. 1 ± 30° (unauthorized for **AL..Z...** types)	**≤ 55 °C**	0.85 ... 1.1 x **U_c**											
	55 ... 70 °C	**U_c**										0.85 ... 1.1 x **U_c**	
Mounting pos. 6 (Position 6 unauthorized for **AL...** and **AL..Z...** types)	**≤ 55 °C**	0.95 ... 1.1 x **U_c**											
	> 55 °C	unauthorized											
Contactor types:	**TAL...**	**9**	**12**	**16**	**26**	**30**	**40**	**–**	**–**	**–**	**–**	**–**	**–**
	TAE...	**–**	**–**	**–**	**–**	**–**	**–**	**45**	**50**	**–**	**75**	**95**	**110**
Control voltage / Ambient temperature													
Mounting positions 1, 1 ± 30°, 2, 3, 4, 5	**≤ 55 °C**	**U_c** min. ... **U_c** max.											
	> 55 °C	unauthorized											
Mounting pos. 6	**–**	unauthorized											
Contactor types:	**AF...**	**–**	**–**	**–**	**–**	**–**	**–**	**45**	**50**	**63**	**75**	**95**	**110**
Control voltage / Ambient temperature													
Mounting positions 1, 1 ± 30°, 2, 3, 4, 5	**≤ 70 °C**	–	–	–	–	–	–	0.85 x **U_c** min. ... 1.1 x **U_c** max.					
Mounting pos. 6	**–**	–	–	–	–	–	–	unauthorized					

Notes for 4-pole contactors

Whatever the coil voltage: Pos. 5 unauthorized for AL 9-22-00, AL 16-22-00, AL 26-22-00, TAL 9-22-00, TAL 16-22-00, TAL 26-22-00, A 45-22-00, AE 45-22-00, AF 45-22-00, A 75-22-00, AE 75-22-00, AF 75-22-00 contactors.

For 60 Hz coil voltage: (only for devices fitted with CA 5-.. and CAL 5-11 auxiliary contacts or TP timer)

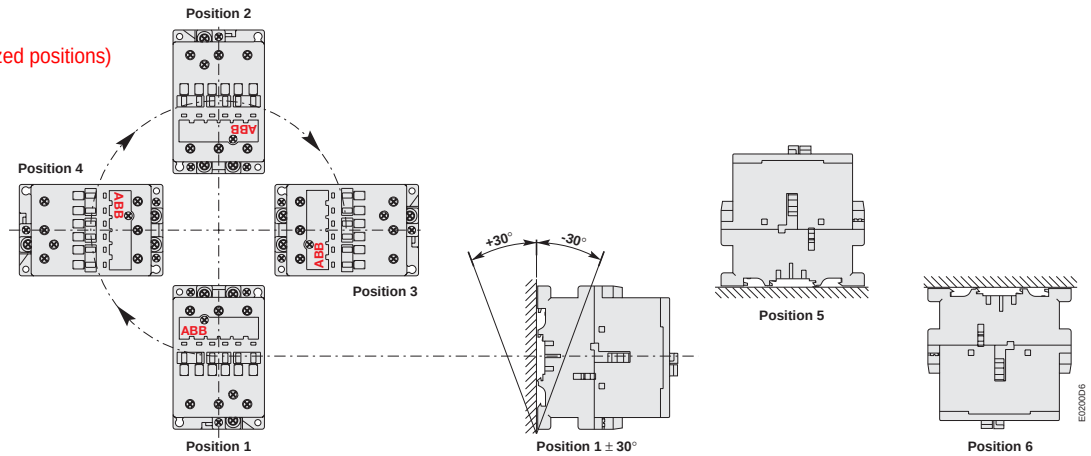
– A 45-40-00, A 50-40-00 and A 75-40-00 contactors
Mounting positions 1 to 5 and ambient temperature ≤ 55 °C: tolerance reduced to 0.9 ... 1.1 **U_c** (instead of 0.85 ... 1.1 **U_c**) for coil voltage codes **7** ☐ and **8** ☐.

– A 45-22-00 and A 75-22-00 contactors
Mounting positions 1 to 4 and ambient temperature ≤ 55 °C: tolerance reduced to 0.9 ... 1.1 **U_c** (instead of 0.85 ... 1.1 **U_c**) for coil voltage codes **7** ☐ and **8** ☐.

For mounting position 6 or ambient temperature of 55 to 70 °C the information given on this page remains applicable.

Mounting Positions

(see the above table for authorized positions)

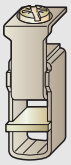


Connecting Characteristics

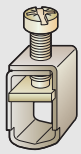
Contactor types:													
	A...	9	12	16	26	30	40	45	50	63	75	95	110
	AL..., TAL...	9	12	16	26	30	40	–	–	–	–	–	–
	AE..., TAE..., AF...	–	–	–	–	–	–	45	50	63	75	95	110

Main terminals

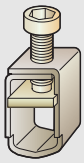
with cable clamp



with double connector
2 x (5.6 x 6.5 mm)



with single connector
(13 x 10 mm)



with single connector
(14 x 14 mm)

Connecting capacity (min. ... max.)													
Main conductors (poles)													
Rigid: solid (≤ 4 mm²)	**1 x mm²**	1 ... 4			1.5 ... 6	2.5 ... 16		6 ... 50				10 ... 95	
stranded (≥ 6 mm²)	**2 x mm²**	1 ... 4			1.5 ... 6	2.5 ... 16		6 ... 25				6 ... 35	
Rigid with connector													
single for Cu cable	**mm²**	–	–	–	–	–	–	–	–	–	–	–	–
single for Al/Cu cable	**mm²**	–	–	–	–	–	–	–	–	–	–	–	–
double for Al/Cu cable	**mm²**	–	–	–	–	–	–	–	–	–	–	–	–
Flexible with cable end	**1 x mm²**	0.75 ... 2.5			0.75 ... 4	2.5 ... 10		6 ... 35				10 ... 70	
	2 x mm²	0.75 ... 2.5			0.75 ... 4	2.5 ... 10		6 ... 16				6 ... 35	
Bars or lugs	L **mm** ≤	7.7			10	–	–	–	–	–	–	30 (2)	
	l **mm** >	3.7			4.2	–	–	–	–	–	–	6	
Capacity acc. to **UL/CSA**	**AWG**	10-18			8-12	4-8		1-8				6-2/0	
Auxiliary conductors (built-in auxiliary terminals + coil terminals)													
Rigid solid	**1 x mm²**	1 ... 4										0.75 ... 2.5	
	2 x mm²	1 ... 4										0.75 ... 2.5	
Flexible with cable end	**1 x mm²**	0.75 ... 2.5						1 ... 2.5				0.75 ... 2.5	
	2 x mm²	0.75 ... 2.5											
Lugs	L **mm** ≤	7.7			(1)	8							
	l **mm** >	3.7			(1)	3.7							
Capacity acc. to **UL/CSA**	**AWG**	18-14											
Degree of protection acc. to IEC 60947-1 / EN 60947-1 and IEC 60529 / EN 60529		Protection against direct contact in acc. with EN 50274											
– Main terminals		IP 20						IP 10					
– Coil terminals		IP 20											
– Built-in auxiliary terminals		IP 20						–	–	–	–	–	–
Screw terminals		(delivered in open position, screws of unused terminals must be tightened)											
Main terminals		(+,-) pozidriv 2 screws										hexagon socket	
		M3.5			M4	M5		M6				M8 (s = 4 mm)	
Coil terminals		M3.5 (+,-) pozidriv 2 screws with cable clamp											
Built-in auxiliary terminals		(+,-) pozidriv 2 screws with cable clamp						–	–	–	–	–	–
		M3.5			M4	M3.5		–	–	–	–	–	–
Tightening torque													
Main pole terminals													
– recommended	**Nm / lb.in**	1.00 / 9			1.7 / 15	2.30 / 20		4.00 / 35				6.00 / 53	
– max.	**Nm**	1.20			2.20	2.60		4.50				6.50	
Coil terminals													
– recommended	**Nm / lb.in**	1.00 / 9											
– max.	**Nm**	1.20											
Built-in auxiliary terminals													
– recommended	**Nm / lb.in**	1.00 / 9			1.7 / 15	1.00 / 9		–	–	–	–	–	–
– max.	**Nm**	1.20			2.20	1.20		–	–	–	–	–	–

