

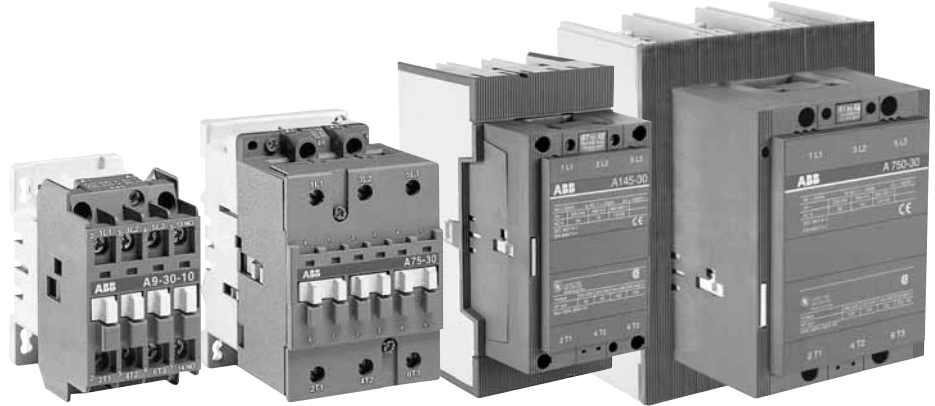
# Across the line Contactors



## Across the line contactors A9 - AF1650

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### A9 - A110

- Maximum UL/CSA horsepower ratings according to UL508 and CSA22.2 No. 14
- Includes NEMA sizes 00 - 3
- CE mark
- Compact space saving design
- Standard auxiliary contact configurations:
  - A9 - A40 1 NO or 1 NC
  - A50 - A110 1 NO & 1 NC
- Contactor sizes A50 - A110 can be supplied without auxiliaries
- Additional auxiliary contact blocks are available
- D.C. ratings & D.C. control operation available
- Fast, snap-on DIN rail mounting
- Double break contact design
- Snap-on front mounted accessories include mechanical latch, pneumatic timer, and 1 & 4 pole auxiliary contact blocks
- Contactors ensure positive safety between their auxiliary contact blocks.
- Easy coil change
- Captive terminal screws
- NEMA, UL, IEC, CSA, VDE and most other international standards
- Touch safe design: All connection terminals are protected against accidental touch
- Terminals supplied open for ease of wiring
- Operates over an extended voltage range of 85% to 110% of rated control voltage
- Screwdriver guide holes
- UL File No: E39231 (A9 - A75); (AE9 - AE75); (AL9 - AL40); (AF50 - AF75)
- UL File No: E79416 (A95 - A110); (AE95 - AE110); (AF145 - AF750)
- CSA File No: LR56745 (A9 - A75); (AE9 - AE75); (AF50 - AF75)
- CSA File No: LR19700 (A95 - A110); (AE95 - AE110); (AF145 - AF750)
- CSA approved for elevator service

### A145 - AF1650

- Maximum UL/CSA horsepower ratings according to UL508 and CSA22.2 No. 14
- Includes NEMA sizes 4 - 8
- CE mark
- 1 NO & 1 NC auxiliary contacts are standard and up to 6 additional auxiliary contacts may be added to provide a total of 8 (4 NO & 4 NC)
- Contactors ensure positive safety between their auxiliary contact blocks.
- D.C. ratings and D.C. control operation available
- Easy maintenance of main contacts and coil inspection
- Can be mounted in any position
- Operates over an extended voltage range of 85% to 110% of rated control voltage
- NEMA, UL, IEC, CSA, VDE and most other international standards
- UL File No: E79416 (A/AF145 - AF750)
- UL File No: E73397 (AF1350 - AF1650)
- CSA File No: LR19700

## General information

### A9 - A300, AC operated UL rated, 3 phase

#### Application

A-Line contactors are mainly used for controlling 3-phase motors and for controlling power circuits corresponding to their operating characteristics up to 690 and even 1000 VAC, and 440 VDC.

#### Description of 3 pole and 4 pole contactors A9 - A300

All A-Line contactors can be assembled side by side. The add-on or built-in auxiliary contacts are suitable for low level currents.

#### Control circuit types

- A-Line types: AC operated with laminated magnetic circuit.

#### Contactor types

- 3 pole contactors with NO or NC built in auxiliary contact for A9 - A40 contactors; factory assembled auxiliary contacts for A50 - A300 contactors
- 4 pole contactors: 4 NO or 2 NO & 2 NC without any auxiliary contacts. (A9 - A75)

Quick mounting on DIN rail: EN 50022 and EN 50023 standards:

35 x 7.5mm for A9 - A40

35 x 15mm for A9 - A75

75mm for A45 - A110

Location of side mounted accessories: on right or left hand side. Factory mounted on left hand side for CAL5 on A50 - A300

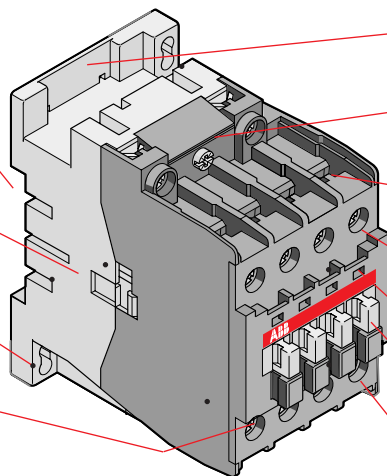
Holes for screw mounting (screws not supplied). Distance between holes according to EN 50003.

Terminals delivered in open position with captive screws (screws of unused terminals must be tightened).

Screwdriver guidance for all terminals makes it possible to use motorized screwdrivers.

All terminals provide protection against accidental direct contact with live parts according to VDE0106 - Part. 100.

All A9 - A40 contactor terminals as well as A45 - A300 contactor auxiliary contact and coil terminals ensure IP20 degree of protection according to IEC 947-1.



A9 - A300

Location of surge suppressors.

Clear marking of coil voltages and frequencies.

Connecting point for control leads in top part of main terminals of A50 - A75 contactors. For A95 & A110 contactors these are additional power connections.

Terminal marking according to IEC 947-4-1, EN 50005, EN 50012 and NEMA standards.

Location of function marker.

Stops for attaching front mounted accessories.

Terminal screws:

- Posidrive (+,-) No 2 for all A9 - A75
- M8 hex threaded socket screw for A95 - A300 main terminals.

## Catalog number explanation

### A9-30-10-84

Frame size

Power pole

30 = 3 NO  
40 = 4 NO  
22 = 2 NO & 2 NC

Coil voltage

(see coil voltage selection chart)

Auxiliary contacts

10 = 1 NO & 0 NC  
01 = 0 NO & 1 NC  
11 = 1 NO & 1 NC  
00 = No auxiliary provided  
22 = 2 NO & 2 NC

#### Coil voltage selection chart

Hz	Cntrl type	Volts															
		12	24	48	110	120	125	208	220	240	277	380	415	440	480	500	600
60	A		81	83	84	84		34	36	80	42		86	86	51	53	55
50	A		81	83	84				80				85	86			55

For other voltages, see page 1.26.

