

# Type 7/9 Hazardous Location Starters

## Contents

<i>Description</i>	<i>Page</i>
<b>NEMA Cast Aluminum Enclosed Starters</b>	
<b>Product Family Overview</b>	
Application Description .....	11-2
Catalog Number Selection .....	11-4
Cover Control .....	11-5
<b>IT. Electro-Mechanical Non-combination</b>	
Product Selection .....	11-6
<b>IT. Electro-Mechanical Combination</b>	
Product Selection .....	11-9
<b>Freedom Full Voltage Non-combination</b>	
Product Selection .....	11-12
<b>Freedom Full Voltage Combination</b>	
Product Selection .....	11-15
<b>Other Hazardous Location Control</b> .....	11-18
<b>Dimensions</b> .....	11-19
<b>Wiring Diagrams</b> .....	11-22



*Type 7/9 Explosion Proof Enclosed Control*

## Product Family Overview



*Hazardous Location Enclosure*

## Application Description

Eaton's Cutler-Hammer Combination and Non-combination Hazardous Location Cast Aluminum Motor Starters are used in areas where hazardous materials are handled or stored. These units provide disconnecting means, under voltage protection, circuit protection and motor running protection.

## Features

- 65,000 AIC-UL Classified — highest interrupt rated enclosure in the industry
- Copper-free cast aluminum
- Precision machine flame path between box and cover
- Bolt-on slotted mounting feet
- Stainless steel block hinges
- Stainless steel, captive Quad-Lead cover bolts (disengaged in 1-1/2 turns)

- External stainless steel breaker operating handle
- Breaker and operator shafts are stainless steel
- Ground lug package and installation instructions for termination of ground wire enclosed
- Four point control terminal block, NEMA 1B with wire markers
- Breaker operators can be locked in the ON or OFF position (combination starters only)
- Four plugged 3/4" NPSM outlets drilled and tapped for control devices
- Standard outlets top and bottom
- Plugged 1/2" outlets top and bottom for breather/drain
- Components are mounted on a galvanized steel removable pan
- O-ring gasket ensures watertight integrity

## Standard Materials

- Bodies and covers: Copper-free aluminum
- Cover bolts: Stainless steel
- O-ring: Neoprene
- Hinges: Stainless steel

## Finishes

- Bodies and covers: Corrosion resistant grey epoxy power coat inside and outside standard to provide Type 4X

## Standards and Certifications

**Note:** See **Page 18-2** for additional information on Standards and Certifications that apply to all Cutler-Hammer Enclosed Control products.

- UL Classified — Standard 886  
File #104565
  - Class I, Groups B, C & D
  - Class II, Groups E, F & G
  - Class III
  - Type 4, 4X, 7 & 9
  - Zone 1, IIB + H2
- CSA Certified — Standard C22.2  
File #28361
  - Class I, Groups B, C & D
  - Class II, Groups E, F & G
  - Class III
  - Type 4, 4X, 7 & 9
  - Zone 1, IIB + H2

## Product Family Overview

**Code Definitions**

Class I locations require the type of explosion-proof electrical equipment where, in case of explosion, the hazardous flames would be contained. In Class II or III locations, dust, fibers and flyings are the combustible materials and it is only necessary to keep these materials out of the electrical equipment (where an arc may take place) and to maintain safe external temperatures.

A brief explanation of the three classifications covering hazardous locations follows:

**Class I Locations** — are those in which flammable gases or vapors are, or may be, present in the air in quantities sufficient to produce explosive or ignitable mixtures.

**Class I, Div. 1** — are those where such hazardous concentrations of flammable liquids or vapors exist under normal operating conditions.

**Class I, Div. 2** — are those where such hazardous concentrations of flammable liquids or vapors are handled in closed containers or closed systems.

**Class II Locations** — are those where the presence of combustible dust presents a fire or explosion hazard.

**Class II, Div. 1** — are those where dust is suspended in the air under normal operating conditions, in quantities sufficient to produce explosive or ignitable mixtures.

**Class II, Div. 2** — are those where such dust is not normally in the air, but where deposits of it accumulating on the electrical equipment will interfere with safe dissipation of heat, causing a fire hazard.

**Class III Locations** — are those where easily ignitable fibers or flyings are present but not likely to be suspended in the air in quantities sufficient to produce ignitable mixtures.

**Class III, Div. 1** — are those where ignitable fibers or materials producing combustible flyings are handled, manufactured or used.

**Class III, Div. 2** — are those where easily ignitable fibers are stored or handled (except in process or manufacture).

Further refinement created for the purpose of testing and approving electrical equipment divides Class I into four separate designations: A, B, C, D and Class II into three separate designations; E, F and G. Underwriters Laboratories test and approve electrical equipment for the following specific groups:

**Class I, Group A** — atmospheres containing acetylene.

**Class I, Group B** — atmospheres containing hydrogen, gases and vapors of equivalent hazard such as manufactured gas.

**Class I, Group C** — atmospheres containing ethyl-ether vapors, ethylene or cyclopropane.

**Class I, Group D** — atmospheres containing gasoline, hexane, naphtha, benzene, butane, propane, alcohol, acetone, benzol, lacquer solvent vapors or natural gas.

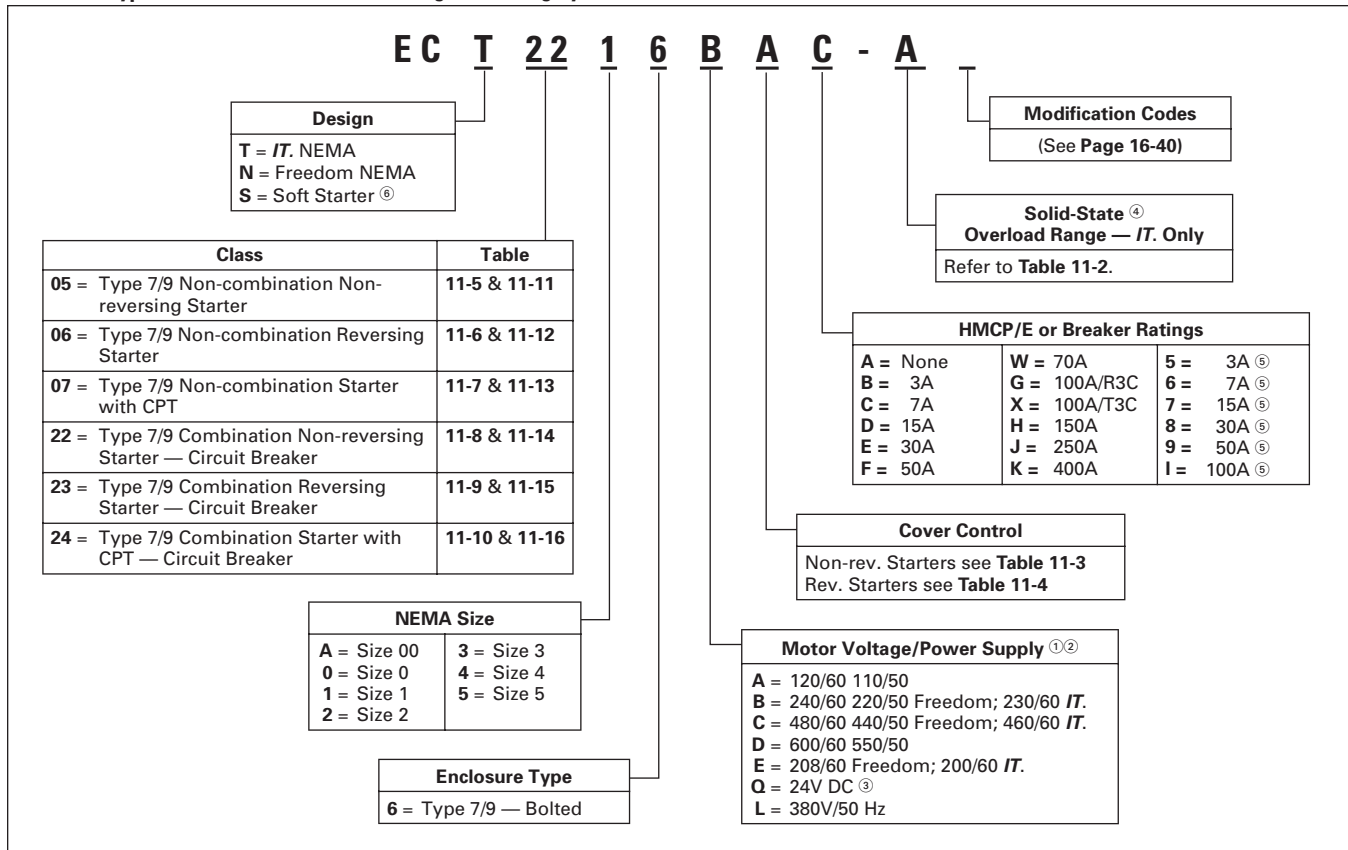
**Class II, Group E** — atmospheres containing metal dust, including aluminum, magnesium and their commercial alloys, and other metals of similarly hazardous characteristics.

**Class II, Group F** — atmospheres containing carbon black, coal or coke dust.

**Class II, Group G** — atmospheres containing flour, starch or grain dusts.

## Catalog Number Selection

Table 11-1. Type 7/9 Hazardous Location Catalog Numbering System



11

- ① *IT*: If CPT is selected, Power Supply to be 120V – 24V DC.
- ② Freedom: When control power transformer modification codes (C1 – C11) are used or when starter class includes CPT (i.e. ECN07, 24) see table below for system voltage code.

Code	Primary	Secondary
B	240/480 – 220/440 Wired for 240V	120/60 – 110/50
C	240/480 – 220/440 Wired for 480V	120/60 – 110/50
D	600/60 – 550/50	120/60 – 110/50
E	208/60	120/60

- ③ Power supply omitted.
- ④ See Table 11-2, Solid-State Overload Range Codes.
- ⑤ Use for Sizes 0 – 3, HMCP 600V applications only.
- ⑥ For Soft Starter information see Tab 6.

Table 11-2. *IT*. Solid-State Overload Range Codes

FLA Range	Size						
	00	0	1	2	3	4	5
.25 – .80	A	A	A	—	—	—	—
.59 – 1.9	B	B	B	—	—	—	—
1.4 – 4.4	C	C	C	—	—	—	—
2.8 – 9.0	D	D	D	—	—	—	—
5.0 – 16	—	—	F	—	—	—	—
6.3 – 20	—	G	—	—	—	—	—
8.4 – 27	—	—	H	—	—	—	—
10 – 32	—	J	—	—	—	—	—
14 – 45	—	—	—	K	—	—	—
16 – 50	—	—	L	—	—	—	—
28 – 90	—	—	—	—	M	—	—
31 – 100	—	—	—	N	—	—	—
42 – 135	—	—	—	—	—	P	—
63 – 200	—	—	—	—	—	R	—
84 – 270	—	—	—	—	—	—	S
131 – 420	—	—	—	—	—	—	T

**Cover Control**

To order factory installed pilot devices, change the 9th character of the Catalog Number to the alpha shown in the table below. Example: to order an **ECN0516CAA** with START/STOP pushbuttons and a red pilot light, change the **A** to a **C**, i.e. ECN0516CCA.