(1) L ≤ 8 and l > 3.7 for coil terminals - L ≤ 10 and l > 4.2 for built-in auxiliary terminals.
(2) With LW 110 enlargement piece: see "Accessories".

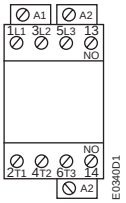
>> Terminal Marking and Positioning ..... section 8 >> Accessories ..... section 4

Terminal Marking and Positioning

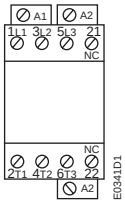
A 9 ... A 110 and AF 50 ... AF 110 3-pole Contactors

A 9 ... A 110 Contactors - a.c. operated

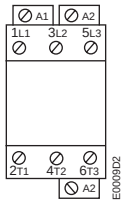
Standard devices without addition of auxiliary contacts



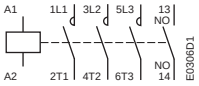
A9 ... A40-30-10



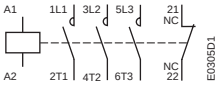
A9 ... A40-30-01



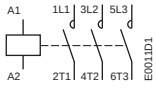
A50 ... A110-30-00



A9 ... A40-30-10

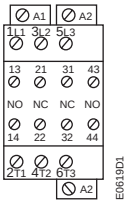


A9 ... A40-30-01

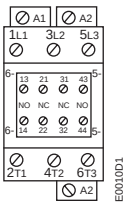


A50 ... A110-30-00

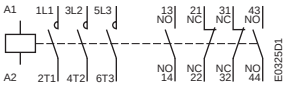
Standard devices with factory mounted auxiliary contacts



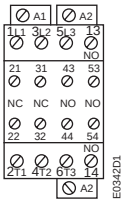
A9 ... A16-30-22



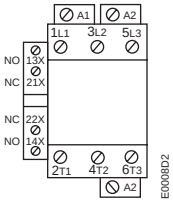
A50 ... A110-30-22



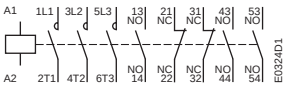
A9 ... A16-30-22
A50 ... A110-30-22



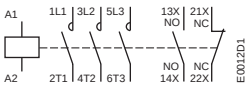
A9 ... A40-30-32



A50 ... A110-30-11

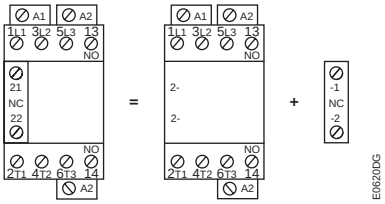


A9 ... A40-30-32

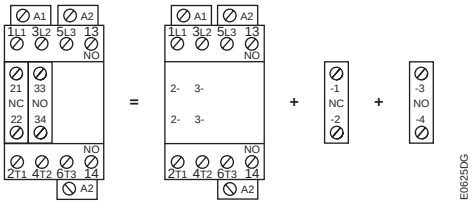


A50 ... A110-30-11

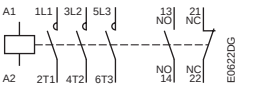
Other possible contact combinations with auxiliary contacts added by the user



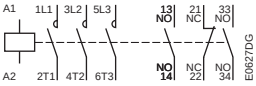
Combination 11 = A9 ... A40-30-10 + CA5-01



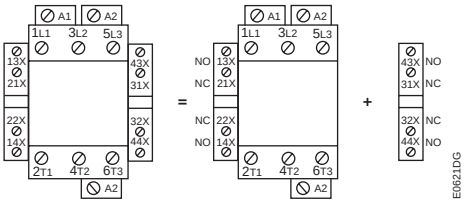
Combination 21 = A9 ... A40-30-10 + CA5-01 + CA5-10



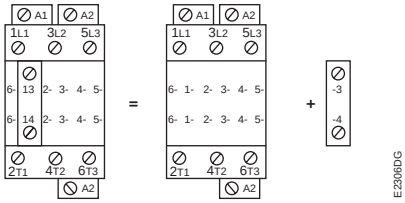
Combination 11



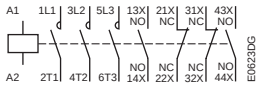
Combination 21



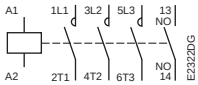
Combination 22 = A50 ... A75-30-11 + CAL5-11



