



Catalog

The new AX contactor range

Control made simple

The performance you need

Power and productivity
for a better world™



The new AX contactor range

Product overview

The new contactor range is designed to provide the performance and features that are required, in a compact and modern design. Control made simple – The performance you need.

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Common applications

- HVAC
- Pumps
- Compressors
- Paper industry
- Packaging machines
- Mining
- General Machinery
- Switchgear panels
- Elevator and escalators
- Building
- Lighting control
- Moulding machines
- Power supply solutions

Standards

- IEC 60947-1
- IEC 60947-4-1
- IEC 60947-5-1

Technical data

- Rated current (Ie): 9 ... 370 A
- Motor rated power (Pe): 4 ... 200 kW (400V AC-3)
- 3 poles
- AC control
- Width from 44mm (9 A) to 145mm (370 A)
- Ambient temperature up to 70°C

Accessories

- Auxiliary contacts front and side mounted
- Mechanical and electrical interlocks
- Timers
- Surge suppressors
- Terminal shrouds, enlargements and extensions
- Connection kits

Overload relays

- Thermal overload relays
- Electronic overload relays (class 10, 20 and 30)

Manual motor starters

- With thermal and magnetic protection
- With magnetic protection only

3-pole contactors, for motor control and power switching

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IEC	AC-3 Rated operational power	$\theta \leq 55\text{ }^{\circ}\text{C}$, 400 V	kW
AC Control supply			Type
IEC	AC-3 Rated operational current	$\theta \leq 55\text{ }^{\circ}\text{C}$, 400 V	A
	AC-1 Rated operational current	$\theta \leq 40\text{ }^{\circ}\text{C}$, 690 V	A

4	5.5	7.5	11	15	18.5
AX09	AX12	AX18	AX25	AX32	AX40
09	12	18	25	32	40
22	25	27	32	55	60

Main accessories

Auxiliary contact blocks	Front mounting
	Side mounting
Timers	Electronic
Interlocking units	Mechanical
	Mechanical / Electrical
Surge suppressors	Varistor (AC / DC)
	RC type (AC)

CA5X-10 (1 x N.O.)
CA5X-01 (1 x N.C.)
CA5X-4 pole (add on block with 4 contacts NO or NC combination)
CAL5X-11 (1 x N.O. + 1 x N.C.)
TEF5-ON
TEF5-OFF
VM5-1
VE5-1
RV5 (24...440 V)
RC5-1 (24...440 V)

Overload relays

Thermal relays		Class 10A
Electronic relays		Class 10E,20E,30E

TA25DU-M (0.10...32 A) ⁽¹⁾		
		TA42DU-M (18...42 A)
E16DU (0.10...18.9A)		E45DU(9...45A)

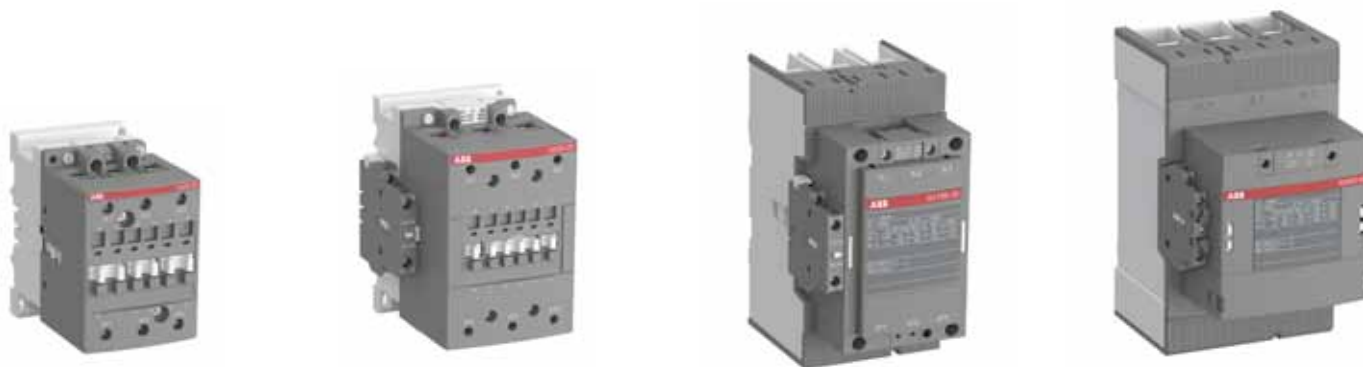
(1) The max AC3 operational current is 23A for AX25 with TA25DU-25M
(2) The max AC3 operational current is 74A for AX80 with TA75DU-80M
(3) The max AC3 operational current is 182A for AX205 with TA200DU-200

Manual motor starters

	Thermal / magnetic protection Class 10
	Magnetic types only

MS116 (0.10...32 A)	
Ics up to 50 kA for class 10 A	
MS132 (0.10...32 A)	
Ics up to 100 kA	
MO132 (0.16...32 A)	
Ics up to 100 kA	

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22	30	37	45	55	75	90	110	132	160	200
AX50	AX65	AX80	AX95	AX115	AX150	AX185	AX205	AX260	AX300	AX370
50	65	80	96	115	150	185	205	265	305	370
100	115	125	145	160	190	250	275	400	500	600

			CAL18X-11(1 x N.O. + 1 x N.C.)			CAL19-11(1 x N.O. + 1 x N.C.)		
VE5-2			VM300H			VM19		
RC5-2 (24...440 V)			RC5-3 (250...440 V)					

TA75DU-M (18...80 A) ⁽²⁾	TA80DU (29...80 A)	TA200DU (66...200 A) ⁽³⁾	
	TA110DU (66...110 A)		
E80DU(27...80A)	E140DU(50...140A)	EF205(63...210A)	EF370 (115...380 A)

Short-circuit protection devices

MS450 (28...50 A)			Tmax / XT Circuit breaker and accessories
Ics up to 50 kA			
MS495 (45...100 A)			
Ics up to 50 kA			
MS497 (22...100 A)			
Ics up to 100 kA			
MO496 (32...100 A)			
Ics up to 100 kA			
MO450 (40...50 A)	MO495 (63...100 A)		
Ics up to 50 kA	Ics up to 50 kA		



AX09 ... AX25 3-pole contactors

4 to 11 kW

AC operated



AX09 ... AX25

Description

AX09 ... AX25 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC.

These contactors are of the block type design with:

- 3 main poles and 1 built-in auxiliary contact
- control circuit: AC operated
- add-on auxiliary contact blocks for front or side mounting and a wide range of accessories.

Ordering details

IEC		Rated control circuit voltage		Auxiliary contacts fitted		Type	Order code	Weight		
Rated power	operational current	Uc (1)						Pkg (1 pce)		
400 V	θ ≤ 40 °C									
AC-3	AC-1									
kW	A	V 50 Hz	V 60 Hz					kg		
4	22	24	24	1	0	AX09-30-10-81	1SBL901074R8110	0.340		
				0	1	AX09-30-01-81	1SBL901074R8101	0.340		
		110	110...120	1	0	AX09-30-10-84	1SBL901074R8410	0.340		
				0	1	AX09-30-01-84	1SBL901074R8401	0.340		
		220...230	230...240	1	0	AX09-30-10-80	1SBL901074R8010	0.340		
				0	1	AX09-30-01-80	1SBL901074R8001	0.340		
		230...240	240...260	1	0	AX09-30-10-88	1SBL901074R8810	0.340		
				0	1	AX09-30-01-88	1SBL901074R8801	0.340		
		400...415	415...440	1	0	AX09-30-10-86	1SBL901074R8610	0.340		
				0	1	AX09-30-01-86	1SBL901074R8601	0.340		
		5.5	25	24	24	1	0	AX12-30-10-81	1SBL911074R8110	0.340
						0	1	AX12-30-01-81	1SBL911074R8101	0.340
110	110...120			1	0	AX12-30-10-84	1SBL911074R8410	0.340		
				0	1	AX12-30-01-84	1SBL911074R8401	0.340		
220...230	230...240			1	0	AX12-30-10-80	1SBL911074R8010	0.340		
				0	1	AX12-30-01-80	1SBL911074R8001	0.340		
230...240	240...260			1	0	AX12-30-10-88	1SBL911074R8810	0.340		
				0	1	AX12-30-01-88	1SBL911074R8801	0.340		
400...415	415...440			1	0	AX12-30-10-86	1SBL911074R8610	0.340		
				0	1	AX12-30-01-86	1SBL911074R8601	0.340		
7.5	27			24	24	1	0	AX18-30-10-81	1SBL921074R8110	0.340
						0	1	AX18-30-01-81	1SBL921074R8101	0.340
		110	110...120	1	0	AX18-30-10-84	1SBL921074R8410	0.340		
				0	1	AX18-30-01-84	1SBL921074R8401	0.340		
		220...230	230...240	1	0	AX18-30-10-80	1SBL921074R8010	0.340		
				0	1	AX18-30-01-80	1SBL921074R8001	0.340		
		230...240	240...260	1	0	AX18-30-10-88	1SBL921074R8810	0.340		
				0	1	AX18-30-01-88	1SBL921074R8801	0.340		
		400...415	415...440	1	0	AX18-30-10-86	1SBL921074R8610	0.340		
				0	1	AX18-30-01-86	1SBL921074R8601	0.340		
		11	32	24	24	1	0	AX25-30-10-81	1SBL931074R8110	0.340
						0	1	AX25-30-01-81	1SBL931074R8101	0.340
110	110...120			1	0	AX25-30-10-84	1SBL931074R8410	0.340		
				0	1	AX25-30-01-84	1SBL931074R8401	0.340		
220...230	230...240			1	0	AX25-30-10-80	1SBL931074R8010	0.340		
				0	1	AX25-30-01-80	1SBL931074R8001	0.340		
230...240	240...260			1	0	AX25-30-10-88	1SBL931074R8810	0.340		
				0	1	AX25-30-01-88	1SBL931074R8801	0.340		
400...415	415...440			1	0	AX25-30-10-86	1SBL931074R8610	0.340		
				0	1	AX25-30-01-86	1SBL931074R8601	0.340		

(1) for other voltage version see page no. 2/51

AX32, AX40 3-pole contactors

15 to 18.5 kW

AC operated

2



AX32, AX40

Description

AX32, AX40 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC.

These contactors are of the block type design with:

- 3 main poles and 1 built-in auxiliary contact
- control circuit: AC operated
- add-on auxiliary contact blocks for front or side mounting and a wide range of accessories.

Ordering details

IEC		Rated control circuit voltage Uc (1)		Auxiliary contacts fitted		Type	Order code	Weight
Rated operational power	Rated operational current							Pkg (1 pce)
400 V	$\theta \leq 40\text{ }^{\circ}\text{C}$							kg
AC-3	AC-1	V 50 Hz	V 60 Hz					
kW	A							
15	55	24	24	1	0	AX32-30-10-81	1SBL281074R8110	0.71
				0	1	AX32-30-01-81	1SBL281074R8101	0.71
		110	110...120	1	0	AX32-30-10-84	1SBL281074R8410	0.71
				0	1	AX32-30-01-84	1SBL281074R8401	0.71
		220...230	230...240	1	0	AX32-30-10-80	1SBL281074R8010	0.71
				0	1	AX32-30-01-80	1SBL281074R8001	0.71
		230...240	240...260	1	0	AX32-30-10-88	1SBL281074R8810	0.71
				0	1	AX32-30-01-88	1SBL281074R8801	0.71
		400...415	415...440	1	0	AX32-30-10-86	1SBL281074R8610	0.71
				0	1	AX32-30-01-86	1SBL281074R8601	0.71
		24	24	1	0	AX40-30-10-81	1SBL321074R8110	0.71
				0	1	AX40-30-01-81	1SBL321074R8101	0.71
18.5	60	110	110...120	1	0	AX40-30-10-84	1SBL321074R8410	0.71
				0	1	AX40-30-01-84	1SBL321074R8401	0.71
		220...230	230...240	1	0	AX40-30-10-80	1SBL321074R8010	0.71
				0	1	AX40-30-01-80	1SBL321074R8001	0.71
		230...240	240...260	1	0	AX40-30-10-88	1SBL321074R8810	0.71
				0	1	AX40-30-01-88	1SBL321074R8801	0.71
		400...415	415...440	1	0	AX40-30-10-86	1SBL321074R8610	0.71
				0	1	AX40-30-01-86	1SBL321074R8601	0.71

(1) for other voltage version see page no. 2/51

AX50 ... AX80 3-pole contactors

22 to 37 kW

AC operated



AX50 ... AX80

Description

AX50 ... AX80 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC.

These contactors are of the block type design with:

- 3 main poles
- control circuit: AC operated
- add-on auxiliary contact blocks for front or side mounting and a wide range of accessories.