**Table 11-3. Non-reversing Cover Control**

Description	Factory Installed Flange Control
	Position 9 Alpha
No Cover Mounted Pilot Devices START/STOP Pushbuttons with Red RUN Pilot Light with Red RUN/Green OFF Lights	A B C D
ON/OFF Pushbuttons with Red RUN Pilot Light with Red RUN/Green OFF Lights	E F G
HAND/OFF/AUTO Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	H J K
START Pushbutton ON Pushbutton OFF Pushbutton Red RUN Pilot Light Green OFF Pilot Light Red RUN/Green OFF Pilot Lights	L M N P Q R
START/STOP Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	S T U
ON/OFF Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	V W X

**Table 11-4. Reversing Cover Control**

Description	Factory Installed Flange Control
	Position 9 Alpha
No Cover Mounted Pilot Devices FOR/REV/STOP Pushbuttons with 2 Red Pilot Lights with 2 Red/1 Green Pilot Lights	A B C D
UP/STOP/DOWN Pushbuttons with 2 Red Pilot Lights	E F
FOR/OFF/REV Selector Switch with 2 Red Pilot Lights with 2 Red/1 Green Pilot Lights	H J K
Two Red Pilot Lights One Green Pilot Light Two Red/One Green Pilot Lights OPEN/OFF/CLOSE Selector Switch with 2 Red Pilot Lights with 2 Red/1 Green Pilot Lights	P Q R V W X

**IT. Electro-Mechanical Non-combination**

**Features**

- Full Voltage
- 3-Phase Electromechanical
- Solid-State Overload Relay

**Product Selection**

**Table 11-5. Class ECT05 — Type 7/9 Non-combination Non-reversing Starter**

NEMA Size	Motor Voltage	Max. hp	Coil ① Voltage	3-Pole Type 7/9 Bolted	Component Starter (Open)
				Catalog Number ②	Catalog Number ②
00	— 200 230 460 575 380/50 Hz	— 1-1/2 1-1/2 2 2 1-1/2	24V DC	ECT05A6QAA-_ ECT05A6EAA-_ ECT05A6BAA-_ ECT05A6CAA-_ ECT05A6DAA-_ ECT05A6LAA-_ —	N101BSA_3A
0	— 200 230 460 575 380/50 Hz	— 3 3 5 5 5	24V DC	ECT0506QAA-_ ECT0506EAA-_ ECT0506BAA-_ ECT0506CAA-_ ECT0506DAA-_ ECT0506LAA-_ —	N101BS0_3A
1	— 200 230 460 575 380/50 Hz	— 7-1/2 7-1/2 10 10 10	24V DC	ECT0516QAA-_ ECT0516EAA-_ ECT0516BAA-_ ECT0516CAA-_ ECT0516DAA-_ ECT0516LAA-_ —	N101CS1_3A
2	— 200 230 460 575 380/50 Hz	— 10 15 25 25 25	24V DC	ECT0526QAA-K ECT0526EAA-K ECT0526BAA-K ECT0526CAA-K ECT0526DAA-K ECT0526LAA-K —	N101DS2_3A
3	— 200 230 460 575 380/50 Hz	— 25 30 50 50 50	24V DC	ECT0536QAA-M ECT0536EAA-M ECT0536BAA-M ECT0536CAA-M ECT0536DAA-M ECT0536LAA-M —	N101ES3_3A
4	— 200 230 460 575 380/50 Hz	— 40 50 100 100 75	24V DC	ECT0546QAA-P ECT0546EAA-P ECT0546BAA-P ECT0546CAA-P ECT0546DAA-P ECT0546LAA-P —	N101ES4_3A
5	— 200 230 460 575 380/50 Hz	— 75 100 200 200 150	24V DC	ECT0556QAA-S ECT0556EAA-S ECT0556BAA-S ECT0556CAA-S ECT0556DAA-S ECT0556LAA-S —	N101FS5_3A

- ① All *IT*. Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.
- ② A “\_” denotes Catalog Numbers are incomplete without the Solid-State Overload Range Code. To complete the Catalog Number, select the appropriate Code from the following table:

FLA Range	Size						
	00	0	1	2	3	4	5
.25 – .80	A	A	A	—	—	—	—
.59 – 1.9	B	B	B	—	—	—	—
1.4 – 4.4	C	C	C	—	—	—	—
2.8 – 9.0	D	D	D	—	—	—	—
5.0 – 16	—	—	F	—	—	—	—
6.3 – 20	—	G	—	—	—	—	—
8.4 – 27	—	—	H	—	—	—	—
10 – 32	—	J	—	—	—	—	—
14 – 45	—	—	—	K	—	—	—
16 – 50	—	—	L	—	—	—	—
28 – 90	—	—	—	—	M	—	—
31 – 100	—	—	—	N	—	—	—
42 – 135	—	—	—	—	—	P	—
63 – 200	—	—	—	—	—	R	—
84 – 270	—	—	—	—	—	—	S
131 – 420	—	—	—	—	—	—	T

Cover Control ..... Page 11-5  
 Dimensions ..... Page 11-19  
 Wiring Diagrams ..... Page 11-22  
 Accessories ..... Page 16-2  
 Modifications ..... Page 16-40  
 Renewal Parts ..... Page 17-2  
 Technical Data ..... Page 18-3

**Table 11-6. Class ECT06 — Type 7/9 Non-combination Reversing Starter**

NEMA Size	Motor Voltage	Max. hp	Coil ① Voltage	3-Pole Type 7/9 Bolted	Component Starter (Open)
				Catalog Number ②	Catalog Number ②
00	—	—	24V DC	ECT06A6QAA-_ ECT06A6EAA-_ ECT06A6BAA-_ ECT06A6CAA-_ ECT06A6DAA-_ ECT06A6LAA-_	N501BSA_3A
	200	1-1/2			
	230	1-1/2			
	460	2			
	575	2			
380/50 Hz	1-1/2				
0	—	—	24V DC	ECT0606QAA-_ ECT0606EAA-_ ECT0606BAA-_ ECT0606CAA-_ ECT0606DAA-_ ECT0606LAA-_	N501BS0_3A
	200	3			
	230	3			
	460	5			
	575	5			
380/50 Hz	5				
1	—	—	24V DC	ECT0616QAA-_ ECT0616EAA-_ ECT0616BAA-_ ECT0616CAA-_ ECT0616DAA-_ ECT0616LAA-_	N501CS1_3A
	200	7-1/2			
	230	7-1/2			
	460	10			
	575	10			
380/50 Hz	10				
2	—	—	24V DC	ECT0626QAA-K ECT0626EAA-K ECT0626BAA-K ECT0626CAA-K ECT0626DAA-K ECT0626LAA-K	N501DS2_3A
	200	10			
	230	15			
	460	25			
	575	25			
380/50 Hz	25				
3	—	—	24V DC	ECT0636QAA-M ECT0636EAA-M ECT0636BAA-M ECT0636CAA-M ECT0636DAA-M ECT0636LAA-M	N501ES3_3A
	200	25			
	230	30			
	460	50			
	575	50			
380/50 Hz	50				
4	—	—	24V DC	ECT0646QAA-P ECT0646EAA-P ECT0646BAA-P ECT0646CAA-P ECT0646DAA-P ECT0646LAA-P	N501ES4_3A
	200	40			
	230	50			
	460	100			
	575	100			
380/50 Hz	75				
5	—	—	24V DC	ECT0656QAA-S ECT0656EAA-S ECT0656BAA-S ECT0656CAA-S ECT0656DAA-S ECT0656LAA-S	N501FS5_3A
	200	75			
	230	100			
	460	200			
	575	200			
380/50 Hz	75				

- ① All *IT*. Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.
- ② A “\_” denotes Catalog Numbers are incomplete without the Solid-State Overload Range Code. To complete the Catalog Number, select the appropriate Code from the following table:

FLA Range	Size							
	00	0	1	2	3	4	5	
.25 – .80	<b>A</b>	<b>A</b>	<b>A</b>	—	—	—	—	
.59 – 1.9	<b>B</b>	<b>B</b>	<b>B</b>	—	—	—	—	
1.4 – 4.4	<b>C</b>	<b>C</b>	<b>C</b>	—	—	—	—	
2.8 – 9.0	<b>D</b>	<b>D</b>	<b>D</b>	—	—	—	—	
5.0 – 16	—	—	<b>F</b>	—	—	—	—	
6.3 – 20	—	<b>G</b>	—	—	—	—	—	
8.4 – 27	—	—	<b>H</b>	—	—	—	—	
10 – 32	—	<b>J</b>	—	—	—	—	—	
14 – 45	—	—	—	<b>K</b>	—	—	—	
16 – 50	—	—	<b>L</b>	—	—	—	—	
28 – 90	—	—	—	—	<b>M</b>	—	—	
31 – 100	—	—	—	<b>N</b>	—	—	—	
42 – 135	—	—	—	—	—	<b>P</b>	—	
63 – 200	—	—	—	—	—	<b>R</b>	—	
84 – 270	—	—	—	—	—	—	<b>S</b>	
131 – 420	—	—	—	—	—	—	<b>T</b>	

Cover Control ..... Page 11-5  
 Dimensions ..... Page 11-19  
 Wiring Diagrams ..... Page 11-22  
 Accessories ..... Page 16-2  
 Modifications ..... Page 16-40  
 Renewal Parts ..... Page 17-2  
 Technical Data ..... Page 18-3

IT. Electro-Mechanical Non-combination

Table 11-7. Class ECT07/ECT06 — Type 7/9 Non-combination Starter with CPT

Motor Voltage	Max. hp	Coil ① Voltage	Non-reversing		Reversing	
			3-Pole Type 7/9 Bolted	Component Starter (Open)	3-Pole Type 7/9 Bolted	Component Starter (Open)
			Catalog Number ②	Catalog Number ②	Catalog Number ②	Catalog Number ②
<b>NEMA Size — 00</b>						
—	—	24V DC	ECT07A6QAA- ECT07A6EAA- ECT07A6BAA- ECT07A6CAA- ECT07A6DAA- ECT07A6LAA-	N101BSA_3A	ECT06A6QAA- -C1 ECT06A6EAA- -C1 ECT06A6BAA- -C1 ECT06A6CAA- -C1 ECT06A6DAA- -C1 ECT06A6LAA- -C1	N501BSA_3A
200	1-1/2					
230	1-1/2					
460	2					
575	2					
380/50 Hz	1-1/2					
<b>NEMA Size — 0</b>						
—	—	24V DC	ECT0706QAA- ECT0706EAA- ECT0706BAA- ECT0706CAA- ECT0706DAA- ECT0706LAA-	N101BS0_3A	ECT0606QAA- -C1 ECT0606EAA- -C1 ECT0606BAA- -C1 ECT0606CAA- -C1 ECT0606DAA- -C1 ECT0606LAA- -C1	N501BS0_3A
200	3					
230	3					
460	5					
575	5					
380/50 Hz	5					
<b>NEMA Size — 1</b>						
—	—	24V DC	ECT0716QAA- ECT0716EAA- ECT0716BAA- ECT0716CAA- ECT0716DAA- ECT0716LAA-	N101CS1_3A	ECT0616QAA- -C1 ECT0616EAA- -C1 ECT0616BAA- -C1 ECT0616CAA- -C1 ECT0616DAA- -C1 ECT0616LAA- -C1	N501CS1_3A
200	7-1/2					
230	7-1/2					
460	10					
575	10					
380/50 Hz	10					
<b>NEMA Size — 2</b>						
—	—	24V DC	ECT0726QAA-K ECT0726EAA-K ECT0726BAA-K ECT0726CAA-K ECT0726DAA-K ECT0726LAA-K	N101DS2_3A	ECT0626QAA-K-C1 ECT0626EAA-K-C1 ECT0626BAA-K-C1 ECT0626CAA-K-C1 ECT0626DAA-K-C1 ECT0626LAA-K-C1	N501DS2_3A
200	10					
230	15					
460	25					
575	25					
380/50 Hz	25					
<b>NEMA Size — 3</b>						
—	—	24V DC	ECT0736QAA-M ECT0736EAA-M ECT0736BAA-M ECT0736CAA-M ECT0736DAA-M ECT0736LAA-M	N101ES3_3A	ECT0636QAA-M-C1 ECT0636EAA-M-C1 ECT0636BAA-M-C1 ECT0636CAA-M-C1 ECT0636DAA-M-C1 ECT0636LAA-M-C1	N501ES3_3A
200	25					
230	30					
460	50					
575	50					
380/50 Hz	50					
<b>NEMA Size — 4</b>						
—	—	24V DC	ECT0746QAA-P ECT0746EAA-P ECT0746BAA-P ECT0746CAA-P ECT0746DAA-P ECT0746LAA-P	N101ES4_3A	ECT0646QAA-P-C1 ECT0646EAA-P-C1 ECT0646BAA-P-C1 ECT0646CAA-P-C1 ECT0646DAA-P-C1 ECT0646LAA-P-C1	N501ES4_3A
200	40					
230	50					
460	100					
575	100					
380/50 Hz	75					
<b>NEMA Size — 5</b>						
—	—	24V DC	ECT0756QAA-S ECT0756EAA-S ECT0756BAA-S ECT0756CAA-S ECT0756DAA-S ECT0756LAA-S	N101FS5_3A	ECT0656QAA-S-C1 ECT0656EAA-S-C1 ECT0656BAA-S-C1 ECT0656CAA-S-C1 ECT0656DAA-S-C1 ECT0656LAA-S-C1	N501FS5_3A
200	75					
230	100					
460	200					
575	200					
380/50 Hz	150					