# A9 - A300, AC operated Non-reversing, mechanically interlocked, reversing UL rated, 3 phase

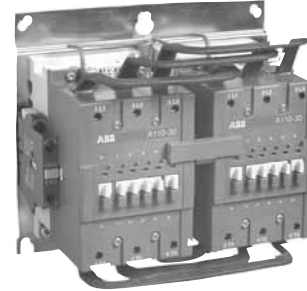
Across the line  
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A26-30-10-84



A110M-30-11-84



A110R-30-11-84

General purpose current	UL motor switching current	Maximum motor horsepower ratings				Standard Aux. contacts		Non-reversing		Mechanically interlocked		Reversing	
		208V	240V	480V	575/600V	NO	NC	Catalog number	List price	Catalog number	List price	Catalog number	List price
AC1		<b>UL rated</b>											
21	9	2	2	5	7.5	1 0	0 1	A9-30-10-84 A9-30-01-84	\$ 78	A9M-30-10-84 A9M-30-01-84	\$ 255	A9R-30-10-84 A9R-30-01-84	\$ 315
25	11	3	3	7.5	10	1 0	0 1	A12-30-10-84 A12-30-01-84	84	A12M-30-10-84 A12M-30-01-84	315	A12R-30-10-84 A12R-30-01-84	375
30	17	5	5	10	15	1 0	0 1	A16-30-10-84 A16-30-01-84	102	A16M-30-10-84 A16M-30-01-84	345	A16R-30-10-84 A16R-30-01-84	413
40	28	7.5	10	20	25	1 0	0 1	A26-30-10-84 A26-30-01-84	183	A26M-30-10-84 A26M-30-01-84	405	A26R-30-10-84 A26R-30-01-84	480
50	34	10	10	25	30	1 0	0 1	A30-30-10-84 A30-30-01-84	252	A30M-30-10-84 A30M-30-01-84	548	A30R-30-10-84 A30R-30-01-84	623
60	42	10	15	30	40	1 0	0 1	A40-30-10-84 A40-30-01-84	297	A40M-30-10-84 A40M-30-01-84	639	A40R-30-10-84 A40R-30-01-84	750
80	54	15	20	40	50	1	1	A50-30-11-84	330	A50M-30-11-84	713	A50R-30-11-84	810
90	65	20	25	50	60	1	1	A63-30-11-84	372	A63M-30-11-84	870	A63R-30-11-84	1013
105	80	25	30	60	75	1	1	A75-30-11-84	413	A75M-30-11-84	1155	A75R-30-11-84	1298
125	95	30	30	60	75	1	1	A95-30-11-84	450	A95M-30-11-84	1230	A95R-30-11-84	1425
140	110	30	40	75	100	1	1	A110-30-11-84	480	A110M-30-11-84	1365	A110R-30-11-84	1628
230	130	40	50	100	125	1	1	A145-30-11-84	825	A145M-30-11-84	2235	A145R-30-11-84	2250
250	156	50	60	125	150	1	1	A185-30-11-84	1290	A185M-30-11-84	3360	A185R-30-11-84	3375
300	192	60	75	150	200	1	1	A210-30-11-84	1635	A210M-30-11-84	4035	A210R-30-11-84	4050
350	248	75	100	200	250	1	1	A260-30-11-84	1815	A260M-30-11-84	4485	A260R-30-11-84	4500
400	302	100	100	250	300	1	1	A300-30-11-84	1875	A300M-30-11-84	5460	A300R-30-11-84	5475
550	414	125	150	350	400	1	1						
650	480	150	200	400	500	1	1						
750	602	200	250	500	600	1	1						
900	810	250	300	600	700	1	1						
1350	960	—	400	800	900	1	1						
1650	1080	—	450	900	1000	1	1						

See Type AF contactors, page 1.9

## Coil voltage selection

All AC operated catalog numbers include a 120VAC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 240V coil is required for an A75 contactor: A75-30-11-80

## Auxiliary contact blocks

For additional auxiliary contact blocks, see catalog number explanation on page 1.2. Add \$ 20 to list price for each additional auxiliary, and see page 1.18 for available combinations. Only side-mounted blocks are allowed to be factory installed. If auxiliary contacts are not required for A50 - A300, subtract \$ 40 from list price and change catalog number to "00" instead of "11."

## Mechanical interlock

Mechanically interlocked contactors are designed for reversing, 2 speed, reduced voltage, etc. type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

- A9 - A16 — mounted on 35mm DIN rail
- A26 - A300 — mounted on common baseplate

Power wiring is not included. The NC electrical interlock is provided with the mechanical interlock for A9 - A110 contactors.

## Coil voltage selection chart

Hz	Cntr type	Volts															
		12	24	48	110	120	125	208	220	240	277	380	415	440	480	500	600
60	A		81	83	84	84		34	36	80	42		86	86	51	53	55
50	A		81	83	84					80			85	86			55

For other voltages, see page 1.26.

## Reversing

Reversing contactors are designed for reversing type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

- A9 - A16 — mounted on 35mm DIN rail
- A26 - A300 — mounted on common baseplate

The NC electrical interlock is provided with the mechanical interlock for A9 - A110 contactors.

## General information

### AE9 - AE110, DC operated

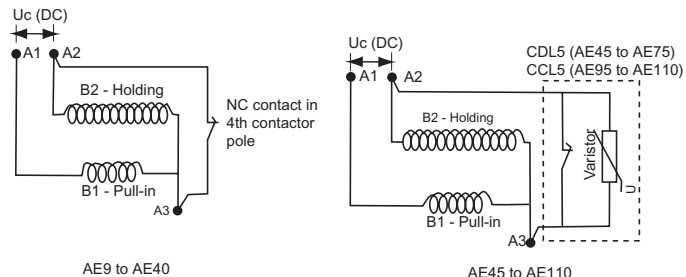
### UL rated, 3 phase

#### Application

A-Line contactors are mainly used for controlling 3-phase motors and for controlling power circuits corresponding to their operating characteristics up to 690 and even 1000 VAC, and 440 VDC.

#### Control circuit types

AE types: with laminated magnetic circuit and double-winding coil fed from DC supply via a CDL5 insertion contact mounted on the device. The CDL5 has an NC lagging contact for insertion of the second winding. (See schematic.)



