

Across the line Starters



Across the line starters

Open & enclosed

A9 – AF750

3



Description

A9 – AF750

- Maximum UL horsepower ratings
- UL508A Panel Program, #E105450
- NEMA sizes (00 – 7) available
- Compact space-saving design
- Standard auxiliary contact configurations:
 - A9 – A40 1 NO
 - A50 – AF750 1 NO & 1 NC
- Additional auxiliary contact blocks are available
- Consult factory for DC ratings & DC control operation
- Fast, snap-on DIN rail mounting (A9 - A110)
- Double break contact design
- Snap-on front and side mounted accessories include mechanical latch, pneumatic timer and 1 & 4 pole auxiliary contact blocks (A9 – A110)
- Easy coil change
- Captive terminal screws
- NEMA, UL, CSA, and most other international standards
- cUL marked
- Operates over an extended voltage range of 85% to 110% of rated control voltage
- Screwdriver guide holes

For reduced voltage starters, consult factory.

Enclosure types

- NEMA 1 (Indoor metal)
- NEMA 3R (Outdoor metal)
- NEMA 12 (Metal dusttight)
- NEMA 4X (Stainless steel)
- NEMA 4 (Water tight)
- NEMA 1, 3R, 4, 4X, & 12 (Plastic)
- IP 65 plastic A9 – A16 starters
- NEMA 7 & 9
 - Class I, Group C, D, Div 1 & 2
 - Class II, Groups E, F, & G, Div 1 & 2
 - Class III, 4X

Overload relay protection

Starters, sizes A9–A300, have Class 10 adjustable thermal bimetallic overload relay protection as standard.

Sizes AF400 – AF750, have selectable Class 10, 20, 30 adjustable electronic overload relay protection as standard.

Electronic overload relay protection is available for other starter sizes.

Starter selection by motor horsepower & voltage

Maximum UL/CSA ratings, three phase

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Motor horsepower				Open Complete starter		Starter components			
3-phase, 1800 RPM ①				Catalog number	List price	Contactors		Overload relays	
200V	230V	460V	575V			Catalog number	List price	Catalog number	List price
—	—	—	1/4	11-2C	\$ 165	A9-30-10-84	\$ 78	TA25DU0.4 (0.25 – .4)	\$ 63
—	—	1/4, 1/3	1/3	11-2D		A9-30-10-84		TA25DU0.63 (0.4 – .63)	
—	—	—	1/2	11-2E		A9-30-10-84		TA25DU1.0 (0.63 – 1.0)	
—	—	1/2	3/4	11-2F		A9-30-10-84		TA25DU1.4 (1.0 – 1.4)	
—	—	3/4	—	11-2G		A9-30-10-84		TA25DU1.8 (1.3 – 1.8)	
—	1/2	1	1.5	11-2H		A9-30-10-84		TA25DU2.4 (1.7 – 2.4)	
1/2	—	1.5	2	11-2J		A9-30-10-84		TA25DU3.1 (2.2 – 3.1)	
3/4	3/4	2	—	11-2K		A9-30-10-84		TA25DU4.0 (2.8 – 4.0)	
—	1	—	3	11-2L		A9-30-10-84		TA25DU5.0 (3.5 – 5.0)	
1	1.5	3	5	11-2M		A9-30-10-84		TA25DU6.5 (4.5 – 6.5)	
2	2	5	—	11-2N		A9-30-10-84		TA25DU8.5 (6.0 – 8.5)	
—	—	—	7.5	11-2P		A9-30-10-84		TA25DU11 (7.5 – 11)	
3	3	7.5	10	21-2Q		171		A12-30-10-84	
5	5	10	15	31-2R	200	A16-30-10-84	102	TA25DU19 (13 – 19)	
—	7.5	15	20	41-2S	294	A26-30-10-84	183	TA25DU25 (18 – 25)	
7.5	10	20	25	41-2T		A26-30-10-84		TA25DU32 (24 – 32)	
10	10	—	—	51-2B	365	A30-30-10-84	252	TA42DU32 (22 – 32)	78
—	—	25	30	51-2C				TA42DU42 (29 – 42)	
10	15	30	40	61-2C	423	A40-30-10-84	297	TA42DU42 (29 – 42)	
15	—	40	50	71-2D	458	A50-30-11-84	330	TA75DU52 (36 – 52)	102
—	20	—	—	71-2E		A50-30-11-84		TA75DU63 (45 – 63)	
20	—	—	—	81-2F	522	A63-30-11-84	372	TA75DU80 (60 – 80)	
—	—	50	60	81-2F		A63-30-11-84			
25	30	60	75	91-2F	563	A75-30-11-84	413		
30	40	75	100	A1-2B	765	A110-30-11-84	480	TA110DU110 (80 – 110)	165
40	—	—	—	B1-2C	1,315	A145-30-11-84	825	TA200DU135 (100 – 135)	225
—	50	100	125	B1-2D				TA200DU150 (110 – 150)	
50	60	125	150	C1-2E	1,730	A185-30-11-84	1,290	TA200DU175 (130 – 175)	
60	75	150	200	D1-2E3	2,422	A210-30-11-84	1,635		
75	100	200	250	E1-2E3	3,027	A260-30-11-84	1,815	E320DU320 (105-320)	775
100	—	250	300	F1-2E3	3,177	A300-30-11-84	1,875		
125	125, 150	350	400	G1-70E5	4,125	AF400-30-11-70	3,120	E500DU500 (170 – 500)	865
150	200	400	500	H1-70E5	9,375	AF460-30-11-70	4,425		
200	250	500	600	T1-70E8	12,400	AF580-30-11-70	6,900	E800DU800 (270 – 800)	950
250	300	600	700	U1-70E8	13,350	AF750-30-11-70	7,200		

CAUTION: The above ratings are based on average motor FLA. Actual FLA on the motor nameplate should be used for overload relay setting.

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 starter: 91-4F

D.C. operated starters

If DC operation is required, consult factory.

Factory modifications

See page 3.3

Coil voltage selection – A9 - A300

Hz	Contactor type	Volts									
		24	110	120	208	220	240	440	480	500	600
60	A	1	2	3	4	5	6	7	7		
50	A	1	2		4			7			

Coil voltage selection – AF400 - AF750 ①

Hz	Contactor type	Volts	
		100 - 250	250 - 500
50/60	AF	70	71

Control transformer voltage selection chart

Hz	Type	Volts			
		200-208/120	240/120	460 - 480/120	575 - 600/120
		A	B	C	D
50/60	A/AF	A	B	C	D
	Type	200-208/24	240/24	460 - 480/24	575 - 600/24
	A/AF	E	F	G	H

NOTE: For motors with RPM greater or less than 1800 RPM, check full load amp rating on motor nameplate to ensure proper overload protection.

For AF50 – AF 300 starters, consult factory.

① For AF400 - AF750 only.

Starter selection by motor horsepower & voltage NEMA sizes & ratings, three phase