① All IT. Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit Q denotes separate 24V DC control source.  
② A "—" denotes Catalog Numbers are incomplete without the Solid-State Overload Range Code. To complete the Catalog Number, select the appropriate Code from the following table:

FLA Range	Size						
	00	0	1	2	3	4	5
.25 – .80	A	A	A	—	—	—	—
.59 – 1.9	B	B	B	—	—	—	—
1.4 – 4.4	C	C	C	—	—	—	—
2.8 – 9.0	D	D	D	—	—	—	—
5.0 – 16	—	—	F	—	—	—	—
6.3 – 20	—	G	—	—	—	—	—
8.4 – 27	—	—	H	—	—	—	—
10 – 32	—	J	—	—	—	—	—
14 – 45	—	—	—	K	—	—	—
16 – 50	—	—	L	—	—	—	—
28 – 90	—	—	—	—	M	—	—
31 – 100	—	—	—	N	—	—	—
42 – 135	—	—	—	—	—	P	—
63 – 200	—	—	—	—	—	—	R
84 – 270	—	—	—	—	—	—	—
131 – 420	—	—	—	—	—	—	S T

Cover Control ..... Page 11-5  
 Dimensions ..... Page 11-19  
 Wiring Diagrams ..... Page 11-22  
 Accessories ..... Page 16-2  
 Modifications ..... Page 16-40  
 Renewal Parts ..... Page 17-2  
 Technical Data ..... Page 18-3

**IT. Electro-Mechanical Combination**

**Features**

- Full Voltage
- 3-Phase Electromechanical
- Solid-State Overload Relay

**Product Selection**

**Table 11-8. Class ECT22 — Type 7/9 Combination Non-reversing Starter — Circuit Breaker**

NEMA Size	Motor Voltage	Max. hp	Magnet Coil Voltage ①	Circuit Breaker Type	3-Pole Type 7/9 Bolted	Component Starter (Open)
					Catalog Number ②	Catalog Number ②
0	200	1 3	24V DC	HMCPE 7A HMCPE 15A	ECT2206EAC- ECT2206EAD-	N101BS0_3A
	230	1 3	24V DC	HMCPE 7A HMCPE 15A	ECT2206BAC- ECT2206BAD-	N101BS0_3A
	460	1 3 5	24V DC	HMCPE 3A HMCPE 7A HMCPE 15A	ECT2206CAB- ECT2206CAC- ECT2206CAD-	N101BS0_3A
	575	1 3 5	24V DC	HMCP 3A HMCP 7A HMCP 15A	ECT2206DAB- ECT2206DAC- ECT2206DAD-	N101BS0_3A
1	200	1 3 5 7-1/2	24V DC	HMCPE 7A HMCPE 15A HMCPE 30A HMCPE 50A	ECT2216EAC- ECT2216EAD- ECT2216EAE- ECT2216EAF-	N101CS1_3A
	230	1 3 5 7-1/2	24V DC	HMCPE 7A HMCPE 15A HMCPE 30A HMCPE 50A	ECT2216BAC- ECT2216BAD- ECT2216BAE- ECT2216BAF-	N101CS1_3A
	460	1 3 5 10	24V DC	HMCPE 3A HMCPE 7A HMCPE 15A HMCPE 30A	ECT2216CAB- ECT2216CAC- ECT2216CAD- ECT2216CAE-	N101CS1_3A
	575	1 3 5 10	24V DC	HMCP 3A HMCP 7A HMCP 15A HMCP 30A	ECT2216DAB- ECT2216DAC- ECT2216DAD- ECT2216DAE-	N101CS1_3A
2	200	10	24V DC	HMCPE 50A	ECT2226EAF-K	N101DS2_3A
	230	10 15	24V DC	HMCPE 50A HMCPE 70A	ECT2226BAF-K ECT2226BAW-K	N101DS2_3A
	460	25	24V DC	HMCPE 50A	ECT2226CAF-K	N101DS2_3A
	575	15 25	24V DC	HMCP 30A HMCP 50A	ECT2226DAE-K ECT2226DAF-K	N101DS2_3A
3	200	20 25	24V DC	HMCPE 100A HMCPE 100A	ECT2236EAG-M ECT2236EAG-M	N101ES3_3A
	230	25 30	24V DC	HMCPE 100A HMCPE 100A	ECT2236BAG-M ECT2236BAG-M	N101ES3_3A
	460	50	24V DC	HMCPE 100A	ECT2236CAG-M	N101ES3_3A
	575	30 50	24V DC	HMCP 50A HMCP 100A	ECT2236DAF-M ECT2236DAG-M	N101ES3_3A
4	200	40	24V DC	HMCP 150A	ECT2246EAH-P	N101ES4_3A
	230	50	24V DC	HMCP 150A	ECT2246BAH-P	N101ES4_3A
	460	100	24V DC	HMCP 150A	ECT2246CAH-P	N101ES4_3A
	575	100	24V DC	HMCP 150A	ECT2246DAH-P	N101ES4_3A
5	200	50 75	24V DC	HMCP 250A HMCP 400A	ECT2256EAJ-S ECT2256EAK-S	N101FS5_3A
	230	60 100	24V DC	HMCP 250A HMCP 400A	ECT2256BAJ-S ECT2256BAK-S	N101FS5_3A
	460	125 200	24V DC	HMCP 250A HMCP 400A	ECT2256CAJ-S ECT2256CAK-S	N101FS5_3A
	575	150 200	24V DC	HMCP 250A HMCP 400A	ECT2256DAJ-S ECT2256DAK-S	N101FS5_3A

① All IT. Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit Q denotes separate 24V DC control source.

② A “\_” denotes Catalog Numbers are incomplete without the Solid-State Overload Range Code. To complete the Catalog Number, select the appropriate Code from Table 11-2.

Cover Control ..... Page 11-5  
 Dimensions ..... Page 11-19  
 Wiring Diagrams ..... Page 11-22  
 Accessories ..... Page 16-2  
 Modifications ..... Page 16-40  
 Renewal Parts ..... Page 17-2  
 Technical Data ..... Page 18-3





**Freedom Full Voltage Non-combination**

**Features**

- Full Voltage
- Standard Interchangeable Heater OLR
- Optional Electronic Overload
- 600V Maximum

**Product Selection**

**Table 11-11. Class ECN05 — Type 7/9 Non-combination Non-reversing Starter**

NEMA Size	Motor Volt.	Max. hp Rating ①	Mag. Coil Volt.	3-Pole Type 7/9 Bolted	Component Starter (Open)
				Catalog Number	Catalog Number
0	—	—	120	ECN0506AAA	AN16BN0AC
	200	3	208	ECN0506EAA	AN16BN0EC
	230	3	240	ECN0506BAA	AN16BN0BC
	460	5	480	ECN0506CAA	AN16BN0CC
	575	5	600	ECN0506DAA	AN16BN0DC
1	—	—	120	ECN0516AAA	AN16DN0AB
	200	7-1/2	208	ECN0516EAA	AN16DN0EB
	230	7-1/2	240	ECN0516BAA	AN16DN0BB
	460	10	480	ECN0516CAA	AN16DN0CB
	575	10	600	ECN0516DAA	AN16DN0DB
2	—	—	120	ECN0526AAA	AN16GN0AB
	200	10	208	ECN0526EAA	AN16GN0EB
	230	15	240	ECN0526BAA	AN16GN0BB
	460	25	480	ECN0526CAA	AN16GN0CB
	575	25	600	ECN0526DAA	AN16GN0DB
3	—	—	120	ECN0536AAA	AN16KN0A
	200	25	208	ECN0536EAA	AN16KN0E
	230	30	240	ECN0536BAA	AN16KN0B
	460	50	480	ECN0536CAA	AN16KN0C
	575	50	600	ECN0536DAA	AN16KN0D
4	—	—	120	ECN0546AAA	AN16NN0A
	200	40	208	ECN0546EAA	AN16NN0E
	230	50	240	ECN0546BAA	AN16NN0B
	460	100	480	ECN0546CAA	AN16NN0C
	575	100	600	ECN0546DAA	AN16NN0D
5	—	—	120	ECN0556AAA	AN16SN0AB
	200	75	208	ECN0556EAA	AN16SN0EB
	230	100	240	ECN0556BAA	AN16SN0BB
	460	200	480	ECN0556CAA	AN16SN0CB
	575	200	600	ECN0556DAA	AN16SN0DB

**Starters do not include heater packs.** Select 1 carton of 3 heater packs. For Heater Pack Selection, see **Page 16-6**.

**Starters with Electronic Overload,** see **Page 16-45** of Modification Codes.

① Maximum horsepower rating of starters for 380V 50 Hz applications:

NEMA Size	00	0	1	2	3	4	5	6
Horsepower	1-1/2	5	10	25	50	75	150	300

11

Cover Control ..... **Page 11-5**  
 Dimensions ..... **Page 11-19**  
 Wiring Diagrams ..... **Page 11-22**  
 Accessories ..... **Page 16-4**  
 Modifications ..... **Page 16-40**  
 Renewal Parts ..... **Page 17-4**  
 Technical Data ..... **Page 18-7**

Freedom Full Voltage Non-combination

**Table 11-12. Class ECN06 — Type 7/9 Non-combination Reversing Starter**

NEMA Size	Motor Volt.	Max. hp Rating ①	Mag. Coil Volt.	3-Pole Type 7/9 Bolted	Component Starter (Open)
				Catalog Number	Catalog Number
0	—	—	120	ECN0606AAA	AN56BN0AC
	200	3	208	ECN0606EAA	AN56BN0EC
	230	3	240	ECN0606BAA	AN56BN0BC
	460	5	480	ECN0606CAA	AN56BN0CC
	575	5	600	ECN0606DAA	AN56BN0DC
1	—	—	120	ECN0616AAA	AN56DN0AB
	200	7-1/2	208	ECN0616EAA	AN56DN0EB
	230	7-1/2	240	ECN0616BAA	AN56DN0BB
	460	10	480	ECN0616CAA	AN56DN0CB
	575	10	600	ECN0616DAA	AN56DN0DB
2	—	—	120	ECN0626AAA	AN56GN0AB
	200	10	208	ECN0626EAA	AN56GN0EB
	230	15	240	ECN0626BAA	AN56GN0BB
	460	25	480	ECN0626CAA	AN56GN0CB
	575	25	600	ECN0626DAA	AN56GN0DB
3	—	—	120	ECN0636AAA	AN56KN0A
	200	25	208	ECN0636EAA	AN56KN0E
	230	30	240	ECN0636BAA	AN56KN0B
	460	50	480	ECN0636CAA	AN56KN0C
	575	50	600	ECN0636DAA	AN56KN0D

**Starters do not include heater packs.** Select 1 carton of 3 heater packs. For Heater Pack Selection, see **Page 16-6**.  
**Starters with Electronic Overload**, see **Page 16-45** of Modification Codes.