Quick mounting on DIN rail: EN 50022 and EN 50023 standards:

35 x 7.5mm for AE9 - AE40

35 x 15mm for AE9 - AE75

75mm for AE45 - AE110

Location of side mounted accessories: on right or left hand side. Factory mounted on left hand side for CAL5 on A50 - A300

- right hand side for CDL5/CCL5 on AE45 - AE110

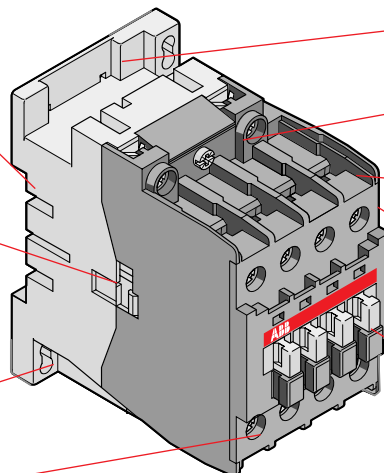
Holes for screw mounting (screws not supplied). Distance between holes according to EN 50003.

Terminals delivered in open position with captive screws (unused terminal screws must be tightened).

Screwdriver guidance for all terminals makes it possible to use motorized screwdrivers.

All terminals provide protection against accidental direct contact with live parts according to VDE0106 - Part. 100.

All AE9 - AE40 contactor terminals as well as AE45 - AE110 contactor auxiliary contact and coil terminals ensure IP20 degree of protection according to IEC 947-1.



AE9 - AE110

Location of surge suppressors.

Clear marking of coil voltages and frequencies.

Connecting point for control leads in top part of main terminals of AE50 - AE75 contactors. For AE95 & AE110 contactors these are additional power connections.

Terminal marking according to IEC 947-4-1, EN 50005, EN 50012 and NEMA standards.

Location of function marker.

Stops for attaching front mounted accessories.

Terminal screws:

- Posidrive (+,-) No° 2 for all AE9 - AE75
- M8 hex threaded socket screw for AE95 & AE110

## Catalog number explanation

### AE9-30-00-81

Frame size

Power pole

30 = 3 NO  
40 = 4 NO  
22 = 2 NO & 2 NC

Coil voltage

(see coil voltage selection chart)

Auxiliary contacts

00 = No auxiliary provided  
11 = 1 NO & 1 NC

#### Coil voltage selection chart

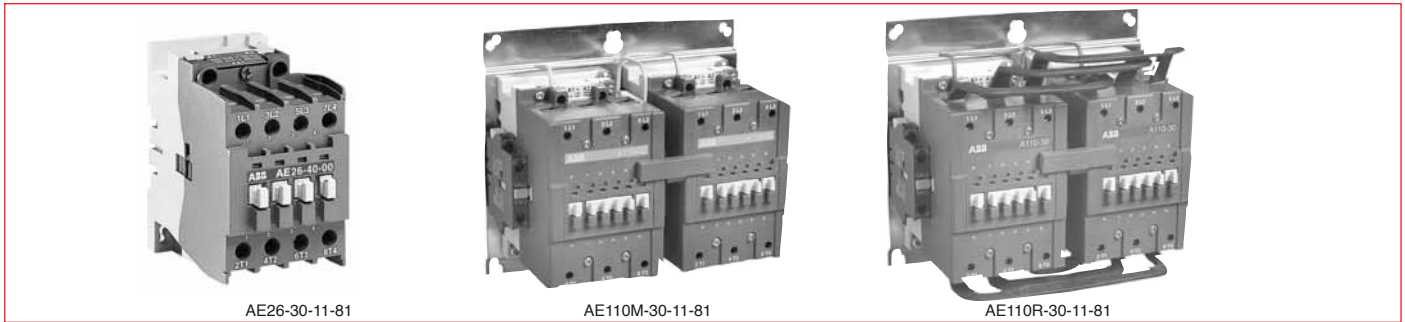
Hz	Contr. type	Volts						
		12	24	48	110	125	220	240
DC	AE	80	81	83	86	87	88	89

For other voltages, see page 1.26.

# AE9 - AE110

Non-reversing, mechanically interlocked, reversing  
DC operated, UL rated, 3 phase

Across the line  
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General purpose current	UL motor switching current	Maximum motor horsepower ratings				Standard Aux. contacts		Non-reversing		Mechanically interlocked		Reversing	
		208V	240V	480V	575/600V	NO	NC	Catalog number	List price	Catalog number	List price	Catalog number	List price
AC1		<b>UL rated</b>											
21	9	2	2	5	7.5	1	1	AE9-30-11-81	\$ 118	AE9M-30-11-81	\$ 335	AE9R-30-11-81	\$ 395
25	11	3	3	7.5	10	1	1	AE12-30-11-81	124	AE12M-30-11-81	395	AE12R-30-11-81	455
30	17	5	5	10	15	1	1	AE16-30-11-81	142	AE16M-30-11-81	425	AE16R-30-11-81	493
40	28	7.5	10	20	25	1	1	AE26-30-11-81	223	AE26M-30-11-81	485	AE26R-30-11-81	560
50	34	10	10	25	30	1	1	AE30-30-11-81	292	AE30M-30-11-81	628	AE30R-30-11-81	703
60	42	10	15	30	40	1	1	AE40-30-11-81	337	AE40M-30-11-81	720	AE40R-30-11-81	830
80	54	15	20	40	50	1	1	AE50-30-11-81	375	AE50M-30-11-81	803	AE50R-30-11-81	930
90	65	20	25	50	60	1	1	AE63-30-11-81	477	AE63M-30-11-81	1080	AE63R-30-11-81	1208
105	80	25	30	60	75	1	1	AE75-30-11-81	518	AE75M-30-11-81	1365	AE75R-30-11-81	1493
125	95	30	30	60	75	1	1	AE95-30-11-81	555	AE95M-30-11-81	1440	AE95R-30-11-81	1635
140	110	30	40	75	100	1	1	AE110-30-11-81	690	AE110M-30-11-81	1785	AE110R-30-11-81	2048
230	130	40	50	100	125	1	1						
250	156	50	60	125	150	1	1						
300	192	60	75	150	200	1	1						
350	248	75	100	200	250	1	1						
400	302	100	100	250	300	1	1						
550	414	125	150	350	400	1	1						
650	480	150	200	400	500	1	1						
750	602	200	250	500	600	1	1						
900	810	250	300	600	700	1	1						
1350	960	—	400	800	900	1	1						
1650	1080	—	450	900	1000	1	1						

See AF contactors, page 1.9

### Coil voltage selection

All DC operated catalog numbers include a 24VDC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 110V coil is required for an AE75 contactor: AE75-30-11-86

### Auxiliary contact blocks

For additional auxiliary contact blocks, see catalog number explanation on page 1.4. Add \$ 20 to list price for each additional auxiliary, and see page 1.18 for available combinations.