Ordering details (without auxillary blocok)

IEC		Rated control circuit voltage Uc (1)		Auxiliary contacts fitted		Type	Order code	Weight
Rated operational power	current							Pkg (1 pce)
400 V	$\theta \leq 40\text{ °C}$							kg
AC-3	AC-1							
kW	A	V 50 Hz	V 60 Hz	Y	N			
22	100	24	24	0	0	AX50-30-00-81	1SBL351074R8100	1.12
		110	110...120	0	0	AX50-30-00-84	1SBL351074R8400	1.12
		220...230	230...240	0	0	AX50-30-00-80	1SBL351074R8000	1.12
		230...240	240...260	0	0	AX50-30-00-88	1SBL351074R8800	1.12
		400...415	415...440	0	0	AX50-30-00-86	1SBL351074R8600	1.12
30	115	24	24	0	0	AX65-30-00-81	1SBL371074R8100	1.12
		110	110...120	0	0	AX65-30-00-84	1SBL371074R8400	1.12
		220...230	230...240	0	0	AX65-30-00-80	1SBL371074R8000	1.12
		230...240	240...260	0	0	AX65-30-00-88	1SBL371074R8800	1.12
		400...415	415...440	0	0	AX65-30-00-86	1SBL371074R8600	1.12
37	125	24	24	0	0	AX80-30-00-81	1SBL411074R8100	1.12
		110	110...120	0	0	AX80-30-00-84	1SBL411074R8400	1.12
		220...230	230...240	0	0	AX80-30-00-80	1SBL411074R8000	1.12
		230...240	240...260	0	0	AX80-30-00-88	1SBL411074R8800	1.12
		400...415	415...440	0	0	AX80-30-00-86	1SBL411074R8600	1.12

(1) for other voltage version see page no. 2/51

AX50 ... AX80 3-pole contactors

22 to 37 kW

AC operated

2



AX50 ... AX80

Description

AX50 ... AX80 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC.

These contactors are of the block type design with:

- 3 main poles and side mounted auxiliary contact block
- control circuit: AC operated
- add-on auxiliary contact blocks for front or side mounting and a wide range of accessories.

Ordering details

IEC		Rated control circuit voltage Uc (1)		Auxiliary contacts fitted		Type	Order code	Weight
Rated operational power	current							Pkg (1 pce)
400 V	θ ≤ 40 °C							kg
AC-3	AC-1	V 50 Hz	V 60 Hz	Y	Y			
kW	A							
22	100	24	24	1	1	AX50-30-11-81	1SBL351074R8111	1.16
		110	110...120	1	1	AX50-30-11-84	1SBL351074R8411	1.16
		220...230	230...240	1	1	AX50-30-11-80	1SBL351074R8011	1.16
		230...240	240...260	1	1	AX50-30-11-88	1SBL351074R8811	1.16
		400...415	415...440	1	1	AX50-30-11-86	1SBL351074R8611	1.16
30	115	24	24	1	1	AX65-30-11-81	1SBL371074R8111	1.16
		110	110...120	1	1	AX65-30-11-84	1SBL371074R8411	1.16
		220...230	230...240	1	1	AX65-30-11-80	1SBL371074R8011	1.16
		230...240	240...260	1	1	AX65-30-11-88	1SBL371074R8811	1.16
		400...415	415...440	1	1	AX65-30-11-86	1SBL371074R8611	1.16
37	125	24	24	1	1	AX80-30-11-81	1SBL411074R8111	1.16
		110	110...120	1	1	AX80-30-11-84	1SBL411074R8411	1.16
		220...230	230...240	1	1	AX80-30-11-80	1SBL411074R8011	1.16
		230...240	240...260	1	1	AX80-30-11-88	1SBL411074R8811	1.16
		400...415	415...440	1	1	AX80-30-11-86	1SBL411074R8611	1.16

(1) for other voltage version see page no. 2/51

AX95 ... AX150 3-pole contactors

45 to 75 kW

AC operated



AX95 ... AX150

Description

AX95 ... AX150 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC.

These contactors are of the block type design with:

- 3 main poles and side mounted auxiliary contact block
- control circuit: AC operated
- add-on auxiliary contact blocks for front or side mounting and a wide range of accessories.

Ordering details

IEC		Rated control circuit voltage U _c (1)		Auxiliary contacts fitted		Type	Order code	Weight
Rated operational power	Rated operational current							Pkg (1 pce)
400 V	θ ≤ 40 °C							kg
AC-3	AC-1	V 50 Hz	V 60 Hz	Y	Y			
kW	A							
45	145	24	24	1	1	AX95-30-11-81	1SFL431074R8111	2.08
		110	110...120	1	1	AX95-30-11-84	1SFL431074R8411	2.08
		220...230	230...240	1	1	AX95-30-11-80	1SFL431074R8011	2.08
		230...240	240...260	1	1	AX95-30-11-88	1SFL431074R8811	2.08
		400...415	415...440	1	1	AX95-30-11-86	1SFL431074R8611	2.08
55	160	24	24	1	1	AX115-30-11-81	1SFL981074R8111	2.08
		110	110...120	1	1	AX115-30-11-84	1SFL981074R8411	2.08
		220...230	230...240	1	1	AX115-30-11-80	1SFL981074R8011	2.08
		230...240	240...260	1	1	AX115-30-11-88	1SFL981074R8811	2.08
		400...415	415...440	1	1	AX115-30-11-86	1SFL981074R8611	2.08
75	190	24	24	1	1	AX150-30-11-81	1SFL991074R8111	2.08
		110	110...120	1	1	AX150-30-11-84	1SFL991074R8411	2.08
		220...230	230...240	1	1	AX150-30-11-80	1SFL991074R8011	2.08
		230...240	240...260	1	1	AX150-30-11-88	1SFL991074R8811	2.08
		400...415	415...440	1	1	AX150-30-11-86	1SFL991074R8611	2.08

(1) for other voltage version see page no. 2/51

AX185, AX205 3-pole contactors

90 to 110 kW

AC operated

2



AX185, AX205

Description

AX185, AX205 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC.

These contactors are of the block type design with:

- 3 main poles and side mounted auxiliary contact block
- control circuit: AC operated
- add-on auxiliary contact blocks for side mounting and a wide range of accessories.

Ordering details

IEC		Rated control circuit voltage Uc (1)		Auxiliary contacts fitted		Type	Order code	Weight
Rated power 400 V AC-3 kW	operational current $\theta \leq 40\text{ }^{\circ}\text{C}$ AC-1 A	V 50 Hz	V 60 Hz	1	1			Pkg (1 pce) kg
90	250	24	24	1	1	AX185-30-11-81	1SFL491074R8111	3.80
		110	110...120	1	1	AX185-30-11-84	1SFL491074R8411	3.80
		220...230	230...240	1	1	AX185-30-11-80	1SFL491074R8011	3.80
		230...240	240...260	1	1	AX185-30-11-88	1SFL491074R8811	3.80
		400...415	415...440	1	1	AX185-30-11-86	1SFL491074R8611	3.80
110	275	24	24	1	1	AX205-30-11-81	1SFL501074R8111	3.80
		110	110...120	1	1	AX205-30-11-84	1SFL501074R8411	3.80
		220...230	230...240	1	1	AX205-30-11-80	1SFL501074R8011	3.80
		230...240	240...260	1	1	AX205-30-11-88	1SFL501074R8811	3.80
		400...415	415...440	1	1	AX205-30-11-86	1SFL501074R8611	3.80

(1) for other voltage version see page no. 2/51

AX260 ... AX370 3-pole contactors

132 to 200 kW

AC operated



AX260 ... AX370

Description

AX260 ... AX370 contactors are mainly used for controlling 3-phase motors and power circuits up to 690 V AC.

These contactors are of the block type design with:

- 3 main poles and side mounted auxiliary contact block
- control circuit: AC operated
- add-on auxiliary contact blocks for side mounting and a wide range of accessories.

Ordering details

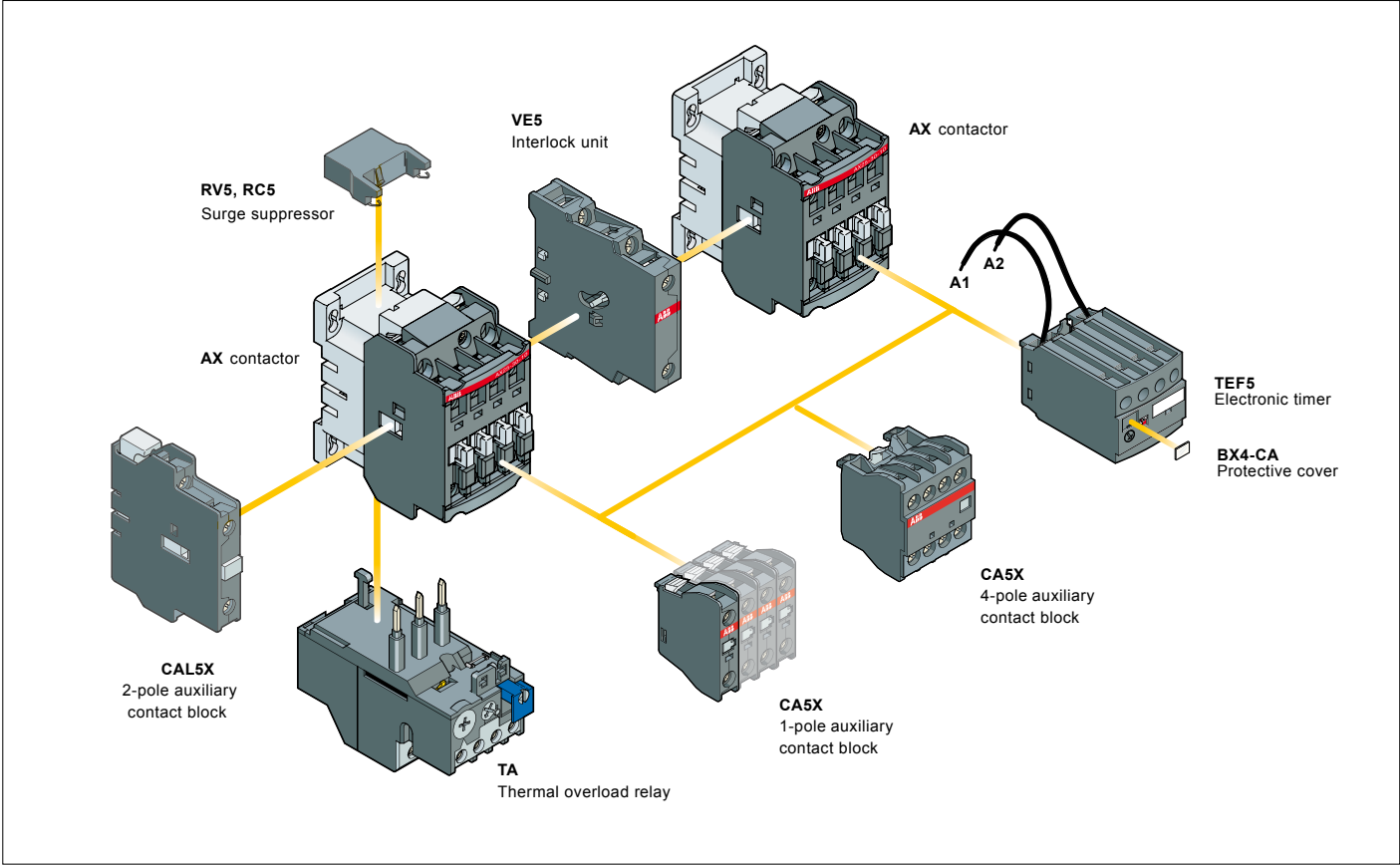
IEC		Rated control circuit voltage Uc (1)		Auxiliary contacts fitted		Type	Order code	Weight
Rated operational power	current							Pkg (1 pce)
400 V	$\theta \leq 40^\circ\text{C}$							kg
AC-3	AC-1	V 50 Hz	V 60 Hz	1	1			
kW	A							
132	400	24	24	1	1	AX260-30-11-81	1SFL547074R8111	5.4
		110	110...120	1	1	AX260-30-11-84	1SFL547074R8411	5.4
		220...230	230...240	1	1	AX260-30-11-80	1SFL547074R8011	5.4
		230...240	240...260	1	1	AX260-30-11-88	1SFL547074R8811	5.4
		400...415	415...440	1	1	AX260-30-11-86	1SFL547074R8611	5.4
160	500	24	24	1	1	AX300-30-11-81	1SFL587074R8111	5.4
		110	110...120	1	1	AX300-30-11-84	1SFL587074R8411	5.4
		220...230	230...240	1	1	AX300-30-11-80	1SFL587074R8011	5.4
		230...240	240...260	1	1	AX300-30-11-88	1SFL587074R8811	5.4
		400...415	415...440	1	1	AX300-30-11-86	1SFL587074R8611	5.4
200	600	24	24	1	1	AX370-30-11-81	1SFL607074R8111	5.4
		110	110...120	1	1	AX370-30-11-84	1SFL607074R8411	5.4
		220...230	230...240	1	1	AX370-30-11-80	1SFL607074R8011	5.4
		230...240	240...260	1	1	AX370-30-11-88	1SFL607074R8811	5.4
		400...415	415...440	1	1	AX370-30-11-86	1SFL607074R8611	5.4

