

# General information

## Product overview



### Description

#### AF09 – AF750 and AFN00 – AFN4

- Maximum UL/CSA horsepower ratings
- Available with non-reversing, reversing, two speed one winding and two speed two winding
- Available in non-combination and combination
- Available in UL type 1,3R,12, 4, and 4X stainless steel enclosures
- Available with non-fusible or fusible disconnect switches and thermal magnetic circuit breaker
- Compact space saving design
- Standard auxiliary contact configurations: AF09 – AF750 (AFN00-AFN4) 1 N.O. & 1 N.C.
- Double break contact design
- Lowest possible contact bounce
- Operates over an extended voltage range of 85% to 110% of rated control voltage

### Overload relay protection

Starters, sizes AF09 – AF300 (AFN00-AFN4), 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.

Optional electronic overload relay protection is available for all starter sizes.

### Field modification kits

Offers a wide variety of pilot device kits for non-reversing, reversing, two speed one winding and two speed two winding starters.

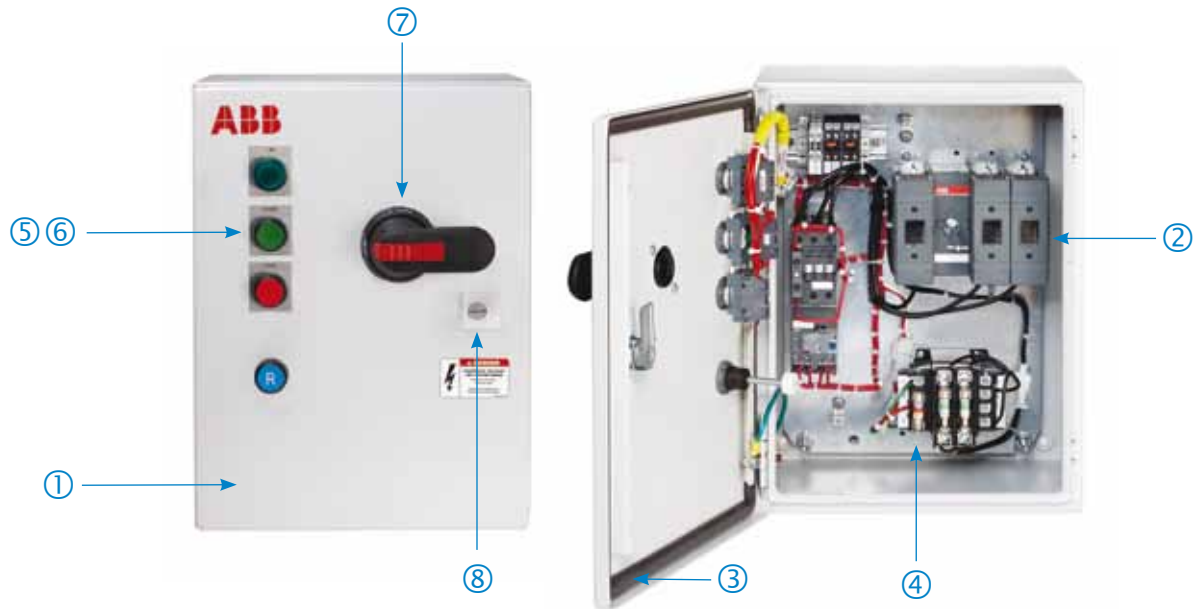
Control circuit transformer kits are also available with the following voltages:

Control Voltage	200-208	230-240	460-480	575-600
120V AC @ 50/60 Hz	A	B	C	D
24V AC @ 50/60 Hz	E	F	G	H

The field kits are pre-wired, ready to operate, making installation easy and reliable