### Mechanical interlock

Mechanically interlocked contactors are designed for reversing, 2 speed, reduced voltage, etc. type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

- AE9 - AE16 — mounted on 35mm DIN rail
- AE26 - AE110 — mounted on common baseplate

Power wiring is not included.

The NC electrical interlock is provided with the mechanical interlock.

### Coil voltage selection chart

Hz	Contr. type	Volts							
		12	24	48	110	125	220	240	
DC	AE	80	81	83	86	87	88	89	

For other voltages, see page 1.26.

### Reversing

Reversing contactors are designed for reversing type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

- AE9 - AE16 — mounted on 35mm DIN rail
- AE26 - AE110 — mounted on common baseplate

The NC electrical interlock is provided with the mechanical interlock.

## General information

### AL9 - AL40, DC operated

### UL rated, 3 phase

#### Application

AL and AL...Z contactors are mainly used for controlling 3-phase motors and for controlling power circuits corresponding to their operating characteristics up to 690 and even 1000 VAC. and 440 VDC.

#### Control circuit types

AL9 - AL40: DC coil with low power consumption of 3W to 3.5W

AL9Z - AL16Z: DC coil with low power consumption of 2.4W. Designed to be directly controlled by PLC.

Quick mounting on DIN rail: EN 50022 and EN 50023 standards:

35 x 7.5mm for AL9 - AL40  
35 x 15mm for AL9 - AL40

Location of side mounted accessories: on right or left hand side.

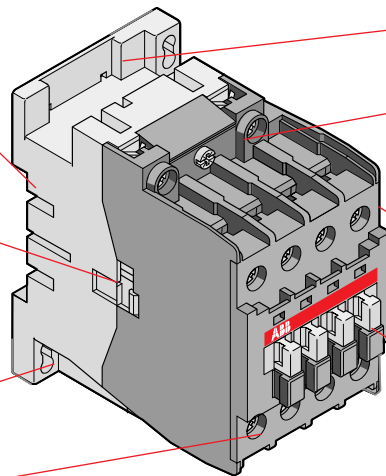
Holes for screw mounting (screws not supplied). Distance between holes according to EN 50003.

Terminals delivered in open position with captive screws (unused terminal screws must be tightened).

Screwdriver guidance for all terminals makes it possible to use motorized screwdrivers.

All terminals provide protection against accidental direct contact with live parts according to VDE0106 - Part. 100.

All AL9 - AL40 contactor terminals as well as contactor auxiliary contacts and coil terminals ensure IP20 degree of protection according to IEC 60947-1.



AL9 - AL40

Location of surge suppressors.

Clear marking of coil voltages and frequencies.

Terminal marking according to IEC 60947-4-1, EN 50005, EN 50012 and NEMA standards.

Location of function marker.

Stops for attaching front mounted accessories.

Terminal screws:

- Posidrive (+,-) No° 2 for all AL contactors

## Catalog number explanation

**AL9 - 30 - 10 - 81**

**Frame size**

**Power pole**

30 = 3 NO

**Coil voltage**

(see coil voltage selection chart)

**Auxiliary contacts**

10 = 1 NO & 0 NC

01 = 0 NO & 1 NC

#### Coil voltage selection

Hz	Contr. type	Volts						
		12	24	48	110	125	220	240
DC	AL	80	81	83	86	87	88	89
DC	AL...Z		15	28				

For other voltages, see page 1.26.

# AL9 - AL40, AL9Z - AL16Z

## Non-reversing, mechanically interlocked, reversing DC operated, UL rated, 3 phase

Across the line  
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### AL Contactors — 3W and 3.5W consumption

General purpose current	UL motor switching current	Maximum motor horsepower ratings				Standard Aux. contacts		Non-reversing		Mechanically interlocked		Reversing	
		208V	240V	480V	575/600V	NO	NC	Catalog number	List price	Catalog number	List price	Catalog number	List price
AC1		<b>UL rated</b>											
21	9	2	2	5	7.5	1 0	0 1	AL9-30-10-81 AL9-30-01-81	\$ 110	AL9M-30-10-81 AL9M-30-01-81	\$ 319	AL9R-30-10-81 AL9R-30-01-81	\$ 379
25	11	3	3	7.5	10	1 0	0 1	AL12-30-10-81 AL12-30-01-81	135	AL12M-30-10-81 AL12M-30-01-81	417	AL12R-30-10-81 AL12R-30-01-81	477
30	17	5	5	10	15	1 0	0 1	AL16-30-10-81 AL16-30-01-81	150	AL16M-30-10-81 AL16M-30-01-81	441	AL16R-30-10-81 AL16R-30-01-81	501
40	28	7.5	10	20	25	1 0	0 1	AL26-30-10-81 AL26-30-01-81	190	AL26M-30-10-81 AL26M-30-01-81	473	AL26R-30-10-81 AL26R-30-01-81	533
50	34	10	10	20	30	1 0	0 1	AL30-30-10-81 AL30-30-01-81	260	AL30M-30-10-81 AL30M-30-01-81	618	AL30R-30-10-81 AL30R-30-01-81	678
60	42	10	15	30	40	1 0	0 1	AL40-30-10-81 AL40-30-01-81	300	AL40M-30-10-81 AL40M-30-01-81	715	AL40R-30-10-81 AL40R-30-01-81	775

### ALZ Contactors — 2.4W consumption

General purpose current	UL motor switching current	Maximum motor horsepower ratings				Standard Aux. contacts		Non-reversing		Mechanically interlocked		Reversing	
		208V	240V	480V	575/600V	NO	NC	Catalog number	List price	Catalog number	List price	Catalog number	List price
AC1		<b>UL rated</b>											
21	9	2	2	5	7.5	1 0	0 1	AL9Z-30-10-15 AL9Z-30-01-15	\$ 110	AL9ZM-30-10-15 AL9ZM-30-01-15	\$ 319	AL9ZR-30-10-15 AL9ZR-30-01-15	\$ 379
25	11	3	3	7.5	10	1 0	0 1	AL12Z-30-10-15 AL12Z-30-01-15	135	AL12ZM-30-10-15 AL12ZM-30-01-15	417	AL12ZR-30-10-15 AL12ZR-30-01-15	477
30	17	5	5	10	15	1 0	0 1	AL16Z-30-10-15 AL16Z-30-01-15	150	AL16ZM-30-10-15 AL16ZM-30-01-15	441	AL16ZR-30-10-15 AL16ZR-30-01-15	501

### Coil voltage selection

All DC operated catalog numbers include a 24VDC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 48V coil is required for an AL30 contactor: AL30-30-10-83

### Auxiliary contact blocks

For additional auxiliary contact blocks, see catalog number explanation on page 1.6. Add \$ 20 to list price for each additional auxiliary, and see page 1.18 for available combinations.