Combination 10 = A50 ... A75-30-00 + CA5-10



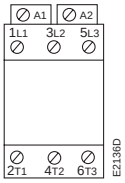
Combination 22



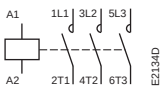
Combination 10

AF 50 ... AF 110 Contactors - a.c. / d.c. operated

Standard devices without addition of auxiliary contacts

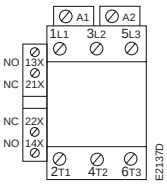


AF50 ... AF110-30-00

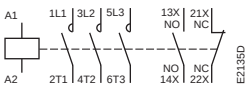


AF50 ... AF110-30-00

Standard devices with factory mounted auxiliary contacts

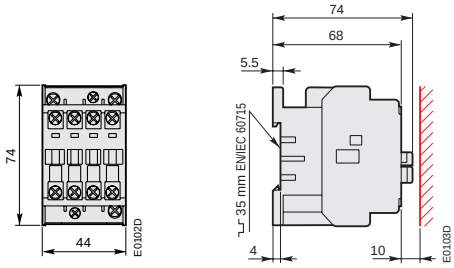


AF50 ... AF110-30-11

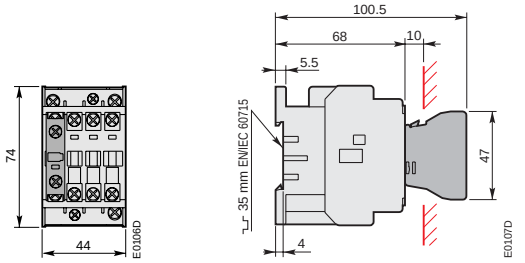


AF50 ... AF110-30-11

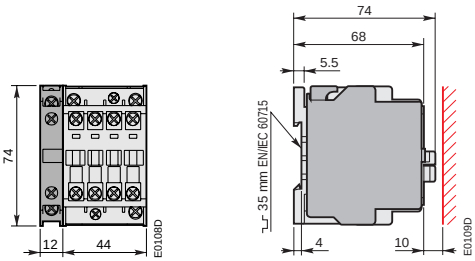
Dimensions (in mm)



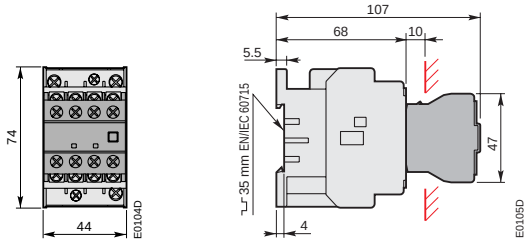
A 9, A 12, A 16



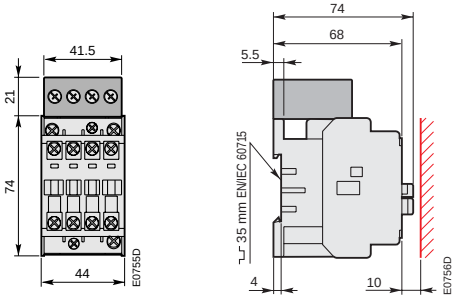
A 9, A 12, A 16
+ CA 5 front-mounted 1-pole auxiliary contact block



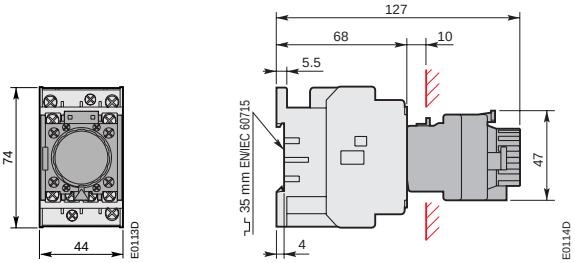
A 9, A 12, A 16
+ CAL 5 side-mounted 2-pole auxiliary contact block



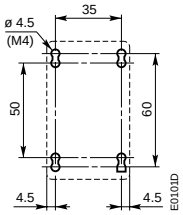
A 9, A 12, A 16
+ CA 5 front-mounted 4-pole auxiliary contact block
and corresponding 2-stack versions



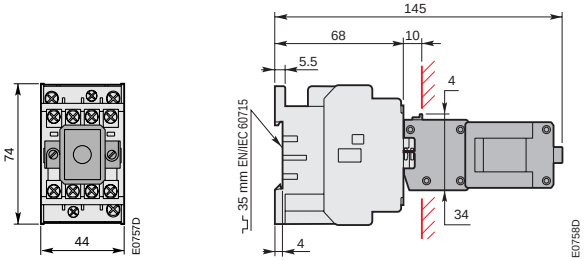
A 9, A 12, A 16
+ RA 5 interface relay



A 9, A 12, A 16
+ TP pneumatic timer

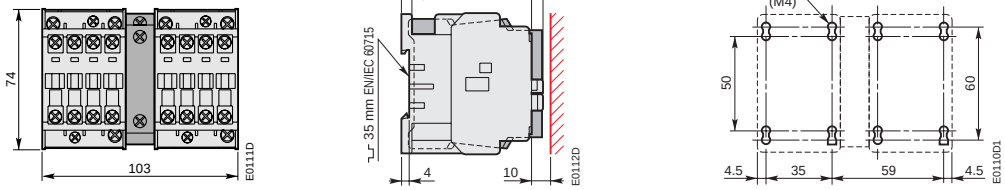


A 9, A 12, A 16 drilling plan

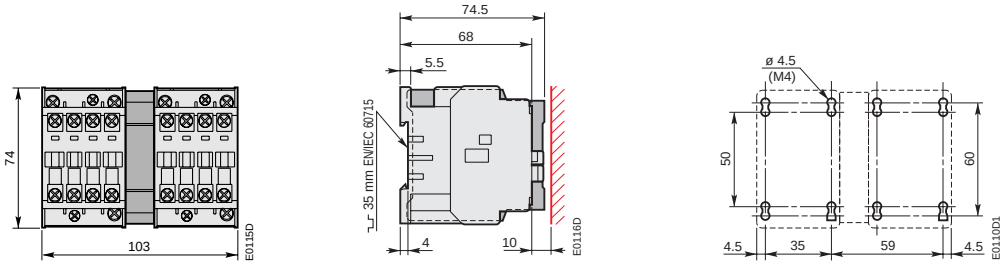


A 9, A 12, A 16
+ WB 75-A on-position latch

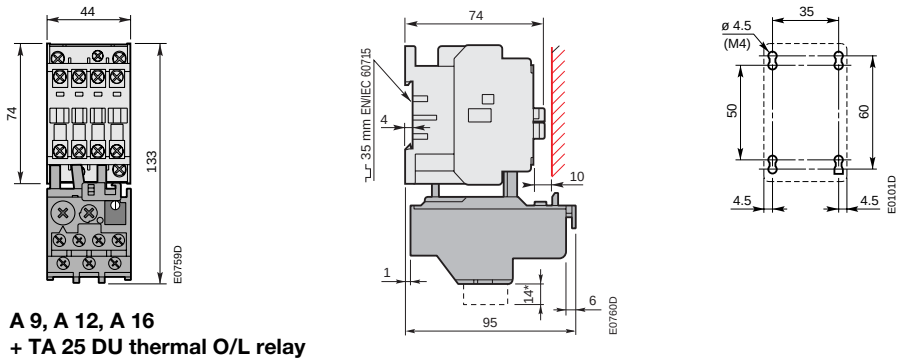
Dimensions (in mm)