① Maximum horsepower rating of starters for 380V 50 Hz applications:

NEMA Size	00	0	1	2	3	4	5	6
Horsepower	1-1/2	5	10	25	50	75	150	300

Cover Control ..... **Page 11-5**  
Dimensions ..... **Page 11-19**  
Wiring Diagrams ..... **Page 11-22**  
Accessories ..... **Page 16-4**  
Modifications ..... **Page 16-40**  
Renewal Parts ..... **Page 17-4**  
Technical Data ..... **Page 18-7**

**Freedom Full Voltage Non-combination**

**Table 11-13. Class ECN07 — Type 7/9 Non-combination Non-reversing Starter with CPT**

NEMA Size	Primary Voltage ②	Max. hp Rating ①	Magnetic Coil Voltage	3-Pole Type 7/9 Bolted	Component Starter (Open)
				Catalog Number	Catalog Number
0	208 240 480 600	3 3 5 5	120	ECN0706EAA ECN0706BAA ECN0706CAA ECN0706DAA	AN16BN0AC
1	208 240 480 600	7-1/2 7-1/2 10 10	120	ECN0716EAA ECN0716BAA ECN0716CAA ECN0716DAA	AN16DN0AB
2	208 240 480 600	10 15 25 25	120	ECN0726EAA ECN0726BAA ECN0726CAA ECN0726DAA	AN16GN0AB
3	208 240 480 600	25 30 50 50	120	ECN0736EAA ECN0736BAA ECN0736CAA ECN0736DAA	AN16KN0A
4	208 240 480 600	40 50 100 100	120	ECN0746EAA ECN0746BAA ECN0746CAA ECN0746DAA	AN16NN0A
5	208 240 480 600	75 100 200 200	120	ECN0756EAA ECN0756BAA ECN0756CAA ECN0756DAA	AN16SN0AB

**Starters do not include heater packs.** Select 1 carton of 3 heater packs. For Heater Pack Selection, see **Page 16-6**.

**Starters with Electronic Overload,** see **Page 16-45** of Modification Codes.

① Maximum horsepower rating of starters for 380V 50 Hz applications:

NEMA Size	00	0	1	2	3	4	5	6
Horsepower	1-1/2	5	10	25	50	75	150	300

② For other control power transformer primary and/or secondary voltage options, see **Page 3-20**.

Cover Control ..... **Page 11-5**  
 Dimensions ..... **Page 11-19**  
 Wiring Diagrams ..... **Page 11-22**  
 Accessories ..... **Page 16-4**  
 Modifications ..... **Page 16-40**  
 Renewal Parts ..... **Page 17-4**  
 Technical Data ..... **Page 18-7**

## Features

- Full Voltage
- Standard Interchangeable Heater OLR
- Optional Electronic Overload
- 600V Maximum

## Product Selection

Table 11-14. ECN22 — Type 7/9 Combination Non-reversing Starter — Circuit Breaker

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage ①	Circuit Breaker Type	3-Pole Type 7/9 Bolted	Component Starter (Open)
					Catalog Number	Catalog Number
0	200	1 3	208	HMCP 7A HMCP 15A	ECN2206EAC ECN2206EAD	AN16BN0EC
	230	1 3	240	HMCP 7A HMCP 15A	ECN2206BAC ECN2206BAD	AN16BN0BC
	460	1 3 5	480	HMCP 3A HMCP 7A HMCP 15A	ECN2206CAB ECN2206CAC ECN2206CAD	AN16BN0CC
	575	1 3 5	600	HMCP 3A HMCP 7A HMCP 15A	ECN2206DA5 ECN2206DA6 ECN2206DA7	AN16BN0DC
1	200	1 3 5 7-1/2	208	HMCP 7A HMCP 15A HMCP 30A HMCP 50A	ECN2216EAC ECN2216EAD ECN2216EAE ECN2216EAF	AN16DN0EB
	230	1 3 5 7-1/2	240	HMCP 7A HMCP 15A HMCP 30A HMCP 50A	ECN2216BAC ECN2216BAD ECN2216BAE ECN2216BAF	AN16DN0BB
	460	1 3 5 10	480	HMCP 3A HMCP 7A HMCP 15A HMCP 30A	ECN2216CZB ECN2216CAC ECN2216CAD ECN2216CAE	AN16DN0CB
	575	1 3 5 10	600	HMCP 3A HMCP 7A HMCP 15A HMCP 30A	ECN2216DA5 ECN2216DA6 ECN2216DA7 ECN2216DA8	AN16DN0DB
2	200	10	208	HMCP 50A	ECN2226EAF	AN16GN0EB
	230	10 15	240	HMCP 50A HMCP 70A	ECN2226BAF ECN2226BAW	AN16GN0BB
	460	25	480	HMCP 50A	ECN2226CAF	AN16GN0CB
	575	15 25	600	HMCP 30A HMCP 50A	ECN2226DA8 ECN2226DA9	AN16GN0DB
3	200	20 25	208	HMCP 100A HMCP 100A	ECN2236EAG ECN2236EAG	AN16KN0E
	230	25 30	240	HMCP 100A HMCP 100A	ECN2236BAG ECN2236BAG	AN16KN0B
	460	50	480	HMCP 100A	ECN2236CAG	AN16KN0C
	575	30 50	600	HMCP 50A HMCP 100A	ECN2236DA9 ECN2236DAI	AN16KN0D
4	200	40	208	HMCP 150A	ECN2246EAH	AN16NN0E
	230	50	240	HMCP 150A	ECN2246BAH	AN16NN0B
	460	100	480	HMCP 150A	ECN2246CAH	AN16NN0C
	575	100	600	HMCP 150A	ECN2246DAH	AN16NN0D

Starters do not include heater packs. Select 1 carton of 3 heater packs. For Heater Pack Selection, see Page 16-6.

Starters with Electronic Overload, see Page 16-45 of Modification Codes.

① Starters with 120V coil (for separate control) are available. To order, substitute the letter A for the 8th character of the listed Catalog Number.

Cover Control .....	Page 11-5
Dimensions .....	Page 11-19
Wiring Diagrams .....	Page 11-22
Accessories .....	Page 16-4
Modifications .....	Page 16-40
Renewal Parts .....	Page 17-4
Technical Data .....	Page 18-7

**Freedom Full Voltage Combination**

**Table 11-15. ECN23 — Type 7/9 Combination Reversing Starter — Circuit Breaker**

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage ①	Circuit Breaker Type	3-Pole Type 7/9 Bolted	Component Starter (Open)
					Catalog Number	Catalog Number
0	200	1 3	208	HMCP 7A HMCP 15A	ECN2306EAC ECN2306EAD	AN56BN0EC
	230	1 3	240	HMCP 7A HMCP 15A	ECN2306BAC ECN2306BAD	AN56BN0BC
	460	1 3 5	480	HMCP 3A HMCP 7A HMCP 15A	ECN2306CAB ECN2306CAC ECN2306CAD	AN56BN0CC
	575	1 3 5	600	HMCP 3A HMCP 7A HMCP 15A	ECN2306DA5 ECN2306DA6 ECN2306DA7	AN56BN0DC
1	200	1 3 5 7-1/2	208	HMCP 7A HMCP 15A HMCP 30A HMCP 50A	ECN2316EAC ECN2316EAD ECN2316EAE ECN2316EAF	AN56DN0EB
	230	1 3 5 7-1/2	240	HMCP 7A HMCP 15A HMCP 30A HMCP 50A	ECN2316BAC ECN2316BAD ECN2316BAE ECN2316BAF	AN56DN0BB
	460	1 3 5 10	480	HMCP 3A HMCP 7A HMCP 15A HMCP 30A	ECN2316CAB ECN2316CAC ECN2316CAD ECN2316CAE	AN56DN0CB
	575	1 3 5 10	600	HMCP 3A HMCP 7A HMCP 15A HMCP 30A	ECN2316DA5 ECN2316DA6 ECN2316DA7 ECN2316DA8	AN56DN0DB
2	200	10	208	HMCP 50A	ECN2326EAF	AN56GN0EB
	230	10 15	240	HMCP 50A HMCP 70A	ECN2326BAF ECN2326BAW	AN56GN0BB
	460	25	480	HMCP 50A	ECN2326CAF	AN56GN0CB
	575	15 25	600	HMCP 30A HMCP 50A	ECN2326DA8 ECN2326DA9	AN56GN0DB
3	200	20 25	208	HMCP 100A HMCP 100A	ECN2336EAG ECN2336EAG	AN56KN0E
	230	25 30	240	HMCP 100A HMCP 100A	ECN2336BAG ECN2336BAG	AN56KN0B
	460	50	480	HMCP 100A	ECN2336CAG	AN56KN0C
	575	30 50	600	HMCP 50A HMCP 100A	ECN2336DA9 ECN2336DAI	AN56KN0D

**Starters do not include heater packs.** Select 1 carton of 3 heater packs. For Heater Pack Selection, see **Page 16-6**.  
**Starters with Electronic Overload**, see **Page 16-45** of Modification Codes.

① Starters with 120V coil (for separate control) are available. To order, substitute the letter **A** for the 8th character of the listed Catalog Number.

11

Cover Control ..... **Page 11-5**  
 Dimensions ..... **Page 11-19**  
 Wiring Diagrams ..... **Page 11-22**  
 Accessories ..... **Page 16-4**  
 Modifications ..... **Page 16-40**  
 Renewal Parts ..... **Page 17-4**  
 Technical Data ..... **Page 18-7**

## Freedom Full Voltage Combination

**Table 11-16. ECN24 — Type 7/9 Combination Non-reversing Starter with CPT — Circuit Breaker**

NEMA Size	Primary Voltage ①	Max. hp Rating	Magnetic Coil Voltage	Circuit Breaker Type	3-Pole NEMA 7/9 Bolted	Component Starter (Open)
					Catalog Number	Catalog Number
0	200	1 3	120	HMCP 7A HMCP 15A	ECN2406EAC ECN2406EAD	AN16BN0AC
	230	1 3	120	HMCP 7A HMCP 15A	ECN2406BAC ECN2406BAD	AN16BN0AC
	460	1 3 5	120	HMCP 3A HMCP 7A HMCP 15A	ECN2406CAB ECN2406CAC ECN2406CAD	AN16BN0AC
	575	1 3 5	120	HMCP 3A HMCP 7A HMCP 15A	ECN2406DA5 ECN2406DA6 ECN2406DA7	AN16BN0AC
1	200	1 3 5 7-1/2	120	HMCP 7A HMCP 15A HMCP 30A HMCP 50A	ECN2416EAC ECN2416EAD ECN2416EAE ECN2416EAF	AN16DN0AB
	230	1 3 5 7-1/2	120	HMCP 7A HMCP 15A HMCP 30A HMCP 50A	ECN2416BAC ECN2416BAD ECN2416BAE ECN2416BAF	AN16DN0AB
	460	1 3 5 10	120	HMCP 3A HMCP 7A HMCP 15A HMCP 30A	ECN2416CAB ECN2416CAC ECN2416CAD ECN2416CAE	AN16DN0AB
	575	1 3 5 10	120	HMCP 3A HMCP 7A HMCP 15A HMCP 30A	ECN2416DA5 ECN2416DA6 ECN2416DA7 ECN2416DA8	AN16DN0AB
2	200	10	120	HMCP 50A	ECN2426EAF	AN16GN0AB
	230	10 15	120	HMCP 50A HMCP 70A	ECN2426BAF ECN2426BAW	AN16GN0AB
	460	25	120	HMCP 50A	ECN2426CAF	AN16GN0AB
	575	15 25	120	HMCP 30A HMCP 50A	ECN2426DA8 ECN2426DA9	AN16GN0AB
3	200	20 25	120	HMCP 100A HMCP 100A	ECN2436EAG ECN2436EAG	AN16KN0A
	230	25 30	120	HMCP 100A HMCP 100A	ECN2436BAG ECN2436BAG	AN16KN0A
	460	50	120	HMCP 100A	ECN2436CAG	AN16KN0A
	575	30 50	120	HMCP 50A HMCP 100A	ECN2436DA9 ECN2436DAI	AN16KN0A
4	200	40	120	HMCP 150A	ECN2446EAH	AN16NN0A
	230	50		HMCP 150A	ECN2446BAH	
	460	100		HMCP 150A	ECN2446CAH	
	575	100		HMCP 150A	ECN2446DAH	

**Starters do not include heater packs.** Select 1 carton of 3 heater packs. For Heater Pack Selection, see **Page 16-6**.  
**Starters with Electronic Overload,** see **Page 16-45** of Modification Codes.

