

NEMA Contactors & Starters

Contents

<i>Description</i>	<i>Page</i>
IT. Electro-Mechanical Control	
Product Family Overview	
Product Description	3-2
Catalog Number Selection	3-2
Cover Control	3-3
Contactors	
Product Selection	3-5
Non-combination Starters	
Product Selection	3-7
Combination Starters — Fusible and Non-fusible	
Product Selection	3-9
Combination Starters — Circuit Breaker	
Product Selection	3-13
Wiring Diagrams	3-17
Freedom Full Voltage Control	
Product Family Overview	
Product Description	3-18
Catalog Number Selection	3-20
Cover Control	3-21
Contactors	
Product Selection	3-23
Non-combination Starters	
Product Selection	3-27
Combination Starters — Fusible and Non-fusible	
Product Selection	3-32
Combination Starters — Circuit Breaker	
Product Selection	3-40
Wiring Diagrams	3-47
A200 Full Voltage Control	
Product Selection	3-50
Advantage Full Voltage Control	
Product Family Overview	
Product Description	3-58
Catalog Number Selection	3-60
Cover Control	3-61
Non-combination Starters	
Combination Starters — Fusible and Non-fusible	
Combination Starters — Circuit Breaker	
Wiring Diagrams	
Freedom Multispeed Starters	
Product Family Overview	
Cover Control	3-67
Non-combination	
Product Selection	3-68
Combination	
Product Selection	3-71
Wiring Diagrams	3-80

Product Family Overview

3



NEMA IT Control

Product Description

Eaton's Cutler-Hammer® Intelligent Technologies (IT) Electro-Mechanical line of Contactors and Starters is the result of a substantial engineering, manufacturing and marketing effort involving extensive customer input, combined with new advances in solid-state technology. IT Electro-Mechanical products have greatly increased functionality, significantly reduced size and utilize the benefits of 24V DC control. The exclusive Pulse Width Modulation (PWM) control and digital

microprocessor generate a minimized DC value which reduces energy to the contact block and provides the most compact system available.

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 Listed
- cUL Listed (indicates appropriate CSA Standard investigation)
- ABS Type Approved

Catalog Number Selection

Table 3-1. NEMA Intelligent Technologies (IT) Line Enclosed Control Catalog Numbering System

EC T 22 1 1 A A B - A	Modification Codes See Page 16-40																												
<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">Design</td></tr> <tr><td style="text-align: center;">T = IT. — NEMA</td></tr> </table>	Design	T = IT. — NEMA	<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">Solid-State Overload Range</td></tr> <tr><td style="text-align: center;">③</td></tr> </table>	Solid-State Overload Range	③																								
Design																													
T = IT. — NEMA																													
Solid-State Overload Range																													
③																													
<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">Class</td><td style="text-align: center;">Table</td></tr> <tr><td>01 = Non-reversing Contactor — 3-Pole</td><td style="text-align: center;">3-6</td></tr> <tr><td>02 = Reversing Contactor — 3-Pole</td><td style="text-align: center;">3-7</td></tr> <tr><td>05 = Non-combination Non-reversing Starter</td><td style="text-align: center;">3-8</td></tr> <tr><td>06 = Non-combination Reversing Starter</td><td style="text-align: center;">3-9</td></tr> <tr><td>16 = Combination Non-reversing Starter — Fusible Disconnect</td><td style="text-align: center;">3-10</td></tr> <tr><td>Combination Non-reversing Starter — Non-fusible Disconnect</td><td style="text-align: center;">3-11</td></tr> <tr><td>17 = Combination Reversing Starter — Fusible Disconnect</td><td style="text-align: center;">3-12</td></tr> <tr><td>Combination Reversing Starter — Non-fusible Disconnect</td><td style="text-align: center;">3-13</td></tr> <tr><td>22 = Combination Non-reversing Starter — Circuit Breaker</td><td style="text-align: center;">3-14</td></tr> <tr><td>23 = Combination Reversing Starter — Circuit Breaker</td><td style="text-align: center;">3-15</td></tr> </table>	Class	Table	01 = Non-reversing Contactor — 3-Pole	3-6	02 = Reversing Contactor — 3-Pole	3-7	05 = Non-combination Non-reversing Starter	3-8	06 = Non-combination Reversing Starter	3-9	16 = Combination Non-reversing Starter — Fusible Disconnect	3-10	Combination Non-reversing Starter — Non-fusible Disconnect	3-11	17 = Combination Reversing Starter — Fusible Disconnect	3-12	Combination Reversing Starter — Non-fusible Disconnect	3-13	22 = Combination Non-reversing Starter — Circuit Breaker	3-14	23 = Combination Reversing Starter — Circuit Breaker	3-15	<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">Cover Control — Starters</td></tr> <tr><td>Type 1 Non-comb., Table 3-3</td></tr> <tr><td>All Others, Table 3-4</td></tr> <tr><td>E22 Style Comb., Table 3-6</td></tr> <tr><td style="text-align: center;">Contactors</td></tr> <tr><td style="text-align: center;">3 = 3 Poles</td></tr> </table>	Cover Control — Starters	Type 1 Non-comb., Table 3-3	All Others, Table 3-4	E22 Style Comb., Table 3-6	Contactors	3 = 3 Poles
Class	Table																												
01 = Non-reversing Contactor — 3-Pole	3-6																												
02 = Reversing Contactor — 3-Pole	3-7																												
05 = Non-combination Non-reversing Starter	3-8																												
06 = Non-combination Reversing Starter	3-9																												
16 = Combination Non-reversing Starter — Fusible Disconnect	3-10																												
Combination Non-reversing Starter — Non-fusible Disconnect	3-11																												
17 = Combination Reversing Starter — Fusible Disconnect	3-12																												
Combination Reversing Starter — Non-fusible Disconnect	3-13																												
22 = Combination Non-reversing Starter — Circuit Breaker	3-14																												
23 = Combination Reversing Starter — Circuit Breaker	3-15																												
Cover Control — Starters																													
Type 1 Non-comb., Table 3-3																													
All Others, Table 3-4																													
E22 Style Comb., Table 3-6																													
Contactors																													
3 = 3 Poles																													
<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">Motor Voltage/Power Supply ①</td></tr> <tr><td>B = 230V E = 200V</td></tr> <tr><td>C = 460V Q = 24V DC ②</td></tr> <tr><td>D = 575V L = 380V/50 Hz</td></tr> </table>	Motor Voltage/Power Supply ①	B = 230V E = 200V	C = 460V Q = 24V DC ②	D = 575V L = 380V/50 Hz	<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">Disconnect Fuse Clip</td></tr> <tr><td>A = None G = 100A/600V</td></tr> <tr><td>B = 30A/250V H = 200A/250V</td></tr> <tr><td>C = 30A/600V J = 200A/600V</td></tr> <tr><td>D = 60A/250V K = 400A/250V</td></tr> <tr><td>E = 60A/600V L = 400A/600V</td></tr> <tr><td>F = 100A/250V</td></tr> </table>	Disconnect Fuse Clip	A = None G = 100A/600V	B = 30A/250V H = 200A/250V	C = 30A/600V J = 200A/600V	D = 60A/250V K = 400A/250V	E = 60A/600V L = 400A/600V	F = 100A/250V																	
Motor Voltage/Power Supply ①																													
B = 230V E = 200V																													
C = 460V Q = 24V DC ②																													
D = 575V L = 380V/50 Hz																													
Disconnect Fuse Clip																													
A = None G = 100A/600V																													
B = 30A/250V H = 200A/250V																													
C = 30A/600V J = 200A/600V																													
D = 60A/250V K = 400A/250V																													
E = 60A/600V L = 400A/600V																													
F = 100A/250V																													
<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">NEMA Size</td></tr> <tr><td>A = Size 00 3 = Size 3</td></tr> <tr><td>0 = Size 0 4 = Size 4</td></tr> <tr><td>1 = Size 1 5 = Size 5</td></tr> <tr><td>2 = Size 2</td></tr> </table>	NEMA Size	A = Size 00 3 = Size 3	0 = Size 0 4 = Size 4	1 = Size 1 5 = Size 5	2 = Size 2	<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">HMCP/E or Breaker Ratings</td></tr> <tr><td>A = None W = 70A</td></tr> <tr><td>B = 3A G = 100A/RC3</td></tr> <tr><td>C = 7A X = 100A/TC3</td></tr> <tr><td>D = 15A H = 150A</td></tr> <tr><td>E = 30A J = 250A</td></tr> <tr><td>F = 50A K = 400A</td></tr> </table>	HMCP/E or Breaker Ratings	A = None W = 70A	B = 3A G = 100A/RC3	C = 7A X = 100A/TC3	D = 15A H = 150A	E = 30A J = 250A	F = 50A K = 400A																
NEMA Size																													
A = Size 00 3 = Size 3																													
0 = Size 0 4 = Size 4																													
1 = Size 1 5 = Size 5																													
2 = Size 2																													
HMCP/E or Breaker Ratings																													
A = None W = 70A																													
B = 3A G = 100A/RC3																													
C = 7A X = 100A/TC3																													
D = 15A H = 150A																													
E = 30A J = 250A																													
F = 50A K = 400A																													
<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">Enclosure Type</td></tr> <tr><td>1 = Type 1 — General Purpose</td></tr> <tr><td>2 = Type 3R — Rainproof</td></tr> <tr><td>3 = Type 4 — Painted Steel</td></tr> <tr><td>4 = Type 4X — Watertight</td></tr> <tr><td>8 = Type 12 — Dust-Tight</td></tr> <tr><td>9 = Type 4X — 316-Grade Stainless Steel</td></tr> </table>	Enclosure Type	1 = Type 1 — General Purpose	2 = Type 3R — Rainproof	3 = Type 4 — Painted Steel	4 = Type 4X — Watertight	8 = Type 12 — Dust-Tight	9 = Type 4X — 316-Grade Stainless Steel																						
Enclosure Type																													
1 = Type 1 — General Purpose																													
2 = Type 3R — Rainproof																													
3 = Type 4 — Painted Steel																													
4 = Type 4X — Watertight																													
8 = Type 12 — Dust-Tight																													
9 = Type 4X — 316-Grade Stainless Steel																													

① If CPT is selected, Power Supply to be 120V AC – 24V DC.

② Power supply omitted.

③ See Table 3-2, Solid-State Overload Range Codes.

Table 3-2. IT Solid-State Overload Range Codes

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

Cover Control

Non-combination Starters

Control Power Transformer (CPT) may be required.

Combination Starters

- Cover control for Combination Starters uses 10250T style devices as standard.
- E22 style cover control options are available (Table 3-5).
- Selector switches are maintained with lever operators.
- Pushbuttons are momentary type with extended pushbutton.
- The kit includes hardware and connecting wires (where possible).
- For factory installed control devices other than shown below, refer to Modification Codes, Page 16-40.



Type 1 Cover Control

Table 3-3. Type 1 Non-combination Cover Control

Description	Factory Installed Flange Control ①	Field Installation Kits
	Position 9 Code	Catalog Number

Non-reversing

No Cover Mounted Pilot Devices START/STOP Pushbuttons with Red RUN Pilot Light with Red RUN/Green OFF Lights	A B C D	C400GK0 C400GK1 C400GK12 ② C400GK16 ②
HAND/OFF/AUTO Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	H J K	C400GK3 C400GK32 ② C400GK36 ②
Red RUN Pilot Light Green OFF Red RUN/Green OFF Pilot Lights	P Q R	C400GK42 ② C400GK41 ② C400GK46 ②

Reversing

No Cover Mounted Pilot Devices FOR/REV/STOP Pushbuttons with 2 Red Pilot Lights	A B C	C400GK0 C400GR1 C400GR14 ②
UP/STOP/DOWN Pushbuttons with 2 Red Pilot Lights	E F	C400GR2 C400GR24 ②
Two Red Pilot Lights One Green Pilot Light	P Q	C400GK44 ② C400GK41 ②

① For more available factory installed flange control, see Table 3-4.
② Add Code Letter from the table below to Catalog Number for voltage — Kits only. Example: C400T9B.

Rating	Code Letter	Rating	Code Letter	Rating	Code Letter
120V 60 Hz	A	277V 60 Hz	H	480V 60 Hz	C
208V 60 Hz	E	380V 50 Hz	L	600V 60 Hz	D
240V 60 Hz	B				



10250T Selector Switch

Table 3-4. Type 1 Combination and All Type 3R, 4X and 12 Cover Control ③

Description	Factory Installed Flange Control	Field Installation Kits
	Position 9 Code	Catalog Number

Non-reversing

No Cover Mounted Pilot Devices START/STOP Pushbuttons with Red RUN Pilot Light with Red RUN/Green OFF Lights	A B C D	— C400T1 — —
ON/OFF Pushbuttons with Red RUN Pilot Light with Red RUN/Green OFF Lights	E F G	C400T2 — —
HAND/OFF/AUTO Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	H J K	C400T12 — —
START Pushbutton ON Pushbutton OFF Pushbutton Red RUN Pilot Light Green OFF Red RUN/Green OFF Pilot Lights	L M N P Q R	C400T3 C400T4 C400T5 C400T9 ④ C400T10 ④ C400T11 ④
START/STOP Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	S T U	C400T13 — —
ON/OFF Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	V W X	C400T14 — —

Reversing

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	— C400T6 — —
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	C400T15 — —
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	⑤ C400T10 ④ — C400T16 — —

③ For Type 1 Non-combination field installation kits, see Table 3-3.
④ Add Code Letter from the table below to Catalog Number for voltage — Kits only. Example: C400T9B.

Rating	Code Letter	Rating	Code Letter	Rating	Code Letter
120V 60 Hz	A	277V 60 Hz	H	480V 60 Hz	C
208V 60 Hz	E	380V 50 Hz	L	600V 60 Hz	D
240V 60 Hz	B				

⑤ Order Quantity (2) of C400T10.

Product Family Overview

3



E22 Selector Switch

Table 3-5. Type 1, 3R, 4X and 12 E22 Style Combination Starter Cover Control

Description	Factory Installed ^①	Field Installation Kits
	Position 9 Cover Control Code	Combination Only Catalog Number
Non-reversing		
No Cover Mounted Pilot Devices	A	—
START/STOP Pushbuttons (PB)	B	CE400T01
START/STOP PB & Red RUN Light	C	CE400T02 ^②
START/STOP PB, Red RUN, & Green STOPPED Light	D	CE400T03 ^②
HAND/OFF/AUTO Selector Switch (SS)	H	CE400T04
H-O-A SS & Red RUN Light	J	CE400T05 ^②
H-O-A SS, Red RUN, & Green STOPPED Light	K	CE400T06 ^②
Red RUN Pilot Light	P	CE400T10 ^②
Green Off Pilot Light	Q	CE400T11 ^②
Red RUN/Green OFF Pilot Light	R	CE400T12 ^②
ON/OFF Selector Switch (SS)	S	CE400T07
ON/OFF SS, Red RUN Light	T	CE400T08 ^②
ON/OFF SS, Red RUN, & Green STOPPED Light	U	CE400T09 ^②
Reversing		
No Cover Mounted Pilot Devices	A	—
FWD/REV/STOP Pushbuttons (PB)	B	CE400T50
FWD/REV/STOP PB + Red FWD & REV Lights	C	CE400T51 ^②
FWD/REV/STOP PB, Red FWD/REV, & Green STOPPED	D	CE400T52 ^②
FOR/OFF/REV Selector Switch (SS)	H	CE400T53
FOR/OFF/REV SS + Red FWD & REV Lights	J	CE400T54 ^②
FOR/OFF/REV SS, Red FWD/REV, & Green STOPPED	K	CE400T55 ^②
OPEN/OFF/CLOSE Selector Switch (SS)	V	CE400T56
OPEN/OFF/CLOSE SS + Red FWD & REV Lights	W	CE400T57 ^②
OPEN/OFF/CLOSE SS, Red FWD/REV, & Green STOPPED	X	CE400T58 ^②

^① To include any of the above cover controls, place the control code character in position 9 of your Catalog Number and add Mod Code **C29**.

Example: ECT1604EDB-**C29**.

Full voltage non-reversing fusible starter with START/STOP pushbutton with red RUN and green OFF pilot lights.