A 9, A 12, A 16
+ VE 5-1 electrical and mechanical interlock unit



A 9, A 12, A 16
+ VM 5-1 mechanical interlock unit

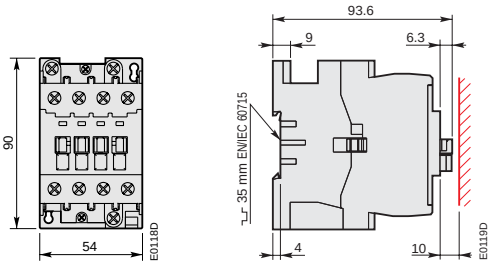


A 9, A 12, A 16
+ TA 25 DU thermal O/L relay

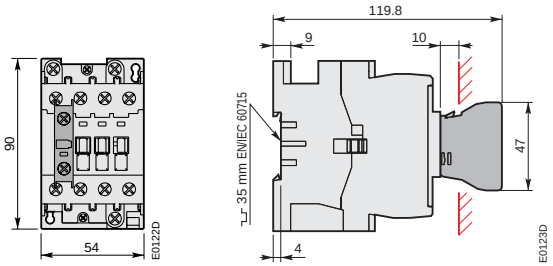
* For TA 25 DU 32 only

9

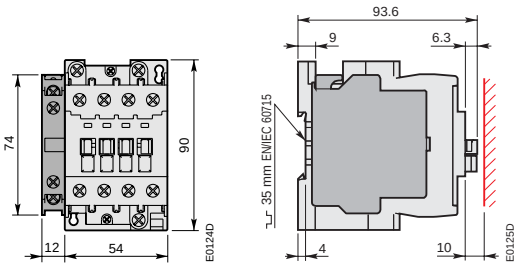
Dimensions (in mm)



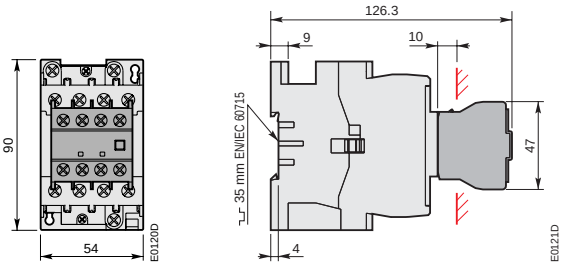
A 26



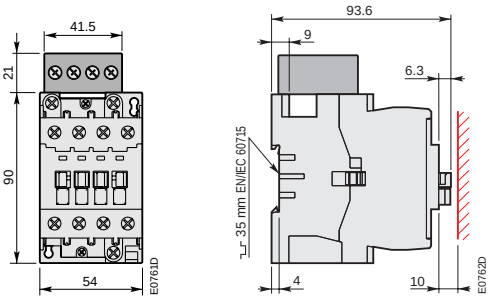
A 26
+ CA 5 front-mounted 1-pole auxiliary contact block



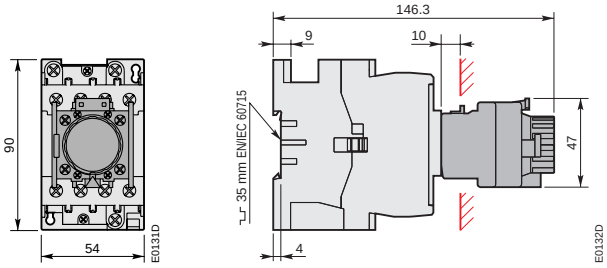
A 26
+ CAL 5 side-mounted 2-pole auxiliary contact block



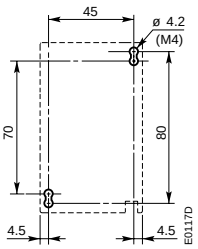
A 26
+ CA 5 front-mounted 4-pole auxiliary contact block
and corresponding 2-stack versions



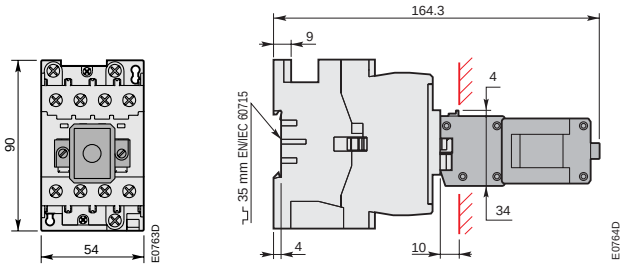
A 26
+ RA 5 interface relay



A 26
+ TP pneumatic timer

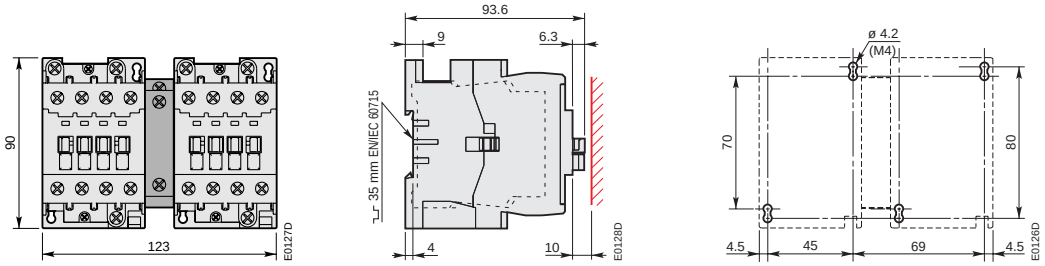


A 26 drilling plan

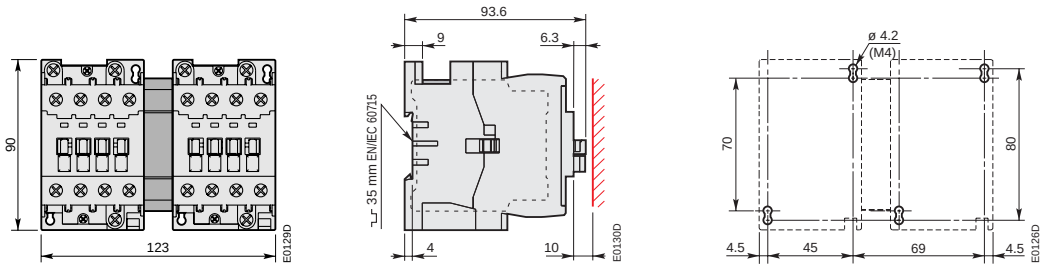


A 26
+ WB 75-A on-position latch

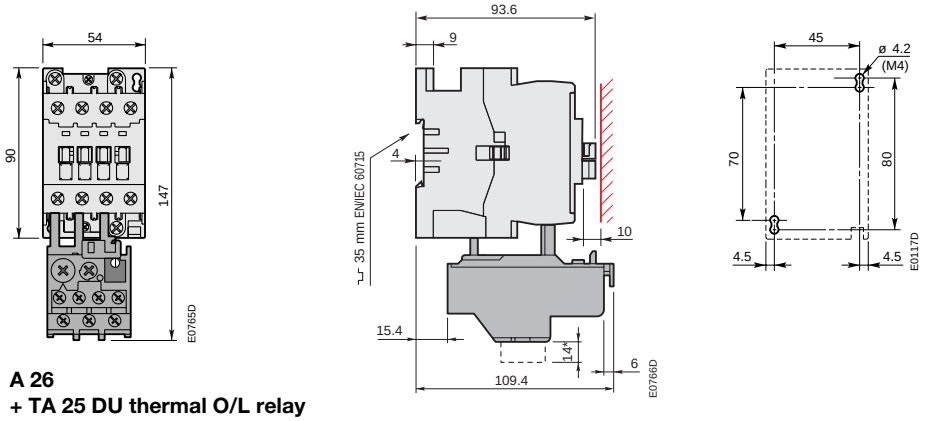
Dimensions (in mm)