### Coil voltage selection

Hz	Contr. type	Volts							
		12	24	48	110	125	220	240	
DC	AL	80	81	83	86	87	88	89	
DC	AL...Z		15	28					

For other voltages, see page 1.26.

### Mechanical interlock

Mechanically interlocked contactors are designed for reversing, 2 speed, reduced voltage, etc. type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

- AL9 & AL16 — mounted on 35mm DIN rail
- AL26 & AL40 — mounted on common baseplate

Power wiring is not included.

The NC electrical interlock is provided

### Reversing

Reversing contactors are designed for reversing type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted with line and load terminals.

① Only coil voltages available for AL9Z – AL16Z.

## General information

### AF50 - AF1650, AC & DC operated UL rated, 3 phase

#### Application

A-Line contactors are mainly used for controlling 3-phase motors and for controlling power circuits corresponding to their operating characteristics up to 690 and even 1000 VAC. and 440 VDC.

#### Description of 3 pole contactors AF50 - AF1650

All AF contactors can be assembled side by side. The add-on auxiliary contacts are suitable for low level currents.

#### Control circuit types

- AF types: AC/DC operated with laminated magnetic circuit.

#### Contact or types

- 3 pole contactors with 1 NO or 1 NC factory assembled auxiliary contacts for AF50 - AF1650 contactors

Quick mounting on DIN rail: EN 50022 and EN 50023 standards:

35 x 15mm for AF50 - AF75

75mm for AF50 - AF110

Location of side mounted accessories: on right or left hand side. Factory mounted on left hand side for CAL5 on AF50 - AF1650

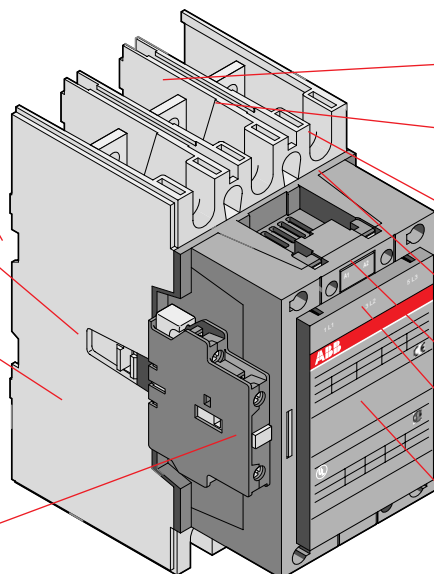
Holes for screw mounting (screws not supplied). Distance between holes according to EN 50003.

Terminals delivered in open position with captive screws (screws of unused terminals must be tightened).

Screwdriver guidance for all terminals makes it possible to use motorized screwdrivers.

All terminals provide protection against accidental direct contact with live parts according to VDE0106 - Part. 100.

All AF50- AF110 contactor terminals as well as AF50 - AF1650 contactor auxiliary contact and coil terminals ensure IP20 degree of protection according to IEC 947-1.



AF50 - AF1650

Surge suppressors built in as standard on the printed circuit board.

Clear marking of coil voltages and frequencies.

Connecting point for control leads in top part of main terminals of AF50 - AF75 contactors. For AF95 & AF110 contactors these are additional power connections.

Terminal marking according to IEC 947-4-1, EN 50005, EN 50012 and NEMA standards.

Location of function marker.

Stops for attaching front mounted accessories.

Terminal screws:

- Posidrive (+,-) No 2 for all AF50 – AF75
- M8 hex threaded socket screw for AF95 – AF1650 main terminals.

## Catalog number explanation

### AF50 - 30 - 11 - 70

Frame size

Power pole

30 = 3 NO  
40 = 4 NO  
22 = 2 NO & 2 NC

Coil voltage

(see coil voltage selection chart)

Auxiliary contacts

11 = 1 NO & 1 NC  
00 = No auxiliary provided  
22 = 2 NO & 2 NC

#### Coil voltage selection – AF50 to AF1650

AC/DC VOLTS, 40 - 60 HZ			
24 - 60 DC	20 - 60 DC	48 - 130 AC/DC	100 - 250 AC/DC
68 ①	72 ②	69	70

① AF400 – AF750, DC only.

② AF50 – AF300, DC only.

③ Only option for AF1350 / AF1650.



## AF50 - AF1650

Non-reversing, mechanically interlocked, reversing  
AC & DC operated, UL rated, 3 phase

Across the line  
contactors

1



AF63-30-11-70

AF95-30-11-70

AF400-30-11-70

AF750-30-11-70

### 3 Pole

General purpose current AC1	UL motor switching current	Maximum UL Listed motor horsepower ratings				Standard auxiliary contacts		Non-reversing		Mechanically interlocked		Reversing	
		208V	240V	480V	575/600V	NO	NC	Catalog number	List price	Catalog number	List price	Catalog number	List price
80	54	15	20	40	50	1	1	AF50-30-11-70	\$ 450	AF50M-30-11-70	\$ 953	AF50R-30-11-70	\$ 1050
90	65	20	25	50	60	1	1	AF63-30-11-70	495	AF63M-30-11-70	1116	AF63R-30-11-70	1259
105	80	25	30	60	75	1	1	AF75-30-11-70	535	AF75M-30-11-70	1399	AF75R-30-11-70	1542
125	95	30	30	60	75	1	1	AF95-30-11-70	570	AF95M-30-11-70	1470	AF95R-30-11-70	1665
140	110	30	40	75	100	1	1	AF110-30-11-70	600	AF110M-30-11-70	1605	AF110R-30-11-70	1868
230	130	40	50	100	125	1	1	AF145-30-11-70	1110	AF145M-30-11-70	2655	AF145R-30-11-70	2670
250	156	50	60	125	150	1	1	AF185-30-11-70	1635	AF185M-30-11-70	3870	AF185R-30-11-70	3885
300	192	60	75	150	200	1	1	AF210-30-11-70	1980	AF210M-30-11-70	4545	AF210R-30-11-70	4560
350	248	75	100	200	250	1	1	AF260-30-11-70	2235	AF260M-30-11-70	5055	AF260R-30-11-70	5070
400	302	100	100	250	300	1	1	AF300-30-11-70	2385	AF300M-30-11-70	6030	AF300R-30-11-70	6045
550	414	125	150	350	400	1	1	AF400-30-11-70	3120	AF400M-30-11-70	6705	AF400R-30-11-70	6720
650	480	150	200	400	500	1	1	AF460-30-11-70	4425	AF460M-30-11-70	13,275	AF460R-30-11-70	13,290
750	602	200	250	500	600	1	1	AF580-30-11-70	6900	AF580M-30-11-70	18,375	AF580R-30-11-70	18,390
900	810	250	300	600	700	1	1	AF750-30-11-70	7200	AF750M-30-11-70	19,725	AF750R-30-11-70	19,740
1350	960	—	400	800	900	1	1	AF1350-30-11-70	8490	—	—	—	—
1650	1080	—	450	900	1000	1	1	AF1650-30-11-70	10,230	—	—	—	—

### Coil voltage selection – wide range AC/DC coils

All catalog numbers include a 100-250V AC/DC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 24V coil is required for a AF110 contactor: AF110-30-11-72

### Coil voltage selection – AF50 to AF1650

AC/DC VOLTS, 40 - 60 HZ			
24 - 60 DC	20 - 60 DC	48 - 130 AC/DC	100 - 250 AC/DC
68 ①	72 ②	69	70

① AF400 – AF750, DC only.