^② Suffix for lights (required for field installed kits only) in the table below:

Rating	Code Letter	Rating	Code Letter	Rating	Code Letter
120V 60 Hz	A	277V 60 Hz	H	480V 60 Hz	C
208V 60 Hz	E	380V 50 Hz	L	600V 60 Hz	D
240V 60 Hz	B				

Contactors

Features

- Full Voltage
- 3-Phase Electromechanical



Type 1 IT NEMA Contactor

Product Selection

Table 3-6. Class ECT01 — Non-reversing Contactor — 3-Pole

NEMA Size	Motor Voltage	Max. hp	Coil ① Voltage	3-Pole Type 1	3-Pole Type 3R	3-Pole Type 4X ②	3-Pole Type 12	3-Pole Component Contactor (Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	—	—	24V DC	ECT01A1QAA	ECT01A2QAA	ECT01A4QAA	ECT01A8QAA	N111BSAX3N
	200/208	1-1/2		ECT01A1EAA	ECT01A2EAA	ECT01A4EAA	ECT01A8EAA	
	230/240	1-1/2		ECT01A1BAA	ECT01A2BAA	ECT01A4BAA	ECT01A8BAA	
	460/480	2		ECT01A1CAA	ECT01A2CAA	ECT01A4CAA	ECT01A8CAA	
	575/600	2		ECT01A1DAA	ECT01A2DAA	ECT01A4DAA	ECT01A8DAA	
380/50 Hz	1-1/2	ECT01A1LAA	ECT01A2LAA	ECT01A4LAA	ECT01A8LAA			
0	—	—	24V DC	ECT0101QAA	ECT0102QAA	ECT0104QAA	ECT0108QAA	N111BS0X3N
	200/208	3		ECT0101EAA	ECT0102EAA	ECT0104EAA	ECT0108EAA	
	230/240	3		ECT0101BAA	ECT0102BAA	ECT0104BAA	ECT0108BAA	
	460/480	5		ECT0101CAA	ECT0102CAA	ECT0104CAA	ECT0108CAA	
	575/600	5		ECT0101DAA	ECT0102DAA	ECT0104DAA	ECT0108DAA	
380/50 Hz	5	ECT0101LAA	ECT0102LAA	ECT0104LAA	ECT0108LAA			
1	—	—	24V DC	ECT0111QAA	ECT0112QAA	ECT0114QAA	ECT0118QAA	N111CS1X3N
	200/208	7-1/2		ECT0111EAA	ECT0112EAA	ECT0114EAA	ECT0118EAA	
	230/240	7-1/2		ECT0111BAA	ECT0112BAA	ECT0114BAA	ECT0118BAA	
	460/480	10		ECT0111CAA	ECT0112CAA	ECT0114CAA	ECT0118CAA	
	575/600	10		ECT0111DAA	ECT0112DAA	ECT0114DAA	ECT0118DAA	
380/50 Hz	10	ECT0111LAA	ECT0112LAA	ECT0114LAA	ECT0118LAA			
2	—	—	24V DC	ECT0121QAA	ECT0122QAA	ECT0124QAA	ECT0128QAA	N111DS2X3N
	200/208	10		ECT0121EAA	ECT0122EAA	ECT0124EAA	ECT0128EAA	
	230/240	15		ECT0121BAA	ECT0122BAA	ECT0124BAA	ECT0128BAA	
	460/480	25		ECT0121CAA	ECT0122CAA	ECT0124CAA	ECT0128CAA	
	575/600	25		ECT0121DAA	ECT0122DAA	ECT0124DAA	ECT0128DAA	
380/50 Hz	25	ECT0121LAA	ECT0122LAA	ECT0124LAA	ECT0128LAA			
3	—	—	24V DC	ECT0131QAA	ECT0132QAA	ECT0134QAA	ECT0138QAA	N111ES3X3N
	200/208	25		ECT0131EAA	ECT0132EAA	ECT0134EAA	ECT0138EAA	
	230/240	30		ECT0131BAA	ECT0132BAA	ECT0134BAA	ECT0138BAA	
	460/480	50		ECT0131CAA	ECT0132CAA	ECT0134CAA	ECT0138CAA	
	575/600	50		ECT0131DAA	ECT0132DAA	ECT0134DAA	ECT0138DAA	
380/50 Hz	50	ECT0131LAA	ECT0132LAA	ECT0134LAA	ECT0138LAA			
4	—	—	24V DC	ECT0141QAA	ECT0142QAA	ECT0144QAA	ECT0148QAA	N111ES4X3N
	200/208	40		ECT0141EAA	ECT0142EAA	ECT0144EAA	ECT0148EAA	
	230/240	50		ECT0141BAA	ECT0142BAA	ECT0144BAA	ECT0148BAA	
	460/480	100		ECT0141CAA	ECT0142CAA	ECT0144CAA	ECT0148CAA	
	575/600	100		ECT0141DAA	ECT0142DAA	ECT0144DAA	ECT0148DAA	
380/50 Hz	75	ECT0141LAA	ECT0142LAA	ECT0144LAA	ECT0148LAA			
5	—	—	24V DC	ECT0151QAA	ECT0152QAA	ECT0154QAA	ECT0158QAA	N111FS5X3N
	200/208	75		ECT0151EAA	ECT0152EAA	ECT0154EAA	ECT0158EAA	
	230/240	100		ECT0151BAA	ECT0152BAA	ECT0154BAA	ECT0158BAA	
	460/480	200		ECT0151CAA	ECT0152CAA	ECT0154CAA	ECT0158CAA	
	575/600	200		ECT0151DAA	ECT0152DAA	ECT0154DAA	ECT0158DAA	
380/50 Hz	150	ECT0151LAA	ECT0152LAA	ECT0154LAA	ECT0158LAA			

① All /7. Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.
 ② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECT01A4QAA. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Non-metallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control Page 3-3
 Wiring Diagrams Page 3-17
 Dimensions Page 15-2
 Accessories Page 16-2
 Renewal Parts Page 17-2
 Technical Data Page 18-2

Contactors

3

Table 3-7. Class ECT02 — Reversing Contactor — 3-Pole

NEMA Size	Motor Voltage	Max. hp	Coil ① Voltage	3-Pole Type 1	3-Pole Type 3R	3-Pole Type 4X ②	3-Pole Type 12	3-Pole Component Contactor (Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	—	—	24V DC	ECT02A1QAA	ECT02A2QAA	ECT02A4QAA	ECT02A8QAA	N511BSAX3N
	200/208	1-1/2		ECT02A1EAA	ECT02A2EAA	ECT02A4EAA	ECT02A8EAA	
	230/240	1-1/2		ECT02A1BAA	ECT02A2BAA	ECT02A4BAA	ECT02A8BAA	
	460/480	2		ECT02A1CAA	ECT02A2CAA	ECT02A4CAA	ECT02A8CAA	
	575/600	2		ECT02A1DAA	ECT02A2DAA	ECT02A4DAA	ECT02A8DAA	
380/50 Hz	1-1/2	ECT02A1LAA	ECT02A2LAA	ECT02A4LAA	ECT02A8LAA			
0	—	—	24V DC	ECT0201QAA	ECT0202QAA	ECT0204QAA	ECT0208QAA	N511BS0X3N
	200/208	3		ECT0201EAA	ECT0202EAA	ECT0204EAA	ECT0208EAA	
	230/240	3		ECT0201BAA	ECT0202BAA	ECT0204BAA	ECT0208BAA	
	460/480	5		ECT0201CAA	ECT0202CAA	ECT0204CAA	ECT0208CAA	
	575/600	5		ECT0201DAA	ECT0202DAA	ECT0204DAA	ECT0208DAA	
380/50 Hz	5	ECT0201LAA	ECT0202LAA	ECT0204LAA	ECT0208LAA			
1	—	—	24V DC	ECT0211QAA	ECT0212QAA	ECT0214QAA	ECT0218QAA	N511CS1X3N
	200/208	7-1/2		ECT0211EAA	ECT0212EAA	ECT0214EAA	ECT0218EAA	
	230/240	7-1/2		ECT0211BAA	ECT0212BAA	ECT0214BAA	ECT0218BAA	
	460/480	10		ECT0211CAA	ECT0212CAA	ECT0214CAA	ECT0218CAA	
	575/600	10		ECT0211DAA	ECT0212DAA	ECT0214DAA	ECT0218DAA	
380/50 Hz	10	ECT0211LAA	ECT0212LAA	ECT0214LAA	ECT0218LAA			
2	—	—	24V DC	ECT0221QAA	ECT0222QAA	ECT0224QAA	ECT0228QAA	N511DS2X3N
	200/208	10		ECT0221EAA	ECT0222EAA	ECT0224EAA	ECT0228EAA	
	230/240	15		ECT0221BAA	ECT0222BAA	ECT0224BAA	ECT0228BAA	
	460/480	25		ECT0221CAA	ECT0222CAA	ECT0224CAA	ECT0228CAA	
	575/600	25		ECT0221DAA	ECT0222DAA	ECT0224DAA	ECT0228DAA	
380/50 Hz	25	ECT0221LAA	ECT0222LAA	ECT0224LAA	ECT0228LAA			
3	—	—	24V DC	ECT0231QAA	ECT0232QAA	ECT0234QAA	ECT0238QAA	N511ES3X3N
	200/208	25		ECT0231EAA	ECT0232EAA	ECT0234EAA	ECT0238EAA	
	230/240	30		ECT0231BAA	ECT0232BAA	ECT0234BAA	ECT0238BAA	
	460/480	50		ECT0231CAA	ECT0232CAA	ECT0234CAA	ECT0238CAA	
	575/600	50		ECT0231DAA	ECT0232DAA	ECT0234DAA	ECT0238DAA	
380/50 Hz	50	ECT0231LAA	ECT0232LAA	ECT0234LAA	ECT0238LAA			
4	—	—	24V DC	ECT0241QAA	ECT0242QAA	ECT0244QAA	ECT0248QAA	N511ES4X3N
	200/208	40		ECT0241EAA	ECT0242EAA	ECT0244EAA	ECT0248EAA	
	230/240	50		ECT0241BAA	ECT0242BAA	ECT0244BAA	ECT0248BAA	
	460/480	100		ECT0241CAA	ECT0242CAA	ECT0244CAA	ECT0248CAA	
	575/600	100		ECT0241DAA	ECT0242DAA	ECT0244DAA	ECT0248DAA	
380/50 Hz	75	ECT0241LAA	ECT0242LAA	ECT0244LAA	ECT0248LAA			
5	—	—	24V DC	ECT0251QAA	ECT0252QAA	ECT0254QAA	ECT0258QAA	N511FS5X3N
	200/208	75		ECT0251EAA	ECT0252EAA	ECT0254EAA	ECT0258EAA	
	230/240	100		ECT0251BAA	ECT0252BAA	ECT0254BAA	ECT0258BAA	
	460/480	200		ECT0251CAA	ECT0252CAA	ECT0254CAA	ECT0258CAA	
	575/600	200		ECT0251DAA	ECT0252DAA	ECT0254DAA	ECT0258DAA	
380/50 Hz	150	ECT0251LAA	ECT0252LAA	ECT0254LAA	ECT0258LAA			

① All 17. Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit Q denotes separate 24V DC control source.

② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECT02A4QAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Non-metallic, change that digit to 5. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control Page 3-3
 Wiring Diagrams Page 3-17
 Dimensions Page 15-2
 Accessories Page 16-2
 Renewal Parts Page 17-2
 Technical Data Page 18-2

Non-combination Starters

Features

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



Type 12 Non-combination IT Starter

3

Product Selection

Table 3-8. Class ECT05 — Non-combination Non-reversing Starter

NEMA Size	Motor Voltage	Max. hp	Coil ① Voltage	3-Pole Type 1	3-Pole Type 3R	3-Pole Type 4X ②	3-Pole Type 12	3-Pole Component Starter (Open)								
				Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③								
00	—	—	24V DC	ECT05A1QAA- ECT05A1EAA- ECT05A1BAA- ECT05A1CAA- ECT05A1DAA- ECT05A1LAA-	ECT05A2QAA- ECT05A2EAA- ECT05A2BAA- ECT05A2CAA- ECT05A2DAA- ECT05A2LAA-	ECT05A4QAA- ECT05A4EAA- ECT05A4BAA- ECT05A4CAA- ECT05A4DAA- ECT05A4LAA-	ECT05A8QAA- ECT05A8EAA- ECT05A8BAA- ECT05A8CAA- ECT05A8DAA- ECT05A8LAA-	N101BSA_3A								
	200/208 230/240 460/480 575/600 380/50 Hz	1-1/2 1-1/2 2 2 1-1/2		24V DC	ECT0501QAA- ECT0501EAA- ECT0501BAA- ECT0501CAA- ECT0501DAA- ECT0501LAA-	ECT0502QAA- ECT0502EAA- ECT0502BAA- ECT0502CAA- ECT0502DAA- ECT0502LAA-	ECT0504QAA- ECT0504EAA- ECT0504BAA- ECT0504CAA- ECT0504DAA- ECT0504LAA-		ECT0508QAA- ECT0508EAA- ECT0508BAA- ECT0508CAA- ECT0508DAA- ECT0508LAA-	N101BS0_3A						
	0	3 3 5 5 5			24V DC	ECT0511QAA- ECT0511EAA- ECT0511BAA- ECT0511CAA- ECT0511DAA- ECT0511LAA-	ECT0512QAA- ECT0512EAA- ECT0512BAA- ECT0512CAA- ECT0512DAA- ECT0512LAA-		ECT0514QAA- ECT0514EAA- ECT0514BAA- ECT0514CAA- ECT0514DAA- ECT0514LAA-		ECT0518QAA- ECT0518EAA- ECT0518BAA- ECT0518CAA- ECT0518DAA- ECT0518LAA-	N101CS1_3A				
	1	7-1/2 7-1/2 10 10 10				24V DC	ECT0521QAA-K ECT0521EAA-K ECT0521BAA-K ECT0521CAA-K ECT0521DAA-K ECT0521LAA-K		ECT0522QAA-K ECT0522EAA-K ECT0522BAA-K ECT0522CAA-K ECT0522DAA-K ECT0522LAA-K		ECT0524QAA-K ECT0524EAA-K ECT0524BAA-K ECT0524CAA-K ECT0524DAA-K ECT0524LAA-K		ECT0528QAA-K ECT0528EAA-K ECT0528BAA-K ECT0528CAA-K ECT0528DAA-K ECT0528LAA-K	N101DS2_3A		
	2	10 15 25 25 25					24V DC		ECT0531QAA-M ECT0531EAA-M ECT0531BAA-M ECT0531CAA-M ECT0531DAA-M ECT0531LAA-M		ECT0532QAA-M ECT0532EAA-M ECT0532BAA-M ECT0532CAA-M ECT0532DAA-M ECT0532LAA-M		ECT0534QAA-M ECT0534EAA-M ECT0534BAA-M ECT0534CAA-M ECT0534DAA-M ECT0534LAA-M		ECT0538QAA-M ECT0538EAA-M ECT0538BAA-M ECT0538CAA-M ECT0538DAA-M ECT0538LAA-M	N101ES3_3A
	3	25 30 50 50 50							24V DC		ECT0541QAA-P ECT0541EAA-P ECT0541BAA-P ECT0541CAA-P ECT0541DAA-P ECT0541LAA-P		ECT0542QAA-P ECT0542EAA-P ECT0542BAA-P ECT0542CAA-P ECT0542DAA-P ECT0542LAA-P		ECT0544QAA-P ECT0544EAA-P ECT0544BAA-P ECT0544CAA-P ECT0544DAA-P ECT0544LAA-P	
4	40 50 100 100 75	24V DC	ECT0551QAA-S ECT0551EAA-S ECT0551BAA-S ECT0551CAA-S ECT0551DAA-S ECT0551LAA-S					ECT0552QAA-S ECT0552EAA-S ECT0552BAA-S ECT0552CAA-S ECT0552DAA-S ECT0552LAA-S			ECT0554QAA-S ECT0554EAA-S ECT0554BAA-S ECT0554CAA-S ECT0554DAA-S ECT0554LAA-S		ECT0558QAA-S ECT0558EAA-S ECT0558BAA-S ECT0558CAA-S ECT0558DAA-S ECT0558LAA-S		N101FS5_3A	
5	75 100 200 200 150															

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 The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECT05A4QAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Non-metallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.
 ③ A “-” denotes Catalog Numbers are incomplete without the Solid-State Overload Range Code. To complete the Catalog Number, select the appropriate Code from Table 3-2 on Page 3-2.

Cover Control Page 3-3
 Wiring Diagrams Page 3-17
 Dimensions Page 15-2
 Accessories Page 16-2
 Renewal Parts Page 17-2
 Technical Data Page 18-2

Non-combination Starters

3

Table 3-9. Class ECT06 — Non-combination Reversing Starter

NEMA Size	Motor Voltage	Max. hp	Coil ① Voltage	3-Pole Type 1	3-Pole Type 3R	3-Pole Type 4X ②	3-Pole Type 12	3-Pole Component Starter (Open)
				Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③
00	— 200/208 230/240 460/480 575/600 380/50 Hz	— 1-1/2 1-1/2 2 2 1-1/2	24V DC	ECT06A1QAA- ECT06A1EAA- ECT06A1BAA- ECT06A1CAA- ECT06A1DAA- ECT06A1LAA-	ECT06A2QAA- ECT06A2EAA- ECT06A2BAA- ECT06A2CAA- ECT06A2DAA- ECT06A2LAA-	ECT06A4QAA- ECT06A4EAA- ECT06A4BAA- ECT06A4CAA- ECT06A4DAA- ECT06A4LAA-	ECT06A8QAA- ECT06A8EAA- ECT06A8BAA- ECT06A8CAA- ECT06A8DAA- ECT06A8LAA-	N501BSA_3A
0	— 200/208 230/240 460/480 575/600 380/50 Hz	— 3 3 5 5 5	24V DC	ECT0601QAA- ECT0601EAA- ECT0601BAA- ECT0601CAA- ECT0601DAA- ECT0601LAA-	ECT0602QAA- ECT0602EAA- ECT0602BAA- ECT0602CAA- ECT0602DAA- ECT0602LAA-	ECT0604QAA- ECT0604EAA- ECT0604BAA- ECT0604CAA- ECT0604DAA- ECT0604LAA-	ECT0608QAA- ECT0608EAA- ECT0608BAA- ECT0608CAA- ECT0608DAA- ECT0608LAA-	N501BS0_3A
1	— 200/208 230/240 460/480 575/600 380/50 Hz	— 7-1/2 7-1/2 10 10 10	24V DC	ECT0611QAA- ECT0611EAA- ECT0611BAA- ECT0611CAA- ECT0611DAA- ECT0611LAA-	ECT0612QAA- ECT0612EAA- ECT0612BAA- ECT0612CAA- ECT0612DAA- ECT0612LAA-	ECT0614QAA- ECT0614EAA- ECT0614BAA- ECT0614CAA- ECT0614DAA- ECT0614LAA-	ECT0618QAA- ECT0618EAA- ECT0618BAA- ECT0618CAA- ECT0618DAA- ECT0618LAA-	N501CS1_3A
2	— 200/208 230/240 460/480 575/600 380/50 Hz	— 10 15 25 25 25	24V DC	ECT0621QAA-K ECT0621EAA-K ECT0621BAA-K ECT0621CAA-K ECT0621DAA-K ECT0621LAA-K	ECT0622QAA-K ECT0622EAA-K ECT0622BAA-K ECT0622CAA-K ECT0622DAA-K ECT0622LAA-K	ECT0624QAA-K ECT0624EAA-K ECT0624BAA-K ECT0624CAA-K ECT0624DAA-K ECT0624LAA-K	ECT0628QAA-K ECT0628EAA-K ECT0628BAA-K ECT0628CAA-K ECT0628DAA-K ECT0628LAA-K	N501DS2_3A
3	— 200/208 230/240 460/480 575/600 380/50 Hz	— 25 30 50 50 50	24V DC	ECT0631QAA-M ECT0631EAA-M ECT0631BAA-M ECT0631CAA-M ECT0631DAA-M ECT0631LAA-M	ECT0632QAA-M ECT0632EAA-M ECT0632BAA-M ECT0632CAA-M ECT0632DAA-M ECT0632LAA-M	ECT0634QAA-M ECT0634EAA-M ECT0634BAA-M ECT0634CAA-M ECT0634DAA-M ECT0634LAA-M	ECT0638QAA-M ECT0638EAA-M ECT0638BAA-M ECT0638CAA-M ECT0638DAA-M ECT0638LAA-M	N501ES3_3A
4	— 200/208 230/240 460/480 575/600 380/50 Hz	— 40 50 100 100 75	24V DC	ECT0641QAA-P ECT0641EAA-P ECT0641BAA-P ECT0641CAA-P ECT0641DAA-P ECT0641LAA-P	ECT0642QAA-P ECT0642EAA-P ECT0642BAA-P ECT0642CAA-P ECT0642DAA-P ECT0642LAA-P	ECT0644QAA-P ECT0644EAA-P ECT0644BAA-P ECT0644CAA-P ECT0644DAA-P ECT0644LAA-P	ECT0648QAA-P ECT0648EAA-P ECT0648BAA-P ECT0648CAA-P ECT0648DAA-P ECT0648LAA-P	N501ES4_3A
5	— 200/208 230/240 460/480 575/600 380/50 Hz	— 75 100 200 200 150	24V DC	ECT0651QAA-S ECT0651EAA-S ECT0651BAA-S ECT0651CAA-S ECT0651DAA-S ECT0651LAA-S	ECT0652QAA-S ECT0652EAA-S ECT0652BAA-S ECT0652CAA-S ECT0652DAA-S ECT0652LAA-S	ECT0654QAA-S ECT0654EAA-S ECT0654BAA-S ECT0654CAA-S ECT0654DAA-S ECT0654LAA-S	ECT0658QAA-S ECT0658EAA-S ECT0658BAA-S ECT0658CAA-S ECT0658DAA-S ECT0658LAA-S	N501FS5_3A

① All **17** Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.

② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECT06A**4**QAA. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Non-metallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

③ 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	—	G	F	—	—	—	—
6.3 – 20	—	—	—	—	—	—	—
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 3-3
 Wiring Diagrams Page 3-17
 Dimensions Page 15-2
 Accessories Page 16-2
 Renewal Parts Page 17-2
 Technical Data Page 18-2

Features

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

Product Selection

Table 3-10. Class ECT16 — Combination Non-reversing Starter — Fusible Disconnect

Motor Voltage	Max. hp	Coil ① Voltage	Disconnect	3-Pole Type 1	3-Pole Type 3R	3-Pole Type 4X ②	3-Pole Type 12	3-Pole Component Starter (Open)
				Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③
NEMA Size 0								
—	—	24V DC	30A	ECT1601QAB- ECT1601QAC- ECT1601EAB- ECT1601BAB- ECT1601CAC- ECT1601DAC- ECT1601LAC-	ECT1602QAB- ECT1602QAC- ECT1602EAB- ECT1602BAB- ECT1602CAC- ECT1602DAC- ECT1602LAC-	ECT1604QAB- ECT1604QAC- ECT1604EAB- ECT1604BAB- ECT1604CAC- ECT1604DAC- ECT1604LAC-	ECT1608QAB- ECT1608QAC- ECT1608EAB- ECT1608BAB- ECT1608CAC- ECT1608DAC- ECT1608LAC-	N101BS0_3A
200/208	3							
230/240	3							
460/480	5							
575/600	5							
380/50 Hz	5							
NEMA Size 1								
—	—	24V DC	30A	ECT1611QAB- ECT1611QAC- ECT1611EAB- ECT1611BAB- ECT1611CAC- ECT1611DAC- ECT1611LAC-	ECT1612QAB- ECT1612QAC- ECT1612EAB- ECT1612BAB- ECT1612CAC- ECT1612DAC- ECT1612LAC-	ECT1614QAB- ECT1614QAC- ECT1614EAB- ECT1614BAB- ECT1614CAC- ECT1614DAC- ECT1614LAC-	ECT1618QAB- ECT1618QAC- ECT1618EAB- ECT1618BAB- ECT1618CAC- ECT1618DAC- ECT1618LAC-	N101CS1_3A
200/208	7-1/2							
230/240	7-1/2							
460/480	10							
575/600	10							
380/50 Hz	10							
NEMA Size 2								
—	—	24V DC	60A	ECT1621QAD-K ECT1621QAE-K ECT1621EAD-K ECT1621BAD-K ECT1621CAE-K ECT1621DAE-K ECT1621LAE-K	ECT1622QAD-K ECT1622QAE-K ECT1622EAD-K ECT1622BAD-K ECT1622CAE-K ECT1622DAE-K ECT1622LAE-K	ECT1624QAD-K ECT1624QAE-K ECT1624EAD-K ECT1624BAD-K ECT1624CAE-K ECT1624DAE-K ECT1624LAE-K	ECT1628QAD-K ECT1628QAE-K ECT1628EAD-K ECT1628BAD-K ECT1628CAE-K ECT1628DAE-K ECT1628LAE-K	N101DS2_3A
200/208	10							
230/240	15							
460/480	25							
575/600	25							
380/50 Hz	25							
NEMA Size 3								
—	—	24V DC	100A	ECT1631QAF-M ECT1631QAG-M ECT1631EAF-M ECT1631BAF-M ECT1631CAG-M ECT1631DAG-M ECT1631LAG-M	ECT1632QAF-M ECT1632QAG-M ECT1632EAF-M ECT1632BAF-M ECT1632CAG-M ECT1632DAG-M ECT1632LAG-M	ECT1634QAF-M ECT1634QAG-M ECT1634EAF-M ECT1634BAF-M ECT1634CAG-M ECT1634DAG-M ECT1634LAG-M	ECT1638QAF-M ECT1638QAG-M ECT1638EAF-M ECT1638BAF-M ECT1638CAG-M ECT1638DAG-M ECT1638LAG-M	N101ES3_3A
200/208	25							
230/240	30							
460/480	50							
575/600	50							
380/50 Hz	50							
NEMA Size 4								
—	—	24V DC	200A	ECT1641QAH-P ECT1641QAJ-P ECT1641EAH-P ECT1641BAH-P ECT1641CAJ-P ECT1641DAJ-P ECT1641LAJ-P	ECT1642QAH-P ECT1642QAJ-P ECT1642EAH-P ECT1642BAH-P ECT1642CAJ-P ECT1642DAJ-P ECT1642LAJ-P	ECT1644QAH-P ECT1644QAJ-P ECT1644EAH-P ECT1644BAH-P ECT1644CAJ-P ECT1644DAJ-P ECT1644LAJ-P	ECT1648QAH-P ECT1648QAJ-P ECT1648EAH-P ECT1648BAH-P ECT1648CAJ-P ECT1648DAJ-P ECT1648LAJ-P	N101ES4_3A
200/208	40							
230/240	50							
460/480	100							
575/600	100							
380/50 Hz	75							
NEMA Size 5								
—	—	24V DC	400A	ECT1651QAK-S ECT1651QAL-S ECT1651EAK-S ECT1651BAK-S ECT1651CAL-S ECT1651DAL-S ECT1651LAL-S	ECT1652QAK-S ECT1652QAL-S ECT1652EAK-S ECT1652BAK-S ECT1652CAL-S ECT1652DAL-S ECT1652LAL-S	ECT1654QAK-S ECT1654QAL-S ECT1654EAK-S ECT1654BAK-S ECT1654CAL-S ECT1654DAL-S ECT1654LAL-S	ECT1658QAK-S ECT1658QAL-S ECT1658EAK-S ECT1658BAK-S ECT1658CAL-S ECT1658DAL-S ECT1658LAL-S	N101FS5_3A
200/208	75							
230/240	100							
460/480	200							
575/600	200							
380/50 Hz	150							

① All 17. Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.
 ② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECT1604**4**QAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Non-metallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
 ③ A “_” denotes Catalog Numbers are incomplete without the Solid-State Overload Range Code. To complete the Catalog Number, select the appropriate Code from **Table 3-2** on **Page 3-2**.

Cover Control **Page 3-3**
 Wiring Diagrams **Page 3-17**
 Dimensions **Page 15-2**
 Accessories **Page 16-2**
 Renewal Parts **Page 17-2**
 Technical Data **Page 18-2**

Combination Starters — Fusible and Non-fusible

Table 3-11. Class ECT16 — Combination Non-reversing Starter — Non-fusible Disconnect

Motor Voltage	Max. hp	Coil ① Voltage	Disconnect	3-Pole Type 1	3-Pole Type 3R	3-Pole Type 4X ②	3-Pole Type 12	3-Pole Component Starter (Open)
				Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③
NEMA Size 0								
—	—	24V DC	30A	ECT1601QAA- ECT1601EAA- ECT1601BAA- ECT1601CAA- ECT1601DAA- ECT1601LAA-	ECT1602QAA- ECT1602EAA- ECT1602BAA- ECT1602CAA- ECT1602DAA- ECT1602LAA-	ECT1604QAA- ECT1604EAA- ECT1604BAA- ECT1604CAA- ECT1604DAA- ECT1604LAA-	ECT1608QAA- ECT1608EAA- ECT1608BAA- ECT1608CAA- ECT1608DAA- ECT1608LAA-	N101BS0_3A
200/208	3							
230/240	3							
460/480	5							
575/600	5							
380/50 Hz	5							
NEMA Size 1								
—	—	24V DC	30A	ECT1611QAA- ECT1611EAA- ECT1611BAA- ECT1611CAA- ECT1611DAA- ECT1611LAA-	ECT1612QAA- ECT1612EAA- ECT1612BAA- ECT1612CAA- ECT1612DAA- ECT1612LAA-	ECT1614QAA- ECT1614EAA- ECT1614BAA- ECT1614CAA- ECT1614DAA- ECT1614LAA-	ECT1618QAA- ECT1618EAA- ECT1618BAA- ECT1618CAA- ECT1618DAA- ECT1618LAA-	N101CS1_3A
200/208	7-1/2							
230/240	7-1/2							
460/480	10							
575/600	10							
380/50 Hz	10							
NEMA Size 2								
—	—	24V DC	60A	ECT1621QAA-K ECT1621EAA-K ECT1621BAA-K ECT1621CAA-K ECT1621DAA-K ECT1621LAA-K	ECT1622QAA-K ECT1622EAA-K ECT1622BAA-K ECT1622CAA-K ECT1622DAA-K ECT1622LAA-K	ECT1624QAA-K ECT1624EAA-K ECT1624BAA-K ECT1624CAA-K ECT1624DAA-K ECT1624LAA-K	ECT1628QAA-K ECT1628EAA-K ECT1628BAA-K ECT1628CAA-K ECT1628DAA-K ECT1628LAA-K	N101DS2_3A
200/208	10							
230/240	15							
460/480	25							
575/600	25							
380/50 Hz	25							
NEMA Size 3								
—	—	24V DC	100A	ECT1631QAA-M ECT1631EAA-M ECT1631BAA-M ECT1631CAA-M ECT1631DAA-M ECT1631LAA-M	ECT1632QAA-M ECT1632EAA-M ECT1632BAA-M ECT1632CAA-M ECT1632DAA-M ECT1632LAA-M	ECT1634QAA-M ECT1634EAA-M ECT1634BAA-M ECT1634CAA-M ECT1634DAA-M ECT1634LAA-M	ECT1638QAA-M ECT1638EAA-M ECT1638BAA-M ECT1638CAA-M ECT1638DAA-M ECT1638LAA-M	N101ES3_3A
200/208	25							
230/240	30							
460/480	50							
575/600	50							
380/50 Hz	50							
NEMA Size 4								
—	—	24V DC	200A	ECT1641QAA-P ECT1641EAA-P ECT1641BAA-P ECT1641CAA-P ECT1641DAA-P ECT1641LAA-P	ECT1642QAA-P ECT1642EAA-P ECT1642BAA-P ECT1642CAA-P ECT1642DAA-P ECT1642LAA-P	ECT1644QAA-P ECT1644EAA-P ECT1644BAA-P ECT1644CAA-P ECT1644DAA-P ECT1644LAA-P	ECT1648QAA-P ECT1648EAA-P ECT1648BAA-P ECT1648CAA-P ECT1648DAA-P ECT1648LAA-P	N101ES4_3A
200/208	40							
230/240	50							
460/480	100							
575/600	100							
380/50 Hz	75							
NEMA Size 5								
—	—	24V DC	400A	ECT1651QAA-S ECT1651EAA-S ECT1651BAA-S ECT1651CAA-S ECT1651DAA-S ECT1651LAA-S	ECT1652QAA-S ECT1652EAA-S ECT1652BAA-S ECT1652CAA-S ECT1652DAA-S ECT1652LAA-S	ECT1654QAA-S ECT1654EAA-S ECT1654BAA-S ECT1654CAA-S ECT1654DAA-S ECT1654LAA-S	ECT1658QAA-S ECT1658EAA-S ECT1658BAA-S ECT1658CAA-S ECT1658DAA-S ECT1658LAA-S	N101FS5_3A
200/208	75							
230/240	100							
460/480	200							
575/600	200							
380/50 Hz	150							

- ① All *17*. Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.
- ② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECT1604**4**QAA. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Non-metallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
- ③ 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 3-3
 Wiring Diagrams Page 3-17
 Dimensions Page 15-2
 Accessories Page 16-2
 Renewal Parts Page 17-2
 Technical Data Page 18-2

Combination Starters — Fusible and Non-fusible

3

Table 3-12. Class ECT17 — Combination Reversing Starter — Fusible Disconnect

Motor Voltage	Max. hp	Coil ① Voltage	Disconnect	3-Pole Type 1	3-Pole Type 3R	3-Pole Type 4X ②	3-Pole Type 12	3-Pole Component Starter (Open)
				Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③
NEMA Size 0								
—	—	24V DC	30A	ECT1701QAB- ECT1701QAC- ECT1701EAB- ECT1701BAB- ECT1701CAC- ECT1701DAC- ECT1701LAC-	ECT1702QAB- ECT1702QAC- ECT1702EAB- ECT1702BAB- ECT1702CAC- ECT1702DAC- ECT1702LAC-	ECT1704QAB- ECT1704QAC- ECT1704EAB- ECT1704BAB- ECT1704CAC- ECT1704DAC- ECT1704LAC-	ECT1708QAB- ECT1708QAC- ECT1708EAB- ECT1708BAB- ECT1708CAC- ECT1708DAC- ECT1708LAC-	N501BS0_3A
200/208	3							
230/240	3							
460/480	5							
575/600	5							
380/50 Hz	5							
NEMA Size 1								
—	—	24V DC	30A	ECT1711QAB- ECT1711QAC- ECT1711EAB- ECT1711BAB- ECT1711CAC- ECT1711DAC- ECT1711LAC-	ECT1712QAB- ECT1712QAC- ECT1712EAB- ECT1712BAB- ECT1712CAC- ECT1712DAC- ECT1712LAC-	ECT1714QAB- ECT1714QAC- ECT1714EAB- ECT1714BAB- ECT1714CAC- ECT1714DAC- ECT1714LAC-	ECT1718QAB- ECT1718QAC- ECT1718EAB- ECT1718BAB- ECT1718CAC- ECT1718DAC- ECT1718LAC-	N501CS1_3A
200/208	7-1/2							
230/240	7-1/2							
460/480	10							
575/600	10							
380/50 Hz	10							
NEMA Size 2								
—	—	24V DC	60A	ECT1721QAD-K ECT1721QAE-K ECT1721EAD-K ECT1721BAD-K ECT1721CAE-K ECT1721DAE-K ECT1721LAE-K	ECT1722QAD-K ECT1722QAE-K ECT1722EAD-K ECT1722BAD-K ECT1722CAE-K ECT1722DAE-K ECT1722LAE-K	ECT1724QAD-K ECT1724QAE-K ECT1724EAD-K ECT1724BAD-K ECT1724CAE-K ECT1724DAE-K ECT1724LAE-K	ECT1728QAD-K ECT1728QAE-K ECT1728EAD-K ECT1728BAD-K ECT1728CAE-K ECT1728DAE-K ECT1728LAE-K	N501DS2_3A
200/208	10							
230/240	15							
460/480	25							
575/600	25							
380/50 Hz	25							
NEMA Size 3								
—	—	24V DC	100A	ECT1731QAF-M ECT1731QAG-M ECT1731EAF-M ECT1731BAF-M ECT1731CAG-M ECT1731DAG-M ECT1731LAG-M	ECT1732QAF-M ECT1732QAG-M ECT1732EAF-M ECT1732BAF-M ECT1732CAG-M ECT1732DAG-M ECT1732LAG-M	ECT1734QAF-M ECT1734QAG-M ECT1734EAF-M ECT1734BAF-M ECT1734CAG-M ECT1734DAG-M ECT1734LAG-M	ECT1738QAF-M ECT1738QAG-M ECT1738EAF-M ECT1738BAF-M ECT1738CAG-M ECT1738DAG-M ECT1738LAG-M	N501ES3_3A
200/208	25							
230/240	30							
460/480	50							
575/600	50							
380/50 Hz	50							
NEMA Size 4								
—	—	24V DC	200A	ECT1741QAH-P ECT1741QAJ-P ECT1741EAH-P ECT1741BAH-P ECT1741CAJ-P ECT1741DAJ-P ECT1741LAJ-P	ECT1742QAH-P ECT1742QAJ-P ECT1742EAH-P ECT1742BAH-P ECT1742CAJ-P ECT1742DAJ-P ECT1742LAJ-P	ECT1744QAH-P ECT1744QAJ-P ECT1744EAH-P ECT1744BAH-P ECT1744CAJ-P ECT1744DAJ-P ECT1744LAJ-P	ECT1748QAH-P ECT1748QAJ-P ECT1748EAH-P ECT1748BAH-P ECT1748CAJ-P ECT1748DAJ-P ECT1748LAJ-P	N501ES4_3A
200/208	40							
230/240	50							
460/480	100							
575/600	100							
380/50 Hz	75							
NEMA Size 5								
—	—	24V DC	400A	ECT1751QAK-S ECT1751QAL-S ECT1751EAK-S ECT1751BAK-S ECT1751CAL-S ECT1751DAL-S ECT1751LAL-S	ECT1752QAK-S ECT1752QAL-S ECT1752EAK-S ECT1752BAK-S ECT1752CAL-S ECT1752DAL-S ECT1752LAL-S	ECT1754QAK-S ECT1754QAL-S ECT1754EAK-S ECT1754BAK-S ECT1754CAL-S ECT1754DAL-S ECT1754LAL-S	ECT1758QAK-S ECT1758QAL-S ECT1758EAK-S ECT1758BAK-S ECT1758CAL-S ECT1758DAL-S ECT1758LAL-S	N501FS5_3A
200/208	75							
230/240	100							
460/480	200							
575/600	200							
380/50 Hz	150							

① All /7. Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.
 ② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECT1704**4**QAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Non-metallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
 ③ A “_” denotes Catalog Numbers are incomplete without the Solid-State Overload Range Code. To complete the Catalog Number, select the appropriate Code from **Table 3-2** on **Page 3-2**.