A 26
+ VE 5-1 electrical and mechanical interlock unit



A 26
+ VM 5-1 mechanical interlock unit

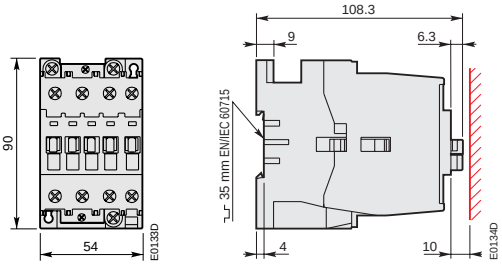


A 26
+ TA 25 DU thermal O/L relay

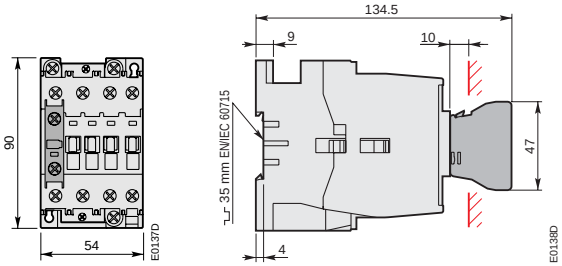
* For TA 25 DU 32 only

9

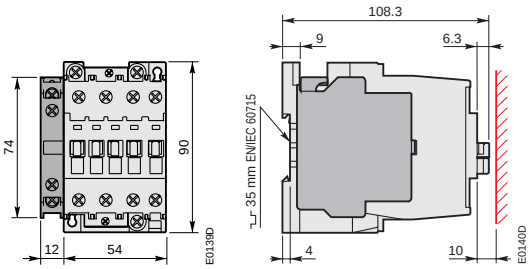
Dimensions (in mm)



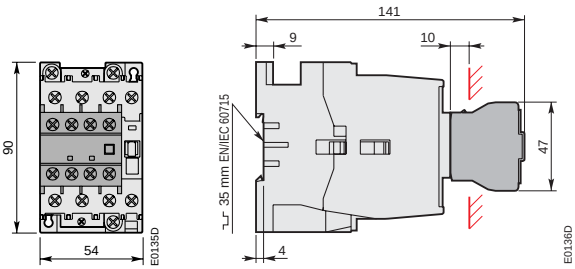
A 30, A 40



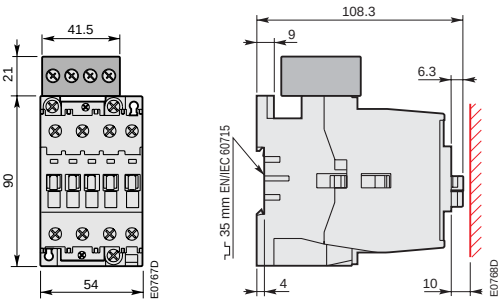
A 30, A 40
+ CA 5 front-mounted 1-pole auxiliary contact block



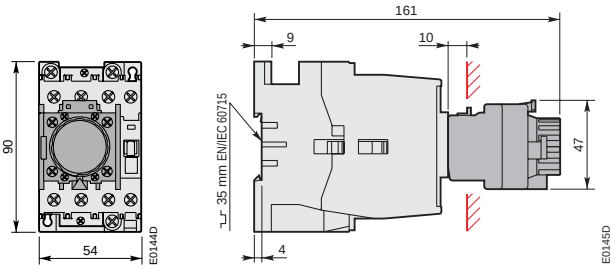
A 30, A 40
+ CAL 5 side-mounted 2-pole auxiliary contact block



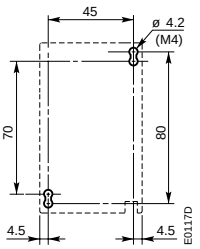
A 30, A 40
+ CA 5 front-mounted 4-pole auxiliary contact block
and corresponding 2-stack versions