(1) for other voltage version see page no. 2/51

AX09 ... AX150 3-pole contactors

Main accessories

Contactor and main accessories (other accessories available)



Main accessory fitting details

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

Contactor types	Main poles	Built-in auxiliary contacts	Front-mounted accessories				Side-mounted accessories				
			Auxiliary contact blocks		Electronic timer		Auxiliary contact blocks	Interlock unit			
			1-pole CA5X		4-pole CA5X		TEF5		2-pole CALX		VM5 or VE5
AX09 ... AX25	3 0 3 0	1 0 0 1 (1)	1 to 4 x CA5X	or	1 x CA5X (4-pole)	or	1 x TEF5	+	1 to 2 x CALX5-11	or	1 x VM5-1 or VE5-1 +1 x CALX5-11
AX32, AX40	3 0 3 0	1 0 0 1 (1)	1 to 5 x CA5X	or	1 x CA5X (4-pole) + 1 x 1-pole CA5X	or	1 x TEF5 + 1 x CA5X (1-pole)	+	1 to 2 x CALX5-11	or	1 x VM5-1 or VE5-1 +1 x CALX5-11
AX50 ... AX80	3 0	1 1	1 to 6 x CA5X	or	1 x CA5X (4-pole) + 2 x 1-pole CA5X	or	1 x TEF5 + 2 x CA5X (1-pole)	+	1 x CALX5-11	or	1 x VE5-2
AX95 ... AX150	3 0	1 1	1 to 6 x CA5X	or	1 x CA5X (4-pole) + 2 x 1-pole CA5X		–	+	1 x CALX18-11	or	1 x VE5-2

(1) 2 N.C. CA5X auxiliary contacts maximum in mounting position 5. for mounting position refer technical data page.

Overload relays fitting details (1)

Contactor types	Thermal overload relays	Electronic overload relays
AX09 ... AX18	TA25DU-M (0.1...0.32 A)	E16DU(0.10 ... 18.9A)
AX25	TA25DU-M (0.1...0.32 A)	
AX32, AX40	TA25DU-M (0.1...0.32 A) or TA42DU-M (18...42 A)	E45DU (9 ... 45A)
AX50 ... AX80	TA75DU-M (18...80 A) or TA85DU-M (65 ... 85 A)	E80DU(27 ... 80A)
AX95, AX115	TA80DU (29...80 A) or TA110DU (66...110 A)	E140DU(50 ... 140A)

The addition of a thermal overload relay on the contactor does not prevent fitting of many other accessories as shown above.

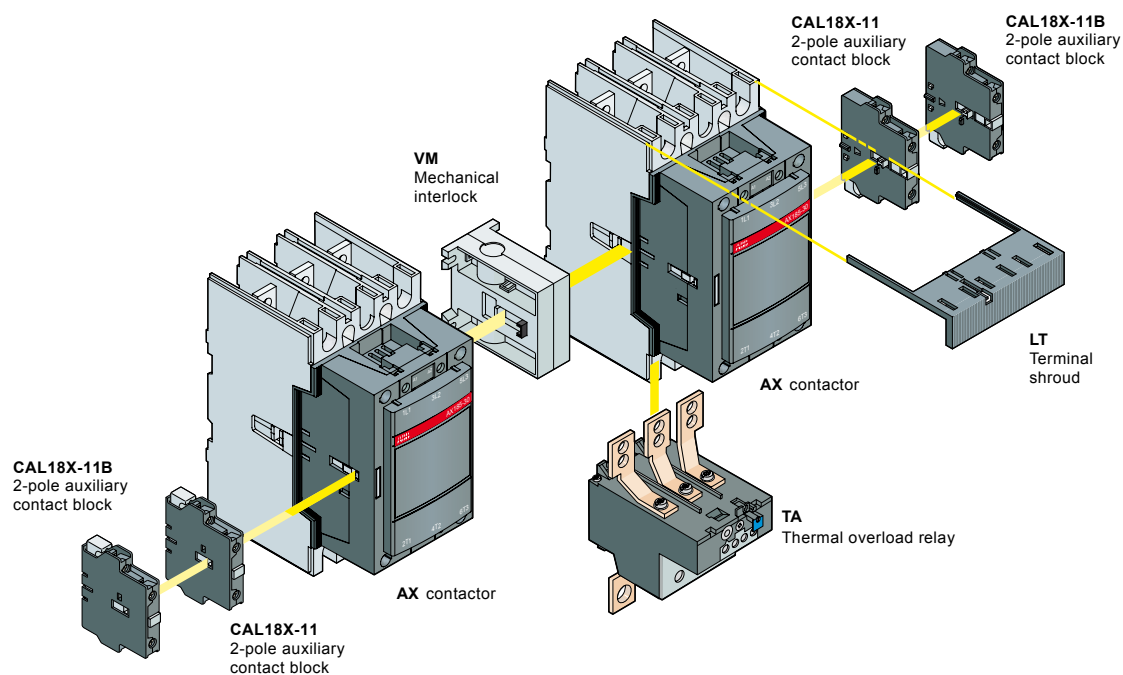
(1) Direct mounting - No kit required.

AX185 ... AX370 3-pole contactors

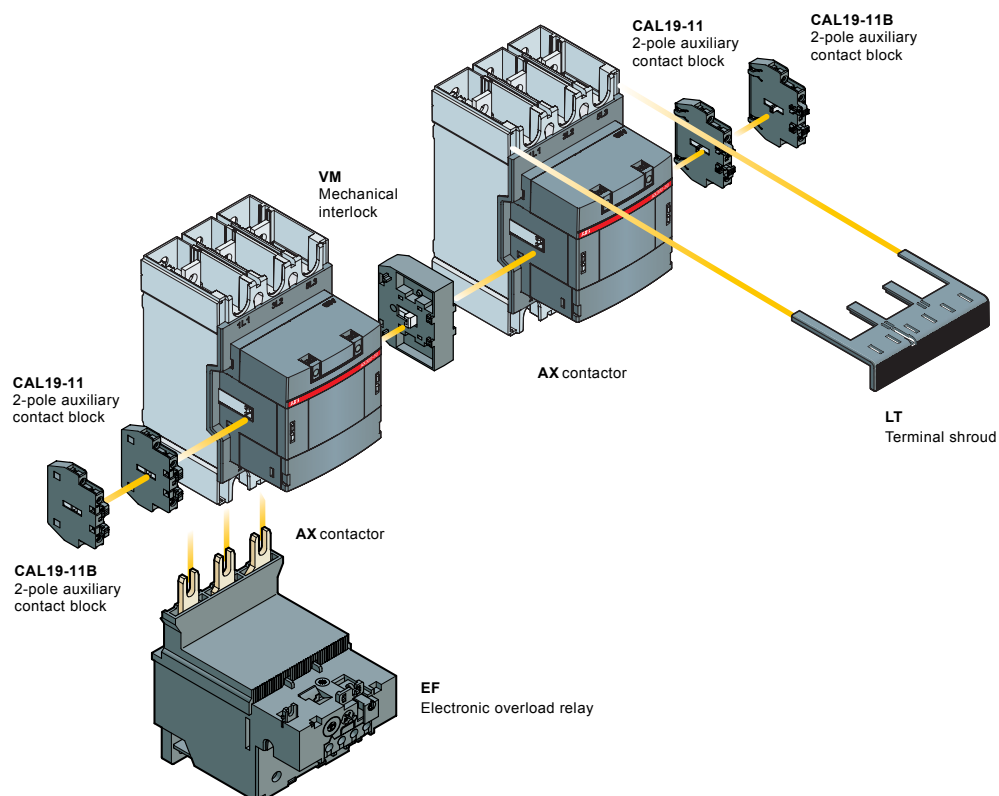
Main accessories

Main accessories (other accessories available)

AX185, AX205



AX260 ... AX370



AX185 ... AX370 3-pole contactors

Main accessories

2

Main accessory fitting details

Contactor types	Main poles	Available auxiliary contacts	Side-mounted accessories Add-on auxiliary contact blocks	Mechanical interlock units	Mounting and positioning
	3	0	CAL18X-11, CAL18X-11B, CAL19-11, CAL19-11B		Factory mounted auxiliary contacts Add-on CAL18-11 auxiliary contacts Add-on CAL18-11B auxiliary contacts

Contactor types

Contactor types	Main poles	Available auxiliary contacts	Side-mounted accessories Add-on auxiliary contact blocks	Mechanical interlock units	Mounting and positioning
AX185 ... AX205	3	0	1 x CAL18X-11 + 2 x CAL18X-11B	-	
AX260 ... AX370	3	0	1 x CAL19-11 + 2 x CAL19-11B	-	
AX260 ... AX370	3	0	- + 2 x CAL19-11B	-	

(1) Total number of auxiliary contact blocks for the two contactors.

Contactor types with mechanical interlocking

Contactor types	Main poles	Available auxiliary contacts	Side-mounted accessories Add-on auxiliary contact blocks	Mechanical interlock units	Mounting and positioning
AX185 ... AX205	3	0	2 x CAL18-11 (1) + 2 x CAL18-11B (1) + VM...H (2)		
AX260 ... AX370	3	0	2 x CAL19-11 + 2 x CAL19-11B + VM... (2)		

(1) Total number of auxiliary contact blocks for the two contactors

(2) Interlock type, according to the contactor ratings (see "Accessories")

Overload relays fitting details (1)

Contactor types	Thermal overload relays	Electronic overload relays
AX185, AX205	TA200DU (66 ... 200 A)	EF205 (63 ... 210 A)
AX260 ... AX370	-	EF370 (115 ... 380 A)

The addition of a thermal overload relay on the contactor does not prevent fitting of many other accessories as shown above.

(1) Direct mounting - No kit required.

AX09 ... AX150 3-pole contactors

Main accessories

Ordering details (1)

For contactors	Auxiliary contacts	Type	Order code	Pkg qty	Weight (1 pce)
					kg

Front-mounted instantaneous auxiliary contact blocks

AX09 ... AX150 and NX 4-pole	1 –	CA5X-10	1SBN019010R1010	10	0.014
	– 1	CA5X-01	1SBN019010R1001	10	0.014
AX50...AX150	2 2	CA5X-22E	1SBN019040R1022	2	0.060
	3 1	CA5X-31E	1SBN019040R1031	2	0.060
	4 0	CA5X-40E	1SBN019040R1040	2	0.060
	0 4	CA5X-04E	1SBN019040R1004	2	0.060
AX09...AX40-30-10	2 2	CA5X-22M	1SBN019040R1122	2	0.060
	3 1	CA5X-31M	1SBN019040R1131	2	0.060
	4 0	CA5X-40M	1SBN019040R1140	2	0.060
	0 4	CA5X-04M	1SBN019040R1104	2	0.060
AX09...AX40-30-01	2 2	CA5X-22U	1SBN019040R1322	2	0.060
	3 1	CA5X-31U	1SBN019040R1331	2	0.060
	4 0	CA5X-40U	1SBN019040R1340	2	0.060
	0 4	CA5X-04U	1SBN019040R1304	2	0.060
NX 4-pole	2 2	CA5X-22N	1SBN019040R1222	2	0.060
	3 1	CA5X-31N	1SBN019040R1231	2	0.060
	0 4	CA5X-04N	1SBN019040R1204	2	0.060
	4 0	CA5X-40N	1SBN019040R1240	2	0.060

Side-mounted instantaneous auxiliary contact block, 2 pole

AX09 ... AX80 and NX - 4 pole	1 1	CAL5X-11	1SBN019020R1011	2	0.050
AX95 ... AX205 (1)	1 1	CAL18X-11	1SFN019820R1011	2	0.050

Mechanical interlock units for two horizontal mounted contactors(2)

Left side contactor	Right side contactor	Mounting					
AX09 ... AX40	AX09 ... AX40	Mech.	– –	VM5-1	1SBN030100R1000	1	0.066
AX95 ... AX205	AX185 ... AX205	Mech.	– –	VM300H	1SFN034700R1000	1	0.150

Mechanical and electrical interlock units for two horizontal mounted contactors

Left side contactor	Right side contactor	Mounting					
AX09...AX40	AX09...AX40	Mech. + Elect.	– 2	VE5-1	1SBN030110R1000	1	0.076
AX32...AX80	AX50...AX80	Mech. + Elect.	– 2	VE5-2	1SBN030210R1000	1	0.146
AX50...AX80	AX32...AX80	Mech. + Elect.	– 2	VE5-2	1SBN030210R1000	1	0.146
AX50...AX80	AX95...AX150	Mech. + Elect.	– 2	VE5-2(3)	1SBN030210R1000	1	0.146
AX95...AX150	AX50...AX80	Mech. + Elect.	– 2	VE5-2(3)	1SBN030210R1000	1	0.146
AX95...AX150	AX95...AX150	Mech. + Elect.	– 2	VE5-2	1SBN030210R1000	1	0.146

(1) For each contactor type, refer to "Accessory fitting details".