Starters

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NEMA size	Motor horsepower				Open Complete starter		Starter components				
	3-phase, 1800 RPM ①						Contactor		Overload relays		
	200V	230V	460V	575V	Catalog number	List price	Catalog number	List price	Catalog number	List price	
00	—	—	—	1/4	J1-2C	\$ 165	A9N00-30-10-84	\$ 78	TA25DU0.4 (0.25 - .4)	\$ 63	
	—	—	—	1/3	J1-2D		A9N00-30-10-84		TA25DU0.63 (0.4 - .63)		
	—	—	1/4	1/2	J1-2E		A9N00-30-10-84		TA25DU1.0 (0.63 - 1.0)		
	—	1/4	1/3, 1/2	—	J1-2F		A9N00-30-10-84		TA25DU1.4 (1.0 - 1.4)		
	—	1/3	3/4	3/4	J1-2G		A9N00-30-10-84		TA25DU1.6 (1.3 - 1.6)		
	1/3, 1/4	1/2	1	1	J1-2H		A9N00-30-10-84		TA25DU2.4 (1.7 - 2.4)		
	1/2	—	—	1.5, 2	J1-2J		A9N00-30-10-84		TA25DU3.1 (2.2 - 3.1)		
	3/4	3/4	1.5, 2	—	J1-2K		A9N00-30-10-84		TA25DU4.0 (2.8 - 4.0)		
	—	1	—	—	J1-2L		A9N00-30-10-84		TA25DU5.0 (3.5 - 5.0)		
	1	1.5	—	—	J1-2M		A9N00-30-10-84		TA25DU6.5 (4.5 - 6.5)		
1.5	—	—	—	J1-2N	A9N00-30-10-84	TA25DU8.5 (6.0 - 8.5)					
0	—	—	—	3	K1-2L	200	A16N0-30-10-84	102	TA25DU5.0 (3.5 - 5.0)	\$ 63	
	—	—	3	5	K1-2M		A16N0-30-10-84		TA25DU6.5 (4.5 - 6.5)		
	2	2	5	—	K1-2N		A16N0-30-10-84		TA25DU8.5 (6.0 - 8.5)		
	3	3	—	—	K1-2P		A16N0-30-10-84		TA25DU11 (7.5 - 11)		
1	—	—	—	7.5	L1-2P	294	A26N1-30-10-84	183	TA25DU11 (7.5 - 11)	\$ 63	
	—	—	7.5	10	L1-2Q		A26N1-30-10-84		TA25DU14 (10 - 14)		
	5	5	10	—	L1-2R		A26N1-30-10-84		TA25DU19 (13 - 19)		
	7.5	7.5	—	—	L1-2S		A26N1-30-10-84		TA25DU25 (18 - 25)		
2	—	—	—	15	M1-2R	458	A50N2-30-11-84	330	TA25DU19 (13 - 19) ②	\$ 63	
	—	—	15	20	M1-2A		A50N2-30-11-84		TA75DU25 (18 - 25)		
	—	10	20	25	M1-2B		A50N2-30-11-84		TA75DU32 (22 - 32)		
	10	15	25	—	M1-2C		A50N2-30-11-84		TA75DU42 (29 - 42)		
3	—	—	—	30	N1-2C	563	A75N3-30-11-84	413	TA75DU42 (29 - 42)	102	
	15	—	30	40	N1-2D		A75N3-30-11-84		TA75DU52 (36 - 52)		
	20	20	40	50	N1-2E		A75N3-30-11-84		TA75DU63 (45 - 63)		
	25	25, 30	50	—	N1-2F		A75N3-30-11-84		TA75DU80 (60 - 80)		
4	—	—	60	60, 75	P1-2A	1,315	A145N4-30-11-84	825	TA200DU90 (65 - 90)	165	
	30	40	75	100	P1-2B		A145N4-30-11-84		TA200DU110 (80 - 110)		
	40	50	100	—	P1-2C		A145N4-30-11-84		TA200DU135 (100 - 135)		
5	50, 60, 75	60, 75, 100	125, 150, 200	200	Q1-2E3	3,027	A260N5-30-11-84	1,815	E320DU320 (105-320)	775	
	—	100	200	—							
6	100, 125, 150	125, 150, 200	250, 300, 400	250, 300, 400	R1-70E5	5,700	AF460N6-3011-70	4,425	E500DU500 (170 - 500)	865	
7	—	250, 300	500, 600	500, 600	S1-70E8	8,646	AF750N7-3011-70	7,200	E800DU800 (270 - 800)	950	

CAUTION: The above ratings are based on average motor FLA. Actual FLA on the motor nameplate should be used for overload relay setting.

Coil voltage selection

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Ex.: A 240V coil is required for an A75 starter: N1-4F

D.C. operated starters

If DC operation is required, consult factory.

Factory modifications

See page 3.3

Coil voltage selection – A9 - A300

Hz	Contactor type	Volts									
		24	110	120	208	220	240	440	480	500	600
60	A	1		2	3		4	5	6		7
50	A	1	2			4				7	

Coil voltage selection – AF400 - AF750 ①

Hz	Contactor type	Volts	
		100 - 250	250 - 500
50/60	AF	70	71

Control transformer voltage selection chart

Hz	Type	Volts			
		200-208/120	240/120	460 - 480/120	575 - 600/120
		A	B	C	D
50/60	Type	200-208/24	240/24	460 - 480/24	575 - 600/24
	A/AF	E	F	G	H

NOTE: For motors with RPM greater or less than 1800 RPM, check full load amp rating on motor nameplate to ensure proper overload protection.

For AF50 - AF 300 starters, consult factory.

① AF400 - AF750 only.

② Overload to be base mounted.

Selection by motor horsepower

UL/CSA Starters with electronic overload

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Motor horsepower 3 Phase, 1800 RPM				Open Complete starter		Starter components						
200V	230V	460V	575V	Catalog number	List Price	Contactor Catalog number	List Price	Overload relay Catalog number	List Price			
—	—	—	1/4	11-2B1	\$ 198	A9-30-10-84	\$ 78	E16DU1.0 (0.3 - 1.0)	\$ 96			
—	—	1/4,1/3	1/3			A9-30-10-84		E16DU2.7 (0.9-2.7)				
—	—	—	1/2	11-2C1		A9-30-10-84		E16DU6.3 (2.0-6.3)				
—	—	1/2	3/4			A9-30-10-84		E16DU18.9 (5.7-18.9)				
—	—	3/4	—	11-2D1		A9-30-10-84		E45DU30 (9-30)		105		
—	1/2	1	1 1/2			A9-30-10-84		E45DU45 (15-45)				
1/2	—	1 1/2	2	11-2E1		A9-30-10-84		E45DU45 (15-45)		112		
3/4	3/4	2	—	21-2E1		204		A12-30-10-84		84	E80DU80 (27-80)	188
—	—	3	—	31-2E1		233		A16-30-10-84		102		
—	1	—	3	41-2E1		336		A26-30-10-84		183	E140DU140 (50-140)	261
1	1 1/2	3	5	51-2E2	414	A30-30-10-84	252	E200DU200 (60-200)	325			
2	2	5	7 1/2	61-2E2	472	A40-30-10-84	297	E320DU320 (100-320)	775			
3	3	7 1/2	10	71-2E1	544	A50-30-11-84	330	E500DU500 (150-500)	865			
5	5	10	15	81-2E1	608	A63-30-11-84	372					
—	7 1/2	15	20	91-2E1	649	A75-30-11-84	413	E800DU800 (250-800)	950			
7 1/2	10	20	25	A1-2E1	861	A110-30-11-84	480					
—	—	25	30	B1-2E2	1,415	A145-30-11-84	825	E500DU500 (150-500)	865			
10	15	30	40	C1-2E2	1,830	A185-30-11-84	1,290					
15	20	40	50	D1-2E3	2,422	A210-30-11-84	1,635	E800DU800 (250-800)	950			
20	—	50	60	E1-2E3	3,027	A260-30-11-84	1,815					
25	30	60	75	F1-2E3	3,177	A300-30-11-84	1,875	E500DU500 (150-500)	865			
30	—	—	—	G1-70E5	4,125	AF400-30-11-70	3,120					
—	40	75	100	H1-70E5	5,700	AF460-30-11-70	4,425	E800DU800 (250-800)	950			
40	50	100	125	T1-70E8	8,346	AF580-30-11-70	6,900					
50	60	125	150	U1-70E8	8,646	AF750-30-11-70	7,200					
60	75	150	200									
75	100	200	250									
100	—	250	300									
125	5/6	350	400									
150	200	400	500									
200	250	500	600									
250	300	600	700									