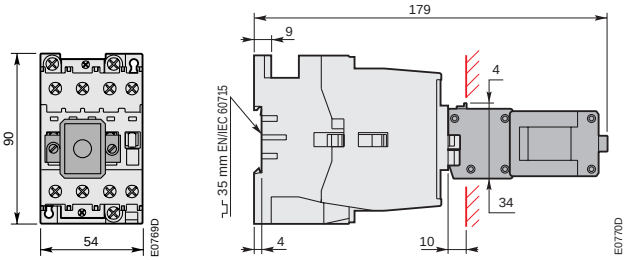
A 30, A 40
+ RA 5 interface relay



A 30, A 40
+ TP pneumatic timer

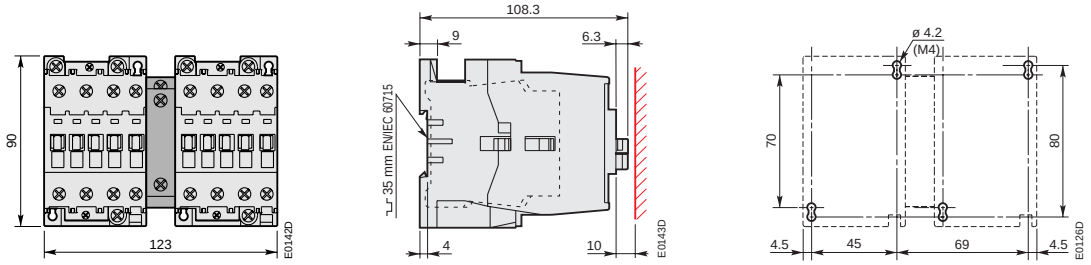


A 30, A 40 drilling plan

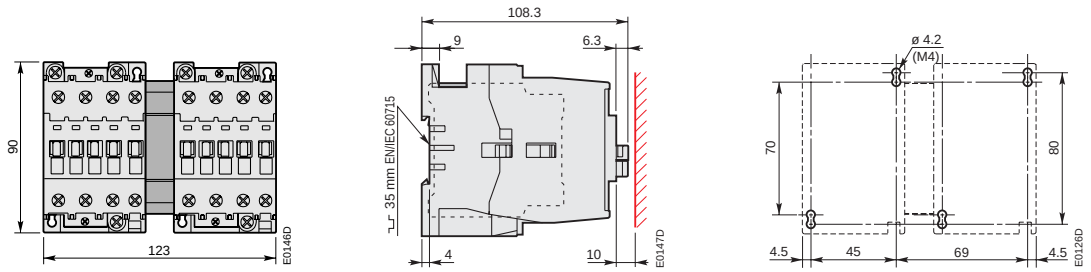


A 30, A 40
+ WB 75-A on-position latch

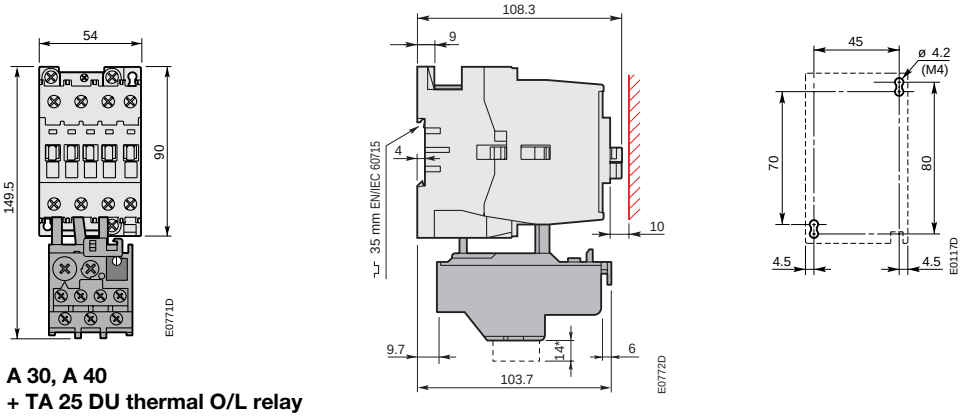
Dimensions (in mm)



A 30, A 40
+ VE 5-1 electrical and mechanical interlock unit

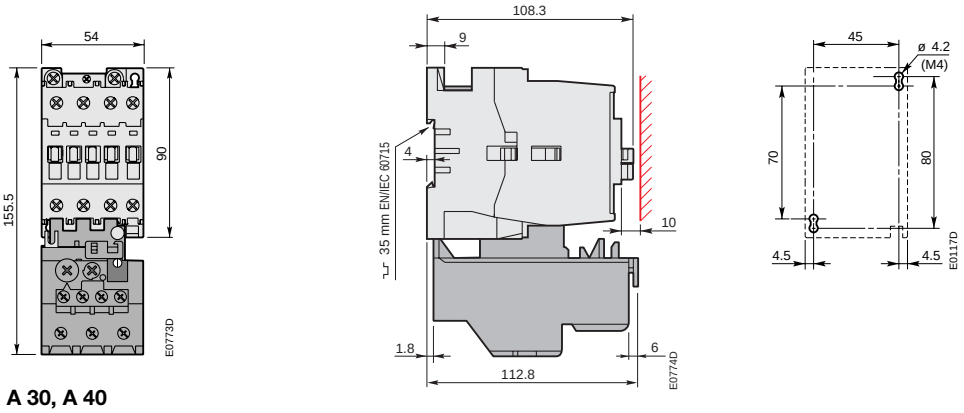


A 30, A 40
+ VM 5-1 mechanical interlock unit



A 30, A 40
+ TA 25 DU thermal O/L relay

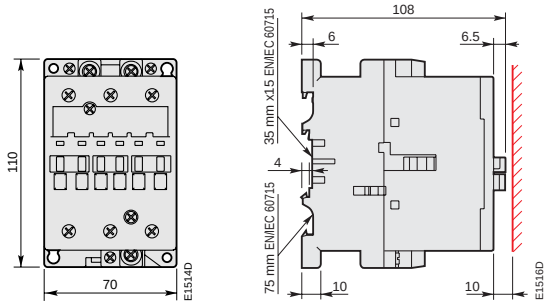
* For TA 25 DU 32 only



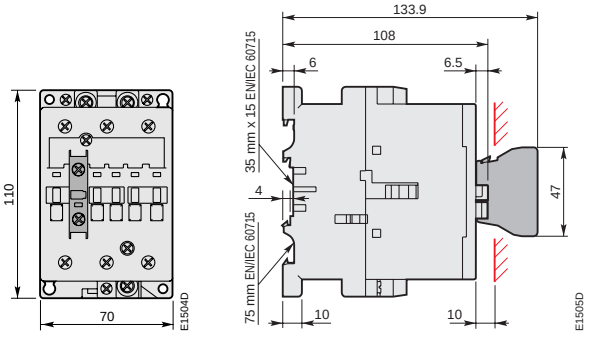
A 30, A 40
+ TA 42 DU thermal O/L relay

9

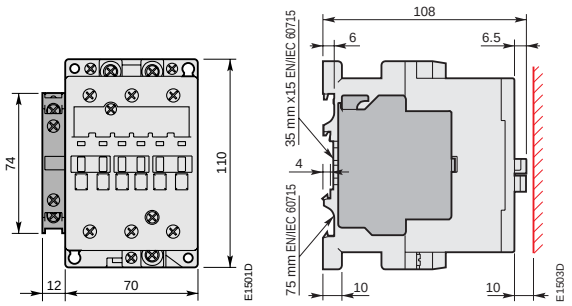
Dimensions (in mm)



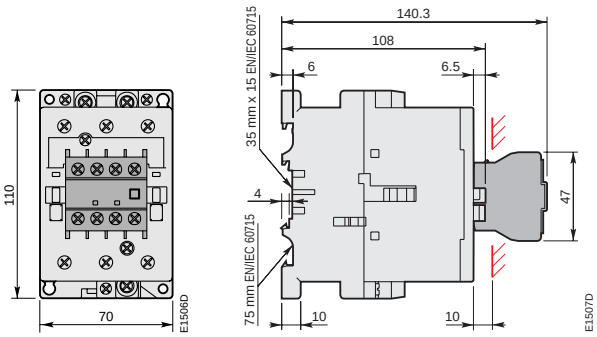
A 50, A 63, A 75, AF 50, AF 63, AF 75



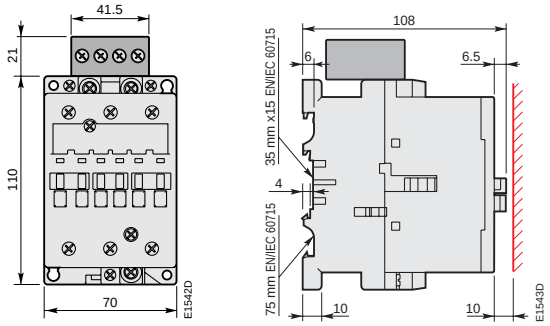
A 50, A 63, A 75, AF 50, AF 63, AF 75
+ CA 5 front-mounted 1-pole auxiliary contact block