(2) Mechanical durability: VM5-1 = 5 millions cycles, VM300H = 1 million cycles.

(3) The combination of AX50 ... AX80 contactors interlocked with AX95...AX150 contactors cannot be mounted on symmetrical rail (75 mm, IEC/EN 60715).



CA5X-10

AX07015



CA5X-4P

AX07013 CA5X 4P



CAL5X-11

1SBC575752F0301



VE5-1

AX07021

AX09 ... AX150 3-pole contactors

Main accessories

2



1SBC101396F0014

TEF5-OFF



1SBC582813FC001

BEA



1SBC574001FD001

RV5/50



1SBC665483FC001

WB75-A

For contactors	Time delay range selected by switch	Delay type	Auxiliary contacts	Type	Order code	Pkg qty	Weight (1 pce)
			1 1				kg

Electronic timers

AX09 ... AX80	0.1...1 s	ON-delay	1 1	TEF5-ON	1SBN020312R1000	1	0.065
NX 4 pole	1...10 s	OFF-delay	1 1	TEF5-OFF	1SBN020314R1000	1	0.065
	10...100 s						

Note: Rated control circuit voltage U_c 24...240 V 50/60 Hz or DC.

Connecting links with manual motor starters

For contactors	MMS type	Type	Order code	Pkg qty	Weight (1 pce)
					kg
AX09...AX18	MS116 / MS132	BEA16/116	1SBN081406R1000	10	0.020
AX25	MS116 / MS 132	BEA25/116	1SBN089306T1000	10	0.020
AX25	MS116 / MS 132	BEA25/132	1SBN089306T1001	10	0.020
AX32 ... AX40	MS450	BEA40/450	1SBN083206R1000	1	0.061
AX50	MS450	BEA50/450	1SBN083506R1000	1	0.062
AX50 ... AX80	MS495	BEA75/495	1SBN084106R1000	1	0.120
AX95 ... AX150	MS495	BEA100/495	1SBN084506R1000	1	0.124

For contactors	Rated control circuit voltage U_c	Type	Order code	Pkg qty	Weight (1 pce)
	V AC				kg

Surge suppressors

AX09 ... AX150	24...50	•	RV5/50	1SBN050010R1000	2	0.015
	50...133	•	RV5/133	1SBN050010R1001	2	0.015
	110...250	•	RV5/250	1SBN050010R1002	2	0.015
	250...440	•	RV5/440	1SBN050010R1003	2	0.015
AX09 ... AX40	24...50	•	RC5-1/50	1SBN050100R1000	2	0.012
	50...133	•	RC5-1/133	1SBN050100R1001	2	0.012
	110...250	•	RC5-1/250	1SBN050100R1002	2	0.012
	250...440	•	RC5-1/440	1SBN050100R1003	2	0.012
AX50 ... AX150	24...50	•	RC5-2/50	1SBN050200R1000	2	0.015
	50...133	•	RC5-2/133	1SBN050200R1001	2	0.015
	110...250	•	RC5-2/250	1SBN050200R1002	2	0.015
	250...440	•	RC5-2/440	1SBN050200R1003	2	0.015

(1) See "Main accessory fitting details" table.

Mechanical latching units

For contactors	Rated control circuit voltage U_c		Type	Order code	Pkg qty	Weight (1 pce)
	50Hz	60 Hz				kg
AX09...AX80	24	24...28	WB75-A	FPTN372726R1001	1	0.120
	220...230	220...255	WB75-A	FPTN372726R1006	1	0.120

AX185 ... AX370 3-pole contactors

Main accessories



1SFC101033F0201

CAL18X-11



1SBC580411F0301

VM300H



1SFT98009-019C3

LT...AC



1SFT9098-125

LT...AL



1SFT98000-011C3

LW



1SFT98000-012C3

LX



1SBC374001F0301

RV5/50

Ordering details (1)

For contactors	Auxiliary contacts	Type	Order code	Pkg qty	Weight (1 pce)
	1 1				kg

Side-mounted instantaneous auxiliary contact blocks

AX185 ... AX205 (1)	1 1	CAL18X-11	1SFN019820R1011	2	0.050
	1 1	CAL18X-11B	1SFN019820R3311	2	0.050
AX260 ... AX370	1 1	CAL19-11	1SFN010820R1011	2	0.040
	1 1	CAL19-11B	1SFN010820R3311	2	0.040

Mechanical interlock unit for two horizontal mounted contactors

Left side contactor	Right side contactor	Mounting			
AX95 ... AX205	AX185 ... AX205	Mech.	-	VM300H	1SFN034700R1000
AX260 ... AX370	AX260 ... AX370	Mech.	-	VM19	1SFN030300R1000

Terminal shrouds

AX185 ... AX205 with connectors	LT185-AC	1SFN124701R1000	2	0.050
AX185 ... AX205 with lugs	LT185-AL	1SFN124703R1000	2	0.220
AX260 ... AX370 with connectors	LT370-30C	1SFN125401R1000	2	0.035
AX260 ... AX370 with lugs	LT370-30L	1SFN125403R1000	2	0.280

For contactors	Dimensions hole Ø mm	bar mm	Type	Order code	Pkg qty	Weight (1 pce)
						kg

Terminal extension

AX185	10.5	20 x 5	LX185	1SFN074707R1000	1	0.250
AX205 ... AX300	10.5	25 x 5	LX300	1SFN075107R1000	1	0.450

Terminal enlargements

AX185	8.5	20 x 5	LW185	1SFN074710R1000	1	0.250
AX205 ... AX300	10.5	20 x 5	LW300	1SFN075110R1000	1	0.350

Surge suppressor

For contactors	Rated control circuit voltage Uc V AC	Type	Order code	Pkg qty	Weight (1 pce)
					kg
AX185 ... AX205	250...440	RC5-3/440	1SFN050300R1003	2	0.028

AX09 ... AX40 3-pole contactors

Technical data

Main pole - Utilization characteristics according to IEC

Contactor types	AC operated	AX09	AX12	AX18	AX25	AX32	AX40
Standards		IEC 60947-1 / 60947-4-1 and EN 60947-1 / 60947-4-1					
Rated operational voltage U_e max.		690 V					
Rated frequency limits		25 ... 400 Hz					
Rated frequency (without derating)		50 / 60 Hz					
Conventional free-air thermal current I_{th}							
acc. to IEC 60947-4-1, open contactors, $\theta \leq 40^\circ\text{C}$		24 A	26 A	28 A	32 A	65 A	65 A
With conductor cross-sectional area		4 mm ²	4 mm ²	4 mm ²	6 mm ²	16 mm ²	16 mm ²
AC-1 Utilization category							
For air temperature close to contactor							
I_e / Rated operational current AC-1	$\theta \leq 40^\circ\text{C}$	22 A	25 A	27 A	32 A	55 A	60 A
U _e max. $\leq 690\text{ V}$, 50/60 Hz	$\theta \leq 55^\circ\text{C}$	22 A	22 A	25 A	27 A	55 A	60 A
	$\theta \leq 70^\circ\text{C}$	18 A	18 A	20 A	23 A	39 A	42 A
With conductor cross-sectional area		2.5 mm ²	2.5 mm ²	4 mm ²	6 mm ²	10 mm ²	16 mm ²
AC-3 Utilization category							
For air temperature close to contactor $\theta \leq 55^\circ\text{C}$							
I_e / Max. rated operational current AC-3 (1)							
	220-230-240 V	9 A	12 A	18 A	25 A	32 A	40 A
	380-400 V	9 A	12 A	18 A	25 A	32 A	40 A
	415 V	9 A	12 A	18 A	25 A	32 A	40 A
	440 V	9 A	9 A	12 A	16 A	32 A	37 A
	500 V	9 A	9 A	12 A	14 A	28 A	33 A
	690 V	7 A	7 A	9 A	10 A	21 A	25 A
Rated operational power	AC-3 (1)						
	220-230-240 V	2.2 kW	3 kW	4 kW	6.5 kW	9 kW	11 kW
	380-400 V	4 kW	5.5 kW	7.5 kW	11 kW	15 kW	18.5 kW
	415 V	4 kW	5.5 kW	9 kW	11 kW	15 kW	18.5 kW
	440 V	4 kW	4 kW	5.5 kW	9 kW	18.5 kW	22 kW
	500 V	5.5 kW	5.5 kW	7.5 kW	9 kW	18.5 kW	22 kW
	690 V	5.5 kW	5.5 kW	7.5 kW	9 kW	18.5 kW	22 kW
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					
AC-8a Utilization category							
(without thermal overload relay - U _e 400 V 50/60 Hz - $\theta \leq 40^\circ\text{C}$)							
I_e / Rated operational current AC-8a		12 A	16 A	22 A	30 A	40 A	50 A
Rated operational power AC-8a		5.5 kW	5.5 kW	7.5 kW	11 kW	20 kW	22 kW
Short-circuit protection device for contactors							
without thermal overload relay - Motor protection excluded (2)							
U _e $\leq 500\text{ V AC}$ - gG type fuse		25 A	25 A	32 A	32 A	63 A	63 A
Rated short-time withstand current I_{cw}	1 s	250 A	250 A	280 A	300 A	600 A	600 A
at 40 °C ambient temperature,	10 s	100 A	100 A	120 A	140 A	400 A	400 A
in free air from a cold state	30 s	60 A	60 A	70 A	80 A	225 A	225 A
	1 min	50 A	50 A	55 A	60 A	150 A	150 A
	15 min	26 A	26 A	28 A	30 A	65 A	65 A
Maximum breaking capacity							
cos $\phi = 0.45$	at 440 V	250 A	250 A	250 A	250 A	820 A	820 A
	at 690 V	90 A	90 A	90 A	90 A	340 A	340 A
Power dissipation per pole	I_e / AC-1	0.8 W	0.8 W	1 W	1.2 W	2.5 W	3 W
	I_e / AC-3	0.1 W	0.1 W	0.2 W	0.35 W	0.9 W	1.3 W
Electrical durability (1x10⁶)	400/415V, AC-3	1.5	1.5	1.5	1.3	1.5	1.5
Max. electrical switching frequency	AC-1	600 cycle/h					
	AC-3	1200 cycle/h					
Mechanical durability							
Number of operating cycles		10 millions operating cycles					
Max. switching frequency		3600 cycles/h					

(1) For the corresponding kW/A values of 1500 r.p.m., 50 Hz or 1800 r.p.m., 60 Hz, 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".