Selection by motor horsepower

NEMA Starters with electronic overload

NEMA size	Motor horsepower				Open Complete starter		Starter components					
	3-phase, 1800 RPM				Catalog number	List price	Contactors		Overload relays			
	200V	230V	460V	575V			Catalog number	List price	Catalog number	List price		
00	—	—	—	1/4	J1-2A1	\$ 198	A9N00-30-10-84	\$ 78	E16DU0.32 (0.1 - 0.32)	\$ 96		
	—	—	—	1/3	J1-2B1		A9N00-30-10-84		E16DU1.0 (0.3 - 1.0)	96		
	—	—	1/4	1/2	J1-2B1		A9N00-30-10-84		E16DU2.7 (0.9 - 2.7)	96		
	—	1/4	1/3,1/2	—	J1-2C1		A9N00-30-10-84					
	—	1/3	3/4	3/4	J1-2C1		A9N00-30-10-84		E16DU6.3 (2.0 - 6.3)	96		
	1/3,1/4	1/2	1	1	J1-2C1		A9N00-30-10-84					
	1/2	—	—	1.5, 2	J1-2D1		A9N00-30-10-84		E16DU18.9 (5.7 - 18.9)	96		
	3/4	3/4	1.5, 2	—	J1-2D1		A9N00-30-10-84					
	—	1	—	—	J1-2D1		A9N00-30-10-84		E16DU6.3 (2.0 - 6.3)	96		
	1	1.5	—	—	J1-2E1		A9N00-30-10-84					
1.5	—	—	—	J1-2E1	A9N00-30-10-84	E16DU18.9 (5.7 - 18.9)	96					
0	—	—	—	3	K1-2D1	233	A16N0-30-10-84	102	E16DU6.3 (2.0 - 6.3)	96		
	—	—	3	5	K1-2D1		A16N0-30-10-84		E16DU18.9 (5.7 - 18.9)	96		
	2	2	5	—	K1-2E1		A16N0-30-10-84		E16DU18.9 (5.7 - 18.9)	96		
	3	3	—	—	K1-2E1		A16N0-30-10-84					
1	—	—	—	7.5	L1-2E1	336	A26N1-30-10-84	183	E45DU30 (9 - 30)	105		
	—	—	7.5	10	L1-2E1		A26N1-30-10-84					
	5	5	10	—	L1-2E1		A26N1-30-10-84					
	7.5	7.5	—	—	L1-2E1		A26N1-30-10-84					
2	—	—	—	15	M1-2E1	544	A50N2-30-11-84	330	E45DU45 (15 - 45)	112		
	—	—	15	20	M1-2E1		A50N2-30-11-84					
	—	10	20	25	M1-2E1		A50N2-30-11-84				E80DU80 (27 - 80)	188
	10	15	25	—	M1-2E1		A50N2-30-11-84					
3	—	—	—	30	N1-2E1	649	A75N3-30-11-84	413	E80DU80 (27 - 80)	188		
	15	—	30	40	N1-2E1		A75N3-30-11-84					
	20	20	40	50	N1-2E1		A75N3-30-11-84					
	25	25,30	50	—	N1-2E1		A75N3-30-11-84					
4	—	—	60	60, 75	P1-2E2	1,415	A145N4-30-11-84	825	E200DU200 (60 - 200)	325		
	30	40	75	100	P1-2E2		A145N4-30-11-84					
	40	50	100	—	P1-2E2		A145N4-30-11-84					
5	50	60	125	—	Q1-2E3	3,027	A260N5-30-11-84	1,815	E320DU320 (105-320)	775		
	60	75	150	200								
	75	100	200	—								
6	—	100	200	—	R1-70E5	5,700	AF460N6-3011-70	4,425	E500DU500 (170 - 500)	865		
	100	125	250	250								
	125	150	300	300								
7	150	200	400	400	S1-70E8	8,646	AF750N7-3011-70	7,200	E800DU800 (270 - 800)	950		
	—	250	500	500								
	—	300	600	600								

Non-reversing A9 - AF750 Three phase

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UL motor switching current	Contactor size	Maximum ratings - UL Listed				Open type	UL Type 1 (Indoor metal)		UL type 3R (Outdoor metal)			
		Maximum motor horsepower ratings					Catalog number	List price	Catalog number	List price	Catalog number	List price
		200/208V	230/240V	480/480V	575/600V							
UL rated												
9	A9	2	2	5	7.5	11-2Δ	\$ 165	111-2Δ	\$ 255	113-2Δ	\$ 330	
11	A12	3	3	7.5	10	21-2Δ	171	211-2Δ	285	213-2Δ	360	
17	A16	5	5	10	15	31-2Δ	200	311-2Δ	300	313-2Δ	383	
28	A26	7.5	10	20	25	41-2Δ	294	411-2Δ	405	413-2Δ	465	
34	A30	10	10	25	30	51-2Δ	365	511-2Δ	473	513-2Δ	533	
42	A40	10	15	30	40	61-2Δ	423	611-2Δ	525	613-2Δ	578	
54	A50	15	20	40	50	71-2Δ	458	711-2Δ	600	713-2Δ	719	
65	A63	20	25	50	50	81-2Δ	522	811-2Δ	713	813-2Δ	795	
80	A75	25	30	60	75	91-2Δ	563	911-2Δ	975	913-2Δ	1,058	
110	A110	30	40	75	100	A1-2Δ	765	A11-2Δ	1,170	A13-2Δ	1,515	
130	A145	40	50	100	125	B1-2Δ	1,315	B11-2Δ	1,765	B13-2Δ	2,130	
156	A185	50	60	125	150	C1-2Δ	1,730	C11-2Δ	2,400	C13-2Δ	2,805	
192	A210	60	75	150	200	D1-2Δ	2,135	D11-2Δ	2,650	D13-2Δ	3,375	
248	A260	75	100	200	250	E1-2Δ	2,740	E11-2Δ	3,825	E13-2Δ	4,650	
302	A300	100	100	250	300	F1-2Δ	2,890	F11-2Δ	4,125	F13-2Δ	4,875	
414	AF400	125	150	350	400	G1-70Δ	4,125	G11-70Δ	7,857	G13-70Δ	8,625	
480	AF460	150	200	400	500	H1-70Δ	5,700	H11-70Δ	9,375	H13-70Δ	9,435	
590	AF580	200	250	500	600	T1-70Δ	8,346	T11-70Δ	12,400	T13-70Δ	13,465	
810	AF750	250	300	600	700	U1-70Δ	8,646	U11-70Δ	13,350	U13-70Δ	14,325	

NEMA rated											
NEMA size	Contactor size	Continuous current	200V	230V	460/575V						
00	A9	9	1.5	1.5	2	J1-2Δ	\$ 165	J11-2Δ	\$ 255	J13-2Δ	\$ 330
0	A16	18	3	3	5	K1-2Δ	200	K11-2Δ	300	K13-2Δ	383
1	A26	27	7.5	7.5	10	L1-2Δ	294	L11-2Δ	405	L13-2Δ	465
2	A50	45	10	15	25	M1-2Δ	458	M11-2Δ	600	M13-2Δ	719
3	A75	90	25	30	50	N1-2Δ	563	N11-2Δ	975	N13-2Δ	1,058
4	A145	135	40	50	100	P1-2Δ	1,315	P11-2Δ	1,765	P13-2Δ	2,130
5	AF260	270	75	100	200	Q1-2Δ	2,740	Q11-2Δ	3,825	Q13-2Δ	4,650
6	AF460	540	150	200	400	R1-70Δ	5,700	R11-70Δ	9,375	R13-70Δ	9,435
7	AF750	810	—	300	600	S1-70Δ	8,646	S11-70Δ	13,350	S13-70Δ	14,325

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 3.6 - 3.7.

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 suffix code after the last dash in the catalog number.

Ex.: A 240V coil is required for an A75 starter: 91-4F

D.C. operated starters

If DC operation is required, consult factory.

Factory modifications

See page 3.3

Control transformer option

Contactor size	VA rating	List price adder
A9 - A40	50	360
A9 - A40 (N7 & 9)	50	630 ②
A50 - A75	75	435
A95 - A110	100	560
A145 - A185	150	720
A210 - A300	250	795
AF400 - AF460	150	720
AF580 - AF750	250	795

Reference page 3.3 for Extra VA under all (Control Transformer Options chart)

Coil voltage selection - A9 - A300

Hz	Contactor type	Volts									
		24	110	120	208	220	240	440	480	500	600
60	A	1	2	3			4	5	6	7	
50	A	1	2				4			7	

Coil voltage selection - AF400 - AF750 ①

Hz	Contactor type	Volts	
		100 - 250	250 - 500
50/60	AF	70	71

Control transformer voltage selection chart

Hz	Volts				
	Type	200-208/120	240/120	460 - 480/120	575 - 600/120
	A/AF	A	B	C	D
50/60	Type	200-208/24	240/24	460 - 480/24	575 - 600/24
	A/AF	E	F	G	H

NOTE: For AF50 - AF 300 starters, consult factory.

① AF400 - AF750 only.

② NEMA 7 & 9 Enclosed starter only.

