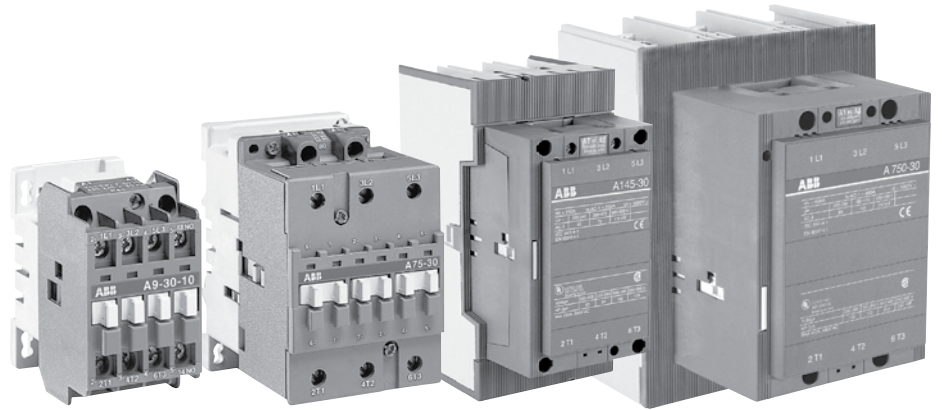




Across the line contactors A9 - AF1650

1



Across the line Contactors

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
- Terminal lugs sold separately. See page 1.25.
- 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

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.

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.

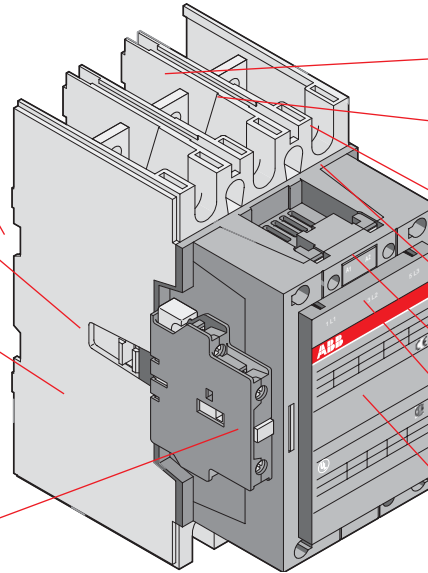
All AF50- AF110 contactor terminals as well as AF50 - AF1650 contactor auxiliary contact and coil terminals ensure IP20 degree of protection according to IEC 947-1.

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



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	250 - 500 AC//DC
68 ①	72 ②	69	70 ③	71 ④

① AF400 - AF750, DC only.

② AF50 - AF300, DC only.

③ Only option for AF1350 / AF1650.

④ AF400 - AF750 only.

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	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
1260	—	—	—	—	—	1	1	AF1250-30-11-70	8120	—	—	—	—
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	—	—	—	—
2050	—	—	—	—	—	1	1	AF2050-30-11-70	12,820	—	—	—	—

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	250 - 500 AC/DC
68 ①	72 ②	69	70 ③	71 ④

① AF400 – AF1250, DC only.

② AF50 – AF300, DC only.

③ Only option for AF1350 - AF2050.

④ AF400 - AF750 only.

A9 – AF1650

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

Across the line
1



A26N1-30-10-84



A145N4-30-11-84



AF400N6-30-11-70

NEMA size	Continuous current	Maximum motor horsepower ratings (NEMA)			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
NEMA rated												
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	AF460N6-3011-70	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	—	—	—	—

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: A75N3-30-11-80

Coil voltage selection – wide range AC/DC coils

The NEMA size 6,7 and 8 contactors are provided with a wide range coil voltage. They are shown with the standard 100-250V AC/DC coil. To select other ranges 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 the AF460N6 contactor: AF460N6-3011-68

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.

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 - 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 – AF460N6 to AF1650N8

AC/DC VOLTS, 40 - 60 HZ			
24 - 60 DC	48 - 130 AC/DC	100 - 250 AC/DC	250-500 AC/DC
68 ①	69	70 ②	71 ②

① AF400 – AF750, DC only.
② AF400 - AF750 only.
③ Only option for AF1650.

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
NEMA rated												
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
NEMA rated												
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 – AE contactors

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 125V coil is required for an AE75 contactor: AE75N3-30-11-87

Coil voltage selection – AF 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: AF145N4-30-11-72

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:

- AE9 - AE16 — mounted on 35mm DIN rail
- AE26 - AE75 — mounted on common baseplate

Power wiring is not included.

For AE9 - AE75 contactors the NC electrical interlock is provided with the mechanical interlock.

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 - AE75 — mounted on common baseplate

For AE9 - AE75 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	250 - 500 AC/DC
68 ①	72 ②	69	70 ④	71 ③

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

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

③ AF400 - AF750 only.
④ Only option for AF1650.

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

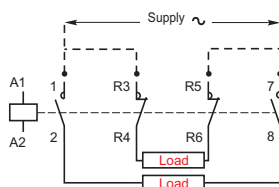
General purpose	Auxiliary contacts		Catalog number	List price
	NO	NC		
AC1				
65	0	0	AF45-22-00-70	\$ 385
105	0	0	AF75-22-00-70	645

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).

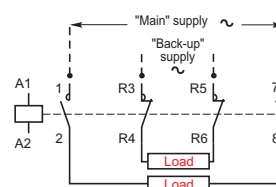
When the contactor operates, there is no mechanical overlapping between the NO main poles and NC main poles: Break before Make.

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.