

AE9 - AE110

General information

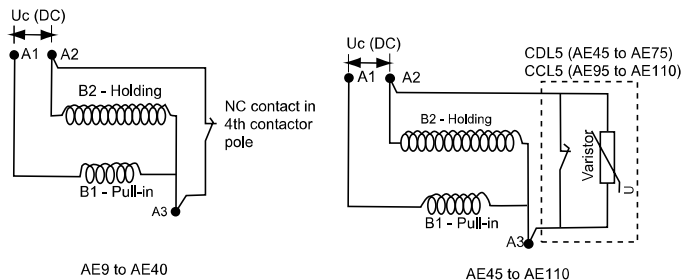
DC operated, UL rated, 3 phase

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

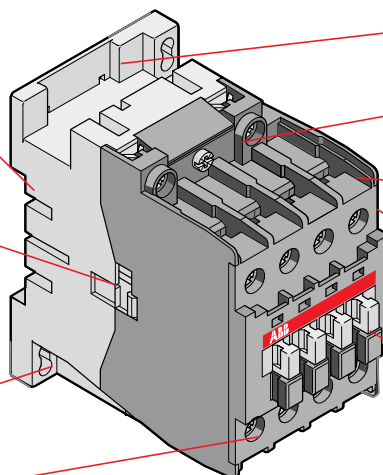
Holes for screw mounting (screws not supplied). Distance between holes according to EN 50003.

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 1.24.

AE9 - AE110

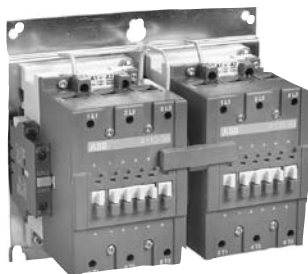
Non-reversing, mechanically interlocked, reversing
DC operated, UL rated, 3 phase

Across the line
contactors

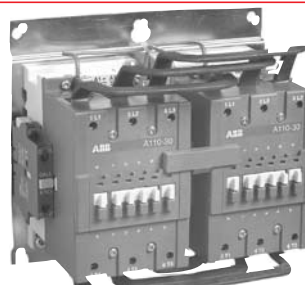
1



AE26-30-11-81



AE110M-30-11-81



AE110R-30-11-81

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		UL rated											
21	9	2	2	5	7.5	1	1	AE9-30-11-81		AE9M-30-11-81		AE9R-30-11-81	
25	11	3	3	7.5	10	1	1	AE12-30-11-81		AE12M-30-11-81		AE12R-30-11-81	
30	17	5	5	10	15	1	1	AE16-30-11-81		AE16M-30-11-81		AE16R-30-11-81	
40	28	7.5	10	20	25	1	1	AE26-30-11-81		AE26M-30-11-81		AE26R-30-11-81	
50	34	10	10	25	30	1	1	AE30-30-11-81		AE30M-30-11-81		AE30R-30-11-81	
60	42	10	15	30	40	1	1	AE40-30-11-81		AE40M-30-11-81		AE40R-30-11-81	
80	54	15	20	40	50	1	1	AE50-30-11-81		AE50M-30-11-81		AE50R-30-11-81	
90	65	20	25	50	60	1	1	AE63-30-11-81		AE63M-30-11-81		AE63R-30-11-81	
105	80	25	30	60	75	1	1	AE75-30-11-81		AE75M-30-11-81		AE75R-30-11-81	
125	95	30	30	60	75	1	1	AE95-30-11-81		AE95M-30-11-81		AE95R-30-11-81	
140	110	30	40	75	100	1	1	AE110-30-11-81		AE110M-30-11-81		AE110R-30-11-81	
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 1.32 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 1.24.

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.

AL9 - AL40

General information

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.

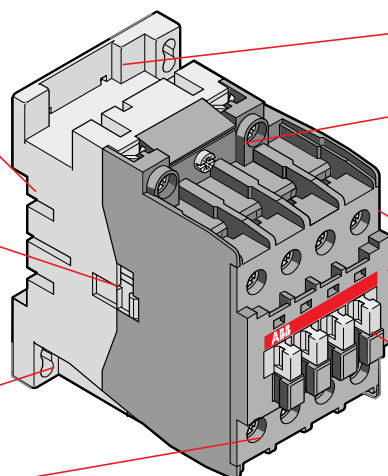
Holes for screw mounting (screws not supplied). Distance between holes according to EN 50003.

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 1.24.

AL9 - AL40, AL9Z - AL16Z

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

Across the line
contactors

1



AL9-30-10-81




AL26-30-10-81




AL40-30-10-81

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
		UL rated											
AC1													
21	9	2	2	5	7.5	1 0	0 1	AL9-30-10-81 AL9-30-01-81		AL9M-30-10-81 AL9M-30-01-81		AL9R-30-10-81 AL9R-30-01-81	
25	11	3	3	7.5	10	1 0	0 1	AL12-30-10-81 AL12-30-01-81		AL12M-30-10-81 AL12M-30-01-81		AL12R-30-10-81 AL12R-30-01-81	
30	17	5	5	10	15	1 0	0 1	AL16-30-10-81 AL16-30-01-81		AL16M-30-10-81 AL16M-30-01-81		AL16R-30-10-81 AL16R-30-01-81	
40	28	7.5	10	20	25	1 0	0 1	AL26-30-10-81 AL26-30-01-81		AL26M-30-10-81 AL26M-30-01-81		AL26R-30-10-81 AL26R-30-01-81	
50	34	10	10	20	30	1 0	0 1	AL30-30-10-81 AL30-30-01-81		AL30M-30-10-81 AL30M-30-01-81		AL30R-30-10-81 AL30R-30-01-81	
60	42	10	15	30	40	1 0	0 1	AL40-30-10-81 AL40-30-01-81		AL40M-30-10-81 AL40M-30-01-81		AL40R-30-10-81 AL40R-30-01-81	

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		UL rated											
21	9	2	2	5	7.5	1 0	0 1	AL9Z-30-10-15 AL9Z-30-01-15		AL9ZM-30-10-15 AL9ZM-30-01-15		AL9ZR-30-10-15 AL9ZR-30-01-15	
25	11	3	3	7.5	10	1 0	0 1	AL12Z-30-10-15 AL12Z-30-01-15		AL12ZM-30-10-15 AL12ZM-30-01-15		AL12ZR-30-10-15 AL12ZR-30-01-15	
30	17	5	5	10	15	1 0	0 1	AL16Z-30-10-15 AL16Z-30-01-15		AL16ZM-30-10-15 AL16ZM-30-01-15		AL16ZR-30-10-15 AL16ZR-30-01-15	

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 1.32 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 1.24.

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.