Non-reversing A9 - AF750 Three phase

Starters

3

UL Type 12 (Metal dustight)		UL Type 4 (Watertight)		UL Type 4X (Stainless steel)		UL Type 1, 3R, 4, 4X & 12 (Plastic)		UL Type 7 & 9 non-reversing (Explosion proof)	
Catalog number	List price	Catalog number	List price	Catalog number	List price	Catalog number	List price	Catalog number	List price
UL rated									
112-2Δ	\$ 330	114-2Δ	\$ 495	11X-2Δ	\$ 645	11P-2Δ	\$ 315	117-2Δ	\$ 1,500
212-2Δ	360	214-2Δ	540	21X-2Δ	713	21P-2Δ	345	217-2Δ	1,560
312-2Δ	383	314-2Δ	570	31X-2Δ	743	31P-2Δ	360	317-2Δ	1,590
412-2Δ	465	414-2Δ	630	41X-2Δ	831	41P-2Δ	443	417-2Δ	1,680
512-2Δ	533	514-2Δ	690	51X-2Δ	885	51P-2Δ	510	517-2Δ	2,040
612-2Δ	578	614-2Δ	1,050	61X-2Δ	1,275	61P-2Δ	555	617-2Δ	2,410
712-2Δ	719	714-2Δ	1,103	71X-2Δ	1,328	71P-2Δ	698	717-2Δ	2,600
812-2Δ	795	814-2Δ	1,170	81X-2Δ	1,410	81P-2Δ	773	817-2Δ	3,350
912-2Δ	1,058	914-2Δ	1,425	91X-2Δ	2,010	91P-2Δ	1,035	917-2Δ	3,900
A12-2Δ	1,515	A14-2Δ	2,100	A1X-2Δ	2,813	A1P-2Δ	1,440	A17-2Δ	5,550
B12-2Δ	2,130	B14-2Δ	2,700	B1X-2Δ	3,375	B1P-2Δ	1,950	B17-2Δ	6,040
C12-2Δ	2,805	C14-2Δ	3,340	C1X-2Δ	3,900	C1P-2Δ	2,440	C17-2Δ	8,100
D12-2Δ	3,375	D14-2Δ	3,900	D1X-2Δ	4,785	D1P-2Δ	3,000	D17-2Δ	9,600
E12-2Δ	4,650	E14-2Δ	5,175	E1X-2Δ	5,815	E1P-2Δ	4,200	E17-2Δ	11,740
F12-2Δ	4,875	F14-2Δ	5,400	F1X-2Δ	6,040	F1P-2Δ	4,425	F17-2Δ	11,965
G12-70Δ	8,625	G14-70Δ	9,000	G1X-70Δ	9,855	Consult factory	—	Consult factory	—
H12-70Δ	10,380	H14-70Δ	10,800	H1X-70Δ	11,700	Consult factory	—	Consult factory	—
T12-70Δ	13,465	T14-70Δ	14,250	T1X-70Δ	14,590	Consult factory	—	Consult factory	—
U12-70Δ	14,325	U14-70Δ	14,850	U1X-70Δ	15,745	Consult factory	—	Consult factory	—
NEMA rated									
J12-2Δ	\$ 330	J14-2Δ	\$ 495	J1X-2Δ	\$ 645	J1P-2Δ	\$ 315	J17-2Δ	\$ 1,500
K12-2Δ	383	K14-2Δ	570	K1X-2Δ	743	K1P-2Δ	360	K17-2Δ	1,590
L12-2Δ	465	L14-2Δ	630	L1X-2Δ	831	L1P-2Δ	443	L17-2Δ	1,680
M12-2Δ	719	M14-2Δ	1,103	M1X-2Δ	1,328	M1P-2Δ	698	M17-2Δ	2,600
N12-2Δ	1,058	N14-2Δ	1,425	N1X-2Δ	2,010	N1P-2Δ	1,035	N17-2Δ	3,900
P12-2Δ	2,130	P14-2Δ	2,700	P1X-2Δ	3,375	P1P-2Δ	1,950	P17-2Δ	6,040
Q12-2Δ	4,650	Q14-2Δ	5,175	Q1X-2Δ	5,815	Q1P-2Δ	4,200	Q17-2Δ	11,740
R12-70Δ	10,380	R14-70Δ	10,800	R1X-70Δ	11,700	Consult factory	—	Consult factory	—
S12-70Δ	14,325	S14-70Δ	14,850	S1X-70Δ	15,745	Consult factory	—	Consult factory	—

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 3.6 - 3.7.

Non-reversing A9 - A185 Single phase

3

UL motor switching current	Contactor size	Maximum ratings - UL Listed		Open type		UL Type 1 (Indoor metal)	
		Maximum motor horsepower ratings		Catalog number	List price	Catalog number	List price
		115V	230V				
UL rated							
9	A9	1/2	1	11S-2Δ	\$ 165	11S1-2Δ	\$ 255
11	A12	3/4	2	21S-2Δ	171	21S1-2Δ	285
17	A16	1	3	31S-2Δ	200	31S1-2Δ	300
28	A26	1.5	5	41S-2Δ	294	41S1-2Δ	405
34	A30	2	7.5	51S-2Δ	372	51S1-2Δ	473
42	A40	3	7.5	61S-2Δ	423	61S1-2Δ	525
54	A50	3	7.5	71S-2Δ	458	71S1-2Δ	600
65	A63	5	10	81S-2Δ	522	81S1-2Δ	713
80	A75	7.5	15	91S-2Δ	563	91S1-2Δ	975
110	A110	10	20	A1S-2Δ	765	A1S1-2Δ	1,170
130	A145	10	25	B1S-2Δ	1,315	B1S1-2Δ	1,765
156	A185	15	30	C1S-2Δ	1,730	C1S1-2Δ	2,400

NEMA rated								
NEMA size	Contactor size	Continuous current						
			115V	200V				
00	A9	9	1/3	1	J1S-2Δ	\$ 165	J1S1-2Δ	\$ 255
0	A16	18	1	2	K1S-2Δ	200	K1S1-2Δ	300
1	A26	27	2	3	L1S-2Δ	294	L1S1-2Δ	405
2	A50	45	3	7.5	M1S-2Δ	458	M1S1-2Δ	600

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 3.6 - 3.7.

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 suffix code after the last dash in the catalog number.

Ex.: A 240V coil is required for an A75 starter: 91S-4F

D.C. operated starters

If DC operation is required, consult factory.

Factory modifications

See page 3.3

Coil voltage selection – AF400 - AF750 ①

Hz	Contactor type	Volts	
		100 - 250	250 - 500
50/60	AF	70	71

Control transformer voltage selection chart

Hz	Type	Volts			
		200-208/120	240/120	460 - 480/120	575 - 600/120
50/60	A/AF	A	B	C	D
	Type	200-208/24	240/24	460 - 480/24	575 - 600/24
	A/AF	E	F	G	H

Control transformer option

Contactor size	VA rating	List price adder
A9 - A30	50	\$ 360
A40 - A75	75	435
A95 - A110	100	560
A145 - A185	150	720

Non-reversing A9 - A185 Single phase

Starters

3

UL Type 3R (Outdoor metal)		UL Type 12 (Metal dusttight)		UL Type 4 (Watertight)		UL Type 4X (Stainless steel)		UL Type 1, 3R, 4, 4X & 12 (Plastic)	
Catalog number	List price	Catalog number	List price	Catalog number	List price	Catalog number	List price	Catalog number	List price
UL rated									
11S3-2Δ	\$ 330	11S2-2Δ	\$ 330	11S4-2Δ	\$ 495	11SX-2Δ	\$ 645	11SP-2Δ	\$ 315
21S3-2Δ	360	21S2-2Δ	360	21S4-2Δ	540	21SX-2Δ	713	21SP-2Δ	345
31S3-2Δ	383	31S2-2Δ	383	31S4-2Δ	570	31SX-2Δ	743	31SP-2Δ	360
41S3-2Δ	465	41S2-2Δ	465	41S4-2Δ	630	41SX-2Δ	831	41SP-2Δ	443
51S3-2Δ	533	51S2-2Δ	533	51S4-2Δ	690	51SX-2Δ	885	51SP-2Δ	510
61S3-2Δ	578	61S2-2Δ	578	61S4-2Δ	1,050	61SX-2Δ	1,275	61SP-2Δ	555
71S3-2Δ	719	71S2-2Δ	719	71S4-2Δ	1,103	71SX-2Δ	1,328	71SP-2Δ	698
81S3-2Δ	795	81S2-2Δ	795	81S4-2Δ	1,170	81SX-2Δ	1,410	81SP-2Δ	773
91S3-2Δ	1,058	91S2-2Δ	1,058	91S4-2Δ	1,425	91SX-2Δ	2,010	91SP-2Δ	1,035
A1S3-2Δ	1,515	A1S2-2Δ	1,515	A1S4-2Δ	2,100	A1SX-2Δ	2,813	A1SP-2Δ	1,440
B1S3-2Δ	2,130	B1S2-2Δ	2,130	B1S4-2Δ	2,700	B1SX-2Δ	3,375	B1SP-2Δ	1,950
C1S3-2Δ	2,805	C1S2-2Δ	2,805	C1S4-2Δ	3,340	C1SX-2Δ	3,900	C1SP-2Δ	2,440
NEMA rated									
J1S3-2Δ	\$ 330	J1S2-2Δ	\$ 330	J1S4-2Δ	\$ 495	J1SX-2Δ	\$ 645	J1SP-2Δ	\$ 315
K1S3-2Δ	383	K1S2-2Δ	383	K1S4-2Δ	570	K1SX-2Δ	743	K1SP-2Δ	360
L1S3-2Δ	465	L1S2-2Δ	465	L1S4-2Δ	630	L1SX-2Δ	831	L1SP-2Δ	443
M1S3-2Δ	719	M1S2-2Δ	719	M1S4-2Δ	1,103	M1SX-2Δ	1,328	M1SP-2Δ	698

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 3.6 - 3.7.