② AF50 – AF300, DC only.

③ Only option for AF1350 / AF1650.

## Contactors for ring tongue termination

### A/AE9 - A/AE110, AC & DC operated

### UL rated, 3 phase

AC circuit switching AC1	Motor switching current AC3	UL/CSA horsepower ratings			Auxiliary contacts		AC operated		DC operated	
		240V	480V	575/600V	NO	NC	Catalog number	List price	Catalog number	List price
21	9	2	5	7.5	1 0	0 1	A93010RT-84 A93001RT-84	<b>\$ 81</b>	AE93000RT-81 —	<b>\$ 91</b> —
25	11	3	7.5	10	1 0	0 1	A123010RT-84 A123001RT-84	<b>87</b>	AE123000RT-81 —	<b>97</b> —
30	17	5	10	15	1 0	0 1	A163010RT-84 A163001RT-84	<b>106</b>	AE163000RT-81 —	<b>116</b> —
40	28	10	20	25	1 0	0 1	A263010RT-84 A263001RT-84	<b>189</b>	AE263000RT-81 —	<b>199</b> —
80	54	20	40	50	0	0	A503000RT-84	<b>311</b>	AE503000RT-81	<b>356</b>
90	65	25	50	60	0	0	A633000RT-84	<b>354</b>	AE633000RT-81	<b>459</b>
105	80	30	60	75	0	0	A753000RT-84	<b>396</b>	AE753000RT-81	<b>501</b>
125	95	30	60	75	0	0	A953000RT-84	<b>466</b>	AE953000RT-81	<b>571</b>
140	110	40	75	100	0	0	A1103000RT-84	<b>543</b>	AE1103000RT-81	<b>753</b>

#### Coil voltage selection – AC coils

All AC operated catalog numbers include a 120VAC coil. To select other coil voltages, substitute the code from the AC coils Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 240V coil is required for an A75 contactor: A753000RT-80

#### Coil voltage selection – DC coils

All DC operated catalog numbers include a 24VDC coil. To select other coil voltages, substitute the code from the DC coils Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 110V coil is required for an AE75 contactor: AE753000RT-86

#### Auxiliary contact blocks

For additional auxiliary contact blocks, see catalog number explanation on page 1.2. Add \$ 20 to list price for each additional auxiliary, and see page 1.18 for available combinations. Only side-mounted blocks are allowed to be factory installed.

#### Auxiliary contact block with ring tongue termination

Positioning	Maximum number of contact blocks	Contact description	Catalog number	List price
Front mounting (C4-pole)	1 block A9 – A110	2 NO & 2 NC 3 NO & 1 NC 4 NO	CA5-22ERT CA5-31ERT CA5-40ERT	<b>\$ 35</b>

#### Coil voltage selection chart – AC coils

Hz	Cntr type	Volts																
		12	24	48	110	120	125	208	220	240	277	380	415	440	480	500	600	
60	A		81	83	84	84			34	36	80	42						
50	A		81	83	84					80				85	86			55

For other voltages, see page 1.26.

#### Coil voltage selection chart – DC coils

Hz	Contr. type	Volts					
		24	48	110	125	220	240
DC	AE	81	83	86	87	88	89

For other voltages, see page 1.26.

# A9 – AF1650

## Non-reversing, mechanically interlocked, reversing NEMA rated, AC operated, 3 phase

Across the line  
contactors

1



NEMA size	Continuous current	Maximum motor horsepower ratings			Standard Aux. contacts		Non-reversing		Mechanically interlocked		Reversing	
		200V	230V	460/575V	NO	NC	Catalog number	List price	Catalog number	List price	Catalog number	List price
<b>NEMA rated</b>												
00	9	1.5	1.5	2	1	0	A9N00-30-10-84	\$ 78	A9N00M-10-84	\$ 255	A9N00R-10-84	\$ 315
0	18	3	3	5	1	0	A16N0-30-10-84	102	A16N0M-10-84	345	A16N0R-10-84	413
1	27	7.5	7.5	10	1	0	A26N1-30-10-84	183	A26N1M-10-84	405	A26N1R-10-84	480
2	45	10	15	25	1	1	A50N2-30-11-84	330	A50N2M-11-84	713	A50N2R-11-84	810
3	90	25	30	50	1	1	A75N3-30-11-84	413	A75N3M-11-84	1155	A75N3R-11-84	1298
4	135	40	50	100	1	1	A145N4-30-11-84	825	A145N4M-11-84	2235	A145N4R-11-84	2250
5	270	75	100	200	1	1	A260N5-30-11-84	1815	A260N5M-11-84	4485	A260N5R-11-84	4500
6	540	150	200	400	1	1	AF460N6-30-11-70	4425	AF460N6M-11-70	13,275	AF460N6R-11-70	13,290
7	810	—	300	600	1	1	AF750N7-30-11-70	7200	AF750N7M-11-70	19,705	AF750N7R-11-70	19,740
8	1215	—	450	900	1	1	AF1650N8-30-11-70	10,290	AF1650N8M-11-70	27,705	AF1650N8R-11-70	27,740

Reversing contactors A9-A16 consist of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

### Coil voltage selection – A contactors

All AC operated catalog numbers include a 120VAC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 240V coil is required for an A75 contactor: A75-30-11-**80**

### Coil voltage selection – wide range AC/DC coils

All catalog numbers include a 100-250V AC/DC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 24V coil is required for an AF145 contactor: AF145N4-30-11-**68**

### Auxiliary contact blocks

For additional auxiliary contact blocks, see catalog number explanation on page 1.2. Add \$ 20 to list price for each additional auxiliary, and see page 1.18 for available combinations.

### Mechanical interlock

Mechanically interlocked contactors are designed for reversing, 2 speed, reduced voltage, etc. type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

- A9 - A16 — mounted on 35mm DIN rail
- A26 - A750 — mounted on common baseplate

Power wiring is not included.

For A9 - A110 contactors the NC electrical interlock is provided with the mechanical interlock.

- A9 - A16 — mounted on 35mm DIN rail
- A26 - A750 — mounted on common baseplate

For A9 - A750 contactors the NC electrical interlock is provided with the mechanical interlock.