AX50 ... AX150 3-pole contactors

Technical data

Main pole - Utilization characteristics according to IEC

Contactor types	AC operated	AX50	AX65	AX80	AX95	AX115	AX150	
Standards		IEC 60947-1 / 60947-4-1						
Rated operational voltage Ue max.		690 V				1000 V		
Rated frequency limits		25 ... 400 Hz						
Rated frequency (without derating)		50 / 60 Hz						
Conventional free-air thermal current Ith								
acc. to IEC 60947-4-1, open contactors, θ ≤ 40 °C		100 A	125 A	125 A	145 A	160 A	190 A	
With conductor cross-sectional area		35 mm²	50 mm²	50 mm²	50 mm²	70 mm²	95 mm²	
AC-1 Utilization category								
For air temperature close to contactor								
Ie / Rated operational current AC-1	θ ≤ 40 °C	100 A	115 A	125 A	145 A	160 A	190 A	
Ue max. ≤ 690 V, 50/60 Hz	θ ≤ 55 °C	85 A	95 A	105 A	135 A	145 A	145 A	
	θ ≤ 70 °C	70 A	80 A	85 A	115 A	130 A	130 A	
With conductor cross-sectional area		35 mm²	50 mm²	50 mm²	50 mm²	70 mm²	95 mm²	
AC-3 Utilization category								
For air temperature close to contactor θ ≤ 55 °C								
Ie / Max. rated operational current AC-3 (1)								
	220-230-240 V	53 A	65 A	80 A	96 A	115 A	150 A	
	380-400 V	50 A	65 A	80 A	96 A	115 A	150 A	
	415 V	50 A	65 A	80 A	96 A	115 A	150 A	
	440 V	45 A	65 A	70 A	93 A	100 A	100 A	
	500 V	45 A	55 A	65 A	80 A	100 A	100 A	
	690 V	35 A	43 A	46 A	65 A	82 A	82 A	
 3-phase motors	Rated operational power	AC-3 (1)						
		220-230-240 V	15 kW	18.5 kW	22 kW	25 kW	30 kW	45 kW
		380-400 V	22 kW	30 kW	37 kW	45 kW	55 kW	75 kW
		415 V	25 kW	37 kW	40 kW	55 kW	59 kW	75 kW
		440 V	25 kW	37 kW	40 kW	55 kW	59 kW	59 kW
		500 V	30 kW	37 kW	45 kW	55 kW	59 kW	59 kW
		690 V	30 kW	37 kW	40 kW	55 kW	75 kW	75 kW
Rated making capacity AC-3		10 x Ie AC-3 acc. to IEC 60947-4-1						
Rated breaking capacity AC-3		8 x Ie AC-3 acc. to IEC 60947-4-1						
AC-8a Utilization category								
(without thermal overload relay - Ue 400 V 50/60 Hz - θ ≤ 40 °C)								
Ie / Rated operational current AC-8a		63 A	85 A	95 A	120 A	140 A	-	
Rated operational power AC-8a		30 kW	45 kW	45 kW	55 kW	55 kW	-	
Short-circuit protection device for contactors								
without thermal overload relay - Motor protection excluded (2)								
Ue ≤ 500 V AC - gG type fuse		100 A	125 A	160 A	160 A	200 A	315 A	
Rated short-time withstand current Icw	1 s	1000 A	1000 A	1000 A	1320 A	1320 A	1320 A	
at 40 °C ambient temperature,	10 s	650 A	650 A	650 A	800 A	800 A	800 A	
in free air from a cold state	30 s	370 A	370 A	370 A	500 A	500 A	500 A	
	1 min	250 A	250 A	250 A	350 A	350 A	350 A	
	15 min	110 A	135 A	135 A	160 A	160 A	160 A	
Maximum breaking capacity								
cos Ø = 0.45	at 440 V	1300 A	1300 A	1300 A	1160 A	1160 A	1160 A	
	at 690 V	630 A	630 A	630 A	800 A	800 A	800 A	
Power dissipation per pole	Ie / AC-1	5 W	6.5 W	7 W	6.5 W	6.5 W	6.5 W	
	Ie / AC-3	1.3 W	1.5 W	2 W	2.7 W	2.7 W	2.7 W	
Electrical durability (1x10⁶)	400/415V, AC-3	1.2	1.2	1.1	0.8	0.6	0.6	
Max. electrical switching frequency	AC-1	600 cycle/h			300 cycles/h			
	AC-3	600 cycle/h			300 cycles/h			
Mechanical durability								
Number of operating cycles		10 millions operating cycles						
Max. switching frequency		3600 cycles/h						

AX185 ... AX370 3-pole contactors

Technical data

Main pole - Utilization characteristics according to IEC

Contactor types	AC operated	AX185	AX205	AX260	AX300	AX370
Standards		IEC 60947-1 / 60947-4-1 / EN 60947-1 / 60947-4-1				
Rated operational voltage U_e max.		1000 V				
Rated frequency limits		25 ... 400 Hz				
Rated frequency (without derating)		50 / 60 Hz				
Conventional free-air thermal current I_{th}						
acc. to IEC 60947-4-1, open contactors, $\theta \leq 40^\circ\text{C}$		250 A	275 A	400 A	500 A	600 A
With conductor cross-sectional area		120 mm ²	150 mm ²	240 mm ² (1)	300 mm ²	2X185 mm ² (2)
AC-1 Utilization category						
For air temperature close to contactor						
I_e / Rated operational current AC-1	$\theta \leq 40^\circ\text{C}$	250 A	275 A	400 A	500 A	600 A
U_e max. $\leq 690\text{ V}$, 50/60 Hz	$\theta \leq 55^\circ\text{C}$	230 A	250 A	350 A	400 A	500 A
	$\theta \leq 70^\circ\text{C}$	180 A	180 A	290 A	325 A	400 A
With conductor cross-sectional area		120 mm ²	150 mm ²	240 mm ² (1)	300 mm ²	2X185 mm ² (2)
AC-3 Utilization category						
For air temperature close to contactor $\theta \leq 55^\circ\text{C}$						
I_e / Max. rated operational current AC-3 (1)						
	220-230-240 V	185 A	205 A	265 A	305 A	370 A
	380-400 V	185 A	205 A	265 A	305 A	370 A
	415 V	185 A	205 A	265 A	305 A	370 A
	440 V	145 A	185 A	265 A	305 A	370 A
	500 V	145 A	170 A	250 A	290 A	315 A
	690 V	120 A	170 A	250 A	290 A	315 A
Rated operational power	AC-3 (1)					
	220-230-240 V	55 kW	59 kW	75 kW	90 kW	110 kW
	380-400 V	90 kW	110 kW	132 kW	160 kW	200 kW
	415 V	90 kW	110 kW	132 kW	160 kW	200 kW
	440 V	75 kW	90 kW	160 kW	160 kW	200 kW
	500 V	90 kW	110 kW	160 kW	200 kW	250 kW
	690 V	110 kW	132 kW	200 kW	250 kW	315 kW
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				
AC-8a Utilization category						
(without thermal overload relay - U _e 400 V 50/60 Hz - $\theta \leq 40^\circ\text{C}$)						
I_e / Rated operational current AC-8a		-	-	-	-	-
Rated operational power AC-8a		-	-	-	-	-
Short-circuit protection device for contactors						
without thermal overload relay - Motor protection excluded (2)						
U _e $\leq 500\text{ V AC}$ - gG type fuse		355 A	355 A	500 A	500 A	630 A
Rated short-time withstand current I_{cw}						
at 40 °C ambient temperature,	1 s	1800 A	1800 A	2650 A	3050 A	3700 A
in free air from a cold state	10 s	1200 A	1200 A	2120 A	2440 A	2960 A
	30 s	800 A	800 A	1224 A	1409 A	1709 A
	1 min	600 A	600 A	865 A	996 A	1208 A
	15 min	280 A	280 A	400 A	500 A	600 A
Maximum breaking capacity						
cos $\phi = 0.45$	at 440 V	1500 A	1500 A	3800 A	4600 A	5000 A
	at 690 V	1200 A	1200 A	3300 A	3800 A	4000 A
Power dissipation per pole	I_e / AC-1	13 W	13 W	32 W	50 W	72 W
	I_e / AC-3	5 W	5 W	14 W	19 W	27 W
Electrical durability (1x10⁶)	400/415V, AC-3	0.8	0.7	0.5	0.5	0.5
Max. electrical switching frequency	AC-1	300 cycles/h				
	AC-3	300 cycles/h				
Mechanical durability						
Number of operating cycles		5 millions operating cycles				
Max. switching frequency		3600 cycles/h		300 cycles/h		

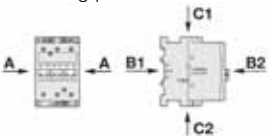
(1) For currents above 275 A use terminal enlargements or terminal extensions

(2) For currents above 450 A use terminal enlargements or terminal extensions

AX09 ... AX40 3-pole contactors

Technical data

General technical data

Contactor types	AC operated	AX09	AX12	AX18	AX25	AX32	AX40
Rated insulation voltage U_i acc. to IS / IEC 60947-4-1		690 V					
Rated impulse withstand voltage U_{imp}		6 kV					
Ambient air temperature close to contactor							
Operation	Fitted with thermal overload relay	-25...+55 °C (1)					
	Without thermal overload relay	-40...+70 °C					
Storage		-60...+80 °C					
Climatic withstand		acc. to IEC 60068-2-30 and 60068-2-11 - UTE C 63-100 specification II					
Maximum operating altitude (without derating)		3000 m					
Shock withstand acc. to IEC 60068-2-27 and EN 60068-2-27							
Mounting position 1							
		Shock direction	1/2 sinusoidal shock for 11 ms: no change in contact position, closed or open position(2)				
		A	20 g				
		B1	10 g closed position / 5 g open position				
		B2	15 g				
		C1	20 g				
		C2	20 g				

(1) The max. operational current is 23A for AX25 with TA25DU-25M; the max. operational current is 74A for AX80 with TA75DU-80M;

the max. operational current is 182A for AX205 with TA200DU-200

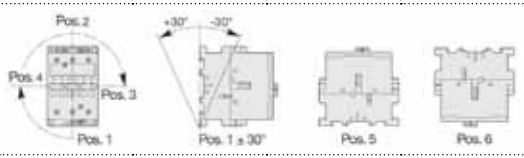
(2) These values are not valid for rail mounting with contactors AX95 ... AX150.

Magnet system characteristics

Contactor types		AC operated	AX09	AX12	AX18	AX25	AX32	AX40
Coil operating limits		AC supply	at $\theta \leq 55\text{ }^{\circ}\text{C}$ 0.85...1.1 x Uc					
acc. to IS / IEC 60947-4-1			Please also refer to "Mounting characteristics and conditions for use"					
AC control voltage 50/60 Hz								
Rated control circuit voltage Uc		at 50 Hz	24...440 V					
		at 60 Hz	24...440 V					
Coil consumption	Average pull-in value	50 Hz	70 VA				120 VA	
		60 Hz	80 VA				140 VA	
		50/60 Hz (1)	74 VA / 70 VA				125 VA / 120 VA	
	Average holding value	50 Hz	8 VA / 2 W				12 VA / 3 W	
		60 Hz	8 VA / 2 W				12 VA / 3 W	
		50/60 Hz (1)	8 VA / 2 W				12 VA / 3 W	
Drop-out voltage			approx. 40...65 % of Uc					
Operating time								
Between coil energization and:	N.O. contact closing		10...26 ms				8...21 ms	
	N.C. contact opening		7...21 ms				6...18 ms	
Between coil de-energization and:	N.O. contact opening		4...11 ms				4...11 ms	
	N.C. contact closing		9...16 ms				7...14 ms	

(1) 50/60 Hz coils: see "Coil voltage code table".

Mounting characteristics and conditions for use

Contactor types	AC operated	AX09	AX12	AX18	AX25	AX32	AX40
Mounting positions							
		Max. N.O. or N.C. built-in and add-on N.O. or N.C. auxiliary contacts: see accessory fitting details for 3-pole contactor AX9 ... AX150					
Control voltage / Ambient temperature							
Mounting positions	1, 1±30°, 2, 3, 4, 5	at $\theta \leq 55$ °C $0.85 \dots 1.1 \times U_c$					
		at 55 °C $\leq \theta \leq 70$ °C U_c					
	6	at $\theta \leq 55$ °C $0.95 \dots 1.1 \times U_c$					
		at $\theta \leq 55$ °C Unauthorized					
Mounting distances		The contactors can be assembled side by side					
Fixing							
On rail according to IEC 60715, EN 60715		35 x 7.5 mm or 35 x 15 mm					
By screws (not supplied)		2 x M4 screws placed diagonally					

AX50 ... AX150 3-pole contactors

Technical data

General technical data

Contactor types	AC operated	AX50	AX65	AX80	AX95	AX115	AX150
Rated insulation voltage U_i acc. to IEC 60947-4-1		690 V			1000 V		
Rated impulse withstand voltage U_{imp}		6 kV			8 kV		
Ambient air temperature close to contactor							
Operation	Fitted with thermal overload relay	-25...+55 °C(1)					
	Without thermal overload relay	-40...+70 °C					
Storage		-60...+80 °C			-40 to +70 °C		
Climatic withstand		acc. to IEC 60068-2-30 and 60068-2-11			acc. to IEC 60068-2-30		
Maximum operating altitude (without derating)		3000 m					
Shock withstand acc. to IEC 60068-2-27 and EN 60068-2-27							
Mounting position 1							
	Shock direction	1/2 sinusoidal shock for 11 ms: no change in contact position, closed or open position(2)					
	A	20 g					
	B1	10 g closed position / 5 g open position					
	B2	15 g					
	C1	20 g					
	C2	20 g					

(1) The max. operational current is 23A for AX25 with TA25DU-25M; the max. operational current is 74A for AX80 with TA75DU-80M;
the max. operational current is 182A for AX205 with TA200DU-200

(2) These values are not valid for rail mounting with contactors AX95 ... AX150.

Magnet system characteristics

Contactor types		AC operated	AX50	AX65	AX80	AX95	AX115	AX150
Coil operating limits		AC supply	at $\theta \leq 55\text{ }^{\circ}\text{C}$ 0.85...1.1 x U_c			At $\theta \leq 70\text{ }^{\circ}\text{C}$ 0.85 ... 1.1 x U_c		
acc. to IEC 60947-4-1			Please also refer to "Mounting characteristics and conditions for use"					
AC control voltage 50/60 Hz								
Rated control circuit voltage U_c		at 50 Hz	24...440 V					
		at 60 Hz	24...440 V					
Coil consumption	Average pull-in value	50 Hz	180 VA			350 VA		
		60 Hz	210 VA			450 VA		
		50/60 Hz (1)	190 VA / 180 VA			410 VA / 365 VA		
	Average holding value	50 Hz	18 VA / 5.5 W			22 VA / 6.5 W		
		60 Hz	18 VA / 5.5 W			26 VA / 8 W		
		50/60 Hz (1)	18 VA / 5.5 W			27 VA / 7.5 W		
Drop-out voltage			approx. 40...65 % of U_c					
Operating time								
Between coil energization and:	N.O. contact closing		8...27 ms			10...25 ms		
	N.C. contact opening		7...22 ms			7...22 ms		
Between coil de-energization and:	N.O. contact opening		4...11 ms			7...15 ms		
	N.C. contact closing		7...14 ms			10...18 ms		

(1) 50/60 Hz coils: see "Coil voltage code table".