① For other control power transformer primary and/or secondary voltage options, see **Page 3-20**.

Cover Control .....	<b>Page 11-5</b>
Dimensions .....	<b>Page 11-19</b>
Wiring Diagrams .....	<b>Page 11-22</b>
Accessories .....	<b>Page 16-4</b>
Modifications .....	<b>Page 16-40</b>
Renewal Parts .....	<b>Page 17-4</b>
Technical Data .....	<b>Page 18-7</b>

## Other Hazardous Location Control



*Combination 27A Soft Starter*

## Product Description

Besides Cutler-Hammer® NEMA Size *IT* and Freedom Starters, Eaton offers Type 7/9 Cast Aluminum Enclosures for solid-state reduced voltage starters and lighting contactors.

## Solid-State Reduced Voltage Starters

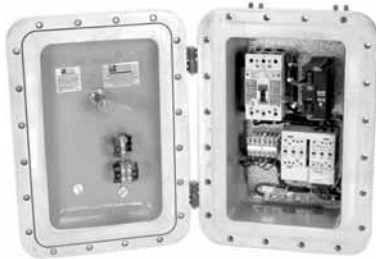
Type 7/9 versions are listed in **Tab 6**.

The *IT* Soft Starters are designed to be the smallest, most compact soft starters on the market today. The built-in overload (ranges from .25 to 1000 amps) and run bypass contactor (greatly reducing the amount of heat generated) make installation and setup quick and easy.

With this small size and low heat dissipation it can easily fit in the place of existing soft starters, Wye-Delta starters or across-the-line starters where others can not. To make the retrofit more flexible, we also offer soft starters as open components or as a completed kit on a back panel for easy and quick installation into your existing enclosure.

## Lighting Contactors

Type 7/9 versions are listed in **Tab 5**.



*Combination Reversing Size 1*

## Freedom Starters

For information on hazardous location versions, please consult your Eaton Representative.

**Dimensions**

**Dimensions**

**NEMA Size 1T**

**Table 11-17. Intelligent Technologies Full Voltage Non-reversing Starters**

Rough Outside Dimensions	Non-combination Sizes	Standard Conduit	Combination Sizes	Standard Conduit
17 x 14	0, 1	1-1/2"	—	—
18 x 15	0, 1, 2	1-1/2"	—	—
28 x 14	3, 4	2"	0, 1, 2, 3	2"
32 x 18	—	—	4	2-1/2"
46 x 16	5	3"	5	3"

**NEMA Size Freedom**

**Table 11-18. Freedom Full Voltage Non-reversing Starters**

Rough Outside Dimensions	Non-combination Sizes	Standard Conduit	Combination Sizes	Standard Conduit
17 x 14	0, 1, 2	1-1/2"	—	—
28 x 14	3	2"	0, 1, 2	1-1/2"
32 x 18	4	2-1/2"	3	2"
46 x 16	5	3"	4, 5	3"

**Reduced Voltage Solid-State**

**Table 11-19. S801/S811 Intelligent Technologies Solid-State Soft Starters**

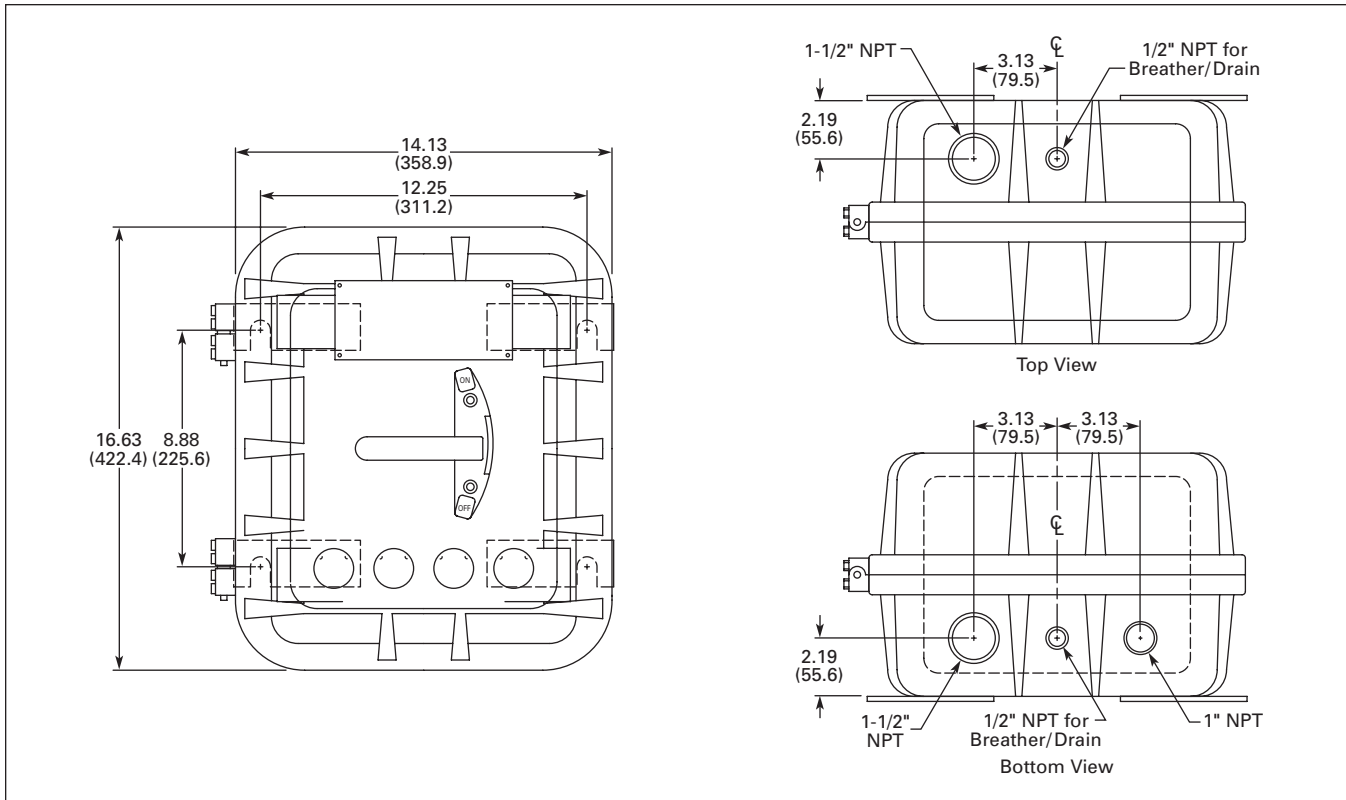
Rough Outside Dimensions	Non-combination	Standard Conduit	Combination	Standard Conduit
17 x 14	66 Amps	1-1/2"	—	—
28 x 14	135 Amps	2"	66 Amps	2"
32 x 18	—	—	135 Amps	2-1/2"
46 x 16	304 Amps	3"	304 Amps	3"

**Table 11-20. S752 Intelligent Technologies Solid-State Soft Starters**

Rough Outside Dimensions	Non-combination	Standard Conduit	Combination	Standard Conduit
18 x 15	50 Amps	1-1/2"	—	—
28 x 14	—	—	50 Amps	1-1/2"

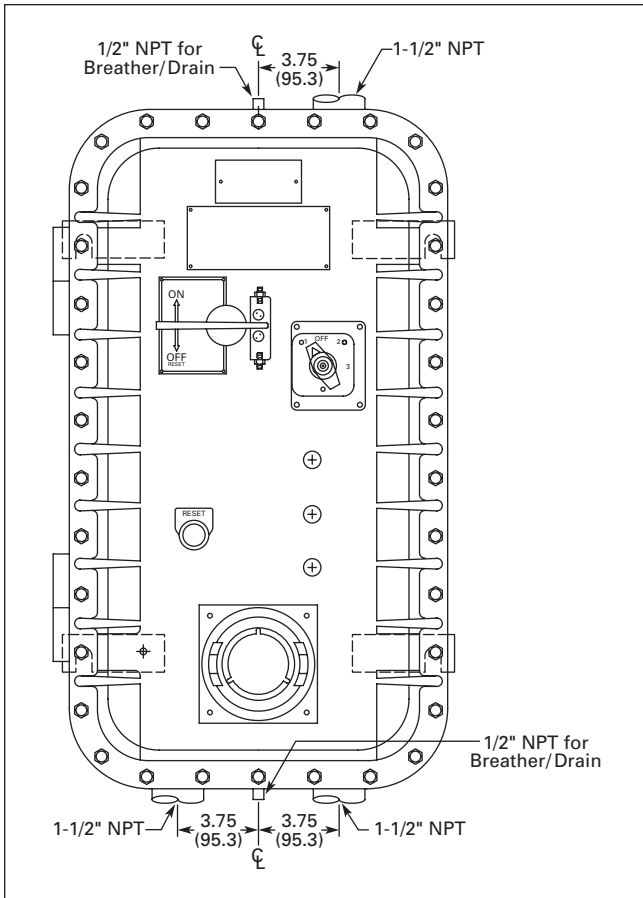
**Dimensions**

**11**



**Figure 11-1. Example of Type 7/9 IT Starters — Approximate Dimensions in Inches (mm)**

**Dimensions**



**Figure 11-2. Type 7/9 Freedom Starters**

**Table 11-21. Type 7/9 Approximate Dimensions in Inches (mm)**

Dimensions	A	B	C	D	E
Height	27.63 (701.8)	31.63 (803.4)	46.00 (1168.4)	16.63 (422.4)	17.50 (444.5)
Width	14.13 (358.9)	18.13 (460.5)	26.19 (665.2)	14.13 (358.9)	15.10 (383.5)
Depth	11.38 (289.1)	12.19 (309.6)	14.94 (379.5)	9.50 (241.3)	10.50 (266.7)
Weight in Lbs (kg)	125 (57)	195 (89)	500 (227)	80 (36)	95 (43)
I.D. Height	24	28	37	11	12
I.D. Width	10	14	17	9	10