Reversing A9 - AF750 Three phase

3

UL motor switching current	Contactor size	Maximum ratings - UL Listed				Open type	UL Type 1 (Indoor metal)		UL type 3R (Outdoor metal)			
		Maximum motor horsepower ratings					Catalog number	List price	Catalog number	List price	Catalog number	List price
		200/208V	230/240V	480/480V	575/600V							
UL rated												
9	A9	2	2	5	7.5	12-2Δ	\$ 342	121-2Δ	\$ 510	123-2Δ	\$ 630	
11	A12	3	3	7.5	10	22-2Δ	387	221-2Δ	585	223-2Δ	705	
17	A16	5	5	10	15	32-2Δ	443	321-2Δ	630	323-2Δ	750	
28	A26	7.5	10	20	25	42-2Δ	503	421-2Δ	810	423-2Δ	900	
34	A30	10	10	25	30	52-2Δ	675	521-2Δ	953	523-2Δ	1,043	
42	A40	10	15	30	40	62-2Δ	765	621-2Δ	1,080	623-2Δ	1,305	
54	A50	15	20	40	50	72-2Δ	1,152	721-2Δ	1,395	723-2Δ	1,763	
65	A63	20	25	50	50	82-2Δ	1,515	821-2Δ	1,780	823-2Δ	2,310	
80	A75	25	30	60	75	92-2Δ	1,620	921-2Δ	1,905	923-2Δ	2,813	
110	A110	30	40	75	100	A2-2Δ	1,800	A21-2Δ	2,970	A23-2Δ	3,630	
130	A145	40	50	100	125	B2-2Δ	2,997	B21-2Δ	3,570	B23-2Δ	4,275	
156	A185	50	60	125	150	C2-2Δ	3,996	C21-2Δ	4,755	C23-2Δ	5,215	
192	A210	60	75	150	200	D2-2Δ	4,650	D21-2Δ	5,580	D23-2Δ	6,255	
248	A260	75	100	200	250	E2-2Δ	5,436	E21-2Δ	7,615	E23-2Δ	8,355	
302	A300	100	100	250	300	F2-2Δ	6,190	F21-2Δ	8,070	F23-2Δ	8,835	
414	AF400	125	150	350	400	G2-70Δ	7,980	G21-70Δ	15,450	G23-70Δ	16,125	
480	AF460	150	200	400	500	H2-70Δ	14,550	H21-70Δ	22,482	H23-70Δ	23,230	
590	AF580	200	250	500	600	T2-70Δ	19,755	T21-70Δ	25,800	T23-70Δ	26,250	
810	AF750	250	300	600	700	U2-70Δ	21,105	U21-70Δ	29,250	U23-70Δ	30,225	

NEMA rated											
NEMA size	Contactor size	Continuous current	200V	230V	460/575V						
00	A9	9	1.5	1.5	2	J2-2Δ	\$ 342	J21-2Δ	\$ 510	J23-2Δ	\$ 630
0	A16	18	3	3	5	K2-2Δ	443	K21-2Δ	630	K23-2Δ	750
1	A26	27	7.5	7.5	10	L2-2Δ	503	L21-2Δ	810	L23-2Δ	900
2	A50	45	10	15	25	M2-2Δ	1,152	M21-2Δ	1,395	M23-2Δ	1,763
3	A75	90	25	30	50	N2-2Δ	1,620	N21-2Δ	1,905	N23-2Δ	2,813
4	A145	135	40	50	100	P2-2Δ	2,997	P21-2Δ	3,570	P23-2Δ	4,275
5	A260	270	75	100	200	Q2-2Δ	5,436	Q21-2Δ	7,615	Q23-2Δ	8,355
6	AF460	540	150	200	400	R2-70Δ	14,550	R21-70Δ	22,482	R23-70Δ	23,230
7	AF750	810	—	300	600	S2-70Δ	21,105	S21-70Δ	29,250	S23-70Δ	30,225

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 3.6 - 3.7.

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 suffix code after the last dash in the catalog number.

Ex.: A 240V coil is required for an A75 starter: 92-4F

D.C. operated starters

If DC operation is required, consult factory.

Factory modifications

See page 3.3

Control transformer option

Contactor size	VA rating	List price adder
A9 - A40	50	\$ 360
A50 - A75	75	435
A95 - A110	100	560
A145 - A185	150	720
A210 - A300	250	795
AF400 - AF460	150	720
AF580 - AF750	250	795

Reference page 3.3 for Extra VA under all (Control Transformer Options chart)

Coil voltage selection – A9 - A300

Hz	Contactor type	Volts									
		24	110	120	208	220	240	440	480	500	600
60	A	1		2	3		4	5	6		7
50	A	1	2			4					7

Coil voltage selection – AF400 - AF750 ①

Hz	Contactor type	Volts	
		100 - 250	250 - 500
50/60	AF	70	71

Control transformer voltage selection chart

Hz	Volts				
	Type	200-208/120	240/120	460 - 480/120	575 - 600/120
	A/AF	A	B	C	D
50/60	Type	200-208/24	240/24	460 - 480/24	575 - 600/24
	A/AF	E	F	G	H

NOTE: For AF50 - AF 300 starters, consult factory.

① AF400 - AF750 only.

Reversing A9 - AF750 Three phase

UL Type 12 (Metal dustight)		UL Type 4 (Watertight)		UL Type 4X (Stainless steel)		UL Type 1, 3R, 4, 4X & 12 (Plastic)	
Catalog number	List price	Catalog number	List price	Catalog number	List price	Catalog number	List price
UL rated							
122-2Δ	\$ 630	124-2Δ	\$ 810	12X-2Δ	\$ 1,125	12P-2Δ	\$ 608
222-2Δ	705	224-2Δ	915	22X-2Δ	1,230	22P-2Δ	683
322-2Δ	750	324-2Δ	990	32X-2Δ	1,313	32P-2Δ	765
422-2Δ	900	424-2Δ	1,125	42X-2Δ	1,725	42P-2Δ	960
522-2Δ	1,043	524-2Δ	1,313	52X-2Δ	1,868	52P-2Δ	1,103
622-2Δ	1,305	624-2Δ	1,500	62X-2Δ	2,010	62P-2Δ	1,230
722-2Δ	1,763	724-2Δ	1,875	72X-2Δ	2,213	72P-2Δ	1,530
822-2Δ	2,310	824-2Δ	2,588	82X-2Δ	3,143	82P-2Δ	1,695
922-2Δ	2,813	924-2Δ	3,113	92X-2Δ	3,600	92P-2Δ	2,250
A22-2Δ	3,630	A24-2Δ	3,900	A2X-2Δ	4,479	A2P-2Δ	3,230
B22-2Δ	4,275	B24-2Δ	4,650	B2X-2Δ	5,665	B2P-2Δ	3,804
C22-2Δ	5,215	C24-2Δ	5,550	C2X-2Δ	6,555	C2P-2Δ	4,640
D22-2Δ	6,255	D24-2Δ	6,640	D2X-2Δ	7,680	D2P-2Δ	5,566
E22-2Δ	8,355	E24-2Δ	9,340	E2X-2Δ	11,995	E2P-2Δ	7,434
F22-2Δ	8,835	F24-2Δ	10,015	F2X-2Δ	12,055	F2P-2Δ	7,861
G22-70Δ	16,125	G24-70Δ	17,100	G2X-70Δ	20,690	Consult factory	—
H22-70Δ	23,230	H24-70Δ	23,625	H2X-70Δ	24,250	Consult factory	—
T22-70Δ	26,250	T24-70Δ	27,000	T2X-70Δ	28,500	Consult factory	—
U22-70Δ	30,225	U24-70Δ	31,275	U2X-70Δ	32,625	Consult factory	—
NEMA rated							
J22-2Δ	\$ 630	J24-2Δ	\$ 810	J2X-2Δ	\$ 1,125	J2P-2Δ	\$ 608
K22-2Δ	750	K24-2Δ	990	K2X-2Δ	1,313	K2P-2Δ	765
L22-2Δ	900	L24-2Δ	1,125	L2X-2Δ	1,725	L2P-2Δ	960
M22-2Δ	1,763	M24-2Δ	1,875	M2X-2Δ	2,213	M2P-2Δ	1,530
N22-2Δ	2,813	N24-2Δ	3,113	N2X-2Δ	3,600	N2P-2Δ	2,250
P22-2Δ	4,275	P24-2Δ	4,650	P2X-2Δ	5,665	P2P-2Δ	3,804
Q22-2Δ	8,355	Q24-2Δ	9,340	Q2X-2Δ	11,995	Q2P-2Δ	7,434
R22-70Δ	23,230	R24-70Δ	23,625	R2X-70Δ	24,250	Consult factory	—
S22-70Δ	30,225	S24-70Δ	31,275	S2X-70Δ	32,625	Consult factory	—

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 3.6 - 3.7.