Mounting characteristics and conditions for use

Contactor types	AC operated	AX50	AX65	AX80	AX95	AX115	AX150
Mounting positions							
		Add on max. N.O. or N.C. auxiliary contacts: see accessory fitting details for 3-pole contactor AX9 ... AX150					
Control voltage / Ambient temperature							
Mounting positions	1, 1±30°, 2, 3, 4, 5	at $\theta \leq 55$ °C	0.85...1.1 x U_c				
		at 55 °C ≤ $\theta \leq 70$ °C	U_c		0.85...1.1 x U_c		
	6	at $\theta \leq 55$ °C	0.95...1.1 x U_c				
		at $\theta \leq 55$ °C	Unauthorized				
Mounting distances		The contactors can be assembled side by side					
Fixing							
On rail according to IEC 60715, EN 60715		35 x 15 mm or 75 x 25 mm			-		
By screws (not supplied)		2 x M6 screws placed diagonally			2 x M6 screws placed diagonally		

AX185 ... AX370 3-pole contactors

Technical data

General technical data

Contactor types	AC operated	AX185	AX205	AX260	AX300	AX370
Rated insulation voltage U_i acc. to IEC 60947-4-1		1000 V				
Rated impulse withstand voltage U_{imp}		8 kV				
Ambient air temperature close to contactor						
Operation	Fitted with thermal overload relay	-25...+55 °C (1)				
	Without thermal overload relay	-40...+70 °C				
Storage		-40 to +70 °C				
Climatic withstand		acc. to IEC 60068-2-30				
Maximum operating altitude (without derating)		3000 m				
Shock withstand acc. to IEC 60068-2-27 and EN 60068-2-27		1/2 sinusoidal shock for 11 ms: no change in contact position, closed or open position (2)				
Mounting position 1	Shock direction					
	A	5 g				
	B1	5 g				
	B2	5 g				
	C1	5 g				
	C2	5 g				

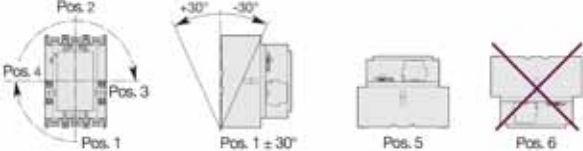
(1) The max. operational current is 182A for AX205 with TA200DU-200
(2) These values are not valid for rail mounting with contactors AX95 ... AX150.

Magnet system characteristics

Contactor types	AC operated	AX185	AX205	AX260	AX300	AX370
Coil operating limits acc. to IEC 60947-4-1	AC supply	at $\theta \leq 55$ °C 0.85...1.1 x U_c		At $\theta \leq 70$ °C 0.85 ... 1.1 x U_c max		
		Please also refer to "Mounting characteristics and conditions for use"				
AC control voltage 50/60 Hz						
Rated control circuit voltage U_c	at 50 Hz	24...440 V				
	at 60 Hz	24...440 V				
Coil	Average pull-in value	50 Hz	550 VA	-		
consumption		60 Hz	600 VA	-		
	50/60 Hz (1)	700 VA / 650 VA		475 VA		
	Average holding value	50 Hz	35 VA / 11 W	-		
		60 Hz	40 VA / 12 W	-		
	50/60 Hz (1)	44 VA / 13 W		17.5 VA		
Drop-out voltage		approx. 40...65 % of U_c		55% of U_c min.		
Operating time						
Between coil energization and:	N.O. contact closing	13...27 ms		30...60 ms		
	N.C. contact opening	8...22 ms		-		
Between coil de-energization and:	N.O. contact opening	5...10 ms		45...80 ms		
	N.C. contact closing	9...13 ms		-		

(1) 50/60 Hz coils: see "Coil voltage code table".

Mounting characteristics and conditions for use

Contactor types	AC operated	AX185	AX205	AX260	AX300	AX370
Mounting positions						
		Max. add-on N.O. or N.C. auxiliary contacts: see accessory fitting details for 3-pole contactor AX185 ... AX370				
Control voltage / Ambient temperature						
Mounting positions	1, 1±30°, 2, 3, 4, 5	at $\theta \leq 55$ °C	0.85...1.1 x U_c			
		at 55 °C ≤ $\theta \leq 70$ °C	0.85...1.1 x U_c			
	6	at $\theta \leq 55$ °C	Unauthorized			
		at $\theta \leq 55$ °C	Unauthorized			
Mounting distances		The contactors can be assembled side by side				
Fixing						
On rail according to IEC 60715, EN 60715		-				
By screws (not supplied)		4 x M5				

AX09 ... AX40 3-pole contactors

Technical data

Connecting characteristics

Contactor types		AC operated		AX09	AX12	AX18	AX25	AX32	AX40
Main terminals									
				Screw terminals with cable clamp				Screw terminals with double connector 2 x (5.6 x 6.5 mm)	
Connection capacity (min. ... max.)									
Main conductors (poles)									
	Rigid	Solid ($\leq 4 \text{ mm}^2$)	}	1 x	1...4 mm ²		1...6 mm ²	2.5...16 mm ²	
		Stranded ($\geq 6 \text{ mm}^2$)		2 x	1...4 mm ²		1...6 mm ²	2.5...16 mm ²	
	Flexible with ferrule			1 x	0.75...2.5 mm ²		0.75...6 mm ²	2.5...10 mm ²	
					2 x	0.75...2.5 mm ²		0.75...6 mm ²	2.5...10 mm ²
	Flexible with insulated ferrule			1 x	-		0.75...4 mm ²	2.5...10 mm ²	
					2 x	-		0.75...2.5 mm ²	2.5...10 mm ²
	Bars or lugs			L <	7.7 mm		9.6 mm	-	
					I >	3.7 mm		3.7 mm	-
Tightening torque	Recommended				1 Nm / 9 lb.in		1.2 Nm / 11 lb.in	2.3 Nm / 20 lb.in	
	Max.				1.2 Nm		1.5Nm	2.60 Nm	
Auxiliary conductors (built-in auxiliary terminals + coil terminals)									
	Rigid solid			1 x	1...4 mm ²				
					2 x	1...4 mm ²			
	Flexible with ferrule			1 x	0.75...2.5 mm ²				
					2 x	0.75...2.5 mm ²			
	Lugs			L <	7.7 mm			8 mm	
					I >	3.7 mm			3.7 mm
Tightening torque									
Coil terminals	Recommended				1 Nm / 9 lb.in				
	Max.				1.20 Nm				
Built-in auxiliary terminals	Recommended				1 Nm / 9 lb.in			1 Nm / 9 lb.in	
	Max.				1.20 Nm			1.20 Nm	
Degree of protection acc. to IEC 60947-1 / EN 60947-1 and IEC 60529									
Main terminals				IP20 (only front side)					
Coil terminals				IP20				IP20	
Built-in auxiliary terminals				IP20 (only front side)				IP20	
Screw terminals				Delivered in open position, screws of unused terminals must be tightened					
Main terminals				M3.5				M5	
	Screwdriver type			Flat Ø 5.5 / Pozidriv 2				Flat Ø 6.5 / Pozidriv 2	
Coil terminals				M3.5					
	Screwdriver type			Flat Ø 5.5 / Pozidriv 2					
Built-in auxiliary terminals				M3.5					
	Screwdriver type			Flat Ø 5.5 / Pozidriv 2					

AX50 ... AX150 3-pole contactors

Technical data

Connecting characteristics

Contactor types		AC operated	AX50	AX65	AX80	AX95	AX115	AX150
Main terminals								
			"Screw terminals with single connector (13 x 10 mm)"		"Screw terminals with single connector (14 x 14 mm)"			
Connection capacity (min. ... max.)								
Main conductors (poles)								
	Rigid	Solid ($\leq 4 \text{ mm}^2$)	1 x	6...50 mm ²		10...95 mm ²		
		Stranded ($\geq 6 \text{ mm}^2$)						
	Flexible with ferrule		1 x	6...35 mm ²		10...70 mm ² (1)		
			2 x	6...16 mm ²		6...35 mm ² (1)		
	Flexible with insulated ferrule		1 x	6...35 mm ²		10...70 mm ² (1)		
			2 x	6...16 mm ²		6...35 mm ² (1)		
	Bars or lugs		L <	-		30 mm (2)		
			L >	-		6 mm		
Tightening torque	Recommended		4.00 Nm / 35 lb.in		8 Nm / 71 lb.in			
	Max.		4.50 Nm		9 Nm			
Auxiliary conductors (built-in auxiliary terminals + coil terminals)								
	Rigid solid		1 x	1...4 mm ²		0.75...2.5 mm ²		
			2 x	1...4 mm ²		0.75...2.5 mm ²		
	Flexible with ferrule		1 x	1...2.5 mm ²		0.75...2.5 mm ²		
			2 x	0.75...2.5 mm ²				
	Lugs		L <	8 mm ²				
			L >	3.7 mm ²				
Tightening torque								
Coil terminals	Recommended		1 Nm / 9 lb.in					
	Max.		1.2 Nm					
Built-in auxiliary terminals	Recommended		-					
	Max.		-					
Degree of protection								
acc. to IEC 60947-1 / EN 60947-1 and IEC 60529								
Main terminals			IP 10					
Coil terminals			IP20					
Built-in auxiliary terminals			-					
Screw terminals			Delivered in open position, screws of unused terminals must be tightened					
Main terminals			M6		M8			
	Screwdriver type		Flat Ø 6.5 / Pozidriv 2		Hexagon socket (s = 4 mm)			
Coil terminals			M3.5					
	Screwdriver type		Flat Ø 5.5 / Pozidriv 2					
Built-in auxiliary terminals			-					
	Screwdriver type		-					

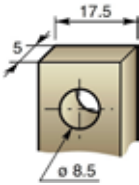
(1) AX95 -AX150: use flexible without ferrule.

(2) With LW110 enlargement piece, see "Accessories".

AX185 ... AX205 3-pole contactors

Technical data

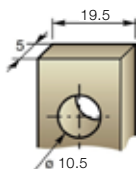
Connecting characteristics

Contactor types		AC operated	AX185	AX205
Main terminals				
Flat type				
Connection capacity (min. ... max.)				
Main conductors (poles)				
	Rigid with	Single for Cu cable	6...185 mm ²	
	connector	Single for Al/Cu cable	25...150 mm ²	
		Double for Al/Cu cable	-	
	Bars or lugs		L < 24 mm	
			Ø > 8 mm	
Tightening torque	Recommended		18 Nm / 160 lb.in	
	Max.		20 Nm	
Auxiliary conductors				
(built-in auxiliary terminals + coil terminals)				
	Rigid solid	1 x	1...4 mm ²	
		2 x	1...4 mm ²	
	Flexible with ferrule	1 x	0.75...2.5 mm ²	
		2 x	0.75...2.5 mm ²	
	Lugs	L <	8 mm ²	
		I >	3.7 mm ²	
Tightening torque	Coil terminals	Recommended	1 Nm / 9 lb.in	
		Max.	1.2 Nm	
Degree of protection				
acc. to IEC 60947-1 / EN 60947-1 and IEC 60529				
Main terminals			IP00	
Coil terminals			IP20	
Screw terminals				
Main terminals			M8	
			Screw and bolts	
Coil terminals (delivered in open position)			M3.5	
		Screwdriver type	Flat Ø 5.5 / Pozidriv 2	

AX260 ... AX370 3-pole contactors

Technical data

Connecting characteristics

Contactor types		AC operated	AX260	AX300	AX370
Main terminals					
Flat type					
Connection capacity (min. ... max.)					
Main conductors (poles)					
	Rigid with connector	Cu cable Stranded	1x	16...300 mm²	
		Clamp type		1SDA055016R1	
		Tightening torque		25 Nm	
		Cu cable Stranded	2x	70...185 mm²	
		Clamp type		1SCA022194R0890 (OZXB4)	
		Tightening torque		22 Nm	
		Al cable Stranded	1x	185...240 mm²	
		Clamp type		1SDA055020R1	
		Tightening torque		43 Nm	
		Cu cable Flexible	1x	16...240 mm²	
		Clamp type		1SDA055016R1	
		Tightening torque		25 Nm	
		Cu cable Flexible	2x	70...185 mm²	
		Clamp type		1SCA022194R0890 (OZXB4)	
		Tightening torque		22 Nm	
	Bars or lugs	Double for Al/Cu cable		70...185 mm²	
		W <		32mm (1.260 in)	
		Ø >		10mm (.394 in)	
		Socket type		LL...included	
		Tightening torque		28Nm / 248 lb.in	
Auxiliary conductors					
(Coil terminals)					
	Rigid /Stranded		1 x	1...4 mm²	
			2 x	1...4 mm²	
	Flexible		1 x	0.75...2.5 mm²	
			2 x	0.75...2.5 mm²	
	Flexible with non insulated		1 x	0.75...2.5 mm²	
			2 x	0.75...2.5 mm²	
	Flexible with insulated ferrule		1 x	0.75...2.5 mm²	
			2 x	0.75...2.5 mm²	
	Lugs		L <	8 mm	
			I >	3.5 mm	
	Stripping length			9 mm	
	Tightening torque			1.00 Nm / 9 lb.in	
Degree of protection					
acc. to IEC 60947-1 / EN 60947-1 and IEC 60529					
Main terminals				IP00	
Coil terminals				IP20	
Screw terminals					
Main terminals				M10	
Screwdriver type				Screws and bolts	
Coil terminals (delivered in open position)				M3.5	
Screwdriver type				Flat Ø 5.5 mm / Pozidriv 2	