Wiring Diagrams

11

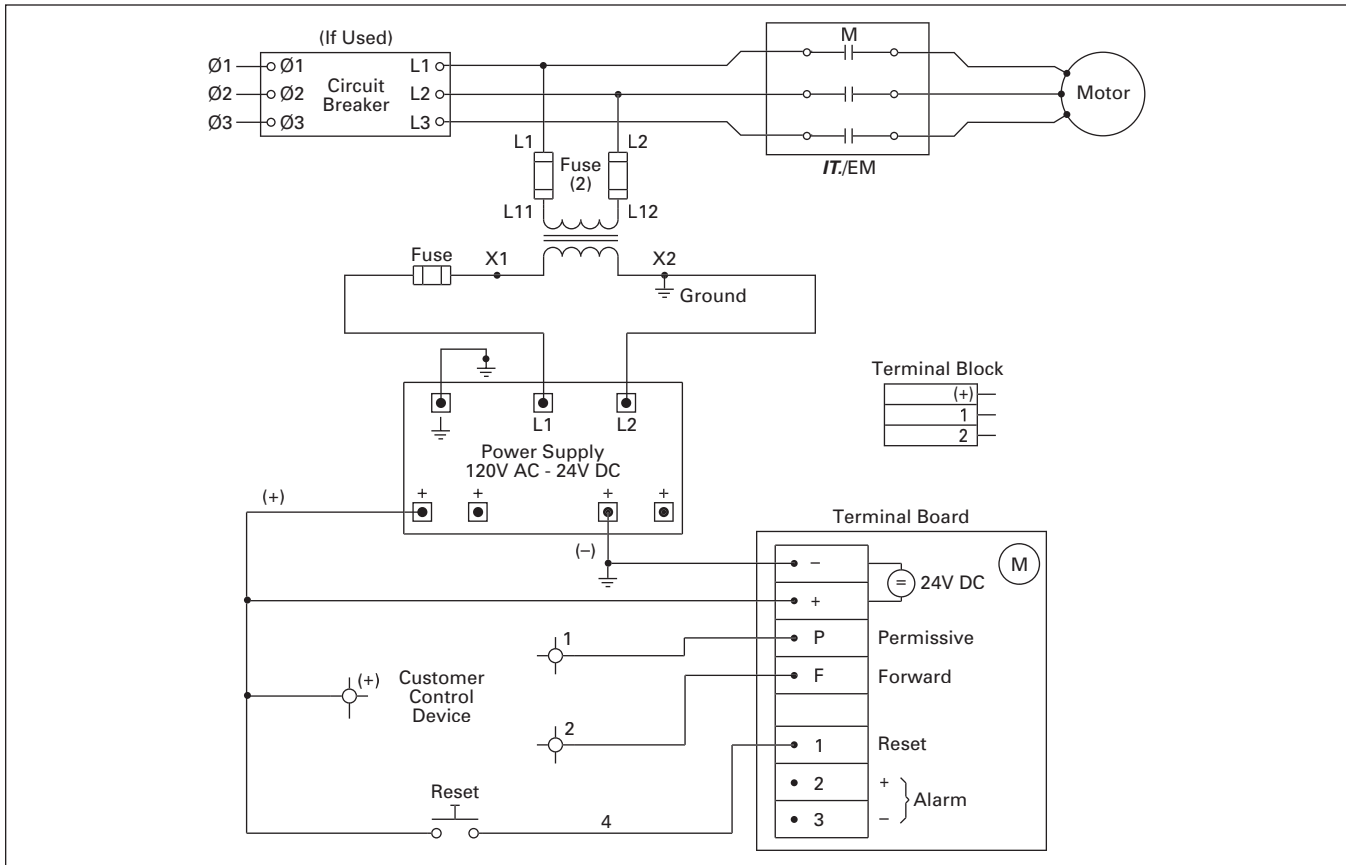


Figure 11-3. IT Combination Starter with CPT and Power Supply

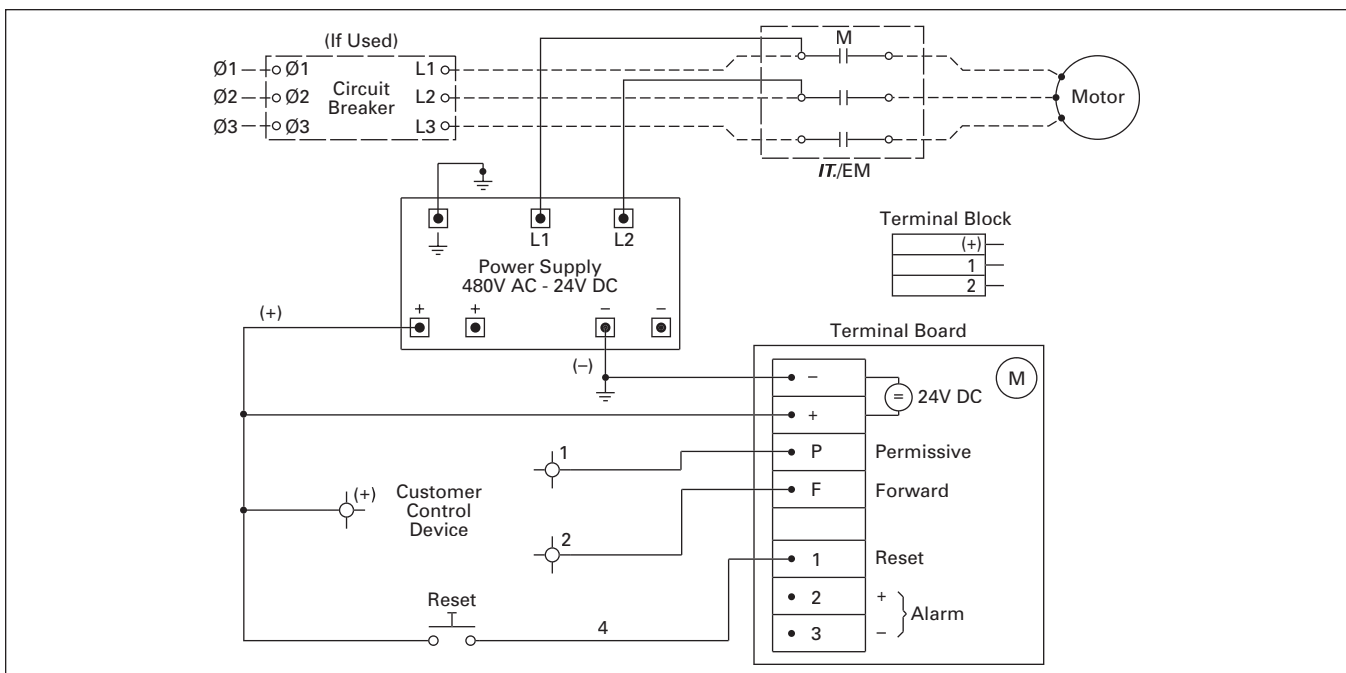
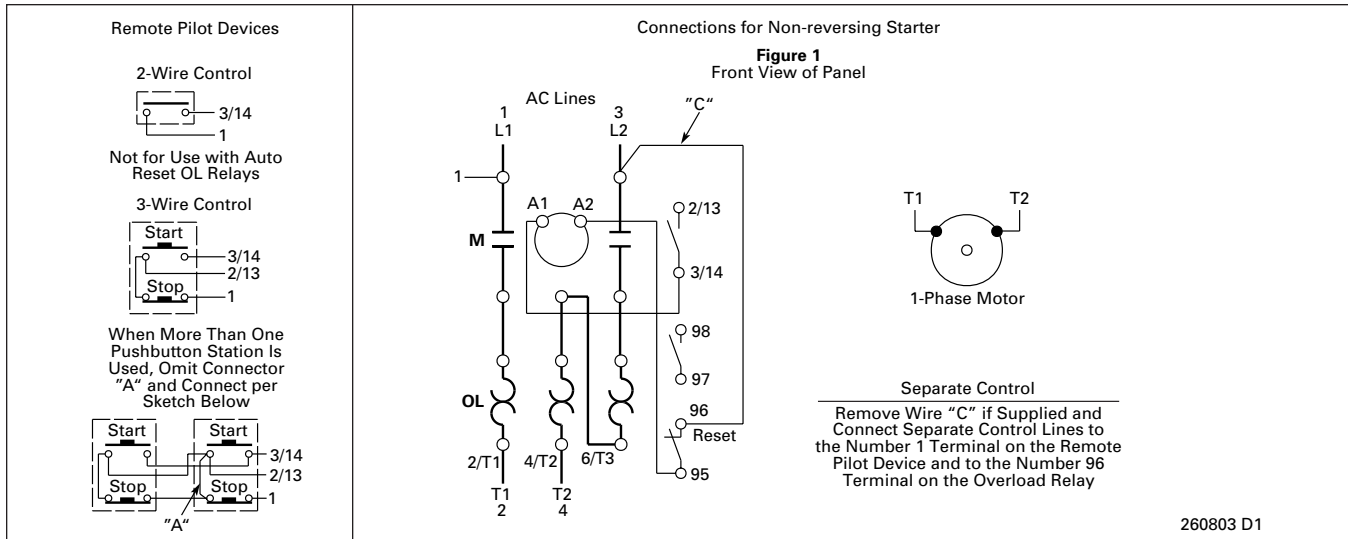
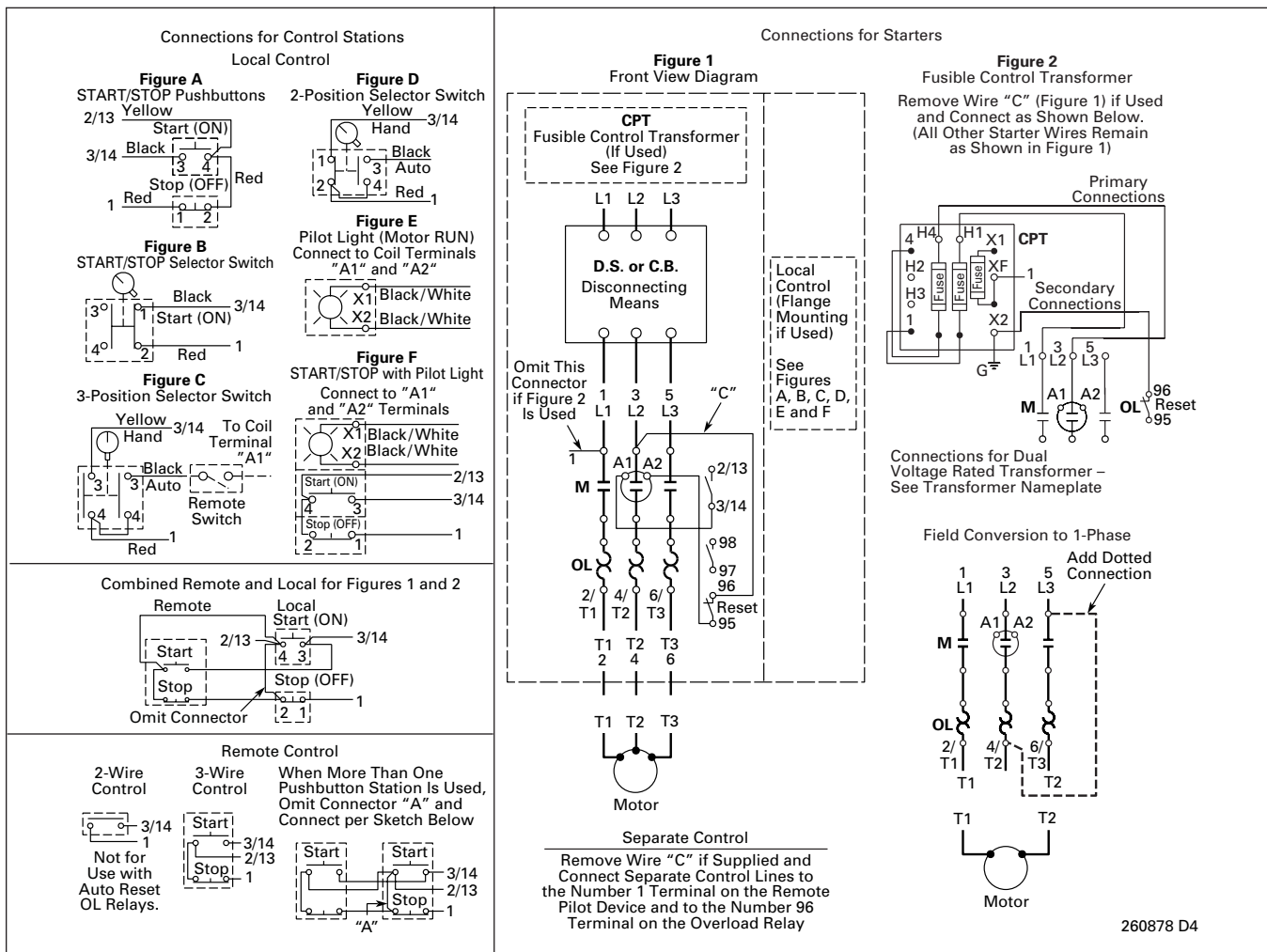