Cover Control **Page 3-3**
 Wiring Diagrams **Page 3-17**
 Dimensions **Page 15-2**
 Accessories **Page 16-2**
 Renewal Parts **Page 17-2**
 Technical Data **Page 18-2**

Combination Starters — Fusible and Non-fusible

Table 3-13. Class ECT17 — Combination Reversing Starter — Non-fusible Disconnect

Motor Voltage	Max. hp	Coil ① Voltage	Disconnect	3-Pole Type 1	3-Pole Type 3R	3-Pole Type 4X ②	3-Pole Type 12	3-Pole Component Starter (Open)
				Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③	Catalog Number ③
NEMA Size 0								
—	—	24V DC	30A	ECT1701QAA- ECT1701EAA- ECT1701BAA- ECT1701CAA- ECT1701DAA- ECT1701LAA-	ECT1702QAA- ECT1702EAA- ECT1702BAA- ECT1702CAA- ECT1702DAA- ECT1702LAA-	ECT1704QAA- ECT1704EAA- ECT1704BAA- ECT1704CAA- ECT1704DAA- ECT1704LAA-	ECT1708QAA- ECT1708EAA- ECT1708BAA- ECT1708CAA- ECT1708DAA- ECT1708LAA-	N501BS0_3A
200/208	3							
230/240	3							
460/480	5							
575/600	5							
380/50 Hz	5							
NEMA Size 1								
—	—	24V DC	30A	ECT1711QAA- ECT1711EAA- ECT1711BAA- ECT1711CAA- ECT1711DAA- ECT1711LAA-	ECT1712QAA- ECT1712EAA- ECT1712BAA- ECT1712CAA- ECT1712DAA- ECT1712LAA-	ECT1714QAA- ECT1714EAA- ECT1714BAA- ECT1714CAA- ECT1714DAA- ECT1714LAA-	ECT1718QAA- ECT1718EAA- ECT1718BAA- ECT1718CAA- ECT1718DAA- ECT1718LAA-	N501CS1_3A
200/208	7-1/2							
230/240	7-1/2							
460/480	10							
575/600	10							
380/50 Hz	10							
NEMA Size 2								
—	—	24V DC	60A	ECT1721QAA-K ECT1721EAA-K ECT1721BAA-K ECT1721CAA-K ECT1721DAA-K ECT1721LAA-K	ECT1722QAA-K ECT1722EAA-K ECT1722BAA-K ECT1722CAA-K ECT1722DAA-K ECT1722LAA-K	ECT1724QAA-K ECT1724EAA-K ECT1724BAA-K ECT1724CAA-K ECT1724DAA-K ECT1724LAA-K	ECT1728QAA-K ECT1728EAA-K ECT1728BAA-K ECT1728CAA-K ECT1728DAA-K ECT1728LAA-K	N501DS2_3A
200/208	10							
230/240	15							
460/480	25							
575/600	25							
380/50 Hz	25							
NEMA Size 3								
—	—	24V DC	100A	ECT1731QAA-M ECT1731EAA-M ECT1731BAA-M ECT1731CAA-M ECT1731DAA-M ECT1731LAA-M	ECT1732QAA-M ECT1732EAA-M ECT1732BAA-M ECT1732CAA-M ECT1732DAA-M ECT1732LAA-M	ECT1734QAA-M ECT1734EAA-M ECT1734BAA-M ECT1734CAA-M ECT1734DAA-M ECT1734LAA-M	ECT1738QAA-M ECT1738EAA-M ECT1738BAA-M ECT1738CAA-M ECT1738DAA-M ECT1738LAA-M	N501ES3_3A
200/208	25							
230/240	30							
460/480	50							
575/600	50							
380/50 Hz	50							
NEMA Size 4								
—	—	24V DC	200A	ECT1741QAA-P ECT1741EAA-P ECT1741BAA-P ECT1741CAA-P ECT1741DAA-P ECT1741LAA-P	ECT1742QAA-P ECT1742EAA-P ECT1742BAA-P ECT1742CAA-P ECT1742DAA-P ECT1742LAA-P	ECT1744QAA-P ECT1744EAA-P ECT1744BAA-P ECT1744CAA-P ECT1744DAA-P ECT1744LAA-P	ECT1748QAA-P ECT1748EAA-P ECT1748BAA-P ECT1748CAA-P ECT1748DAA-P ECT1748LAA-P	N501ES4_3A
200/208	40							
230/240	50							
460/480	100							
575/600	100							
380/50 Hz	75							
NEMA Size 5								
—	—	24V DC	400A	ECT1751QAA-S ECT1751EAA-S ECT1751BAA-S ECT1751CAA-S ECT1751DAA-S ECT1751LAA-S	ECT1752QAA-S ECT1752EAA-S ECT1752BAA-S ECT1752CAA-S ECT1752DAA-S ECT1752LAA-S	ECT1754QAA-S ECT1754EAA-S ECT1754BAA-S ECT1754CAA-S ECT1754DAA-S ECT1754LAA-S	ECT1758QAA-S ECT1758EAA-S ECT1758BAA-S ECT1758CAA-S ECT1758DAA-S ECT1758LAA-S	N501FS5_3A
200/208	75							
230/240	100							
460/480	200							
575/600	200							
380/50 Hz	150							

- ① All 17 Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.
- ② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECT1704**4**QAA. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Non-metallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
- ③ 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 3-3
 Wiring Diagrams Page 3-17
 Dimensions Page 15-2
 Accessories Page 16-2
 Renewal Parts Page 17-2
 Technical Data Page 18-2

Features

- Full Voltage
- 3-Phase Electromechanical
- Solid-State Overload Relay
- Integrated Cover Control (Type 1/12)



Type 12 Combination IT Starter with HMCPE

Product Selection

Table 3-14. Class ECT22 — Combination Non-reversing Starter — Circuit Breaker

Motor Voltage	Max. hp	Magnet Coil Voltage ^①	Circuit Breaker Type	3-Pole Type 1 General Purpose	3-Pole Type 3R Rainproof	3-Pole Type 4X ^② Watertight	3-Pole Type 12 Dust-Tight	3-Pole Component Starter (Open)
				Catalog Number ^③	Catalog Number ^③	Catalog Number ^③	Catalog Number ^③	Catalog Number ^③
NEMA Size 0								
200	1	24V DC	HMCPE 7A	ECT2201EAC-	ECT2202EAC-	ECT2204EAC-	ECT2208EAC-	N101BS0_3A
	3		HMCPE 15A	ECT2201EAD-	ECT2202EAD-	ECT2204EAD-	ECT2208EAD-	
230	1	24V DC	HMCPE 7A	ECT2201BAC-	ECT2202BAC-	ECT2204BAC-	ECT2208BAC-	N101BS0_3A
	3		HMCPE 15A	ECT2201BAD-	ECT2202BAD-	ECT2204BAD-	ECT2208BAD-	
460	1	24V DC	HMCPE 3A	ECT2201CAB-	ECT2202CAB-	ECT2204CAB-	ECT2208CAB-	N101BS0_3A
	3		HMCPE 7A	ECT2201CAC-	ECT2202CAC-	ECT2204CAC-	ECT2208CAC-	
	5		HMCPE 15A	ECT2201CAD-	ECT2202CAD-	ECT2204CAD-	ECT2208CAD-	
575	1	24V DC	HMCPE 3A	ECT2201DAB-	ECT2202DAB-	ECT2204DAB-	ECT2208DAB-	N101BS0_3A
	3		HMCPE 7A	ECT2201DAC-	ECT2202DAC-	ECT2204DAC-	ECT2208DAC-	
	5		HMCPE 15A	ECT2201DAD-	ECT2202DAD-	ECT2204DAD-	ECT2208DAD-	
NEMA Size 1								
200	1	24V DC	HMCPE 7A	ECT2211EAC-	ECT2212EAC-	ECT2214EAC-	ECT2218EAC-	N101CS1_3A
	3		HMCPE 15A	ECT2211EAD-	ECT2212EAD-	ECT2214EAD-	ECT2218EAD-	
	5		HMCPE 30A	ECT2211EAE-	ECT2212EAE-	ECT2214EAE-	ECT2218EAE-	
	7-1/2		HMCPE 50A	ECT2211EAF-	ECT2212EAF-	ECT2214EAF-	ECT2218EAF-	
230	1	24V DC	HMCPE 7A	ECT2211BAC-	ECT2212BAC-	ECT2214BAC-	ECT2218BAC-	N101CS1_3A
	3		HMCPE 15A	ECT2211BAD-	ECT2212BAD-	ECT2214BAD-	ECT2218BAD-	
	5		HMCPE 30A	ECT2211BAE-	ECT2212BAE-	ECT2214BAE-	ECT2218BAE-	
	7-1/2		HMCPE 50A	ECT2211BAF-	ECT2212BAF-	ECT2214BAF-	ECT2218BAF-	
460	1	24V DC	HMCPE 3A	ECT2211CAB-	ECT2212CAB-	ECT2214CAB-	ECT2218CAB-	N101CS1_3A
	3		HMCPE 7A	ECT2211CAC-	ECT2212CAC-	ECT2214CAC-	ECT2218CAC-	
	5		HMCPE 15A	ECT2211CAD-	ECT2212CAD-	ECT2214CAD-	ECT2218CAD-	
	10		HMCPE 30A	ECT2211CAE-	ECT2212CAE-	ECT2214CAE-	ECT2218CAE-	
575	1	24V DC	HMCPE 3A	ECT2211DAB-	ECT2212DAB-	ECT2214DAB-	ECT2218DAB-	N101CS1_3A
	3		HMCPE 7A	ECT2211DAC-	ECT2212DAC-	ECT2214DAC-	ECT2218DAC-	
	5		HMCPE 15A	ECT2211DAD-	ECT2212DAD-	ECT2214DAD-	ECT2218DAD-	
	10		HMCPE 30A	ECT2211DAE-	ECT2212DAE-	ECT2214DAE-	ECT2218DAE-	

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 The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECT2204**Q**AB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Non-metallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
 ③ 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	H	—	—	—	—
8.4 – 27	—	—	—	—	—	—	—
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 3-3
 Wiring Diagrams Page 3-17
 Dimensions Page 15-2
 Accessories Page 16-2
 Renewal Parts Page 17-2
 Technical Data Page 18-2

Combination Starters — Circuit Breaker

Tables 3-14 Class ECT22 — Combination Non-reversing Starter — Circuit Breaker (Continued)

Motor Voltage	Max. hp	Magnet Coil Voltage ^①	Circuit Breaker Type	3-Pole Type 1 General Purpose	3-Pole Type 3R Rainproof	3-Pole Type 4X ^② Watertight	3-Pole Type 12 Dust-Tight	3-Pole Component Starter (Open)
				Catalog Number ^③	Catalog Number ^③	Catalog Number ^③	Catalog Number ^③	Catalog Number ^③
NEMA Size 2								
200	10	24V DC	HMCPE 50A	ECT2221EAF-K	ECT2222EAF-K	ECT2224EAF-K	ECT2228EAF-K	N101DS2_3A
230	10 15	24V DC	HMCPE 50A HMCPE 70A	ECT2221BAF-K ECT2221BAW-K	ECT2222BAF-K ECT2222BAW-K	ECT2224BAF-K ECT2224BAW-K	ECT2228BAF-K ECT2228BAW-K	N101DS2_3A
460	25	24V DC	HMCPE 50A	ECT2221CAF-K	ECT2222CAF-K	ECT2224CAF-K	ECT2228CAF-K	N101DS2_3A
575	15 25	24V DC	HMCPE 30A HMCPE 50A	ECT2221DAE-K ECT2221DAF-K	ECT2222DAE-K ECT2222DAF-K	ECT2224DAE-K ECT2224DAF-K	ECT2228DAE-K ECT2228DAF-K	N101DS2_3A
NEMA Size 3								
200	20 25	24V DC	HMCPE 100A HMCPE 100A	ECT2231EAG-M ECT2231EAX-M	ECT2232EAG-M ECT2232EAX-M	ECT2234EAG-M ECT2234EAX-M	ECT2238EAG-M ECT2238EAX-M	N101ES3_3A
230	25 30	24V DC	HMCPE 100A HMCPE 100A	ECT2231BAG-M ECT2231BAX-M	ECT2232BAG-M ECT2232BAX-M	ECT2234BAG-M ECT2234BAX-M	ECT2238BAG-M ECT2238BAX-M	N101ES3_3A
460	50	24V DC	HMCPE 100A	ECT2231CAG-M	ECT2232CAG-M	ECT2234CAG-M	ECT2238CAG-M	N101ES3_3A
575	30 50	24V DC	HMCPE 50A HMCPE 100A	ECT2231DAF-M ECT2231DAG-M	ECT2232DAF-M ECT2232DAG-M	ECT2234DAF-M ECT2234DAG-M	ECT2238DAF-M ECT2238DAG-M	N101ES3_3A
NEMA Size 4								
200	40	24V DC	HMCP 150A	ECT2241EAH-P	ECT2242EAH-P	ECT2244EAH-P	ECT2248EAH-P	N101ES4_3A
230	50	24V DC	HMCP 150A	ECT2241BAH-P	ECT2242BAH-P	ECT2244BAH-P	ECT2248BAH-P	N101ES4_3A
460	100	24V DC	HMCP 150A	ECT2241CAH-P	ECT2242CAH-P	ECT2244CAH-P	ECT2248CAH-P	N101ES4_3A
575	100	24V DC	HMCP 150A	ECT2241DAH-P	ECT2242DAH-P	ECT2244DAH-P	ECT2248DAH-P	N101ES4_3A
NEMA Size 5								
200	50 75	24V DC	HMCP 250A HMCP 400A	ECT2251EAJ-S ECT2251EAK-S	ECT2252EAJ-S ECT2252EAK-S	ECT2254EAJ-S ECT2254EAK-S	ECT2258EAJ-S ECT2258EAK-S	N101FS5_3A
230	60 100	24V DC	HMCP 250A HMCP 400A	ECT2251BAJ-S ECT2251BAK-S	ECT2252BAJ-S ECT2252BAK-S	ECT2254BAJ-S ECT2254BAK-S	ECT2258BAJ-S ECT2258BAK-S	N101FS5_3A
460	125 200	24V DC	HMCP 250A HMCP 400A	ECT2251CAJ-S ECT2251CAK-S	ECT2252CAJ-S ECT2252CAK-S	ECT2254CAJ-S ECT2254CAK-S	ECT2258CAJ-S ECT2258CAK-S	N101FS5_3A
575	150 200	24V DC	HMCP 250A HMCP 400A	ECT2251DAJ-S ECT2251DAK-S	ECT2252DAJ-S ECT2252DAK-S	ECT2254DAJ-S ECT2254DAK-S	ECT2258DAJ-S ECT2258DAK-S	N101FS5_3A

- ① All *17* Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.
- ② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECT2224**4**QAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Non-metallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
- ③ 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 3-3**
 Wiring Diagrams **Page 3-17**
 Dimensions **Page 15-2**
 Accessories **Page 16-2**
 Renewal Parts **Page 17-2**
 Technical Data **Page 18-2**