# General information

## Features and benefits



### Features and benefits

1. Durable protective finish (carbon steel enclosures)
  - Industry exclusive electrophoretic dip coat prime
  - Power coated surface for added protection
2. Flange trough collar opening
  - Channels liquids and dust away from enclosure gasket and enclosure interior
3. Seamless foamed-in-place gasket
  - Provide secure seal against contaminants
  - Ensures a dust tight and water tight seal
4. Pre-drilled mounting plate
  - Easy mounting for control circuit transformer kit
5. Rugged and compact 22 mm pilot devices
  - Meets UL/NEMA Type 1, 3R, 4, 4X, 12, 13
6. Convenient hole plugs for pilot device control
  - Allows for quick installation of pilot device kit
7. Disconnect handle accepts 3 -3/8" padlocks in off position for safe maintenance
8. Quarter turn enclosure latches
  - Allows for quick entry and proper sealing of enclosure

# Catalog number explanation

## Non-combination starter

### AF26 1 S N 1 - 2 H A

#### Contactor size

AF26	AF210	AFN00
AF30	AF260	AFN0
AF50	AF300	AFN1
AF63	AF400	AFN2
AF75	AF460	AFN3
AF110	AF580	AFN4
AF145	AF750	
AF185		

#### Starter type

- 1 - Non reversing
- 2 - Reversing
- 3 - 2 Speed, 1 winding
- 4 - 2 Speed, 2 winding

#### Single phase

S - Single phase (insert only for single phase)

#### Disconnect type

- Blank - Non-combination (starter only)
- N - Non-fusible disconnect

#### Enclosure type

- 2 - NEMA/UL Type 1, 3R, 4, 12
- X - NEMA/UL Type 4X (Stainless steel)

#### Coil voltage CCT

#### Option 1

See factory installed modifications on pages 29 & 30

#### Overload selection

See overload relay selection on pages 34 - 37

Coil voltage selection

AC Volts, 40-60 Hz		
24 AC	100 - 250 AC	250 - 500 AC
1	2	3

CCT Selection

Control Voltage	200-208	230-240	460-480	575-600
120V AC @ 50/60 Hz	A	B	C	D
24V AC @ 50/60 Hz	E	F	G	H

# IEC & NEMA Non-combination AF26 - AF750; AFN00 - AFN4 Non-reversing, three phase

## IEC Non-combination

UL motor switching current	Contactor Size	Maximum ratings - UL Listed				UL Type 1, 3R, 4, 12	UL Type 4X
		Maximum motor horsepower ratings				General Purpose, Rainproof, Waterproof, Dusttight	Watertight Corrosion Resistant Stainless steel
		200/208V	230/240V	460V/480V	575/600V	Catalog number	Catalog number
28	AF26	7.5	7.5	15	20	AF2612-2Δ	AF261X-2Δ
34	AF30	10	10	20	25	AF3012-2Δ	AF301X-2Δ
54	AF50	15	20	40	50	AF5012-2Δ	AF501X-2Δ
68	AF63	20	25	50	60	AF6312-2Δ	AF631X-2Δ
80	AF75	25	30	60	75	AF7512-2Δ	AF751X-2Δ
110	AF110	30	40	75	100	AF11012-2Δ	AF1101X-2Δ
130	AF145	40	50	100	125	AF14512-2Δ	AF1451X-2Δ
156	AF185	50	60	125	150	AF18512-2Δ	AF1851X-2Δ
192	AF210	60	75	150	200	AF21012-2Δ	AF2101X-2Δ
248	AF260	75	100	200	250	AF26012-2Δ	AF2601X-2Δ
302	AF300	100	-	250	300	AF30012-2Δ	AF3001X-2Δ
414	AF400	125	150	350	400	AF40012-2Δ	AF4001X-2Δ
480	AF460	150	200	400	500	AF46012-2Δ	AF4601X-2Δ
590	AF580	200	250	500	600	AF58012-2Δ	AF5801X-2Δ
722	AF750	250	300	600	700	AF75012-2Δ	AF7501X-2Δ

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 34 & 35.