2 Speed, 1 winding A9 - AF750 Three phase

3

UL motor switching current	Contactor size	Maximum ratings - UL Listed				Open type		UL Type 1 (Indoor metal)		UL type 3R (Outdoor metal)	
		Maximum motor horsepower ratings				Catalog number	List price	Catalog number	List price	Catalog number	List price
		200/208V	230/240V	480/480V	575/600V						
UL rated											
9	A9	2	2	5	7.5	13-2Δ1Δ	\$ 504	131-2Δ1Δ	\$ 690	133-2Δ1Δ	\$ 810
11	A12	3	3	7.5	10	23-2Δ1Δ	525	231-2Δ1Δ	771	233-2Δ1Δ	891
17	A16	5	5	10	15	33-2Δ1Δ	581	331-2Δ1Δ	837	333-2Δ1Δ	957
28	A26	7.5	10	20	25	43-2Δ1Δ	752	431-2Δ1Δ	1,097	433-2Δ1Δ	1,187
34	A30	10	10	25	30	53-2Δ1Δ	1,038	531-2Δ1Δ	1,316	533-2Δ1Δ	1,406
42	A40	10	15	30	40	63-2Δ1Δ	1,259	631-2Δ1Δ	1,577	633-2Δ1Δ	1,802
54	A50	15	20	40	50	73-2Δ1Δ	1,697	731-2Δ1Δ	1,940	733-2Δ1Δ	2,307
65	A63	20	25	50	50	83-2Δ1Δ	2,150	831-2Δ1Δ	2,195	833-2Δ1Δ	2,945
80	A75	25	30	60	75	93-2Δ1Δ	2,307	931-2Δ1Δ	2,592	933-2Δ1Δ	3,500
110	A110	30	40	75	100	A3-2Δ1Δ	2,681	A31-2Δ1Δ	3,851	A33-2Δ1Δ	4,511
130	A145	40	50	100	125	B3-2Δ1Δ	4,506	B31-2Δ1Δ	5,079	B33-2Δ1Δ	5,784
156	A185	50	60	125	150	C3-2Δ1Δ	5,845	C31-2Δ1Δ	6,605	C33-2Δ1Δ	7,059
192	A210	60	75	150	200	D3-2Δ1Δ	6,895	D31-2Δ1Δ	7,825	D33-2Δ1Δ	8,500
248	A260	75	100	200	250	E3-2Δ1Δ	8,535	E31-2Δ1Δ	10,710	E33-2Δ1Δ	11,455
302	A300	100	100	250	300	F3-2Δ1Δ	9,171	F31-2Δ1Δ	11,391	F33-2Δ1Δ	12,155
414	AF400	125	150	350	400	G3-70Δ1Δ	10,100	G31-70Δ1Δ	19,460	G33-70Δ1Δ	20,135
480	AF460	150	200	400	500	H3-70Δ1Δ	17,995	H31-70Δ1Δ	28,910	H23-70Δ1Δ	29,652
590	AF580	200	250	500	600	T3-70Δ1Δ	23,735	T31-70Δ1Δ	35,400	T33-70Δ1Δ	35,850
810	AF750	250	300	600	700	U3-70Δ1Δ	26,645	U31-70Δ1Δ	39,195	U33-70Δ1Δ	40,170

NEMA rated											
NEMA size	Contactor size	Continuous current	200V	230V	460/575V						
00	A9	9	1.5	1.5	2	J3-2Δ1Δ	\$ 504	J31-2Δ1Δ	\$ 690	J33-2Δ1Δ	\$ 810
0	A16	18	3	3	5	K3-2Δ1Δ	581	K31-2Δ1Δ	837	K33-2Δ1Δ	957
1	A26	27	7.5	7.5	10	L3-2Δ1Δ	752	L31-2Δ1Δ	1,097	L33-2Δ1Δ	1,187
2	A50	45	10	15	25	M3-2Δ1Δ	1,697	M31-2Δ1Δ	1,940	M33-2Δ1Δ	2,307
3	A75	90	25	30	50	N3-2Δ1Δ	2,307	N31-2Δ1Δ	2,589	N33-2Δ1Δ	3,500
4	A145	135	40	50	100	P3-2Δ1Δ	4,506	P31-2Δ1Δ	5,079	P33-2Δ1Δ	5,784
5	A260	270	75	100	200	Q3-2Δ1Δ	8,535	Q31-2Δ1Δ	10,710	Q33-2Δ1Δ	11,455
6	AF460	540	150	200	400	R3-70Δ1Δ	17,995	R31-70Δ1Δ	28,910	R33-70Δ1Δ	29,652
7	AF750	810	—	300	600	S3-70Δ1Δ	26,645	S31-70Δ1Δ	39,195	S33-70Δ1Δ	40,170

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 3.6 - 3.7. 1st Δ low speed; 2nd Δ high speed.

Description

Motors that have separate windings for each speed provide more combinations of speed variations. Multi-speed starters from ABB Control are available for constant horsepower, constant torque and variable torque motors.

Constant horsepower

Motors that maintain the same horsepower regardless of speed are called constant horsepower motors. These motors are used in applications like metal working.

Constant torque

Motors that maintain constant torque at all speeds are called constant torque motors. In applications like conveyors, horsepower varies directly with speed.

Variable torque motors

Motors that produce a torque characteristic which varies as the square of the speed are called variable torque motors and are used in applications like blowers and fans.

Control transformer option

Contactor size	VA rating	List price adder
A9 - A40	50	\$ 360
A50 - A75	75	435
A95 - A110	100	560
A145 - A185	150	720
A210 - A300	250	795
AF400 - AF460	150	720
AF580 - AF750	250	795

Reference page 3.3 for Extra VA under all (Control Transformer Options chart)

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 suffix code after the last dash in the catalog number.

Ex.: A 240V coil is required for an A110 starter: A3-4Δ1Δ

D.C. operated starters

If DC operation is required, consult factory.

Factory modifications

See page 3.3

Coil voltage selection - A9 - A300

Hz	Contactor type	Volts									
		24	110	120	208	220	240	440	480	500	600
60	A	1		2	3		4	5	6		7
50	A	1	2				4			7	

Coil voltage selection - AF400 - AF750 ①

Hz	Contactor type	Volts	
		100 - 250	250 - 500
50/60	AF	70	71

Control transformer voltage selection chart

Hz	Type	Volts			
		200-208/120	240/120	460 - 480/120	575 - 600/120
		A/AF	A	B	C
50/60	Type	200-208/24	240/24	460 - 480/24	575 - 600/24
	A/AF	E	F	G	H

NOTE: For AF50 - AF 300 starters, consult factory.

① AF400 - AF750 only.