Table 3-15. Class ECT23 — Combination Reversing Starter — Circuit Breaker

Motor Voltage	Max. hp	Magnet Coil Voltage ^①	Circuit Breaker Type	3-Pole Type 1 General Purpose	3-Pole Type 3R Rainproof	3-Pole Type 4X ^② Watertight	3-Pole Type 12 Dust-Tight	3-Pole Component Starter (Open)
				Catalog Number ^③	Catalog Number ^③	Catalog Number ^③	Catalog Number ^③	Catalog Number ^③
NEMA Size 0								
200	1 3	24V DC	HMCPE 7A HMCPE 15A	ECT2301EAC- ECT2301EAD-	ECT2302EAC- ECT2302EAD-	ECT2304EAC- ECT2304EAD-	ECT2308EAC- ECT2308EAD-	N501BS0_3A
230	1 3	24V DC	HMCPE 7A HMCPE 15A	ECT2301BAC- ECT2301BAD-	ECT2302BAC- ECT2302BAD-	ECT2304BAC- ECT2304BAD-	ECT2308BAC- ECT2308BAD-	N501BS0_3A
460	1 3 5	24V DC	HMCPE 3A HMCPE 7A HMCPE 15A	ECT2301CAB- ECT2301CAC- ECT2301CAD-	ECT2302CAB- ECT2302CAC- ECT2302CAD-	ECT2304CAB- ECT2304CAC- ECT2304CAD-	ECT2308CAB- ECT2308CAC- ECT2308CAD-	N501BS0_3A
575	1 3 5	24V DC	HMCPE 3A HMCPE 7A HMCPE 15A	ECT2301DAB- ECT2301DAC- ECT2301DAD-	ECT2302DAB- ECT2302DAC- ECT2302DAD-	ECT2304DAB- ECT2304DAC- ECT2304DAD-	ECT2308DAB- ECT2308DAC- ECT2308DAD-	N501BS0_3A
NEMA Size 1								
200	1 3 5 7-1/2	24V DC	HMCPE 7A HMCPE 15A HMCPE 30A HMCPE 50A	ECT2311EAC- ECT2311EAD- ECT2311EAE- ECT2311EAF-	ECT2312EAC- ECT2312EAD- ECT2312EAE- ECT2312EAF-	ECT2314EAC- ECT2314EAD- ECT2314EAE- ECT2314EAF-	ECT2318EAC- ECT2318EAD- ECT2318EAE- ECT2318EAF-	N501CS1_3A
230	1 3 5 7-1/2	24V DC	HMCPE 7A HMCPE 15A HMCPE 30A HMCPE 50A	ECT2311BAC- ECT2311BAD- ECT2311BAE- ECT2311BAF-	ECT2312BAC- ECT2312BAD- ECT2312BAE- ECT2312BAF-	ECT2314BAC- ECT2314BAD- ECT2314BAE- ECT2314BAF-	ECT2318BAC- ECT2318BAD- ECT2318BAE- ECT2318BAF-	N501CS1_3A
460	1 3 5 10	24V DC	HMCPE 3A HMCPE 7A HMCPE 15A HMCPE 30A	ECT2311CAB- ECT2311CAC- ECT2311CAD- ECT2311CAE-	ECT2312CAB- ECT2312CAC- ECT2312CAD- ECT2312CAE-	ECT2314CAB- ECT2314CAC- ECT2314CAD- ECT2314CAE-	ECT2318CAB- ECT2318CAC- ECT2318CAD- ECT2318CAE-	N501CS1_3A
575	1 3 5 10	24V DC	HMCPE 3A HMCPE 7A HMCPE 15A HMCPE 30A	ECT2311DAB- ECT2311DAC- ECT2311DAD- ECT2311DAE-	ECT2312DAB- ECT2312DAC- ECT2312DAD- ECT2312DAE-	ECT2314DAB- ECT2314DAC- ECT2314DAD- ECT2314DAE-	ECT2318DAB- ECT2318DAC- ECT2318DAD- ECT2318DAE-	N501CS1_3A
NEMA Size 2								
200	10	24V DC	HMCPE 50A	ECT2321EAF-K	ECT2322EAF-K	ECT2324EAF-K	ECT2328EAF-K	N501DS2_3A
230	10 15	24V DC	HMCPE 50A HMCPE 70A	ECT2321BAF-K ECT2321BAW-K	ECT2322BAF-K ECT2322BAW-K	ECT2324BAF-K ECT2324BAW-K	ECT2328BAF-K ECT2328BAW-K	N501DS2_3A
460	25	24V DC	HMCPE 50A	ECT2321CAF-K	ECT2322CAF-K	ECT2324CAF-K	ECT2328CAF-K	N501DS2_3A
575	15 25	24V DC	HMCPE 30A HMCPE 50A	ECT2321DAE-K ECT2321DAF-K	ECT2322DAE-K ECT2322DAF-K	ECT2324DAE-K ECT2324DAF-K	ECT2328DAE-K ECT2328DAF-K	N501DS2_3A

- ① All 17 Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.
- ② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECT2304EAC. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
- ③ 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 3-3
 Wiring Diagrams Page 3-17
 Dimensions Page 15-2
 Accessories Page 16-2
 Renewal Parts Page 17-2
 Technical Data Page 18-2

Combination Starters — Circuit Breaker

Table 3-15 Class ECT23 — Combination Reversing Starter — Circuit Breaker (Continued)

Motor Voltage	Max. hp	Magnet Coil Voltage ^①	Circuit Breaker Type	3-Pole Type 1 General Purpose	3-Pole Type 3R Rainproof	3-Pole Type 4X ^② Watertight	3-Pole Type 12 Dust-Tight	3-Pole Component Starter (Open)
				Catalog Number ^③	Catalog Number ^③	Catalog Number ^③	Catalog Number ^③	Catalog Number ^③
NEMA Size 3								
200	20 25	24V DC	HMCPE 100A HMCPE 100A	ECT2331EAG-M ECT2331EAX-M	ECT2332EAG-M ECT2332EAX-M	ECT2334EAG-M ECT2334EAX-M	ECT2338EAG-M ECT2338EAX-M	N501ES3_3A
230	25 30	24V DC	HMCPE 100A HMCPE 100A	ECT2331BAG-M ECT2331BAX-M	ECT2332BAG-M ECT2332BAX-M	ECT2334BAG-M ECT2334BAX-M	ECT2338BAG-M ECT2338BAX-M	N501ES3_3A
460	50	24V DC	HMCPE 100A	ECT2331CAG-M	ECT2332CAG-M	ECT2334CAG-M	ECT2338CAG-M	N501ES3_3A
575	30 50	24V DC	HMCPE 50A HMCPE 100A	ECT2331DAF-M ECT2331DAG-M	ECT2332DAF-M ECT2332DAG-M	ECT2334DAF-M ECT2334DAG-M	ECT2338DAF-M ECT2338DAG-M	N501ES3_3A
NEMA Size 4								
200	40	24V DC	HMCP 150A	ECT2341EAH-P	ECT2342EAH-P	ECT2344EAH-P	ECT2348EAH-P	N501ES4_3A
230	50	24V DC	HMCP 150A	ECT2341BAH-P	ECT2342BAH-P	ECT2344BAH-P	ECT2348BAH-P	N501ES4_3A
460	100	24V DC	HMCP 150A	ECT2341CAH-P	ECT2342CAH-P	ECT2344CAH-P	ECT2348CAH-P	N501ES4_3A
575	100	24V DC	HMCP 150A	ECT2341DAH-P	ECT2342DAH-P	ECT2344DAH-P	ECT2348DAH-P	N501ES4_3A
NEMA Size 5								
200	50 75	24V DC	HMCP 250A HMCP 400A	ECT2351EAJ-S ECT2351EAK-S	ECT2352EAJ-S ECT2352EAK-S	ECT2354EAJ-S ECT2354EAK-S	ECT2358EAJ-S ECT2358EAK-S	N501FS5_3A
230	60 100	24V DC	HMCP 250A HMCP 400A	ECT2351BAJ-S ECT2351BAK-S	ECT2352BAJ-S ECT2352BAK-S	ECT2354BAJ-S ECT2354BAK-S	ECT2358BAJ-S ECT2358BAK-S	N501FS5_3A
460	125 200	24V DC	HMCP 250A HMCP 400A	ECT2351CAJ-S ECT2351CAK-S	ECT2352CAJ-S ECT2352CAK-S	ECT2354CAJ-S ECT2354CAK-S	ECT2358CAJ-S ECT2358CAK-S	N501FS5_3A
575	150 200	24V DC	HMCP 250A HMCP 400A	ECT2351DAJ-S ECT2351DAK-S	ECT2352DAJ-S ECT2352DAK-S	ECT2354DAJ-S ECT2354DAK-S	ECT2358DAJ-S ECT2358DAK-S	N501FS5_3A

- ① All **17** Contactors and Starters are furnished with 24V DC coil and control power supply. The eighth digit **Q** denotes separate 24V DC control source.
- ② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECT2304**4**EAC. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
- ③ 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 3-3
 Wiring Diagrams Page 3-17
 Dimensions Page 15-2
 Accessories Page 16-2
 Renewal Parts Page 17-2
 Technical Data Page 18-2

Wiring Diagrams

Wiring Diagrams

3

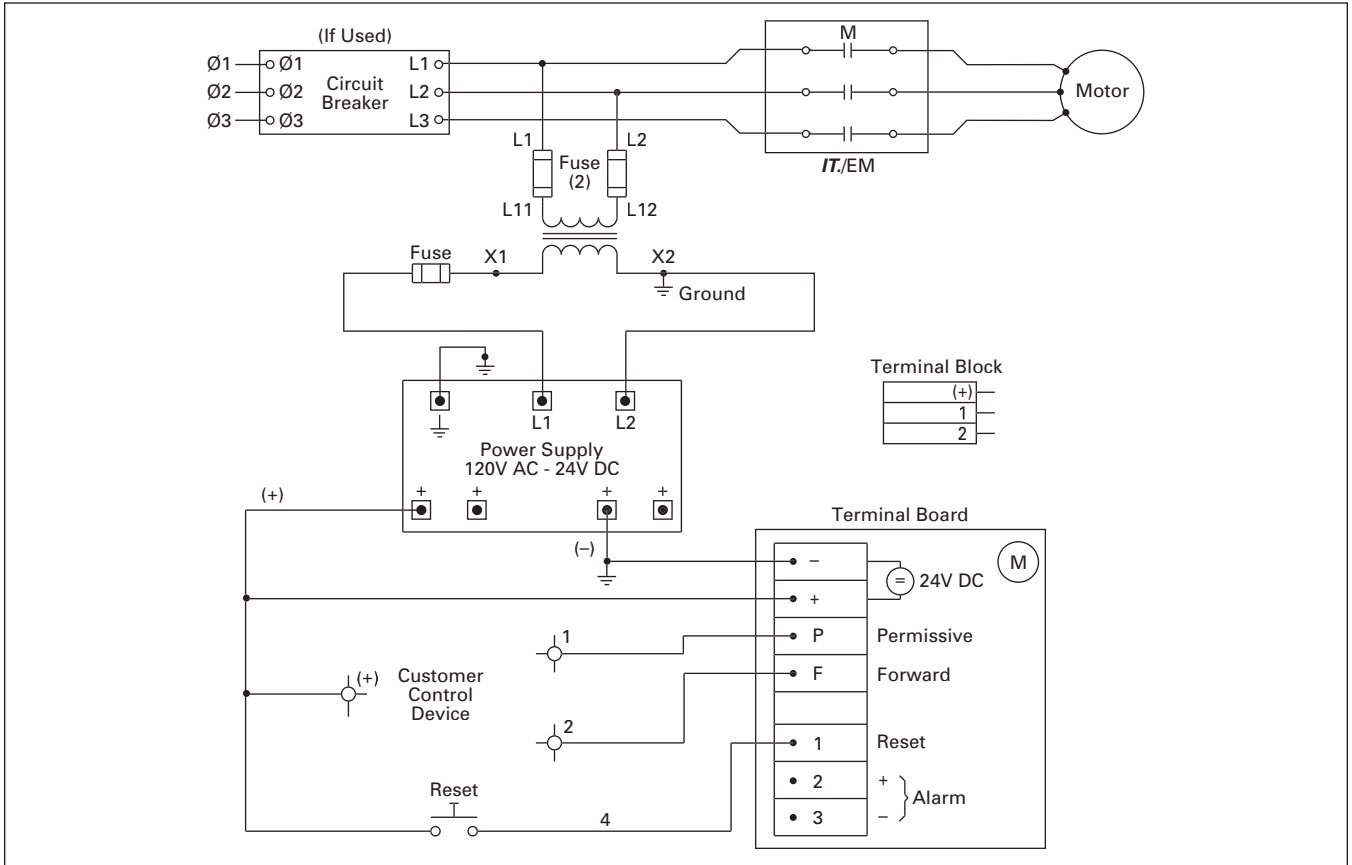


Figure 3-1. IT. Combination Starter with CPT and Power Supply

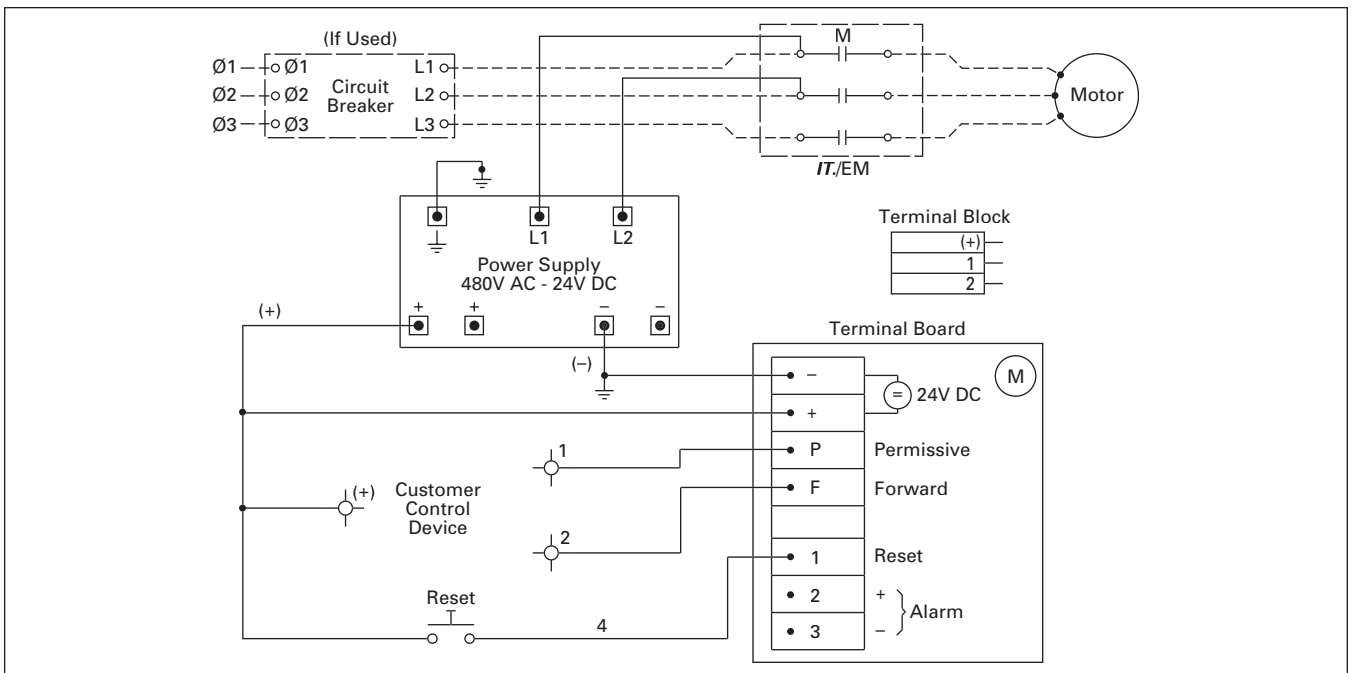


Figure 3-2. IT. Combination Starter with Power Supply



Catalog Number ECN2208AAC

Product Description

Eaton's Cutler-Hammer® "Freedom Series" Starters and Contactors feature a compact, space-saving design, high strength, impact and temperature resistant insulating materials.

Features

- Adjustable Bimetallic Ambient Compensated Overload Relays with interchangeable heater packs — available in three basic sizes, covering applications up to 900 hp — reducing the number of different contactor/overload relay combinations that have to be stocked.
- Fixed heater overloads optional.
- Electronic/Solid-State Overload optional.
- A full line of snap-on accessories — top and side mounted auxiliary contacts, solid-state and pneumatic timers, etc.
- Straight-through wiring — line lugs at top, load lugs at bottom.
- Horizontal or vertical mounting on upright panel for application freedom.

- Screw type power terminals have captive, backed-out self-lifting pressure plates with \pm screws — reduced wiring time.
- Accessible terminals for easy wiring. Optional fingerproof shields available to prevent electrical shock.
- Top located coil terminals convenient and readily accessible. 45 mm contactor magnet coils have three terminals, permitting either top or diagonal wiring — easy to replace European or U.S. style starters or contactors without changing wiring layout.
- Encapsulated dual voltage/frequency magnet coils — permanently marked with voltage, frequency and part number.
- Designed to meet or exceed UL, CSA, IEC, VDE, BS and other international standards and listings.

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 Listed
- cUL Listed (indicates appropriate CSA Standard investigation)
- ABS Type Approved

Certified Type 2 Coordination

Eaton's Cutler-Hammer Freedom Series IEC starters and NEMA starters are UL Certified to achieve IEC 947 Type 2 coordination against 100,000A short circuit fault currents. Any brand of properly selected fuse can be used. Type 2 coordination means that the starter will be suitable for further use following a short circuit fault.

ISO 9001 Certification

When you turn to Eaton's Cutler-Hammer Products, you turn to quality. The International Standards Organization (ISO) has established a series of standards acknowledged by 91 industrialized nations to bring harmony to the international quest for quality. The ISO certification process covers 20 quality system elements in design, production and installation that must conform to achieve registration. The Enclosed Control is manufactured in our Fayetteville, NC plant, and this facility is registered ISO 9001. This commitment to quality results in increased product reliability and total customer satisfaction.

Freedom NEMA contactors and starters are extremely rugged products built for any application. Their long electrical/mechanical life is extended through easy maintainability.

- Meets and exceeds all UL and CSA standards.
- Sized based on standard NEMA size classifications.
- Designed and built for a variety of demanding applications.
- Easy coil change and inspectable/replaceable contacts.
- Available Open and in Type 1, 3R, 4, 4X, 7/9 and 12 enclosures.

Short Circuit Protection

Fuses and Inverse-Time Circuit Breakers may be selected per Article 430, Part D of the National Electrical Code to protect motor branch circuits from fault conditions. If higher ratings or settings are required to start the motor, do **not** exceed the maximum as listed in Exception No. 2, Article 430-52.