Figure 11-4. IT Combination Starter with Power Supply

**Wiring Diagrams**



**Figure 11-5. Freedom Non-reversing Starter — Single-Phase Non-combination**



**Figure 11-6. Freedom Non-reversing Starter — Combination**

## Wiring Diagrams

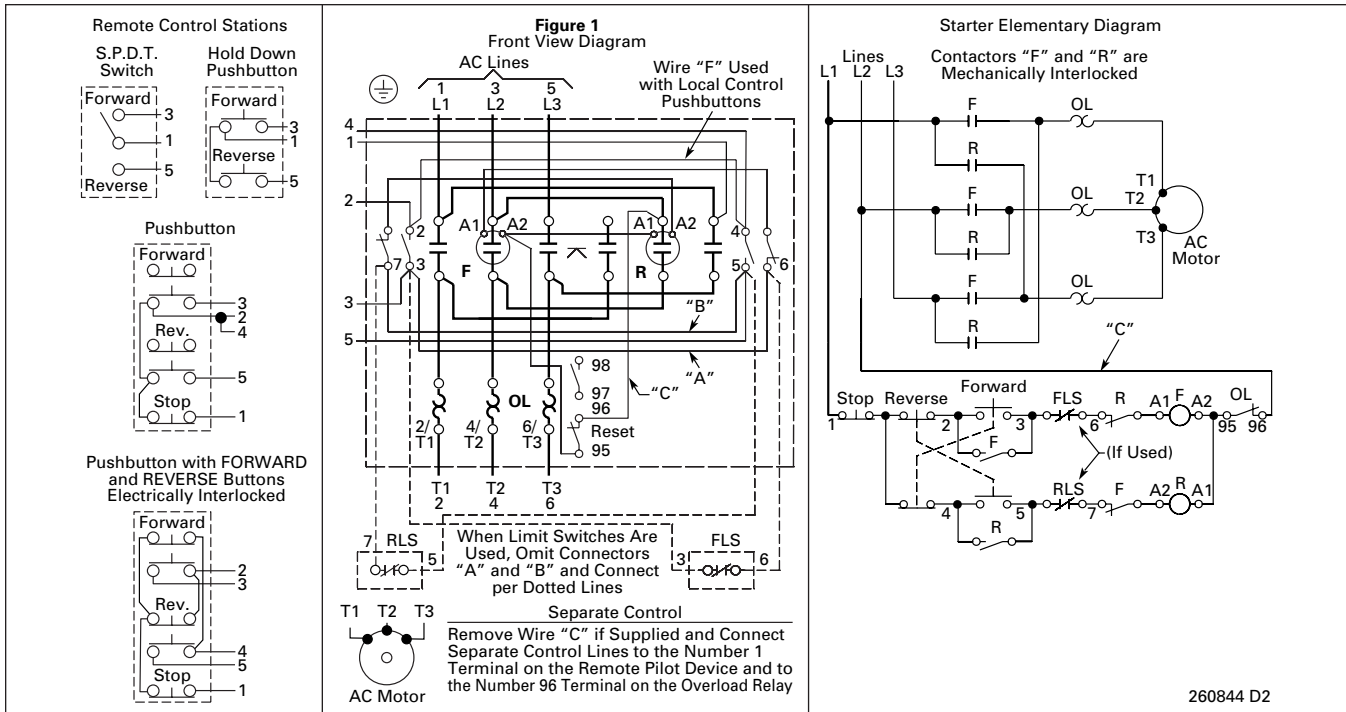


Figure 11-7. Freedom Reversing Starter — Non-combination

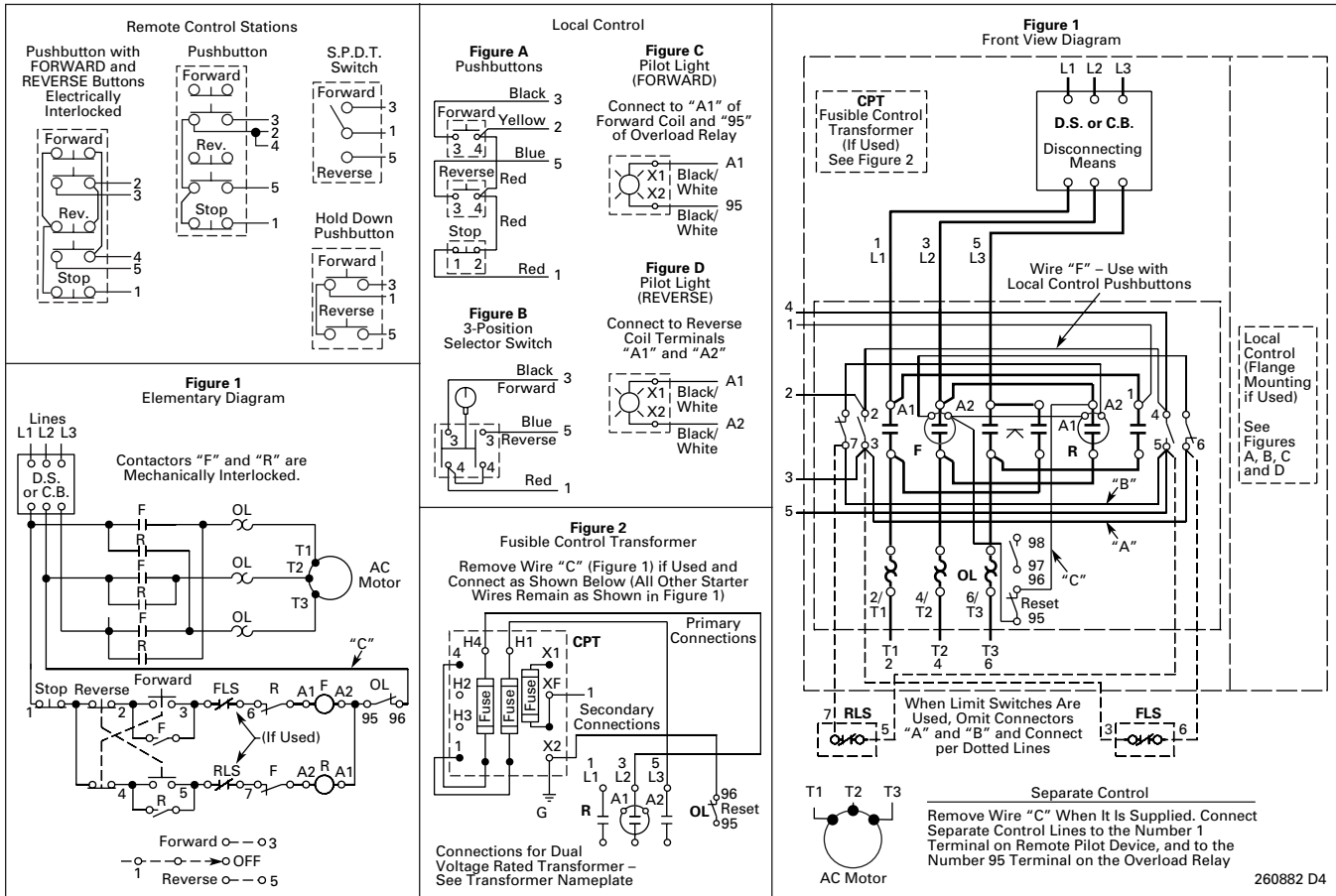
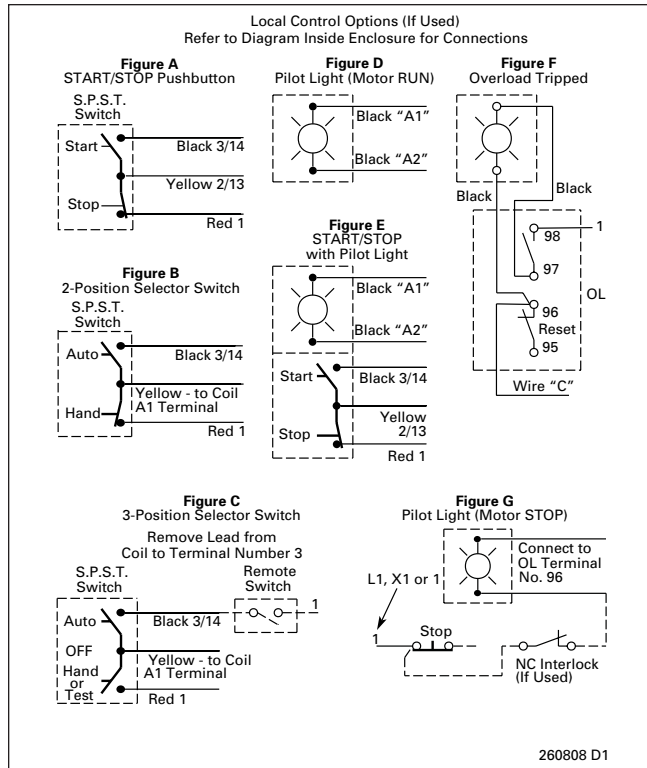
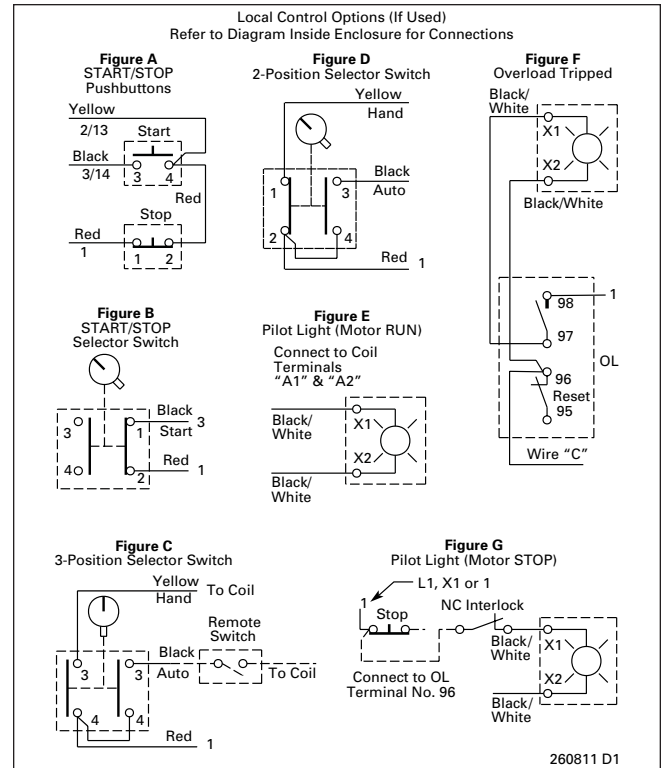