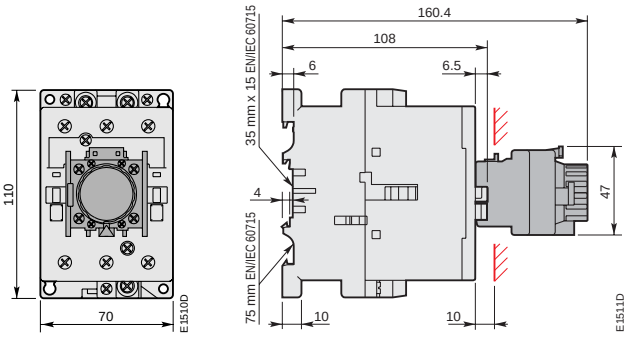
A 50, A 63, A 75, AF 50, AF 63, AF 75
+ CAL 5 side-mounted 2-pole auxiliary contact block



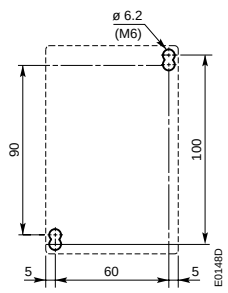
A 50, A 63, A 75, AF 50, AF 63, AF 75
+ CA 5 front-mounted 4-pole auxiliary contact block
and corresponding 2-stack versions



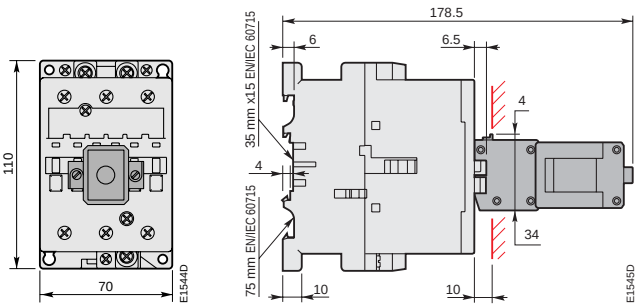
A 50, A 63, A 75, AF 50, AF 63, AF 75
+ RA 5 interface relay



A 50, A 63, A 75, AF 50, AF 63, AF 75
+ TP pneumatic timer

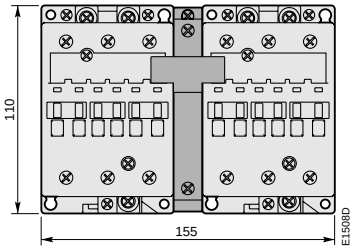


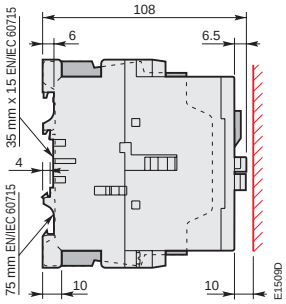
A 50, A 63, A 75, AF 50, AF 63, AF 75 drilling plan

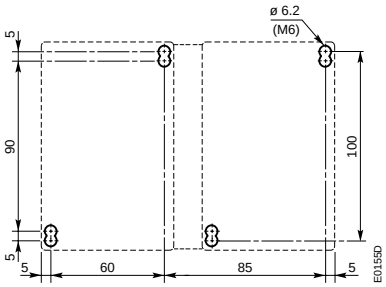


A 50, A 63, A 75, AF 50, AF 63, AF 75
+ WB 75-A on-position latch

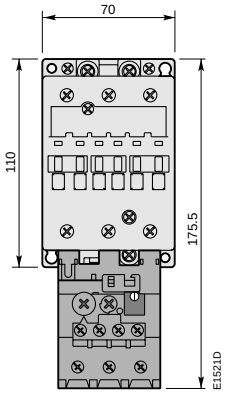
Dimensions (in mm)

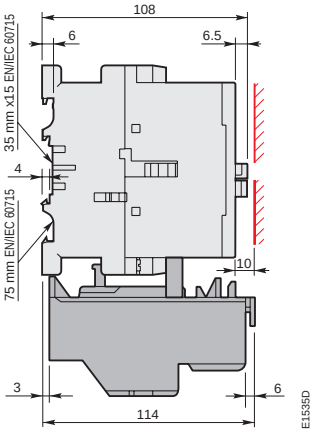


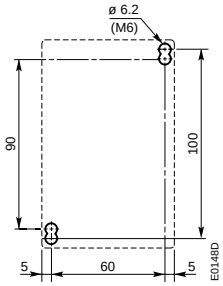




A 50, A 63, A 75, AF 50, AF 63, AF 75
+ VE 5-2 electrical and mechanical interlock unit

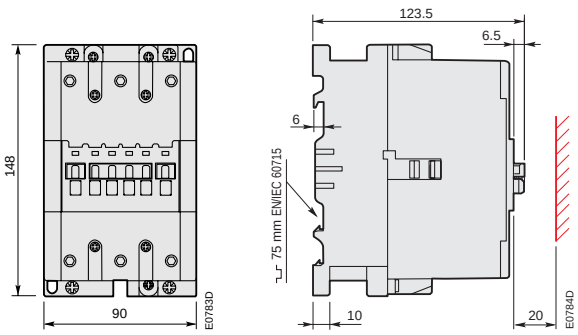




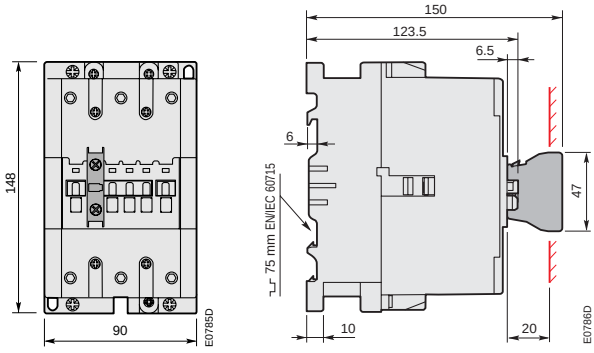


A 50, A 63, A 75, AF 50, AF 63, AF 75
+ TA 75 DU thermal O/L relay

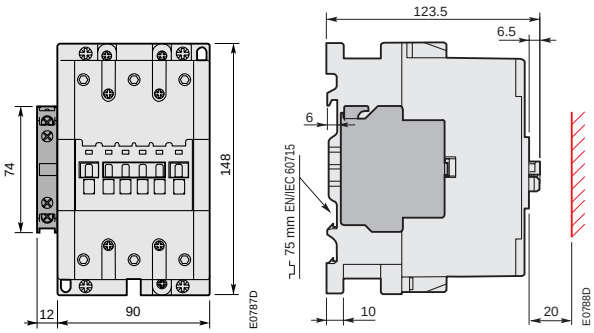
Dimensions (in mm)