Catalog Number Selection

Table 3-16. NEMA Freedom Line Enclosed Control Catalog Numbering System

Design

N = Freedom NEMA
2 = A200

Modification Codes

See Page 16-40

Class	Table
01 = Non-reversing Contactor — 3-Pole	3-22
Non-reversing Contactor — 2-Pole	3-23
Non-reversing Contactor — 4-Pole	3-24
Non-reversing Contactor — 5-Pole	3-25
02 = Reversing Contactor — 3-Pole	3-26
05 = Non-combination Non-reversing Starter	3-27
06 = Non-combination Reversing Starter	3-28
07 = Non-combination Non-reversing Starter with CPT	3-29
08 = Non-combination Single-Phase Non-reversing Starter	3-30
16 = Combination Non-reversing Starter — Fusible Disconnect	3-31, 3-42
Combination Non-reversing Starter — Non-fusible Disconnect	3-32
Special Enclosure Combination Non-reversing Starter — Fusible/Non-fusible Disconnect	3-33
17 = Combination Reversing Starter — Fusible Disconnect	3-34
Combination Reversing Starter — Non-fusible Disconnect	3-35
18 = Combination Reversing Starter — Fusible Disconnect with CPT	3-36, 3-43
Combination Reversing Starter — Non-fusible Disconnect with CPT	3-37
22 = Combination Non-reversing Starter — Circuit Breaker	3-38,
Special Enclosure Combination Non-reversing Starter — Circuit Breaker	3-39
23 = Combination Reversing Starter — Circuit Breaker	3-40
24 = Combination Non-reversing Starter — Circuit Breaker with CPT	3-41, 3-43

Cover Control

Type 1 Non-comb., **Table 3-19**
All Others, **Table 3-20**
E22 Style Comb., **Table 3-22**

Contactors

3 = 3 Poles

Coil Voltage and/or Control Transformers

See **Tables 3-17** and **3-18**

Disconnect Fuse Clip Ratings

A = None	G = 100A/600V R	N = 600A/600V R
B = 30A/250V R	H = 200A/250V R	P = 800A/600V L
C = 30A/600V R	J = 200A/600V R	Q = 1200A/600V L
D = 60A/250V R	K = 400A/250V R	R = 1600A/600V L
E = 60A/600V R	L = 400A/600V R	S = 2000A/600V L
F = 100A/250V R	M = 600A/250V R	T = by Description

HMCP/E or Breaker Ratings

A = None	H = 150A	R = 3000A
B = 3A	J = 250A	T = by Description
C = 7A	K = 400A	5 = 3A ①
D = 15A	L = 600A	6 = 7A ①
E = 30A	M = 800A	7 = 15A ①
F = 50A	N = 1000A	8 = 30A ①
W = 70A	P = 1200A	9 = 50A ①
G = 100A	Q = 2000A	I = 100A ①

Enclosure Type

1 = Type 1 — General Purpose
2 = Type 3R — Rainproof
3 = Type 4 — Watertight (Painted Steel)
4 = Type 4X — Watertight (304-Grade Stainless Steel)
5 = Type 4X — Corrosion (Nonmetallic)
6 = Type 7/9 — Bolted Hazardous Location
7 = Type 7/9 — Threaded Hazardous Location
8 = Type 12 — Dust-Tight
9 = Type 4X — 316-Grade Stainless Steel

NEMA Size

A = Size 00	3 = Size 3	7 = Size 7
0 = Size 0	4 = Size 4	8 = Size 8
1 = Size 1	5 = Size 5	9 = Size 9
2 = Size 2	6 = Size 6	

① Use for Sizes 0 – 3, HMCP 600V applications only.

Table 3-17. Magnetic Coil Codes (System Voltage) ②

Code	Magnet Coil	Code	Magnet Coil	Code	Magnet Coil
A	120/60 110/50	K	240/50	U	24/50
B	240/60 220/50	L	380/50	V	32/50
C	460/60 440/50	M	415/50	W	48/60
D	575/60 550/50	P	12V DC	X	104 – 120/60
E	208/60	Q	24V DC	Y	48/50
G	550/50	R	48V DC	Z	By Description
H	277/60	S	125V DC		
J	208 – 240/60	T	24/60		

② When control power transformer modification codes (C1 – C11) are used or when starter class includes CPT (i.e. ECN07, 18) see **Table 3-18** for system voltage code.

Table 3-18. Control Power Transformer Codes (System Voltage)

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
H	277/60	120/60
L	380/50	110/50
M	415/50	110/50
Q	208/60	24
R	240/480 – 220/440 Wired for 240V	24
S	240/480 – 220/440 Wired for 480V	24
T	600/60	24
U	277/60	24
V	380/50	24
W	415/50	24
X	240/480/600 Wired for 480V	120
Y	240/480/600 Wired for 480V	24
Z	By Description	

Cover Control

Non-combination Starters

Control Power Transformer (CPT) may be required.

Combination Starters

- Cover control for Combination Starters uses 10250T style devices as standard.
- E22 style cover control options are available (Table 3-21).
- Selector switches are maintained with lever operators.
- Pushbuttons are momentary type with extended pushbutton.
- The kit includes hardware and connecting wires (where possible).
- For factory installed control devices other than shown below, refer to Modification Codes, Page 16-40.



Type 1 Cover Control

Table 3-19. Type 1 Non-combination Cover Control

Description	Factory Installed Flange Control ①	Field Installation Kits
	Position 9 Code	Catalog Number

Non-reversing

No Cover Mounted Pilot Devices START/STOP Pushbuttons with Red RUN Pilot Light with Red RUN/Green OFF Lights	A B C D	C400GK0 C400GK1 C400GK12 ② C400GK16 ②
HAND/OFF/AUTO Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	H J K	C400GK3 C400GK32 ② C400GK36 ②
Red RUN Pilot Light Green OFF Red RUN/Green OFF Pilot Lights	P Q R	C400GK42 ② C400GK41 ② C400GK46 ②

Reversing

No Cover Mounted Pilot Devices FOR/REV/STOP Pushbuttons with 2 Red Pilot Lights	A B C	C400GK0 C400GR1 C400GR14 ②
UP/STOP/DOWN Pushbuttons with 2 Red Pilot Lights	E F	C400GR2 C400GR24 ②
Two Red Pilot Lights One Green Pilot Light	P Q	C400GK44 ② C400GK41 ②

① For more available factory installed flange control, see Table 3-20.
② Add Code Letter from the table below to Catalog Number for voltage — Kits only. Example: C400T9B.

Rating	Code Letter	Rating	Code Letter	Rating	Code Letter
120V 60 Hz	A	277V 60 Hz	H	480V 60 Hz	C
208V 60 Hz	E	380V 50 Hz	L	600V 60 Hz	D
240V 60 Hz	B				



10250T Selector Switch

Table 3-20. Type 1 Combination and All Type 3R, 4X and 12 Cover Control ③

Description	Factory Installed Flange Control	Field Installation Kits
	Position 9 Code	Catalog Number

Non-reversing

No Cover Mounted Pilot Devices START/STOP Pushbuttons with Red RUN Pilot Light with Red RUN/Green OFF Lights	A B C D	— C400T1 — —
ON/OFF Pushbuttons with Red RUN Pilot Light with Red RUN/Green OFF Lights	E F G	C400T2 — —
HAND/OFF/AUTO Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	H J K	C400T12 — —
START Pushbutton ON Pushbutton OFF Pushbutton Red RUN Pilot Light Green OFF Red RUN/Green OFF Pilot Lights	L M N P Q R	C400T3 C400T4 C400T5 C400T9 ④ C400T10 ④ C400T11 ④
START/STOP Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	S T U	C400T13 — —
ON/OFF Selector Switch with Red RUN Pilot Light with Red RUN/Green OFF Lights	V W X	C400T14 — —

Reversing

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	— C400T6 — —
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	C400T15 — —
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	⑤ C400T10 ④ — C400T16 — —

③ For Type 1 Non-combination field installation kits, see Table 3-19.
④ Add Code Letter from the table below to Catalog Number for voltage — Kits only. Example: C400T9B.

Rating	Code Letter	Rating	Code Letter	Rating	Code Letter
120V 60 Hz	A	277V 60 Hz	H	480V 60 Hz	C
208V 60 Hz	E	380V 50 Hz	L	600V 60 Hz	D
240V 60 Hz	B				

⑤ Order Quantity (2) of C400T10.

Contactors

3



E22 Selector Switch

Table 3-21. Type 1, 3R, 4X and 12 E22 Style Combination Starter Cover Control

Description	Factory Installed ①	Field Installation Kits
	Position 9 Cover Control Code	Combination Only Catalog Number
Non-reversing		
No Cover Mounted Pilot Devices	A	—
START/STOP Pushbuttons (PB)	B	CE400T01
START/STOP PB & Red RUN Light	C	CE400T02 ②
START/STOP PB, Red RUN, & Green STOPPED Light	D	CE400T03 ②
HAND/OFF/AUTO Selector Switch (SS)	H	CE400T04
H-O-A SS & Red RUN Light	J	CE400T05 ②
H-O-A SS, Red RUN, & Green STOPPED Light	K	CE400T06 ②
Red RUN Pilot Light	P	CE400T10 ②
Green Off Pilot Light	Q	CE400T11 ②
Red RUN/Green OFF Pilot Light	R	CE400T12 ②
ON/OFF Selector Switch (SS)	S	CE400T07
ON/OFF SS, Red RUN Light	T	CE400T08 ②
ON/OFF SS, Red RUN, & Green STOPPED Light	U	CE400T09 ②
Reversing		
No Cover Mounted Pilot Devices	A	—
FWD/REV/STOP Pushbuttons (PB)	B	CE400T50
FWD/REV/STOP PB + Red FWD & REV Lights	C	CE400T51 ②
FWD/REV/STOP PB, Red FWD/REV, & Green STOPPED	D	CE400T52 ②
FOR/OFF/REV Selector Switch (SS)	H	CE400T53
FOR/OFF/REV SS + Red FWD & REV Lights	J	CE400T54 ②
FOR/OFF/REV SS, Red FWD/REV, & Green STOPPED	K	CE400T55 ②
OPEN/OFF/CLOSE Selector Switch (SS)	V	CE400T56
OPEN/OFF/CLOSE SS + Red FWD & REV Lights	W	CE400T57 ②
OPEN/OFF/CLOSE SS, Red FWD/REV, & Green STOPPED	X	CE400T58 ②

① To include any of the above cover controls, place the control code character in position 9 of your Catalog Number and add Mod Code **C29**.

Example: ECN16A4ADA-**C29**.

Full voltage non-reversing fusible starter with START/STOP pushbutton with red RUN and green OFF pilot lights.

② Suffix for lights (required for field installed kits only) in the table below:

Rating	Code Letter	Rating	Code Letter	Rating	Code Letter
120V 60 Hz	A	277V 60 Hz	H	480V 60 Hz	C
208V 60 Hz	E	380V 50 Hz	L	600V 60 Hz	D
240V 60 Hz	B				

Features

- 1-Phase or 3-Phase Magnetic
- 2-, 3-, 4- or 5-Pole Non-reversing or 3-Pole Reversing
- 600V Maximum

Product Selection

Table 3-22. Class ECN01 — Non-reversing Contactor — 3-Pole

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating ^①	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X Watertight & Dust-Tight Stainless Steel ^③	Type 12 Dust-Tight Industrial	Component Contactor (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	9	—	—	120	ECN01A1A3A	ECN01A2A3A	(Select Contactor from Size 0 Listing)		CN15AN3AB
		200	1-1/2	208	ECN01A1E3A	ECN01A2E3A			CN15AN3EB
		230	1-1/2	240	ECN01A1B3A	ECN01A2B3A			CN15AN3BB
		460	2	480	ECN01A1C3A	ECN01A2C3A			CN15AN3CB
0	18	575	2	600	ECN01A1D3A	ECN01A2D3A			CN15AN3DB
		—	—	120	ECN0101A3A	ECN0102A3A	ECN0104A3A	ECN0108A3A	CN15BN3AB
		200	3	208	ECN0101E3A	ECN0102E3A	ECN0104E3A	ECN0108E3A	CN15BN3EB
		230	3	240	ECN0101B3A	ECN0102B3A	ECN0104B3A	ECN0108B3A	CN15BN3BB
1	27	460	5	480	ECN0101C3A	ECN0102C3A	ECN0104C3A	ECN0108C3A	CN15BN3CB
		575	5	600	ECN0101D3A	ECN0102D3A	ECN0104D3A	ECN0108D3A	CN15BN3DB
		—	—	120	ECN0111A3A	ECN0112A3A	ECN0114A3A	ECN0118A3A	CN15DN3AB
		200	7-1/2	208	ECN0111E3A	ECN0112E3A	ECN0114E3A	ECN0118E3A	CN15DN3EB
2	45	230	7-1/2	240	ECN0111B3A	ECN0112B3A	ECN0114B3A	ECN0118B3A	CN15DN3BB
		460	10	480	ECN0111C3A	ECN0112C3A	ECN0114C3A	ECN0118C3A	CN15DN3CB
		575	10	600	ECN0111D3A	ECN0112D3A	ECN0114D3A	ECN0118D3A	CN15DN3DB
		—	—	120	ECN0121A3A	ECN0122A3A	ECN0124A3A	ECN0128A3A	CN15GN3AB
3	90	200	10	208	ECN0121E3A	ECN0122E3A	ECN0124E3A	ECN0128E3A	CN15GN3EB
		230	15	240	ECN0121B3A	ECN0122B3A	ECN0124B3A	ECN0128B3A	CN15GN3BB
		460	25	480	ECN0121C3A	ECN0122C3A	ECN0124C3A	ECN0128C3A	CN15GN3CB
		575	25	600	ECN0121D3A	ECN0122D3A	ECN0124D3A	ECN0128D3A	CN15GN3DB
4	135	—	—	120	ECN0131A3A	ECN0132A3A	ECN0134A3A	ECN0138A3A	CN15KN3A
		200	25	208	ECN0131E3A	ECN0132E3A	ECN0134E3A	ECN0138E3A	CN15KN3E
		230	30	240	ECN0131B3A	ECN0132B3A	ECN0134B3A	ECN0138B3A	CN15KN3B
		460	50	480	ECN0131C3A	ECN0132C3A	ECN0134C3A	ECN0138C3A	CN15KN3C
5	270	575	50	600	ECN0131D3A	ECN0132D3A	ECN0134D3A	ECN0138D3A	CN15KN3D
		—	—	120	ECN0141A3A	ECN0142A3A	ECN0144A3A	ECN0148A3A	CN15NN3A
		200	40	208	ECN0141E3A	ECN0142E3A	ECN0144E3A	ECN0148E3A	CN15NN3E
		230	50	240	ECN0141B3A	ECN0142B3A	ECN0144B3A	ECN0148B3A	CN15NN3B
6	540	460	100	480	ECN0141C3A	ECN0142C3A	ECN0144C3A	ECN0148C3A	CN15NN3C
		575	100	600	ECN0141D3A	ECN0142D3A	ECN0144D3A	ECN0148D3A	CN15NN3D
		—	—	120	ECN0151A3A	ECN0152A3A	ECN0154A3A	ECN0158A3A	CN15SN3A
		200	75	208	ECN0151E3A	ECN0152E3A	ECN0154E3A	ECN0158E3A	CN15SN3E
7	810	230	100	240	ECN0151B3A	ECN0152B3A	ECN0154B3A	ECN0158B3A	CN15SN3B
		460	200	480	ECN0151C3A	ECN0152C3A	ECN0154C3A	ECN0158C3A	CN15SN3C
		575	200	600	ECN0151D3A	ECN0152D3A	ECN0154D3A	ECN0158D3A	CN15SN3D
		—	—	120	ECN0161A3A	ECN0162A3A	ECN0164A3A	ECN0168A3A	CN15TN3A
8	1215	200	150	208	ECN0161E3A	ECN0162E3A	ECN0164E3A	ECN0168E3A	CN15TN3E
		230	200	240	ECN0161B3A	ECN0162B3A	ECN0164B3A	ECN0168B3A	CN15TN3B
		460	400	480	ECN0161C3A	ECN0162C3A	ECN0164C3A	ECN0168C3A	CN15TN3C
		575	400	600	ECN0161D3A	ECN0162D3A	ECN0164D3A	ECN0168D3A	CN15TN3D
9	2250	—	—	120	ECN0171A3A	ECN0172A3A	ECN0173A3A ^②	ECN0178A3A	CN15UN3A
		230	300	240	ECN0171B3A	ECN0172B3A	ECN0173B3A ^②	ECN0178B3A	CN15UN3B
		460	600	480	ECN0171C3A	ECN0172C3A	ECN0173C3A ^②	ECN0178C3A	CN15UN3C
		575	600	600	ECN0171D3A	ECN0172D3A	ECN0173D3A ^②	ECN0178D3A	CN15UN3D
9	2250	—	—	120	ECN0181A3A	ECN0182A3A	ECN0183A3A ^②	ECN0188A3A	CN15VN3A
		230	450	240	ECN0181B3A	ECN0182B3A	ECN0183B3A ^②	ECN0188B3A	CN15VN3B
		460	900	480	ECN0181C3A	ECN0182C3A	ECN0183C3A ^②	ECN0188C3A	CN15VN3C
		575	900	600	ECN0181D3A	ECN0182D3A	ECN0183D3A ^②	ECN0188D3A	CN15VN3D
9	2250	—	—	120	ECN0191A3A	ECN0192A3A	ECN0193A3A ^②	ECN0198A3A	CN15WN3A
		230	800	240	ECN0191B3A	ECN0192B3A	ECN0193B3A ^②	ECN0198B3A	CN15WN3B
		460	1600	480	ECN0191C3A	ECN0192C3A	ECN0193C3A ^②	ECN0198C3A	CN15WN3C
		575	1600	600	ECN0191D3A	ECN0192D3A	ECN0193D3A ^②	ECN0198D3A	CN15WN3D

① Maximum horsepower rating of contactors 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 Type 4 (Painted steel) Sizes 7 – 9.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN0104A3A. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Note: NEMA Sizes 00, 0 and 1 of 3-Pole/3-Phase Non-reversing Contactors are available with auxiliary contact omitted. Add Modification Code A44. Example: ECN0101A3A-A44.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Contactors