Figure 11-8. Freedom Reversing Starter — Combination

**Non-reversing Cover Control**

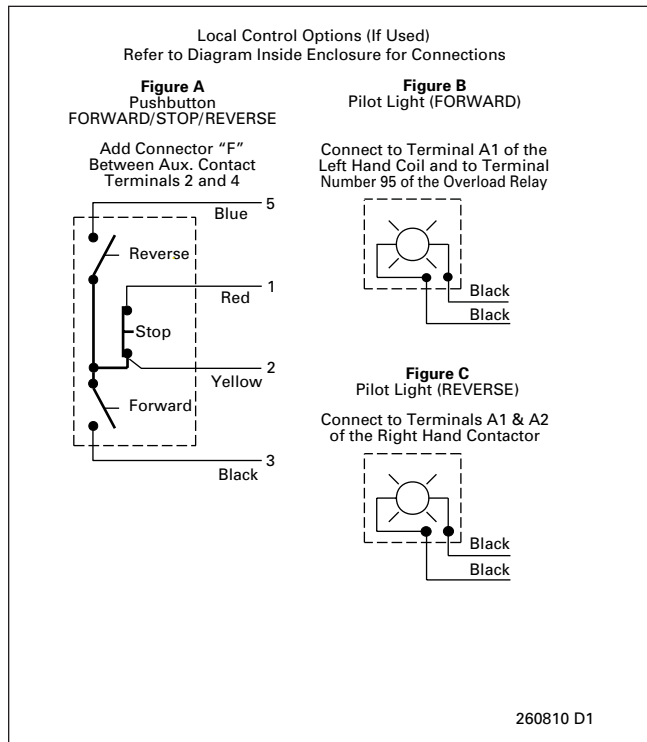


**Figure 11-9. Type 1 C400GK Control Options**

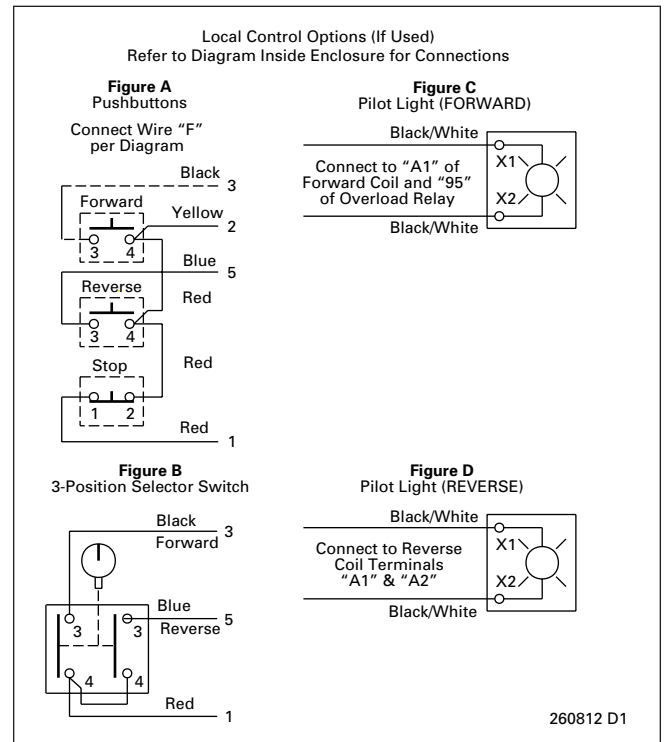


**Figure 11-10. C400T Control Options**

**Reversing Cover Control**



**Figure 11-11. Type 1 C400GR Control Options**



**Figure 11-12. C400T Control Options**

Wiring Diagrams

11

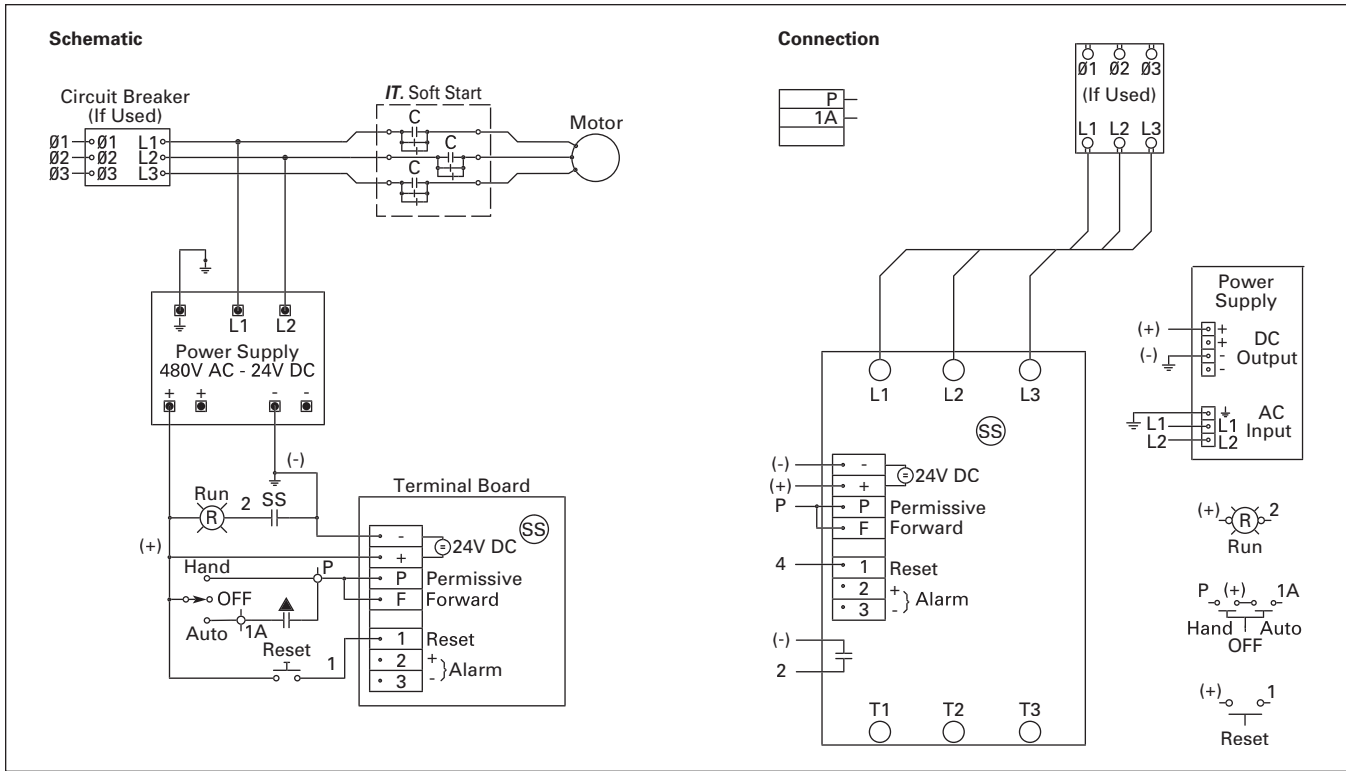


Figure 11-13. S752 Wiring Diagram

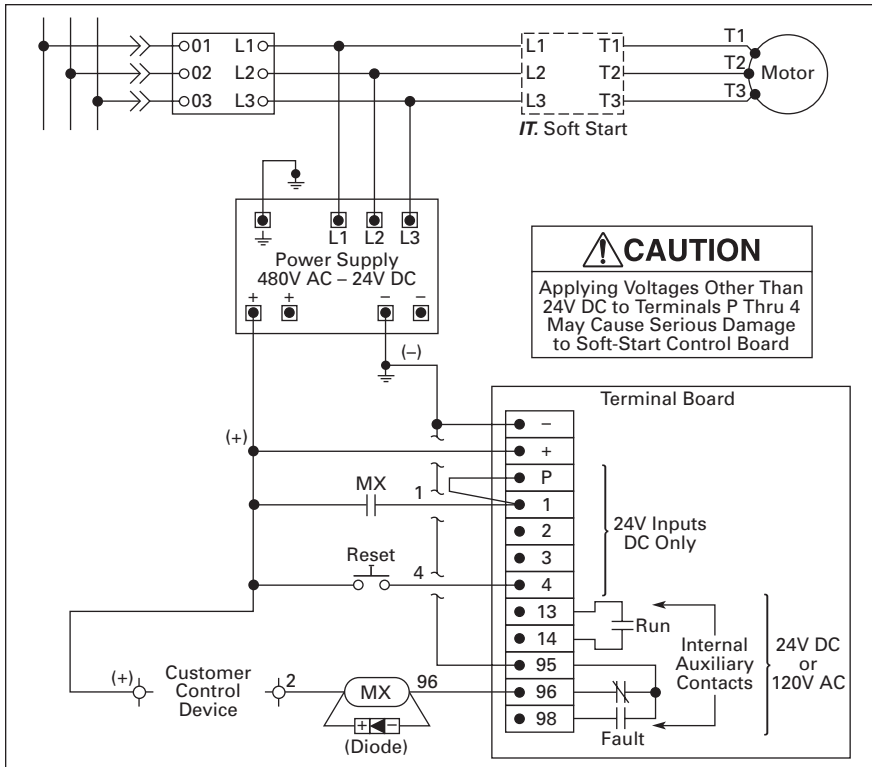
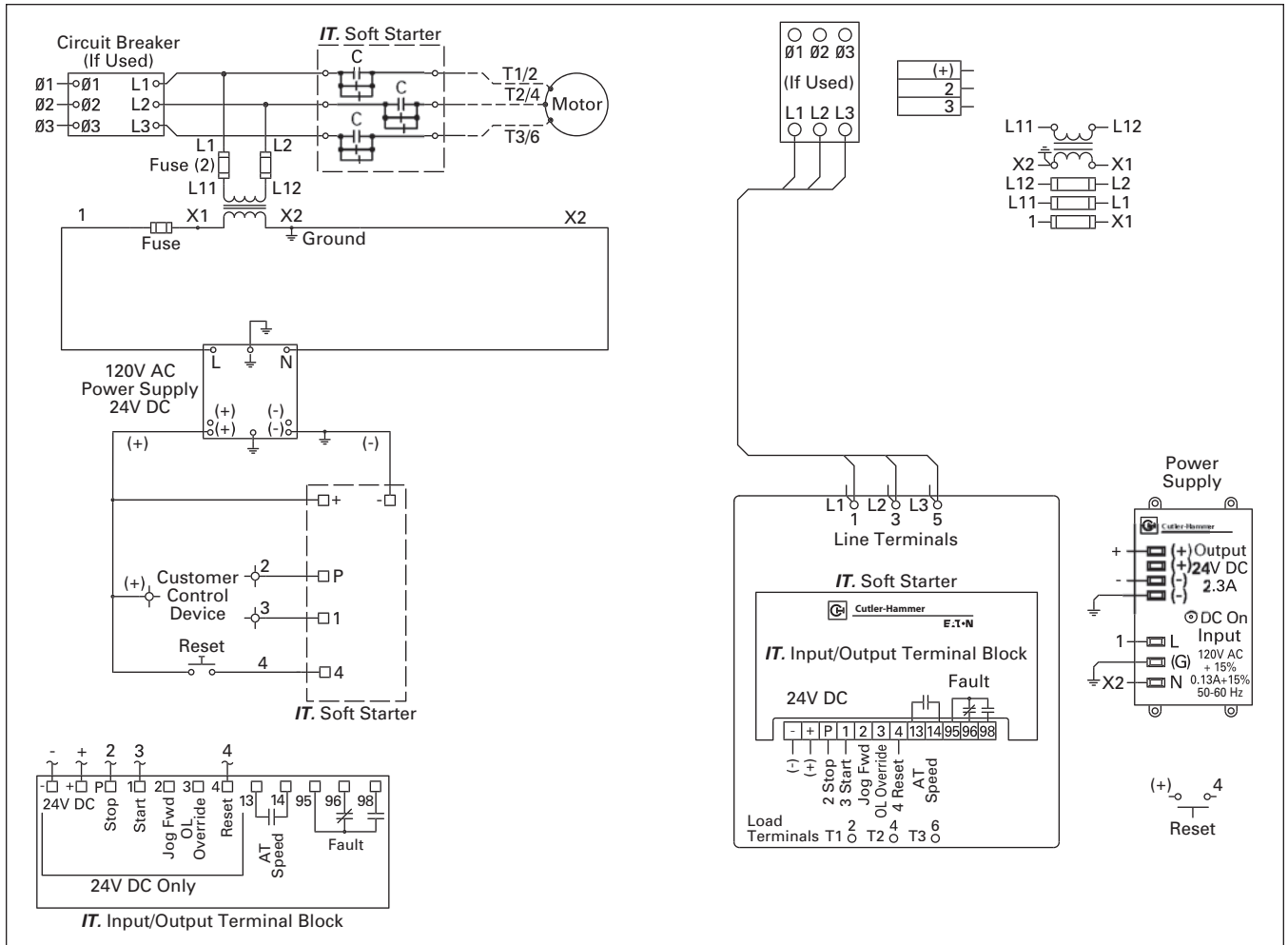


Figure 11-14. S801/S811 Wiring Diagram

**Wiring Diagrams**



**Figure 11-15. S801/S811 with External 120V AC Control**