## NEMA Non-combination

NEMA size	Contactor	Continuous	Maximum ratings - UL Listed			UL Type 1, 3R, 4, 12	UL Type 4X
			Maximum motor horsepower ratings			General Purpose, Rainproof, Waterproof, Dusttight	Watertight Corrosion Resistant Stainless steel
			200V	230V	460/575V	Catalog number	Catalog number
00	AFN00	9	1.5	1.5	2	AFN0012-2Δ	AFN001X-2Δ
0	AFN0	18	3	3	5	AFN012-2Δ	AFN01X-2Δ
1	AN1	27	7.5	7.5	10	AFN112-2Δ	AFN11X-2Δ
2	AFN2	45	10	15	25	AFN212-2Δ	AFN21X-2Δ
3	AFN3	90	25	30	50	AFN312-2Δ	AFN31X-2Δ
4	AFN4	135	40	50	100	AFN412-2Δ	AFN41X-2Δ

Δ Overload relay suffix code. Select from the overload relay selection chart on pages 36 & 37.

### Coil voltage selection <sup>1)</sup>

All AC operated catalog numbers include a 100-250V AC coil. To select other coil voltages, substitute the code from the Coil Voltage Selection Chart for the suffix code after the dash in the catalog number. Ex.: A 24V AC coil is required for an AF26 starter: AF2612-1K

### Coil voltage selection chart

Coil voltage		
AC Volts, 40-60 Hz		
24 AC	100 - 250 AC	250 - 500 AC
1	2	3

### Control transformer voltage selection

To select starter with control transformer, substitute the code from the control transformer voltage selector chart after the dash in the catalog number. Ex.: A 480V primary voltage with a 120V secondary voltage is required for an AF26 starter: AF2612-CK

### Control transformer voltage selection chart

Control Voltage	200-208	230-240	460-480	575-600
120V AC @ 50/60 Hz	A	B	C	D
24V AC @ 50/60 Hz	E	F	G	H

1) 24 AC coil voltage is available only with AF26 & AF30, AFN00 - AFN1.  
For factory modifications, see pages 29 & 30.

# General information

## Factory installed options

### Control cover factory modifications - NEMA/UL Type 1, 3R, 4, 4X & 12

#### Pilot device kits

	Starter type	Description	Nameplate	Suffix code
One operator	DOL	2-Position Switch	OFF-ON	C
	DOL	3-Position Switch	HAND-OFF-AUTO	D
	DOL	Pilot Light	"ON" Red pilot light	E
	REV	3-Position Switch	FOR-OFF-REV	L
	2 Speed	3-Position Switch	SLOW-OFF-FAST	M
Two operators	DOL	Push Buttons	START/STOP	A
	DOL	Push Buttons	START/ EMERGENCY STOP	N
	DOL	2 Position Switch & Pilot Light	OFF-ON/"ON"	H
	DOL	3 Position Switch & Pilot Light	HAND-OFF-AUTO/"ON"	J
Three operators	DOL	Push Buttons & Pilot Light	START/STOP/"ON"	F
	DOL	2 Position Switch & Pilot Lights	OFF-ON/"ON"/"FAULT"	P
	DOL	3 Position Switch & Pilot Lights	HAND-OFF-AUTO/"ON"/"FAULT"	Q
	REV	Push Buttons	FORWARD- REVERSE-STOP	B
	REV	3 Position Switch & Pilot Lights	FOR-OFF-REV/"FORWARD"/"REVERSE"	G
	2 Speed	Push Buttons	FAST-SLOW-STOP	K
	2 Speed	3 Position Switch & Pilot Lights	SLOW-OFF-FAST/"SLOW"/"FAST"	R