AX09 ... AX40 3-pole contactors

Technical data

Built-in auxiliary contacts according to IEC - Other auxiliary contacts see "Accessories"

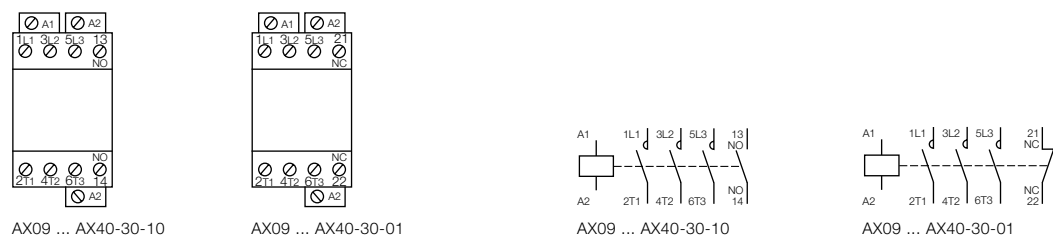
Contactor types	AC operated	AX09	AX12	AX18	AX25	AX32	AX40
Rated operational voltage U_e max.		690 V					
Rated frequency (without derating)		50/60 Hz					
Conventional free air thermal current I_{th} $\theta \leq 40^\circ\text{C}$		16 A					
I_e / Rated operational current AC-15 acc. to IEC 60947-5-1	24-127 V 50/60 Hz	6 A					
	220-240 V 50/60 Hz	4 A					
	380-440 V 50/60 Hz	3 A					
	500 V 50/60 Hz	2 A					
	690 V 50/60 Hz	2 A					
Making capacity AC-15		10 x I_e AC-15 acc. to IEC 60947-5-1					
Breaking capacity AC-15		10 x I_e AC-15 acc. to IEC 60947-5-1					
I_e / Rated operational current DC-13 acc. to IEC 60947-5-1	24 V DC	6 A / 144 W					
	48 V DC	2.8 A / 134 W					
	72 V DC	2 A / 144 W					
	110 V DC	1.1 A / 121 W					
	125 V DC	1.1 A / 138 W					
	220 V DC	0.55 A / 121 W					
	250 V DC	0.55 A / 138 W					
Short-circuit protection device gG type fuse		10 A					
Rated short-time withstand current I_{cw}	for 1.0 s	100 A					
	for 0.1 s	140 A					
Minimum switching capacity with failure rate acc. to IEC 60947-5-4		12 V / 3 mA					
Non-overlapping time between N.O. and N.C. contacts		≥ 2 ms					
Power dissipation per pole at 6 A		0.1 W					
Max. electrical switching frequency	AC-15	1200 cycles/h					
	DC-13	900 cycles/h					
Mechanically linked contacts acc. to annex L of IEC 60947-5-1		Built-in N.O. or N.C. auxiliary contacts and additional N.O. or N.C. auxiliary contacts of 4-pole CA5X are mechanically linked contacts.					
Mirror contacts acc. to annex F of IEC 60947-4-1		Built-in N.C. auxiliary contacts or additional N.C. auxiliary contacts (CA5X, CAL5X-11) are mirror contacts.					

AX09 ... AX370 3-pole contactors

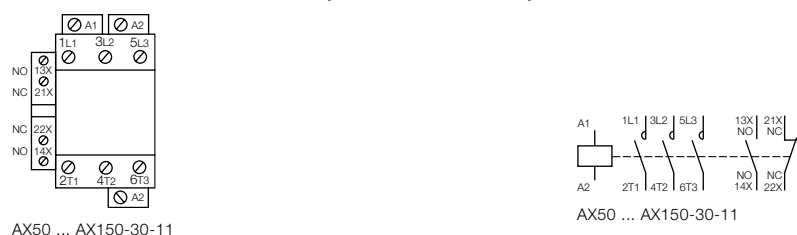
Terminal marking and positioning

AX09 ... AX150 contactors - AC operated

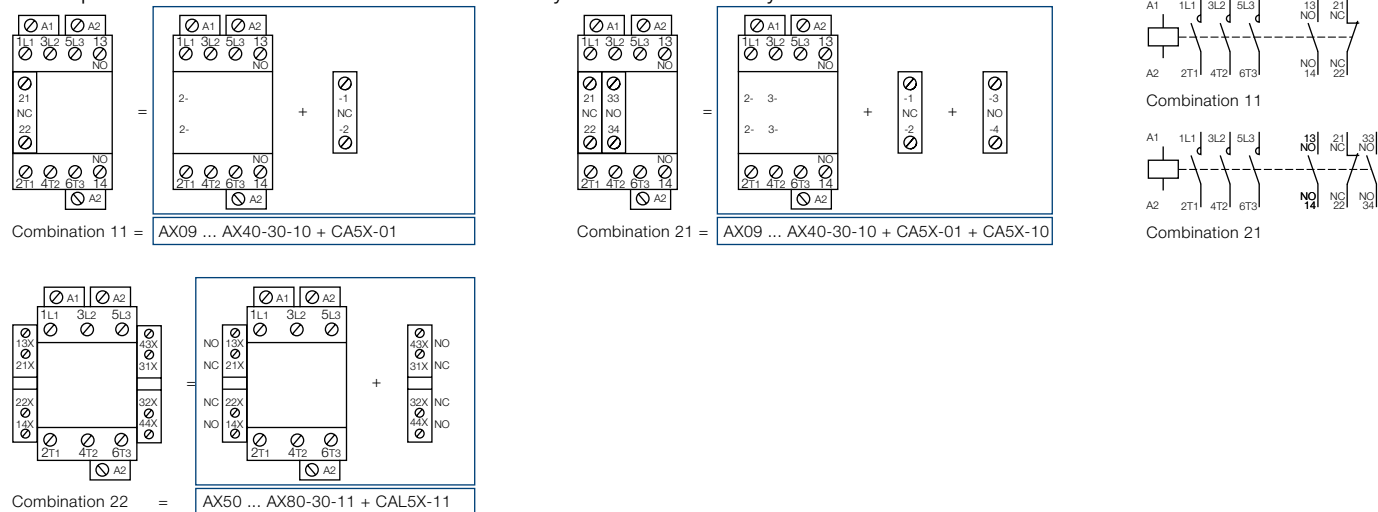
Standard devices without addition of auxiliary contacts



Standard devices with factory mounted auxiliary contacts

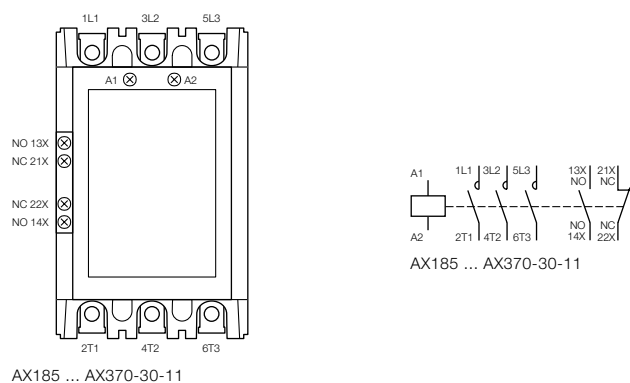


Other possible contact combinations with auxiliary contacts added by the user



AX185 ... AX370 contactors - AC operated

Standard devices with factory mounted auxiliary contacts

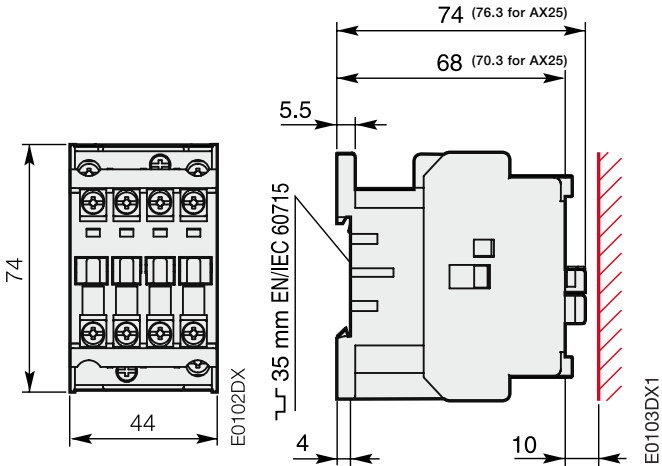


AX contactor

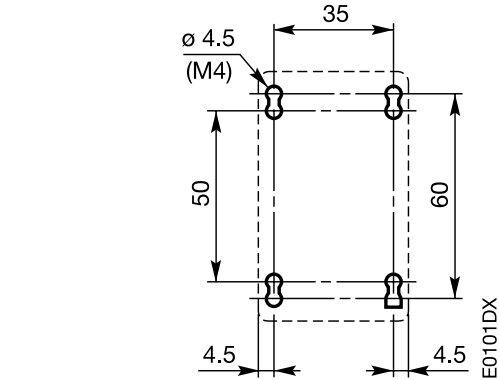
Dimensions

Main dimensions mm

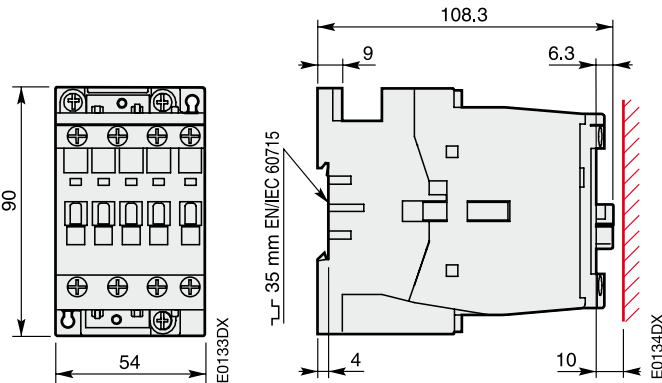
2



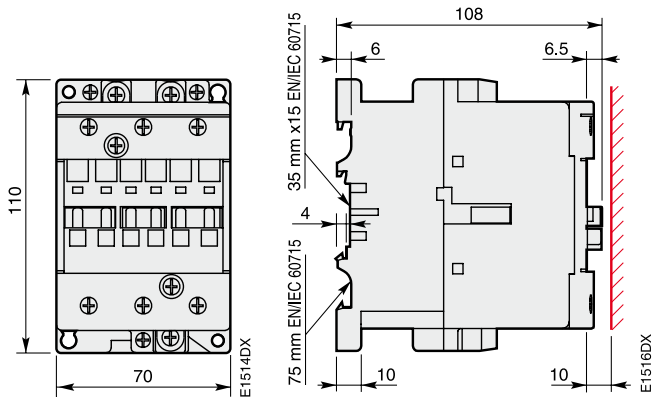
AX09, AX12, AX18, AX25, NX..E



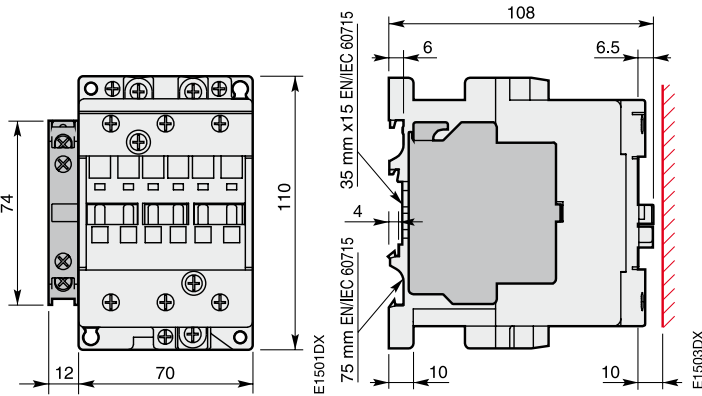
Drilling plan AX09, AX12, AX18, AX25, NX..E