### Coil voltage selection – A contactors

Hz	Cntr type	Volts															
		12	24	48	110	120	125	208	220	240	277	380	415	440	480	500	600
60	A		81	83	84	84		34	36	80	42		86	86	51	53	55
50	A		81	83	84				80				85	86			55

For other voltages, see page 1.26.

### Coil voltage selection – AF50 to AF1650

AC/DC VOLTS, 40 - 60 HZ			
24 - 60 DC	20 - 60 DC	48 - 130 AC/DC	100 - 250 AC/DC
68 ①	72 ②	69	70

Discount schedule AA - A9 - A110  
Discount schedule AEA - A145 - AF750

① AF400 – AF750, DC only.  
② AF50 – AF300, DC only.

## AE9 – AF1650, AL9 – AL26

Non-reversing, mechanically interlocked, reversing  
NEMA rated, DC operated, 3 phase



AE26N1-30-11-81



AF145N4-30-11-68



AF460N6R-11-68

### AE & AF Contactors

NEMA size	Continuous current	Maximum motor horsepower ratings			Standard Aux. contacts		Non-reversing		Mechanically interlocked		Reversing	
		200V	230V	460/575V	NO	NC	Catalog number	List price	Catalog number	List price	Catalog number	List price
<b>NEMA rated</b>												
00	9	1.5	1.5	2	1	0	AE9N00-30-11-81	\$ 118	AE9N00M-11-81	\$ 335	AE9N00R-11-81	\$ 395
0	18	3	3	5	1	0	AE16N0-30-11-81	142	AE16N0M-11-81	425	AE16N0R-11-81	493
1	27	7.5	7.5	10	1	0	AE26N1-30-11-81	223	AE26N1M-11-81	485	AE26N1R-11-81	560
2	45	10	15	25	1	1	AE50N2-30-11-81	375	AE50N2M-11-81	803	AE50N2R-11-81	930
3	90	25	30	50	1	1	AE75N3-30-11-81	518	AE75N3M-11-81	1365	AE75N3R-11-81	1493
4	135	40	50	100	1	1	AF145N4-3011-70	1110	AF145N4M-11-70	2655	AF145N4R-11-70	2670
5	270	75	100	200	1	1	AF260N5-3011-70	2235	AF260N5M-11-70	5055	AF260N5R-11-70	5070
6	540	150	200	400	1	1	AF460N6-3011-70	4425	AF460N6M-11-70	13,275	AF460N6R-11-70	13,290
7	810	—	300	600	1	1	AF750N7-3011-70	7200	AF750N7M-11-70	19,725	AF750N7R-11-70	19,740
8	1215	—	450	900	1	1	AF1650N83011-70	10,230	—	—	—	—

### AL Contactors

NEMA size	Continuous current	Maximum motor horsepower ratings			Standard Aux. contacts		Non-reversing		Mechanically interlocked		Reversing	
		208V	240V	460/575V	NO	NC	Catalog number	List price	Catalog number	List price	Catalog number	List price
<b>NEMA rated</b>												
00	9	1.5	1.5	2	1	0	AL9N00-30-10-81	\$ 110	AL9N00M-10-81	\$ 319	AL9N00R-10-81	\$ 379
0	18	3	3	5	1	0	AL16N0-30-10-81	150	AL16N0M-10-81	441	AL16N0R-10-81	501
1	27	7.5	7.5	10	1	0	AL26N1-30-10-81	190	AL26N1M-10-81	473	AL26N1R-10-81	533

### Coil voltage selection – A contactors

All AC operated catalog numbers include a 120VAC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 240V coil is required for an A75 contactor: A75-30-11-**80**

### Coil voltage selection – wide range AC/DC coils

All catalog numbers include a 100-250V AC/DC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 24V coil is required for a AF145 contactor: AF145N4-30-11-**68**

### Auxiliary contact blocks

For additional auxiliary contact blocks, see catalog number explanation on page 1.2. Add \$ 20 to list price for each additional auxiliary, and see page 1.18 for available combinations.

### Mechanical interlock

Mechanically interlocked contactors are designed for reversing, 2 speed, reduced voltage, etc. type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

- A9 - A16 — mounted on 35mm DIN rail
- A26 - A110 — mounted on common baseplate

Power wiring is not included.

For A9 - A110 contactors the NC electrical interlock is provided with the mechanical interlock.

① AF400 – AF750, DC only.

② AF50 – AF300, DC only.

### Reversing

Reversing contactors are designed for reversing type starter applications. The complete assembly consists of two mechanically and electrically interlocked contactors mounted as follows with line and load terminals:

- A9 - A16 — mounted on 35mm DIN rail
- A26 - A110 — mounted on common baseplate

For A9 - A110 contactors the NC electrical interlock is provided with the mechanical interlock.

### Coil voltage selection – AF50 to AF1650

AC/DC VOLTS, 40 - 60 HZ

24 - 60 DC	20 - 60 DC	48 - 130 AC/DC	100 - 250 AC/DC
68 ①	72 ②	69	70

### Coil voltage selection – AE & AL contactors

Hz	Contactor type	Volts						
		12	24	48	110	125	220	240
DC	AE, AL	—	81	83	86	87	88	89

# A9 – A/AE75 , EK110 – EK1000, AL9 – AL26

AC & DC operated  
UL rated, 4 pole

Across the line  
1



### 4 Pole – 4 NO power poles

UL general purpose current		AC operated		DC operated	
AC operated	DC operated	Catalog number	List price	Catalog number	List price
21	21	A9-40-00-84	\$ 120	AL9-40-00-81	\$ 133
30	21	A16-40-00-84	165	AL16-40-00-81	172
40	30	A26-40-00-84	228	AL26-40-00-81	224
65	65	A45-40-00-84	360	AE45-40-00-86	420
80	80	A50-40-00-84	413	AE50-40-00-86	473
105	105	A75-40-00-84	525	AE75-40-00-86	570
150	150	EK110C4P-1L	743	EK110C4P-PL	953
200	200	EK150C4P-1L	1013	EK150C4P-PL	1238
250	250	EK175C4P-1L	1763	EK175C4P-PL	1988
300	300	EK210C4P-1L	2025	EK210C4P-PL	2280
400	400	EK370C4P-1L	4650	EK370C4P-PL	5010
600	600	EK550C4P-1L	6510	EK550C4P-PL	7005
1000 ①	1000 ①	EK1000C4P-1L	9000	EK1000C4P-PL	9700

### 4 Pole – 4 NC power poles

UL general purpose current	AC operated	List price
AC operated	Catalog number	
30	A16-04-00-84	\$ 165

### 4 Pole – 2 NO & 2 NC power poles

UL general purpose current		AC operated		DC operated	
AC operated	DC operated	Catalog number	List price	Catalog number	List price
21	21	A9-22-00-84	\$ 120	AL9-22-00-81	\$ 133
30	21	A16-22-00-84	165	AL16-22-00-81	172
40	30	A26-22-00-84	228	AL26-22-00-81	224
65	65	A45-22-00-84	360	AE45-22-00-86	420
105	105	A75-22-00-84	525	AE75-22-00-86	570

### Coil voltage selection

All AC operated catalog numbers include a 120VAC coil. All DC operated catalog numbers include a 110VDC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 240V coil is required for an A75 contactor: A75-30-00-80

### Auxiliary contact blocks

For additional auxiliary contact blocks, see catalog number explanation on page 1.2. Add \$ 20 to list price for each additional auxiliary, and see page 1.18 for available combinations.