# General information

## Factory installed options

### Control circuit transformers

Contacteur size	Description	Option
AF09 -AF30 AFN00 & AFN1	50VA, 200-208/120 VAC	A
	50VA, 230-240/120 VAC	B
	50VA, 460-480/120 VAC	C
	50VA, 575-600/120 VAC	D
	50VA, 200-208/24 VAC	E
	50VA, 230-240/24 VAC	F
	50VA, 460-480/24 VAC	G
	50VA, 575-600/24 VAC	H
AF50 -AF75 AFN2 & AFN3	75VA, 200-208/120 VAC	A
	75VA, 230-240/120 VAC	B
	75VA, 460-480/120 VAC	C
	75VA, 575-600/120 VAC	D
AF110	100VA, 200-208/120 VAC	A
	100VA, 230-240/120 VAC	B
	100VA, 460-480/120 VAC	C
	100VA, 575-600/120 VAC	D
AF145 - AF185 AF400-AF460 AFN4	150VA, 200-208/120 VAC	A
	150VA, 230-240/120 VAC	B
	150VA, 460-480/120 VAC	C
	150VA, 575-600/120 VAC	D
AF210 - AF300 AF580-AF750	250VA, 200-208/120 VAC	A
	250VA, 230-240/120 VAC	B
	250VA, 460-480/120 VAC	C
	250VA, 575-600/120 VAC	D

# General information - NEMA Starter

## Standard thermal overload relays

### Standard - Thermal, Type TF and TA, Class 10

Correct sizing of overload relay per motor HP

1-phase		3-phase				Catalog Number	Code	Setting Range (A)	Contactor Size
120V	240V	208V	240V	480V	600V				
-	-	-	-	-	-	TF42-0.13	A	0.10-0.13	AFN00
-	-	-	-	-	-	TF42-0.17	B	0.13-0.17	
-	-	-	-	-	-	TF42-0.23	C	0.17-0.23	
-	-	-	-	-	-	TF42-0.41	D	0.31- 0.41	
-	-	-	-	-	-	TF42-0.55	E	0.41-0.55	
-	-	-	-	-	-	TF42-0.74	F	0.55-0.74	
-	-	-	-	-	1/2	TF42-1.0	G	0.74-1.0	
-	-	-	-	1/2	3/4	TF42-1.3	H	1.0-1.3	
-	1/10	-	-	3/4	1	TF42-1.7	J	1.3-1.7	
-	1/8	-	1/2	1	-	TF42-2.3	K	1.7-2.3	
1/10	1/6, 1/4	1/2	-	1 1/2	1 1/2, 2	TF42-3.1	L	2.3-3.1	
1/8	1/3	3/4	3/4	2	-	TF42-4.2	M	3.1-4.2	
1/6	1/2	1	1	-	-	TF42-5.7	N	4.2-5.7	
1/4	3/4	1 1/2	1 1/2	-	-	TF42-7.6	P	5.7-7.6	
1/3	1	-	-	-	-	TF42-10	Q	7.6-10	
-	-	-	-	-	3	TF42-4.2	M	3.1-4.2	
-	-	-	-	3	-	TF42-5.7	N	4.2-5.7	
-	-	2	2	5	5	TF42-7.6	P	5.7-7.6	
1/2	1 1/2	-	3	-	-	TF42-10	Q	7.6-10	
-	2	3	-	-	-	TF42-13	R	10-13	
3/4, 1	-	-	-	-	-	TF42-16	S	13-16	
-	-	-	-	-	7.5	TF42-10	Q	7.6-10	
-	-	-	-	7.5	10	TF42-13	R	10-13	
-	-	-	5	10	-	TF42-16	S	13-16	
-	3	5	-	-	-	TF42-20	T	16-20	
2	-	-	7.5	-	-	TF42-24	U	20-24	
-	-	7.5	-	-	-	TF42-29	V	24-29	
-	-	-	-	15	20	TA75DU25	A	18-25	
-	-	10	10	20	25	TA75DU32	B	22-32	
3	7 1/2	-	15	25	-	TA75DU42	C	29-42	
-	-	-	-	-	30	TA75DU42	C	29-42	
-	-	15	-	30	40	TA75DU52	D	36-52	
-	-	20	20	40	50	TA75DU63	E	45-63	
-	-	25	25, 30	50	-	TA75DU80	F	60-80	
-	-	30	-	60	75	TA200DU90	A	65-90	
-	-	-	40	75	100	TA200DU110	B	80-110	
-	-	40	50	100	-	TA200DU135	C	100-135	

1) AFN1 contactor can use AFN00 and AFN0 overloads.