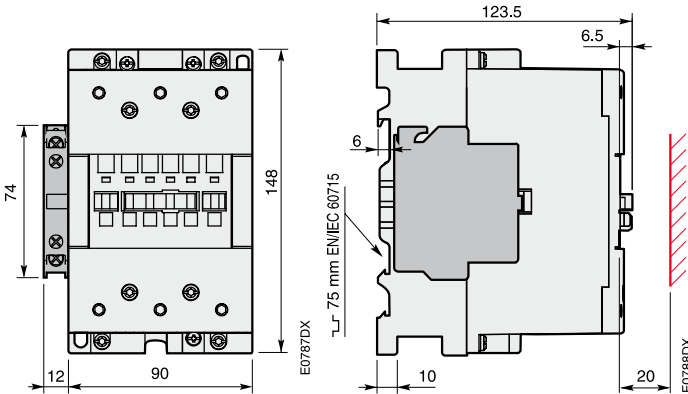
AX32, AX40



AX50, AX65, AX80



AX50, AX65, AX80 + CAL5X - 11

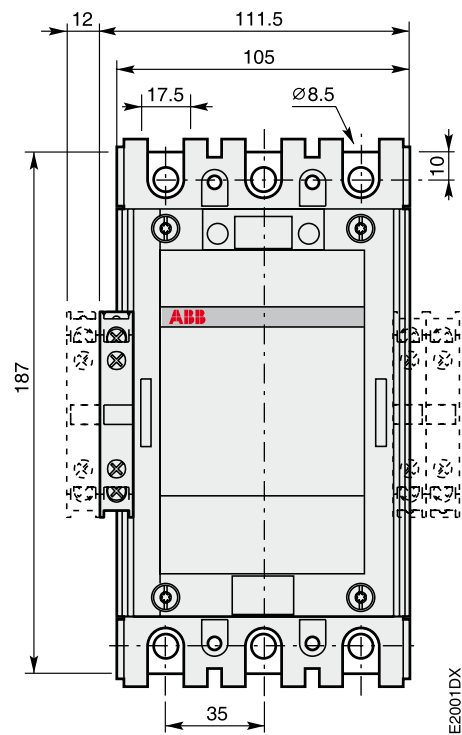


AX95, AX115, AX150 + CAL18X-11

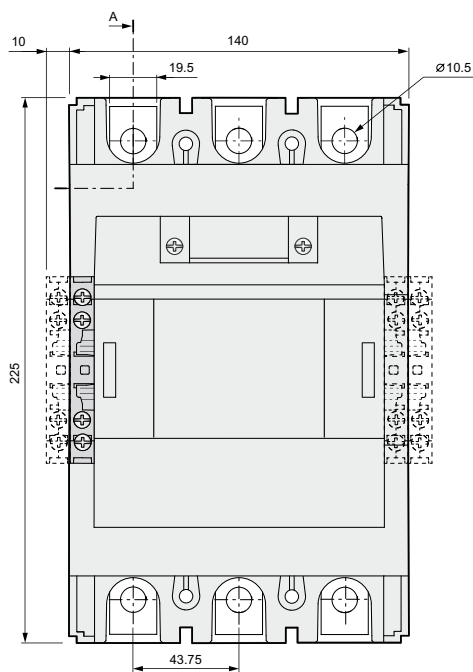
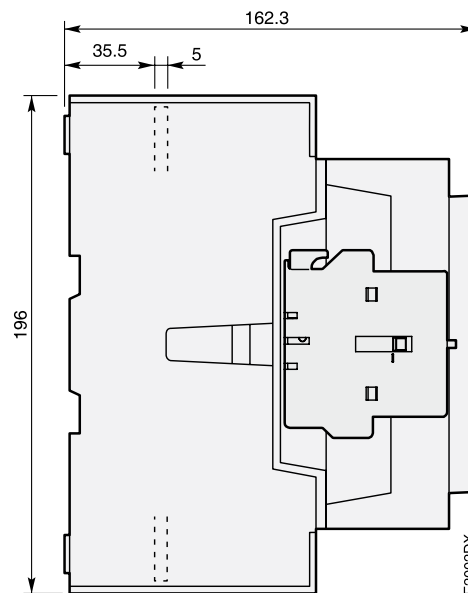
AX contactor

Dimensions

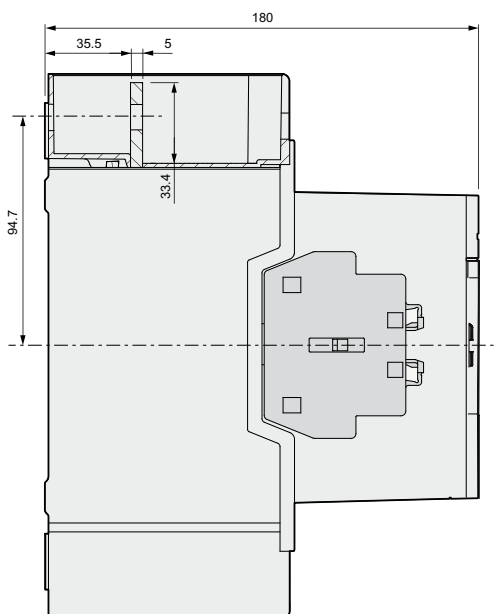
Main dimensions mm



AX185, AX205 + CAL18X-11



AX260, AX300, AX370-30-00 + CAL19 2-pole contact block
AX260, AX300, AX370-30-11



AX260, AX300, AX370

Star-delta starting of three-phase asynchronous motors

Contactor selection

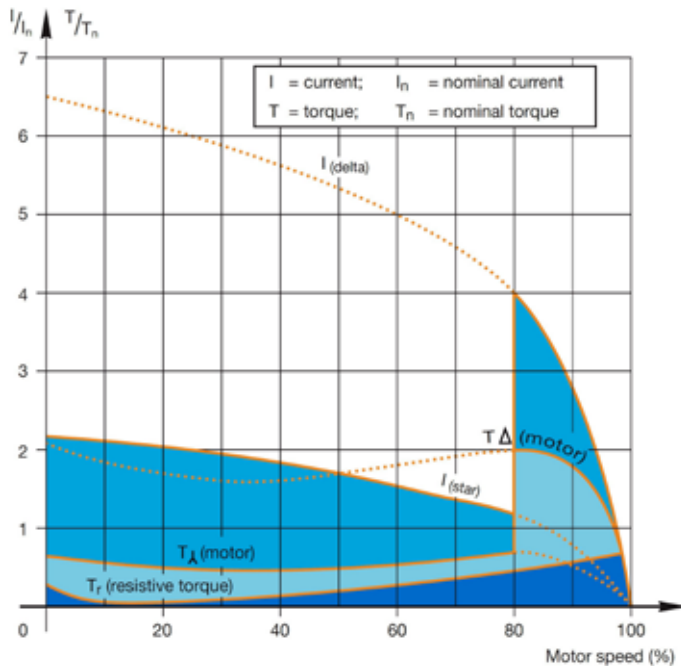
General

Star-delta starting is the most common method to reduce the starting current of a motor. This system can be used on all the squirrel cage motors, which are normally used in delta connection.

2

In this type of starting, it is recommended to choose motors having high starting torque i.e. much higher than the resistive torque in order to reach sufficient high speed when the motor is connected in star.

Star-delta starting



Technical Data

When starting:

- inrush current is reduced to a third of direct starting current
- motor torque is reduced to a third or even less of direct starting torque.

Transient current is generated when switching from star to delta connection.

Utilization

During the initial starting phase ("star" connection), the resistive torque of the driven load must remain, irrespective of speed, less than the "star" motor torque until "star-delta" switching occurs.

This starting mode is therefore ideal for machines having low starting torque such as:

- pumps
- centrifugal compressors
- wood-working machines, etc.

In order to prevent a high current peak, at least 85 % of nominal speed must be reached before switching from star to delta.

Precautions

Motor nominal voltage in delta connection must be equal to that of the mains.

Example:

A motor for 415 V star-delta starting must be designed for 415 V in "delta" connection. Its usual designation is "415 V / 690 V motor". The motor must be constructed with 6 terminal windings.

Sequence

Starting is a three-stage process:

1st stage - "Star" connection

Press the "On" button on the control circuit to close the KM2 "star" contactor. The KM1 "line" contactor then closes and the motor starts. Countdown of programmed starting time (normally 6 to 16 s) then begins.

2nd stage - "Star" to "Delta" switching

When the programmed starting time is over, the KM2 "star" contactor opens.

3rd stage - "Delta" connection

A transition time (or dwelling time) of 50 ms is fixed between opening of the "star" contactor and closing of the "delta" contactor by the use of TE5S timer. This prevents short circuit between "star" and "delta".

Note: An electrical interlock between star and delta is mandatory such as VE 5 or through auxiliary contacts.

Furthermore, in open transition, the current interruption may reach up to 95 ms: it shall be checked that this duration is compatible with the application i.e. mainly if the decreasing in rotation speed is acceptable during the starting phase.

Star-delta starting of three-phase asynchronous motors

Contactor selection

2

Rated operational power ₄₎						Max. Starting time from cold state ₍₂₎ seconds	Line contactor type	Delta contactor type	Star contactor type	Overload relay ₍₃₎ type	Timer
220-230 V AC-3 kW	240 V AC-3 kW	380-400 V AC-3 kW	415 V AC-3 kW	500 V AC-3 kW	660-690 V AC-3 kW						
4	4	7.5	5.5	5.5	7.5	15	AX09	AX09	AX09	TA25DU	TE5S
5.5	5.5	7.5	11	7.5	7.5	15	AX12	AX12	AX09	TA25DU	TE5S
7.5	7.5	15	15	11	11	15	AX18	AX18	AX12	TA25DU	TE5S
11	11	22(1)	22	15	15	15	AX25	AX25	AX18	TA25DU	TE5S
15	15	30	30	30	30	15	AX32	AX32	AX25	TA25DU	TE5S
18.5	22	37	37	37	37	30	AX40	AX40	AX32	TA42DU	TE5S
22	30	45	45	55	55	30	AX50	AX50	AX32	TA75DU	TE5S
30	37	55	55	55	55	30	AX65	AX65	AX40	TA75DU	TE5S
37	45	55	75	75	75	30	AX80	AX80	AX50	TA75DU	TE5S
45	55	75/90 ₍₂₎	90	90	90	20	AX95	AX95	AX65	TA110DU	TE5S
55	55	90/110 ₍₂₎	110	110	132	20	AX115	AX115	AX80	TA110DU	TE5S
75	75	132	132	110	132	20	AX150	AX150	AX95	TA200DU	TE5S
90	90	160	160	160	160/200 ₍₂₎	20	AX185	AX185	AX115	TA200DU	TE5S
110	110	160	160	200	250	20	AX205	AX205	AX150	TA200DU	TE5S
132	132	250	250	315	400	20	AX260	AX260	AX185	EF370	CT-ERS.21
160	160	250	315	355	400/500 ₍₂₎	20	AX300	AX300	AX205	EF370	CT-ERS.21
200	200	315/355 ₍₂₎	355	355	500	20	AX370	AX370	AX260	EF370	CT-ERS.21

Notes:

(1) To combine with TA25DU-32M

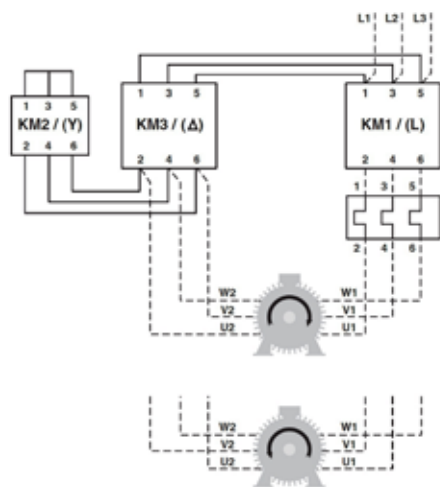
(2) Due to different voltage to select different motor

(3) Usual time value = 6...16 s.

(4) The setting current value is : nominal motor current x 0.58

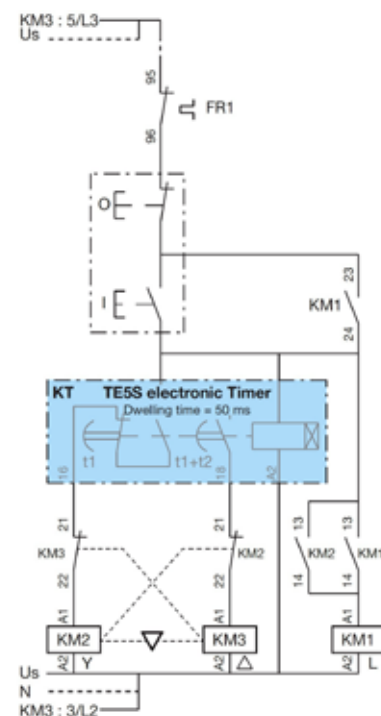
Power circuit diagram

AX09 ... AX370 contactors



Control circuit diagrams - Remote control

AX09 ... AX370 contactors



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