3

Table 3-23. Class ECN01 — Non-reversing Contactor — 2-Pole

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^② Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial	Component Contactor (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	9	115 — 230 —	1/3 — 1 —	120 208 240 480 600	ECN01A1A2A ECN01A1E2A ECN01A1B2A ECN01A1C2A ECN01A1D2A	(Select Contactor from Size 0 Listing)			CN15AN2AB CN15AN2EB CN15AN2BB CN15AN2CB CN15AN2DB
0	18	115 — 230 —	1 — 2 —	120 208 240 480 600	ECN0101A2A ECN0101E2A ECN0101B2A ECN0101C2A ECN0101D2A	ECN0102A2A ECN0102E2A ECN0102B2A ECN0102C2A ECN0102D2A	ECN0104A2A ECN0104E2A ECN0104B2A ECN0104C2A ECN0104D2A	ECN0108A2A ECN0108E2A ECN0108B2A ECN0108C2A ECN0108D2A	CN15BN2AB CN15BN2EB CN15BN2BB CN15BN2CB CN15BN2DB
1	27	115 — 230 —	2 — 3 —	120 208 240 480 600	ECN0111A2A ECN0111E2A ECN0111B2A ECN0111C2A ECN0111D2A	ECN0112A2A ECN0112E2A ECN0112B2A ECN0112C2A ECN0112D2A	ECN0114A2A ECN0114E2A ECN0114B2A ECN0114C2A ECN0114D2A	ECN0118A2A ECN0118E2A ECN0118B2A ECN0118C2A ECN0118D2A	CN15DN2AB CN15DN2EB CN15DN2BB CN15DN2CB CN15DN2DB
2	45	115 — 230 —	3 — 7-1/2 —	120 208 240 480 600	ECN0121A2A ECN0121E2A ECN0121B2A ECN0121C2A ECN0121D2A	ECN0122A2A ECN0122E2A ECN0122B2A ECN0122C2A ECN0122D2A	ECN0124A2A ECN0124E2A ECN0124B2A ECN0124C2A ECN0124D2A	ECN0128A2A ECN0128E2A ECN0128B2A ECN0128C2A ECN0128D2A	CN15GN2AB CN15GN2EB CN15GN2BB CN15GN2CB CN15GN2DB
3	90	115 — 230 —	7-1/2 — 15 —	120 208 240 480 600	ECN0131A2A ECN0131E2A ECN0131B2A ECN0131C2A ECN0131D2A	ECN0132A2A ECN0132E2A ECN0132B2A ECN0132C2A ECN0132D2A	ECN0134A2A ECN0134E2A ECN0134B2A ECN0134C2A ECN0134D2A	ECN0138A2A ECN0138E2A ECN0138B2A ECN0138C2A ECN0138D2A	CN15KN2A CN15KN2E CN15KN2B CN15KN2C CN15KN2D
4	135	— — — —	— — — —	120 208 240 480 600	ECN0141A2A ECN0141E2A ECN0141B2A ECN0141C2A ECN0141D2A	ECN0142A2A ECN0142E2A ECN0142B2A ECN0142C2A ECN0142D2A	ECN0144A2A ECN0144E2A ECN0144B2A ECN0144C2A ECN0144D2A	ECN0148A2A ECN0148E2A ECN0148B2A ECN0148C2A ECN0148D2A	CN15NN2A CN15NN2E CN15NN2B CN15NN2C CN15NN2D
5	270	— — — —	— — — —	120 208 240 480 600	ECN0151A2A ECN0151E2A ECN0151B2A ECN0151C2A ECN0151D2A	ECN0152A2A ECN0152E2A ECN0152B2A ECN0152C2A ECN0152D2A	ECN0154A2A ECN0154E2A ECN0154B2A ECN0154C2A ECN0154D2A	ECN0158A2A ECN0158E2A ECN0158B2A ECN0158C2A ECN0158D2A	CN15SN2A CN15SN2E CN15SN2B CN15SN2C CN15SN2D
6	540	— — — —	— — — —	120 208 240 480 600	ECN0161A2A ECN0161E2A ECN0161B2A ECN0161C2A ECN0161D2A	ECN0162A2A ECN0162E2A ECN0162B2A ECN0162C2A ECN0162D2A	ECN0164A2A ECN0164E2A ECN0164B2A ECN0164C2A ECN0164D2A	ECN0168A2A ECN0168E2A ECN0168B2A ECN0168C2A ECN0168D2A	CN15TN2A CN15TN2E CN15TN2B CN15TN2C CN15TN2D
7	810	— — — —	— — — —	120 208 240 480 600	ECN0171A2A ECN0171E2A ECN0171B2A ECN0171C2A ECN0171D2A	ECN0172A2A ECN0172E2A ECN0172B2A ECN0172C2A ECN0172D2A	ECN0173A2A ^① ECN0173E2A ^① ECN0173B2A ^① ECN0173C2A ^① ECN0173D2A ^①	ECN0178A2A ECN0178E2A ECN0178B2A ECN0178C2A ECN0178D2A	CN15UN2A CN15UN2E CN15UN2B CN15UN2C CN15UN2D
8	1215	— — — —	— — — —	120 208 240 480 600	ECN0181A2A ECN0181E2A ECN0181B2A ECN0181C2A ECN0181D2A	ECN0182A2A ECN0182E2A ECN0182B2A ECN0182C2A ECN0182D2A	ECN0183A2A ^① ECN0183E2A ^① ECN0183B2A ^① ECN0183C2A ^① ECN0183D2A ^①	ECN0188A2A ECN0188E2A ECN0188B2A ECN0188C2A ECN0188D2A	CN15VN2A CN15VN2E CN15VN2B CN15VN2C CN15VN2D
9	2250	— — — —	— — — —	120 208 240 480 600	ECN0181A2A ECN0181E2A ECN0191B2A ECN0191C2A ECN0191D2A	ECN0192A2A ECN0192E2A ECN0192B2A ECN0192C2A ECN0192D2A	ECN0193A2A ^① ECN0193E2A ^① ECN0193B2A ^① ECN0193C2A ^① ECN0193D2A ^①	ECN0198A2A ECN0198E2A ECN0198B2A ECN0198C2A ECN0198D2A	CN15WN2A CN15WN2E CN15WN2B CN15WN2C CN15WN2D

① Type 4 (Painted steel) Sizes 7 – 9.

② The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN0104A2A. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Note: NEMA Sizes 00, 0 and 1 of 2-Pole/2-Phase Non-reversing Contactors are available with auxiliary contact omitted. Add Modification Code A44. Example: ECN0101A2A-A44.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Contactors

3

Table 3-24. Class ECN01 — Non-reversing Contactor — 4-Pole

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ① Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial	Component Contactor (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	9	—	—	120	ECN01A1A4A ECN01A1E4A ECN01A1B4A ECN01A1C4A ECN01A1D4A	(Select Contactor from Size 0 Listing)			CN15AN4AB CN15AN4EB CN15AN4BB CN15AN4CB CN15AN4DB
		200	1-1/2	208					
		230	1-1/2	240					
		460	2	480					
		575	2	600					
0	18	—	—	120	ECN0101A4A ECN0101E4A ECN0101B4A ECN0101C4A ECN0101D4A	ECN0102A4A	ECN0104A4A	ECN0108A4A	(Select Contactor from Size 1 Listing)
		200	3	208		ECN0102E4A	ECN0104E4A	ECN0108E4A	
		230	3	240		ECN0102B4A	ECN0104B4A	ECN0108B4A	
		460	5	480		ECN0102C4A	ECN0104C4A	ECN0108C4A	
		575	5	600		ECN0102D4A	ECN0104D4A	ECN0108D4A	
1	27	—	—	120	ECN0111A4A ECN0111E4A ECN0111B4A ECN0111C4A ECN0111D4A	ECN0112A4A	ECN0114A4A	ECN0118A4A	CN15DN4AB CN15DN4EB CN15DN4BB CN15DN4CB CN15DN4DB
		200	7-1/2	208		ECN0112E4A	ECN0114E4A	ECN0118E4A	
		230	7-1/2	240		ECN0112B4A	ECN0114B4A	ECN0118B4A	
		460	10	480		ECN0112C4A	ECN0114C4A	ECN0118C4A	
		575	10	600		ECN0112D4A	ECN0114D4A	ECN0118D4A	
2	45	—	—	120	ECN0121A4A ECN0121E4A ECN0121B4A ECN0121C4A ECN0121D4A	ECN0122A4A	ECN0124A4A	ECN0128A4A	CN15GN4AB CN15GN4EB CN15GN4BB CN15GN4CB CN15GN4DB
		200	10	208		ECN0122E4A	ECN0124E4A	ECN0128E4A	
		230	15	240		ECN0122B4A	ECN0124B4A	ECN0128B4A	
		460	25	480		ECN0122C4A	ECN0124C4A	ECN0128C4A	
		575	25	600		ECN0122D4A	ECN0124D4A	ECN0128D4A	

① The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN0104A4A. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see **Tab 14**.

Table 3-25. Class ECN01 — Non-reversing Contactor — 5-Pole

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ① Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial	Component Contactor (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	9	—	—	120	ECN01A1A5A ECN01A1E5A ECN01A1B5A ECN01A1C5A ECN01A1D5A	(Select Contactor from Size 1 Listing)			
		200	1-1/2	208					
		230	1-1/2	240					
		460	2	480					
		575	2	600					
0	18	—	—	120	ECN0101A5A ECN0101E5A ECN0101B5A ECN0101C5A ECN0101D5A	(Select Contactor from Size 1 Listing)			
		200	3	208					
		230	3	240					
		460	5	480					
		575	5	600					
1	27	—	—	120	ECN0111A5A ECN0111E5A ECN0111B5A ECN0111C5A ECN0111D5A	ECN0112A5A	ECN0114A5A	ECN0118A5A	CN15DN5AB CN15DN5EB CN15DN5BB CN15DN5CB CN15DN5DB
		200	7-1/2	208		ECN0112E5A	ECN0114E5A	ECN0118E5A	
		230	7-1/2	240		ECN0112B5A	ECN0114B5A	ECN0118B5A	
		460	10	480		ECN0112C5A	ECN0114C5A	ECN0118C5A	
		575	10	600		ECN0112D5A	ECN0114D5A	ECN0118D5A	
2	45	—	—	120	ECN0121A5A ECN0121E5A ECN0121B5A ECN0121C5A ECN0121D5A	ECN0122A5A	ECN0124A5A	ECN0128A5A	CN15GN5AB CN15GN5EB CN15GN5BB CN15GN5CB CN15GN5DB
		200	10	208		ECN0122E5A	ECN0124E5A	ECN0128E5A	
		230	15	240		ECN0122B5A	ECN0124B5A	ECN0128B5A	
		460	25	480		ECN0122C5A	ECN0124C5A	ECN0128C5A	
		575	25	600		ECN0122D5A	ECN0124D5A	ECN0128D5A	

① The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN0114A5A. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-4
 Technical Data Page 18-7

Contactors

3

Table 3-26. Class ECN02 — Reversing Contactor — 3-Pole

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating ①	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^② Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial	Component Contactor (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	9	— 200 230 460 575	— 1-1/2 1-1/2 2 2	120 208 240 480 600	ECN02A1A3A ECN02A1E3A ECN02A1B3A ECN02A1C3A ECN02A1D3A	(Select Contactor from Size 0 Listing)			CN55AN3AB CN55AN3EB CN55AN3BB CN55AN3CB CN55AN3DB
0	18	— 200 230 460 575	— 3 3 5 5	120 208 240 480 600	ECN0201A3A ECN0201E3A ECN0201B3A ECN0201C3A ECN0201D3A	ECN0202A3A ECN0202E3A ECN0202B3A ECN0202C3A ECN0202D3A	ECN0204A3A ECN0204E3A ECN0204B3A ECN0204C3A ECN0204D3A	ECN0208A3A ECN0208E3A ECN0208B3A ECN0208C3A ECN0208D3A	CN55BN3AB CN55BN3EB CN55BN3BB CN55BN3CB CN55BN3DB
1	27	— 200 230 460 575	— 7-1/2 7-1/2 10 10	120 208 240 480 600	ECN0211A3A ECN0211E3A ECN0211B3A ECN0211C3A ECN0211D3A	ECN0212A3A ECN0212E3A ECN0212B3A ECN0212C3A ECN0212D3A	ECN0214A3A ECN0214E3A ECN0214B3A ECN0214C3A ECN0214D3A	ECN0218A3A ECN0218E3A ECN0218B3A ECN0218C3A ECN0218D3A	CN55DN3AB CN55DN3EB CN55DN3BB CN55DN3CB CN55DN3DB
2	45	— 200 230 460 575	— 10 15 25 25	120 208 240 480 600	ECN0221A3A ECN0221E3A ECN0221B3A ECN0221C3A ECN0221D3A	ECN0222A3A ECN0222E3A ECN0222B3A ECN0222C3A ECN0222D3A	ECN0224A3A ECN0224E3A ECN0224B3A ECN0224C3A ECN0224D3A	ECN0228A3A ECN0228E3A ECN0228B3A ECN0228C3A ECN0228D3A	CN15GN3AB CN55GN3EB CN55GN3BB CN55GN3CB CN55GN3DB
3	90	— 200 230 460 575	— 25 30 50 50	120 208 240 480 600	ECN0231A3A ECN0231E3A ECN0231B3A ECN0231C3A ECN0231D3A	ECN0232A3A ECN0232E3A ECN0232B3A ECN0232C3A ECN0232D3A	ECN0234A3A ECN0234E3A ECN0234B3A ECN0234C3A ECN0234D3A	ECN0238A3A ECN0238E3A ECN0238B3A ECN0238C3A ECN0238D3A	CN55KN3A CN55KN3E CN55KN3B CN55KN3C CN55KN3D
4	135	— 200 230 460 575	— 40 50 100 100	120 208 240 480 600	ECN0241A3A ECN0241E3A ECN0241B3A ECN0241C3A ECN0241D3A	ECN0242A3A ECN0242E3A ECN0242B3A ECN0242C3A ECN0242D3A	ECN0244A3A ECN0244E3A ECN0244B3A ECN0244C3A ECN0244D3A	ECN0248A3A ECN0248E3A ECN0248B3A ECN0248C3A ECN0248D3A	CN55NN3A CN55NN3E CN55NN3B CN55NN3C CN55NN3D
5	270	— 200 230 460 575	— 75 100 200 200	120 208 240 480 600	ECN0251A3A ECN0251E3A ECN0251B3A ECN0251C3A ECN0251D3A	ECN0252A3A ECN0252E3A ECN0252B3A ECN0252C3A ECN0252D3A	ECN0254A3A ECN0254E3A ECN0254B3A ECN0254C3A ECN0254D3A	ECN0258A3A ECN0258E3A ECN0258B3A ECN0258C3A ECN0258D3A	CN55SN3A CN55SN3E CN55SN3B CN55SN3C CN55SN3D
6	540	— 200 230 460 575	— 150 200 400 400	120 208 240 480 600	ECN0261A3A ECN0261E3A ECN0261B3A ECN0261C3A ECN0261D3A	ECN0262A3A ECN0262E3A ECN0262B3A ECN0262C3A ECN0262D3A	ECN0263A3A ^② ECN0263E3A ^② ECN0263B3A ^② ECN0263C3A ^② ECN0263D3A ^②	ECN0268A3A ECN0268E3A ECN0268B3A ECN0268C3A ECN0268D3A	CN55TN3A CN55TN3E CN55TN3B CN55TN3C CN55TN3D
7	810	— 230 460 575	— 300 600 600	120 240 480 600	ECN0271A3A ECN0271B3A ECN0271C3A ECN0271D3A	ECN0272A3A ECN0272B3A ECN0272C3A ECN0272D3A	ECN0273A3A ^② ECN0273B3A ^② ECN0273C3A ^② ECN0273D3A ^②	ECN0278A3A ECN0278B3A ECN0278C3A ECN0278D3A	CN55UN3A CN55UN3B CN55UN3C CN55UN3D
8	1215	— 230 460 575	— 450 900 900	120 240 480 600	ECN0281A3A ECN0281B3A ECN0281C3A ECN0281D3A	ECN0282A3A ECN0282B3A ECN0282C3A ECN0282D3A	ECN0283A3A ^② ECN0283B3A ^② ECN0283C3A ^② ECN0283D3A ^②	ECN0288A3A ECN0288B3A ECN0288C3A ECN0288D3A	CN55VN3A CN55VN3B CN55VN3C CN55VN3D
9	2250	— 230 460 575	— 800 1600 1600	120 240 480 600	ECN0291A3A ECN0291B3A ECN0291C3A ECN0291D3A	ECN0292A3A ECN0292B3A ECN0292C3A ECN0292D3A	ECN0293A3A ^② ECN0293B3A ^② ECN0293C3A ^② ECN0293D3A ^②	ECN0298A3A ECN0298B3A ECN0298C3A ECN0298D3A	CN55WN3A CN55WN3B CN55WN3C CN55WN3D

① Maximum horsepower rating of contactors 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 Type 4 (Painted steel) Sizes 6 – 9.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN0204A3A. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Non-combination Starters

Features

- 1-Phase or 3-Phase Magnetic
- 2- or 3-Pole Non-reversing or 3-Pole Reversing
- Standard Interchangeable Heater OLR
- Optional Electronic Overload
- 600V Maximum