### Accessories for EK

Please consult factory.

### Coil voltage selection – A contactors

Hz	Cntr type	Volts															
		12	24	48	110	120	125	208	220	240	277	380	415	440	480	500	600
60	A		81	83	84	84		34	36	80	42		86	86	51	53	55
50	A		81	83	84				80				85	86			55

For other voltages, see page 1.26.

### Coil voltage selection – EK contactors

Hz	Contr. type	Volts														
		24	48	110	120	125	208	220	240	277	380	415	440	480	500	600
60	EK	F	G		1		B		2	C	Z		3	4		6
50	EK	N		1				J			3	M				5
DC	EK	Y	W	P		Q		R					T			

\* For other voltages, consult factory.

\* 24 & 48VAC coils are not available for sizes EK550. For these applications, use an interposing control relay.

### Coil voltage selection – AE & AL contactors

Hz	Contr. type	Volts						
		12	24	48	110	125	220	240
DC	AE, AL	–	81	83	86	87	88	89

For other voltages, see page 1.26.

① Not UL Listed. IEC value AC1 for 40°C.

## AF45 - AF75

### AC & DC operated

### UL rated, 4 pole

#### Auxiliary contact blocks

For additional auxiliary contact blocks, see catalog number explanation on page 1.8. Add \$ 20 to the list price for each additional auxiliary and see page 1.18 for available combinations. If auxiliary contacts are required for AF50 – AF750 contactors, add \$ 40 to the list price and change the 8th & 9th digits in the catalog number from "00" to "11".

#### 4 Pole — 4 NO power poles

General purpose	Auxiliary contacts		Catalog number	List price
	NO	NC		
AC1				
65	0	0	AF45-40-00-70	\$ 385
80	0	0	AF50-40-00-70	435
105	0	0	AF75-40-00-70	645

#### 4 Pole — 2 NO - 2 NC power poles

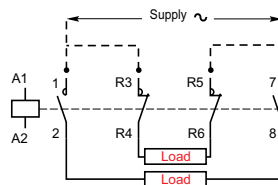
General purpose	Auxiliary contacts		Catalog number	List price
	NO	NC		
AC1				
65	0	0	AF45-22-00-70	\$ 385
105	0	0	AF75-22-00-70	645

These contactors (2 NO & 2 NC power poles) can be used for controlling either 2 separate circuits, i.e. 2 loads with 2 separate supplies, or 1 circuit comprising 2 separate loads with 1 single supply (see diagrams below).

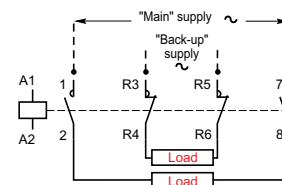
When the contactor operates, there is no mechanical overlapping between the NO main poles and NC main poles: Break before Make.

These contactors (2 NO & 2 NC power poles) are not suitable for a reversing starter or a wye-delta starter or for controlling a single load from 2 separate supplies.

1 single supply and 2 separate loads



2 separate supplies and 2 separate loads



#### Coil voltage selection – wide range AC/DC coils

All catalog numbers include a 100-250V AC/DC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

Ex.: A 24V coil is required for a AF45 contactor: AF45-22-00-72

#### Coil voltage selection – AF50 to AF75

AC/DC VOLTS, 40 - 60 HZ			
24 - 60 DC	20 - 60 DC	48 - 130 AC/DC	100 - 250 AC/DC
68 ①	72 ②	69	70

① AF400 – AF750, DC only.

② AF50 – AF300, DC only.

## UA26 – UA110

### for 3 phase capacitor switching, 3 phase AC operated

Across the line  
contactors

1



UA75-30-00-84



UA95-30-00-84

240V	Max kvar switching capacity		Standard auxiliary contacts		Catalog number	List price
	480V	575/600V	NO	NC		
12.5	25	30	1	0	UA26-30-10-84	\$ 225
16	32	40	1	0	UA30-30-10-84	338
20	40	50	0	0	UA50-30-00-84	345
			1	1	UA50-30-11-84	375
27.5	55	70	0	0	UA75-30-00-84	450
			1	1	UA75-30-11-84	480
35	70	75	0	0	UA95-30-00-84	465
			1	1	UA95-30-11-84	495
40	80	85	0	0	UA110-30-00-84	525
			1	1	UA110-30-11-84	570

For 3 phase capacitors carrying out single bank or stepped bank compensation.  
 Max. peak current  $\hat{I}$ : 100 times the capacitor nominal r.m.s. current at  $U_e \leq 500V$  or 90 times for  $U_e > 500V$   
 Electrical durability: 100,000 operating cycles.

### Power in kvar

Contactor	208V	240V	480V	600V	Max amps	Peak current
UA26	10.5	12.5	25	30	30.1	3000
UA30	13.5	16.0	32	40	38.4	3500
UA50	17.0	20.0	40	50	48.0	5000
UA75	24.0	27.5	55	70	67.0	7500
UA95	30.0	35.0	70	75	84.2	9300
UA110	35.0	40.0	80	85	96.2	10,500
A145	45.0	50.0	90	110	126.0	4000
A185	55.0	60.0	115	135	126.0	5000
A210	65.0	75.0	135	160	151.0	6500
A260	75.0	85.0	155	200	176.0	8000
A300	85.0	100.0	180	240	201.1	8000
AF400	Consult factory					10,000
AF460						10,000
AF580						12,000
AF750						12,000

A/AF contactors max peak current  $\hat{I}$  30 times the capacitor nominal r.m.s. current.

### Coil voltage selection

All AC operated catalog numbers include a 120VAC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the two digits after the last dash in the catalog number.

### Auxiliary contact blocks

For additional auxiliary contact blocks, see catalog number explanation on page 1.2. Add \$20 to list price for each additional auxiliary, and see page 1.18 for available combinations.

### Coil voltage selection chart

Hz	Cntr type	Volts															
		12	24	48	110	120	125	208	220	240	277	380	415	440	480	500	600
60	A		81	83	84	84		34	36	80	42		86	86	51	53	55
50	A		81	83	84				80				85	86			55

For other voltages, see page 1.26.