2 Speed, 1 winding A9 - AF750 Three phase

Starters

3

UL Type 12 (Metal dustight)		UL Type 4 (Watertight)		UL Type 4X (Stainless steel)		UL Type 1, 3R, 4, 4X & 12 (Plastic)	
Catalog number	List price	Catalog number	List price	Catalog number	List price	Catalog number	List price
UL rated							
132-2Δ1Δ	\$ 810	134-2Δ1Δ	\$ 1,020	13X-2Δ1Δ	\$ 1,305	13P-2Δ1Δ	\$ 788
232-2Δ1Δ	891	234-2Δ1Δ	1,095	23X-2Δ1Δ	1,416	23P-2Δ1Δ	869
332-2Δ1Δ	957	334-2Δ1Δ	1,215	33X-2Δ1Δ	1,520	33P-2Δ1Δ	972
432-2Δ1Δ	1,187	434-2Δ1Δ	1,515	43X-2Δ1Δ	2,012	43P-2Δ1Δ	1,247
532-2Δ1Δ	1,406	534-2Δ1Δ	1,688	53X-2Δ1Δ	2,231	53P-2Δ1Δ	1,466
632-2Δ1Δ	1,802	634-2Δ1Δ	2,100	63X-2Δ1Δ	2,507	63P-2Δ1Δ	1,727
732-2Δ1Δ	2,307	734-2Δ1Δ	2,528	73X-2Δ1Δ	2,757	73P-2Δ1Δ	2,075
832-2Δ1Δ	2,945	834-2Δ1Δ	3,285	83X-2Δ1Δ	3,777	83P-2Δ1Δ	2,330
932-2Δ1Δ	3,500	934-2Δ1Δ	3,788	93X-2Δ1Δ	4,287	93P-2Δ1Δ	2,835
A32-2Δ1Δ	4,511	A34-2Δ1Δ	4,800	A3X-2Δ1Δ	5,358	A3P-2Δ1Δ	4,300
B32-2Δ1Δ	5,784	B34-2Δ1Δ	6,265	B3X-2Δ1Δ	7,175	B3P-2Δ1Δ	5,513
C32-2Δ1Δ	7,059	C34-2Δ1Δ	7,440	C3X-2Δ1Δ	8,400	C3P-2Δ1Δ	6,729
D32-2Δ1Δ	8,500	D34-2Δ1Δ	8,890	D3X-2Δ1Δ	9,925	D3P-2Δ1Δ	8,103
E32-2Δ1Δ	11,455	E34-2Δ1Δ	12,940	E3X-2Δ1Δ	15,090	E3P-2Δ1Δ	10,919
F32-2Δ1Δ	12,155	F34-2Δ1Δ	13,425	F3X-2Δ1Δ	16,275	F3P-2Δ1Δ	11,586
G32-70Δ1Δ	20,135	G34-70Δ1Δ	21,600	G3X-70Δ1Δ	24,700		
H32-70Δ1Δ	29,652	H34-70Δ1Δ	30,000	H3X-70Δ1Δ	30,675		
T32-70Δ1Δ	35,850	T34-70Δ1Δ	36,225	T3X-70Δ1Δ	38,097		
U32-70Δ1Δ	40,170	U34-70Δ1Δ	40,875	U3X-70Δ1Δ	42,570		
NEMA rated							
J32-2Δ1Δ	\$ 810	J34-2Δ1Δ	\$ 1,020	J3X-2Δ1Δ	\$ 1,305	J3P-2Δ1Δ	\$ 788
K32-2Δ1Δ	957	K34-2Δ1Δ	1,215	K3X-2Δ1Δ	1,520	K3P-2Δ1Δ	972
L32-2Δ1Δ	1,187	L34-2Δ1Δ	1,515	L3X-2Δ1Δ	2,012	L3P-2Δ1Δ	1,247
M32-2Δ1Δ	2,307	M34-2Δ1Δ	2,528	M3X-2Δ1Δ	2,757	M3P-2Δ1Δ	2,075
N32-2Δ1Δ	3,500	N34-2Δ1Δ	3,788	N3X-2Δ1Δ	4,287	N3P-2Δ1Δ	2,835
P32-2Δ1Δ	5,748	P34-2Δ1Δ	6,265	P3X-2Δ1Δ	7,175	P3P-2Δ1Δ	5,513
Q32-2Δ1Δ	11,455	Q34-2Δ1Δ	12,940	Q3X-2Δ1Δ	15,090	Q3P-2Δ1Δ	10,919
R32-70Δ1Δ	29,652	R34-70Δ1Δ	30,000	R3X-70Δ1Δ	30,675		
S32-70Δ1Δ	40,170	S34-70Δ1Δ	40,875	S3X-70Δ1Δ	42,570		

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 3.6 - 3.7. 1st Δ low speed; 2nd Δ high speed.

2 Speed, 2 winding A9 - AF750 Three phase

3

UL motor switching current	Contactor size	Maximum ratings - UL Listed				Open type	UL Type 1 (Indoor metal)		UL type 3R (Outdoor metal)			
		Maximum motor horsepower ratings					Catalog number	List price	Catalog number	List price	Catalog number	List price
		200/208V	230/240V	480/480V	575/600V							
UL rated												
9	A9	2	2	5	7.5	13-2Δ2Δ	\$ 396	131-2Δ2Δ	\$ 582	133-2Δ2Δ	\$ 702	
11	A12	3	3	7.5	10	23-2Δ2Δ	426	231-2Δ2Δ	657	233-2Δ2Δ	777	
17	A16	5	5	10	15	33-2Δ2Δ	476	331-2Δ2Δ	702	333-2Δ2Δ	822	
28	A26	7.5	10	20	25	43-2Δ2Δ	552	431-2Δ2Δ	882	433-2Δ2Δ	972	
34	A30	10	10	25	30	53-2Δ2Δ	747	531-2Δ2Δ	1,025	533-2Δ2Δ	1,115	
42	A40	10	15	30	40	63-2Δ2Δ	834	631-2Δ2Δ	1,152	633-2Δ2Δ	1,377	
54	A50	15	20	40	50	73-2Δ2Δ	1,224	731-2Δ2Δ	1,467	733-2Δ2Δ	1,835	
65	A63	20	25	50	50	83-2Δ2Δ	1,587	831-2Δ2Δ	1,632	833-2Δ2Δ	2,382	
80	A75	25	30	60	75	93-2Δ2Δ	1,692	931-2Δ2Δ	1,977	933-2Δ2Δ	2,885	
110	A110	30	40	75	100	A3-2Δ2Δ	1,872	A31-2Δ2Δ	3,042	A33-2Δ2Δ	3,702	
130	A145	40	50	100	125	B3-2Δ2Δ	3,069	B31-2Δ2Δ	3,642	B33-2Δ2Δ	4,347	
156	A185	50	60	125	150	C3-2Δ2Δ	4,068	C31-2Δ2Δ	4,827	C33-2Δ2Δ	5,285	
192	A210	60	75	150	200	D3-2Δ2Δ	4,722	D31-2Δ2Δ	5,652	D33-2Δ2Δ	6,327	
248	A260	75	100	200	250	E3-2Δ2Δ	5,500	E31-2Δ2Δ	7,685	E33-2Δ2Δ	8,427	
302	A300	100	100	250	300	F3-2Δ2Δ	6,340	F31-2Δ2Δ	8,142	F33-2Δ2Δ	8,905	
414	AF400	125	150	350	400	G3-70Δ2Δ	6,855	G31-70Δ2Δ	15,522	G33-70Δ2Δ	16,197	
480	AF460	150	200	400	500	H3-70Δ2Δ	13,560	H31-70Δ2Δ	22,554	H23-70Δ2Δ	23,300	
590	AF580	200	250	500	600	T3-70Δ2Δ	18,660	T31-70Δ2Δ	25,872	T33-70Δ2Δ	26,332	
810	AF750	250	300	600	700	U3-70Δ2Δ	20,025	U31-70Δ2Δ	29,322	U33-70Δ2Δ	30,297	

NEMA rated											
NEMA size	Contactor size	Continuous current	200V	230V	460/575V						
00	A9	9	1.5	1.5	2	J3-2Δ2Δ	\$ 396	J31-2Δ2Δ	\$ 582	J33-2Δ2Δ	\$ 702
0	A16	18	3	3	5	K3-2Δ2Δ	476	K31-2Δ2Δ	702	K33-2Δ2Δ	822
1	A26	27	7.5	7.5	10	L3-2Δ2Δ	552	L31-2Δ2Δ	882	L33-2Δ2Δ	972
2	A50	45	10	15	25	M3-2Δ2Δ	1,224	M31-2Δ2Δ	1,467	M33-2Δ2Δ	1,835
3	A75	90	25	30	50	N3-2Δ2Δ	1,692	N31-2Δ2Δ	1,977	N33-2Δ2Δ	2,885
4	A145	135	40	50	100	P3-2Δ2Δ	3,069	P31-2Δ2Δ	3,642	P33-2Δ2Δ	4,347
5	A260	270	75	100	200	Q3-2Δ2Δ	5,508	Q31-2Δ2Δ	7,685	Q33-2Δ2Δ	8,427
6	AF460	540	150	200	400	R3-70Δ2Δ	13,560	R31-70Δ2Δ	22,554	R33-70Δ2Δ	23,300
7	AF750	810	—	300	600	S3-70Δ2Δ	20,025	S31-70Δ2Δ	29,322	S33-70Δ2Δ	30,297

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 3.6 - 3.7. 1st Δ low speed; 2nd Δ high speed.

Description

Motors that have separate windings for each speed provide more combinations of speed variations. Multi-speed starters from ABB Control are available for constant horsepower, constant torque and variable torque motors.

Constant horsepower

Motors that maintain the same horsepower regardless of speed are called constant horsepower motors. These motors are used in applications like metal working.

Constant torque

Motors that maintain constant torque at all speeds are called constant torque motors. In applications like conveyors, horsepower varies directly with speed.

Variable torque motors

Motors that produce a torque characteristic which varies as the square of the speed are called variable torque motors and are used in applications like blowers and fans.

Control transformer option

Contactor size	VA rating	List price adder
A9 - A40	50	\$ 360
A50 - A75	75	435
A95 - A110	100	560
A145 - A185	150	720
A210 - A300	250	795
AF400 - AF460	150	720
AF580 - AF750	250	795

Reference page 3.3 for Extra VA under all (Control Transformer Options chart)

NOTE: For AF50 - AF 300 starters, consult factory.
Ⓢ AF400 - AF 750 only.