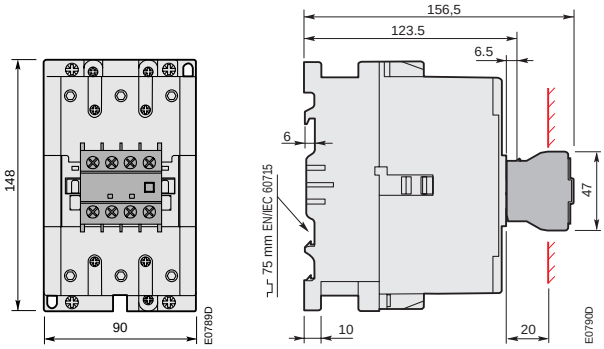
A 95, A 110, AF 95, AF 110



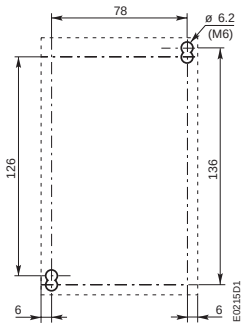
A 95, A 110, AF 95, AF 110
+ CA 5 front-mounted 1-pole auxiliary contact block



A 95, A 110, AF 95, AF 110
+ CAL 18 side-mounted 2-pole auxiliary contact block

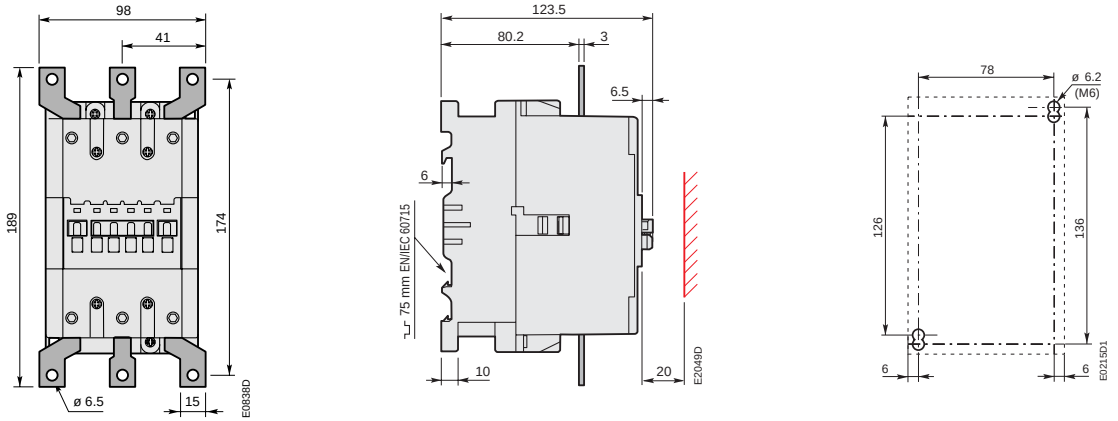


A 95, A 110, AF 95, AF 110
+ CA 5 front-mounted 4-pole auxiliary contact block
and corresponding 2-stack versions

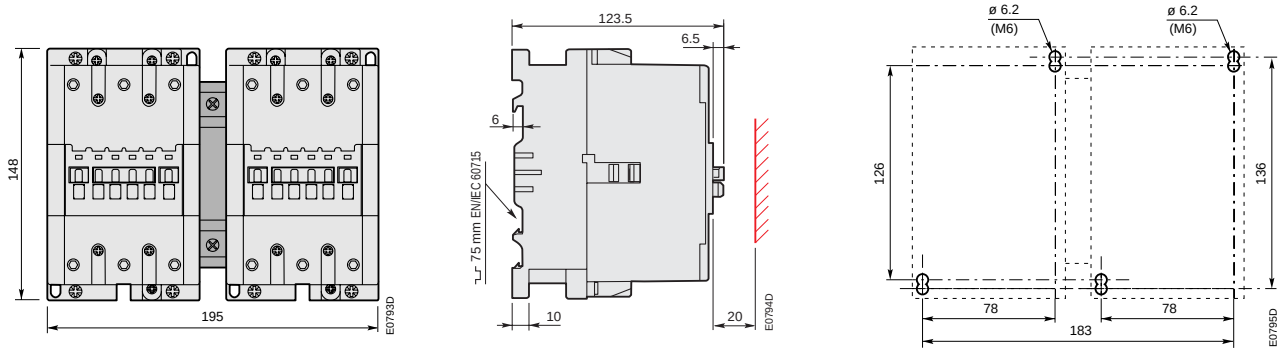


A 95, A 110, AF 95, AF 110 drilling plan

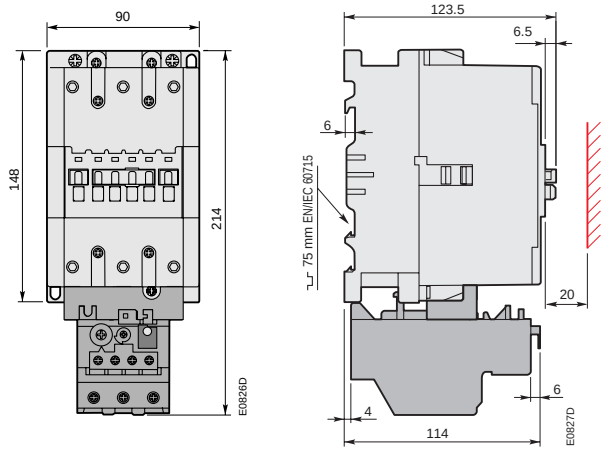
Dimensions (in mm)



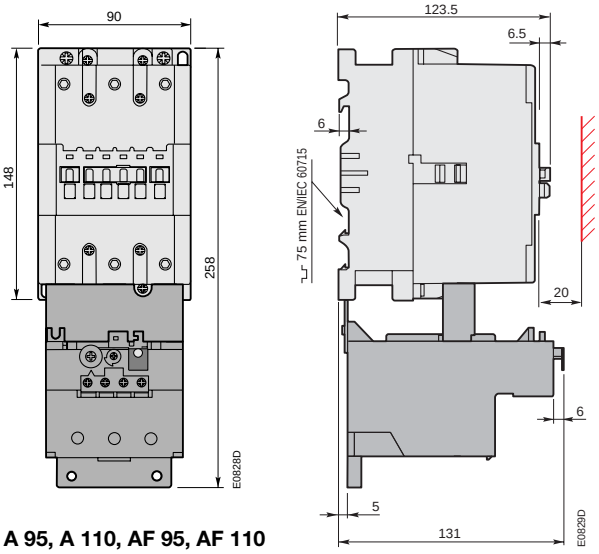
A 95, A 110, AF 95, AF 110
+ LW 110 terminal enlargement



A 95, A 110, AF 95, AF 110
+ VE 5-2 electrical and mechanical interlock unit



A 95, A 110, AF 95, AF 110
+ TA 80 DU thermal O/L relay



A 95, A 110, AF 95, AF 110
+ TA 110 DU thermal O/L relay

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