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 suffix code after the last dash in the catalog number.

Ex.: A 240V coil is required for an A110 starter: A3-4Δ2Δ

D.C. operated starters

If DC operation is required, consult factory.

Factory modifications

See page 3.3

Coil voltage selection - A9 - A300

Hz	Contactor type	Volts									
		24	110	120	208	220	240	440	480	500	600
60	A	1		2	3		4	5	6		7
50	A	1	2				4				7

Coil voltage selection - AF400 - AF750 Ⓢ

Hz	Contactor type	Volts	
		100 - 250	250 - 500
50/60	AF	70	71

Control transformer voltage selection chart

Hz	Volts				
	Type	200-208/120	240/120	460 - 480/120	575 - 600/120
	A/AF	A	B	C	D
50/60	Type	200-208/24	240/24	460 - 480/24	575 - 600/24
	A/AF	E	F	G	H

2 Speed, 2 winding A9 - AF750 Three phase

UL Type 12 (Metal dustight)		UL Type 4 (Watertight)		UL Type 4X (Stainless steel)		UL Type 1, 3R, 4, 4X & 12 (Plastic)	
Catalog number	List price	Catalog number	List price	Catalog number	List price	Catalog number	List price
UL rated							
132-2Δ2Δ	\$ 702	134-2Δ2Δ	\$ 915	13X-2Δ2Δ	\$ 1,197	13P-2Δ2Δ	\$ 680
232-2Δ2Δ	777	234-2Δ2Δ	990	23X-2Δ2Δ	1,302	23P-2Δ2Δ	755
332-2Δ2Δ	822	334-2Δ2Δ	1,065	33X-2Δ2Δ	1,385	33P-2Δ2Δ	837
432-2Δ2Δ	972	434-2Δ2Δ	1,200	43X-2Δ2Δ	1,797	43P-2Δ2Δ	1,032
532-2Δ2Δ	1,115	534-2Δ2Δ	1,388	53X-2Δ2Δ	1,940	53P-2Δ2Δ	1,175
632-2Δ2Δ	1,377	634-2Δ2Δ	1,545	63X-2Δ2Δ	2,082	63P-2Δ2Δ	1,302
732-2Δ2Δ	1,835	734-2Δ2Δ	1,988	73X-2Δ2Δ	2,285	73P-2Δ2Δ	1,602
832-2Δ2Δ	2,382	834-2Δ2Δ	2,513	83X-2Δ2Δ	3,215	83P-2Δ2Δ	1,767
932-2Δ2Δ	2,885	934-2Δ2Δ	3,090	93X-2Δ2Δ	3,672	93P-2Δ2Δ	2,200
A32-2Δ2Δ	3,702	A34-2Δ2Δ	3,863	A3X-2Δ2Δ	4,550	A3P-2Δ2Δ	3,300
B32-2Δ2Δ	4,347	B34-2Δ2Δ	4,650	B3X-2Δ2Δ	5,735	B3P-2Δ2Δ	3,919
C32-2Δ2Δ	5,285	C34-2Δ2Δ	5,740	C3X-2Δ2Δ	6,627	C3P-2Δ2Δ	4,857
D32-2Δ2Δ	6,327	D34-2Δ2Δ	6,510	D3X-2Δ2Δ	7,752	D3P-2Δ2Δ	5,899
E32-2Δ2Δ	8,427	E34-2Δ2Δ	9,150	E3X-2Δ2Δ	12,065	E3P-2Δ2Δ	7,512
F32-2Δ2Δ	8,905	F34-2Δ2Δ	9,750	F3X-2Δ2Δ	13,025	F3P-2Δ2Δ	7,990
G32-70Δ2Δ	16,197	G34-70Δ2Δ	17,100	G3X-70Δ2Δ	20,760		
H32-70Δ2Δ	23,300	H34-70Δ2Δ	23,700	H3X-70Δ2Δ	24,320		
T32-70Δ2Δ	26,322	T34-70Δ2Δ	27,000	T3X-70Δ2Δ	28,570		
U32-70Δ2Δ	30,297	U34-70Δ2Δ	30,900	U3X-70Δ2Δ	32,697		
NEMA rated							
J32-2Δ2Δ	\$ 702	J34-2Δ2Δ	\$ 915	J3X-2Δ2Δ	\$ 1,197	J3P-2Δ2Δ	\$ 680
K32-2Δ2Δ	822	K34-2Δ2Δ	1,065	K3X-2Δ2Δ	1,385	K3P-2Δ2Δ	837
L32-2Δ2Δ	972	L34-2Δ2Δ	1,200	L3X-2Δ2Δ	1,797	L3P-2Δ2Δ	1,032
M32-2Δ2Δ	1,835	M34-2Δ2Δ	1,988	M3X-2Δ2Δ	2,285	M3P-2Δ2Δ	1,602
N32-2Δ2Δ	2,885	N34-2Δ2Δ	3,090	N3X-2Δ2Δ	3,672	N3P-2Δ2Δ	2,200
P32-2Δ2Δ	4,347	P34-2Δ2Δ	4,650	P3X-2Δ2Δ	5,735	P3P-2Δ2Δ	3,919
Q32-2Δ2Δ	8,427	Q34-2Δ2Δ	9,150	Q3X-2Δ2Δ	12,065	Q3P-2Δ2Δ	7,512
R32-70Δ2Δ	23,300	R34-70Δ2Δ	23,700	R3X-70Δ2Δ	24,320		
S32-70Δ2Δ	30,297	S34-70Δ2Δ	30,900	S3X-70Δ2Δ	32,697		

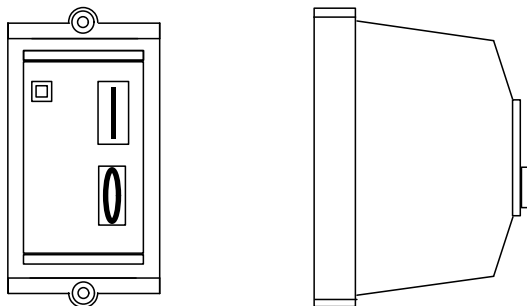
Δ Overload relay suffix code. Select from the overload relay selection chart on pages 3.6 - 3.7. 1st Δ low speed; 2nd Δ high speed.

Plastic enclosed, IP65

A9 - A16

Three phase & single phase

3



Enclosed – Three phase

Maximum motor horsepower ratings				Catalog number with blank cover	List price	Catalog number with reset only	List price	Catalog number with start & stop/reset	List price
208V	240V	480V	575V/600V						
2	2	5	7.5	A9SD-84Δ	\$ 233	A9SD-84ΔR	\$ 240	A9SD-84ΔA	\$ 278
3	3	7.5	10	A12SD-84Δ	248	A12SD-84ΔR	255	A12SD-84ΔA	293
5	5	10	15	A16SD-84Δ	278	A16SD-84ΔR	293	A16SD-84ΔA	330

Δ Overload Relay suffix code. Select from the overload relay selection chart on page 3.6.

Enclosed – Single phase

Maximum motor horsepower ratings		Catalog number with blank cover	List price	Catalog number with reset only	List price	Catalog number with start & stop/reset	List price
115V	230V						
1/2	1	A9SSD-84Δ	\$ 233	A9SSD-84ΔR	\$ 240	A9SSD-84ΔA	\$ 278
3/4	2	A12SSD-84Δ	248	A12SSD-84ΔR	255	A12SSD-84ΔA	293
1	3	A16SSD-84Δ	278	A16SSD-84ΔR	293	A16SSD-84ΔA	330

Overload relay selection chart

For contactor sizes	Current range (motor fla)	Catalog number	Starter suffix code
A16 A12 A9	0.1 – 0.16	TA25DU0.16	A
	0.16 – 0.25	TA25DU0.25	B
	0.25 – 0.4	TA25DU0.4	C
	0.4 – 0.63	TA25DU0.63	D
	0.63 – 1.0	TA25DU1.0	E
	1.0 – 1.4	TA25DU1.4	F
	1.4 – 1.8	TA25DU1.8	G
	1.7 – 2.4	TA25DU2.4	H
	2.2 – 3.1	TA25DU3.1	J
	2.8 – 4.0	TA25DU4.0	K
	3.5 – 5.0	TA25DU5.0	L
	4.5 – 6.5	TA25DU6.5	M
	6.0 – 8.5	TA25DU8.5	N
	7.5 – 11	TA25DU11	P
	10 – 14	TA25DU14	Q
	13 – 19	TA25DU19	R

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 suffix code after the last dash in the catalog number.

Ex.: A 240V coil is required for an A9 starter: A9SD-80E

D.C. operated starters

If DC operation is required, consult factory.

Coil voltage selection – A9 - A16 starters

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