Product Selection

Table 3-27. Class ECN05 — Non-combination Non-reversing Starter

NEMA Size	Motor Voltage	Maximum hp Rating ①	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ② Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	—	—	120	ECN05A1AAA	ECN05A2AAA	ECN05A4AAA	ECN05A8AAA	AN16AN0AC
	200	1-1/2	208	ECN05A1EAA	ECN05A2EAA	ECN05A4EAA	ECN05A8EAA	AN16AN0EC
	230	1-1/2	240	ECN05A1BAA	ECN05A2BAA	ECN05A4BAA	ECN05A8BAA	AN16AN0BC
	460	2	480	ECN05A1CAA	ECN05A2CAA	ECN05A4CAA	ECN05A8CAA	AN16AN0CC
	575	2	600	ECN05A1DAA	ECN05A2DAA	ECN05A4DAA	ECN05A8DAA	AN16AN0DC
0	—	—	120	ECN0501AAA	ECN0502AAA	ECN0504AAA	ECN0508AAA	AN16BN0AC
	200	3	208	ECN0501EAA	ECN0502EAA	ECN0504EAA	ECN0508EAA	AN16BN0EC
	230	3	240	ECN0501BAA	ECN0502BAA	ECN0504BAA	ECN0508BAA	AN16BN0BC
	460	5	480	ECN0501CAA	ECN0502CAA	ECN0504CAA	ECN0508CAA	AN16BN0CC
	575	5	600	ECN0501DAA	ECN0502DAA	ECN0504DAA	ECN0508DAA	AN16BN0DC
1	—	—	120	ECN0511AAA	ECN0512AAA	ECN0514AAA	ECN0518AAA	AN16DN0AB
	200	7-1/2	208	ECN0511EAA	ECN0512EAA	ECN0514EAA	ECN0518EAA	AN16DN0EB
	230	7-1/2	240	ECN0511BAA	ECN0512BAA	ECN0514BAA	ECN0518BAA	AN16DN0BB
	460	10	480	ECN0511CAA	ECN0512CAA	ECN0514CAA	ECN0518CAA	AN16DN0CB
	575	10	600	ECN0511DAA	ECN0512DAA	ECN0514DAA	ECN0518DAA	AN16DN0DB
2	—	—	120	ECN0521AAA	ECN0522AAA	ECN0524AAA	ECN0528AAA	AN16GN0AB
	200	10	208	ECN0521EAA	ECN0522EAA	ECN0524EAA	ECN0528EAA	AN16GN0EB
	230	15	240	ECN0521BAA	ECN0522BAA	ECN0524BAA	ECN0528BAA	AN16GN0BB
	460	25	480	ECN0521CAA	ECN0522CAA	ECN0524CAA	ECN0528CAA	AN16GN0CB
	575	25	600	ECN0521DAA	ECN0522DAA	ECN0524DAA	ECN0528DAA	AN16GN0DB
3	—	—	120	ECN0531AAA	ECN0532AAA	ECN0534AAA	ECN0538AAA	AN16KN0A
	200	25	208	ECN0531EAA	ECN0532EAA	ECN0534EAA	ECN0538EAA	AN16KN0E
	230	30	240	ECN0531BAA	ECN0532BAA	ECN0534BAA	ECN0538BAA	AN16KN0B
	460	50	480	ECN0531CAA	ECN0532CAA	ECN0534CAA	ECN0538CAA	AN16KN0C
	575	50	600	ECN0531DAA	ECN0532DAA	ECN0534DAA	ECN0538DAA	AN16KN0D

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 The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN0504AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Non-combination Starters

Table 3-27. Class ECN05 — Non-combination Non-reversing Starter (Continued)

NEMA Size	Motor Voltage	Maximum hp Rating ①	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
4	—	—	120	ECN0541AAA	ECN0542AAA	ECN0544AAA	ECN0548AAA	AN16NN0A
	200	40	208	ECN0541EAA	ECN0542EAA	ECN0544EAA	ECN0548EAA	AN16NN0E
	230	50	240	ECN0541BAA	ECN0542BAA	ECN0544BAA	ECN0548BAA	AN16NN0B
	460	100	480	ECN0541CAA	ECN0542CAA	ECN0544CAA	ECN0548CAA	AN16NN0C
	575	100	600	ECN0541DAA	ECN0542DAA	ECN0544DAA	ECN0548DAA	AN16NN0D
5	—	—	120	ECN0551AAA	ECN0552AAA	ECN0554AAA	ECN0558AAA	AN16SN0AB
	200	75	208	ECN0551EAA	ECN0552EAA	ECN0554EAA	ECN0558EAA	AN16SN0EB
	230	100	240	ECN0551BAA	ECN0552BAA	ECN0554BAA	ECN0558BAA	AN16SN0BB
	460	200	480	ECN0551CAA	ECN0552CAA	ECN0554CAA	ECN0558CAA	AN16SN0CB
	575	200	600	ECN0551DAA	ECN0552DAA	ECN0554DAA	ECN0558DAA	AN16SN0DB
6	—	—	120	ECN0561AAA	ECN0562AAA	ECN0564AAA	ECN0568AAA	AN16TN0AB
	200	150	208	ECN0561EAA	ECN0562EAA	ECN0564EAA	ECN0568EAA	AN16TN0EB
	230	200	240	ECN0561BAA	ECN0562BAA	ECN0564BAA	ECN0568BAA	AN16TN0BB
	460	400	480	ECN0561CAA	ECN0562CAA	ECN0564CAA	ECN0568CAA	AN16TN0CB
	575	400	600	ECN0561DAA	ECN0562DAA	ECN0564DAA	ECN0568DAA	AN16TN0DB
7	—	—	120	ECN0571AAA	ECN0572AAA	ECN0573AAA ②	ECN0578AAA	AN16UN0AB
	230	300	240	ECN0571BAA	ECN0572BAA	ECN0573BAA ②	ECN0578BAA	AN16UN0BB
	460	600	480	ECN0571CAA	ECN0572CAA	ECN0573CAA ②	ECN0578CAA	AN16UN0CB
	575	600	600	ECN0571DAA	ECN0572DAA	ECN0573DAA ②	ECN0578DAA	AN16UN0DB
	8	—	—	120	ECN0581AAA	ECN0582AAA	ECN0583AAA ②	ECN0588AAA
230		450	240	ECN0581BAA	ECN0582BAA	ECN0583BAA ②	ECN0588BAA	AN16VN0BB
460		900	480	ECN0581CAA	ECN0582CAA	ECN0583CAA ②	ECN0588CAA	AN16VN0CB
575		900	600	ECN0581DAA	ECN0582DAA	ECN0583DAA ②	ECN0588DAA	AN16VN0DB
9		—	—	120	ECN0591AAA	ECN0592AAA	ECN0593AAA ②	ECN0598AAA
	230	800	240	ECN0591BAA	ECN0592BAA	ECN0593BAA ②	ECN0598BAA	AN16WN0B
	460	1600	480	ECN0591CAA	ECN0592CAA	ECN0593CAA ②	ECN0598CAA	AN16WN0C
	575	1600	600	ECN0591DAA	ECN0592DAA	ECN0593DAA ②	ECN0598DAA	AN16WN0D

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 Type 4 (Painted steel) Sizes 7 – 9.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN0504AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Non-combination Starters

Table 3-28. Class ECN06 — Non-combination Reversing Starter

NEMA Size	Motor Voltage	Maximum hp Rating ①	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	—	—	120	ECN06A1AAA	ECN06A2AAA	ECN06A4AAA	ECN06A8AAA	AN56AN0AC
	200	1-1/2	208	ECN06A1EAA	ECN06A2EAA	ECN06A4EAA	ECN06A8EAA	AN56AN0EC
	230	1-1/2	240	ECN06A1BAA	ECN06A2BAA	ECN06A4BAA	ECN06A8BAA	AN56AN0BC
	460	2	480	ECN06A1CAA	ECN06A2CAA	ECN06A4CAA	ECN06A8CAA	AN56AN0CC
	575	2	600	ECN06A1DAA	ECN06A2DAA	ECN06A4DAA	ECN06A8DAA	AN56AN0DC
0	—	—	120	ECN0601AAA	ECN0602AAA	ECN0604AAA	ECN0608AAA	AN56BN0AC
	200	3	208	ECN0601EAA	ECN0602EAA	ECN0604EAA	ECN0608EAA	AN56BN0EC
	230	3	240	ECN0601BAA	ECN0602BAA	ECN0604BAA	ECN0608BAA	AN56BN0BC
	460	5	480	ECN0601CAA	ECN0602CAA	ECN0604CAA	ECN0608CAA	AN56BN0CC
	575	5	600	ECN0601DAA	ECN0602DAA	ECN0604DAA	ECN0608DAA	AN56BN0DC
1	—	—	120	ECN0611AAA	ECN0612AAA	ECN0614AAA	ECN0618AAA	AN56DN0AB
	200	7-1/2	208	ECN0611EAA	ECN0612EAA	ECN0614EAA	ECN0618EAA	AN56DN0EB
	230	7-1/2	240	ECN0611BAA	ECN0612BAA	ECN0614BAA	ECN0618BAA	AN56DN0BB
	460	10	480	ECN0611CAA	ECN0612CAA	ECN0614CAA	ECN0618CAA	AN56DN0CB
	575	10	600	ECN0611DAA	ECN0612DAA	ECN0614DAA	ECN0618DAA	AN56DN0DB
2	—	—	120	ECN0621AAA	ECN0622AAA	ECN0624AAA	ECN0628AAA	AN56GN0AB
	200	10	208	ECN0621EAA	ECN0622EAA	ECN0624EAA	ECN0628EAA	AN56GN0EB
	230	15	240	ECN0621BAA	ECN0622BAA	ECN0624BAA	ECN0628BAA	AN56GN0BB
	460	25	480	ECN0621CAA	ECN0622CAA	ECN0624CAA	ECN0628CAA	AN56GN0CB
	575	25	600	ECN0621DAA	ECN0622DAA	ECN0624DAA	ECN0628DAA	AN56GN0DB
3	—	—	120	ECN0631AAA	ECN0632AAA	ECN0634AAA	ECN0638AAA	AN56KN0A
	200	25	208	ECN0631EAA	ECN0632EAA	ECN0634EAA	ECN0638EAA	AN56KN0E
	230	30	240	ECN0631BAA	ECN0632BAA	ECN0634BAA	ECN0638BAA	AN56KN0B
	460	50	480	ECN0631CAA	ECN0632CAA	ECN0634CAA	ECN0638CAA	AN56KN0C
	575	50	600	ECN0631DAA	ECN0632DAA	ECN0634DAA	ECN0638DAA	AN56KN0D
4	—	—	120	ECN0641AAA	ECN0642AAA	ECN0644AAA	ECN0648AAA	AN56NN0A
	200	40	208	ECN0641EAA	ECN0642EAA	ECN0644EAA	ECN0648EAA	AN56NN0E
	230	50	240	ECN0641BAA	ECN0642BAA	ECN0644BAA	ECN0648BAA	AN56NN0B
	460	100	480	ECN0641CAA	ECN0642CAA	ECN0644CAA	ECN0648CAA	AN56NN0C
	575	100	600	ECN0641DAA	ECN0642DAA	ECN0644DAA	ECN0648DAA	AN56NN0D
5	—	—	120	ECN0651AAA	ECN0652AAA	ECN0654AAA	ECN0658AAA	AN56SN0AB
	200	75	208	ECN0651EAA	ECN0652EAA	ECN0654EAA	ECN0658EAA	AN56SN0EB
	230	100	240	ECN0651BAA	ECN0652BAA	ECN0654BAA	ECN0658BAA	AN56SN0BB
	460	200	480	ECN0651CAA	ECN0652CAA	ECN0654CAA	ECN0658CAA	AN56SN0CB
	575	200	600	ECN0651DAA	ECN0652DAA	ECN0654DAA	ECN0658DAA	AN56SN0DB
6	—	—	120	ECN0661AAA	ECN0662AAA	ECN0663AAA ②	ECN0668AAA	AN56TN0AB
	200	150	208	ECN0661EAA	ECN0662EAA	ECN0663EAA ②	ECN0668EAA	AN56TN0EB
	230	200	240	ECN0661BAA	ECN0662BAA	ECN0663BAA ②	ECN0668BAA	AN56TN0BB
	460	400	480	ECN0661CAA	ECN0662CAA	ECN0663CAA ②	ECN0668CAA	AN56TN0CB
	575	400	600	ECN0661DAA	ECN0662DAA	ECN0663DAA ②	ECN0668DAA	AN56TN0DB
7	—	—	120	ECN0671AAA	ECN0672AAA	ECN0673AAA ②	ECN0678AAA	AN56UN0AB
	230	300	240	ECN0671BAA	ECN0672BAA	ECN0673BAA ②	ECN0678BAA	AN56UN0BB
	460	600	480	ECN0671CAA	ECN0672CAA	ECN0673CAA ②	ECN0678CAA	AN56UN0CB
	575	600	600	ECN0671DAA	ECN0672DAA	ECN0673DAA ②	ECN0678DAA	AN56UN0DB
	8	—	—	120	ECN0681AAA	ECN0682AAA	ECN0683AAA ②	ECN0688AAA
230		450	240	ECN0681BAA	ECN0682BAA	ECN0683BAA ②	ECN0688BAA	AN56VN0BB
460		900	480	ECN0681CAA	ECN0682CAA	ECN0683CAA ②	ECN0688CAA	AN56VN0CB
575		900	600	ECN0681DAA	ECN0682DAA	ECN0683DAA ②	ECN0688DAA	AN56VN0DB
9		—	—	120	ECN0691AAA	ECN0692AAA	ECN0693AAA ②	ECN0698AAA
	230	800	240	ECN0691BAA	ECN0692BAA	ECN0693BAA ②	ECN0698BAA	AN56WN0EB
	460	1600	480	ECN0691CAA	ECN0692CAA	ECN0693CAA ②	ECN0698CAA	AN56WN0CB
	575	1600	600	ECN0691DAA	ECN0692DAA	ECN0693DAA ②	ECN0698DAA	AN56WN0DB

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 Type 4 (Painted steel) Sizes 6 – 9.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN0604AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control **Page 3-21**
 Other Magnet Coils **Page 3-20**
 Dimensions **Page 15-2**
 Accessories **Page 16-4**
 Modifications **Page 16-40**
 Technical Data **Page 18-7**

Non-combination Starters

Table 3-29. Class ECN07 — Non-combination Non-reversing Starter with CPT

NEMA Size	Primary Voltage ②	Max. hp Rating ①	Secondary Voltage Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X Watertight & Dust-Tight Stainless Steel ④	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	208	1-1/2	120	ECN07A1EAA	ECN07A2EAA	ECN07A4EAA	ECN07A8EAA	AN16AN0EC
	240	1-1/2		ECN07A1BAA	ECN07A2BAA	ECN07A4BAA	ECN07A8BAA	AN16AN0BC
	480	2		ECN07A1CAA	ECN07A2CAA	ECN07A4CAA	ECN07A8CAA	AN16AN0CC
	600	3		ECN07A1DAA	ECN07A2DAA	ECN07A4DAA	ECN07A8DAA	AN16AN0DC
0	208	3	120	ECN0701EAA	ECN0702EAA	ECN0704EAA	ECN0708EAA	AN16BN0EC
	240	3		ECN0701BAA	ECN0702BAA	ECN0704BAA	ECN0708BAA	AN16BN0BC
	480	5		ECN0701CAA	ECN0702CAA	ECN0704CAA	ECN0708CAA	AN16BN0CC
	600	5		ECN0701DAA	ECN0702DAA	ECN0704DAA	ECN0708DAA	AN16BN0DC
1	208	7-1/2	120	ECN0711EAA	ECN0712EAA	ECN0714EAA	ECN0718EAA	AN16DN0EB
	240	7-1/2		ECN0711BAA	ECN0712BAA	ECN0714BAA	ECN0718BAA	AN16DN0BB
	480	10		ECN0711CAA	ECN0712CAA	ECN0714CAA	ECN0718CAA	AN16DN0CB
	600	10		ECN0711DAA	ECN0712DAA	ECN0714DAA	ECN0718DAA	AN16DN0DB
2	208	10	120	ECN0721EAA	ECN0722EAA	ECN0724EAA	ECN0728EAA	AN16GN0EB
	240	15		ECN0721BAA	ECN0722BAA	ECN0724BAA	ECN0728BAA	AN16GN0BB
	480	25		ECN0721CAA	ECN0722CAA	ECN0724CAA	ECN0728CAA	AN16GN0CB
	600	25		ECN0721DAA	ECN0722DAA	ECN0724DAA	ECN0728DAA	AN16GN0DB
3	208	25	120	ECN0731EAA	ECN0732EAA	ECN0734EAA	ECN0738EAA	AN16KN0EC
	240	30		ECN0731BAA	ECN0732BAA	ECN0734BAA	ECN0738BAA	AN16KN0BC
	480	50		ECN0731CAA	ECN0732CAA	ECN0734CAA	ECN0738CAA	AN16KN0CC
	600	50		ECN0731DAA	ECN0732DAA	ECN0734DAA	ECN0738DAA	AN16KN0DC
4	208	40	120	ECN0741EAA	ECN0742EAA	ECN0744EAA	ECN0748EAA	AN16NN0EC
	240	50		ECN0741BAA	ECN0742BAA	ECN0744BAA	ECN0748BAA	AN16NN0BC
	480	100		ECN0741CAA	ECN0742CAA	ECN0744CAA	ECN0748CAA	AN16NN0CC
	600	100		ECN0741DAA	ECN0742DAA	ECN0744DAA	ECN0748DAA	AN16NN0DC
5	208	75	120	ECN0751EAA	ECN0752EAA	ECN0754EAA	ECN0758EAA	AN16SN0EB
	240	100		ECN0751BAA	ECN0752BAA	ECN0754BAA	ECN0758BAA	AN16SN0BB
	480	200		ECN0751CAA	ECN0752CAA	ECN0754CAA	ECN0758CAA	AN16SN0CB
	600	200		ECN0751DAA	ECN0752DAA	ECN0754DAA	ECN0758DAA	AN16SN0DB
6	208	150	120	ECN0761EAA	ECN0762EAA	ECN0763EAA ③	ECN0768EAA	AN56TN0EB
	240	200		ECN0761BAA	ECN0762BAA	ECN0763BAA ③	ECN0768BAA	AN56TN0BB
	480	400		ECN0761CAA	ECN0762CAA	ECN0763CAA ③	ECN0768CAA	AN56TN0CB
	600	400		ECN0761DAA	ECN0762DAA	ECN0763DAA ③	ECN0768DAA	AN56TN0DB
7	240	300	120	ECN0771BAA	ECN0772BAA	ECN0773BAA ③	ECN0778BAA	AN16UN0BB
	480	600		ECN0771CAA	ECN0772CAA	ECN0773CAA ③	ECN0778CAA	AN16UN0CB
	600	600		ECN0771DAA	ECN0772DAA	ECN0773DAA ③	ECN0778DAA	AN16UN0DB
	240	450		ECN0781BAA	ECN0782BAA	ECN0783BAA ③	ECN0788BAA	AN16VN0BB
8	480	900	120	ECN0781CAA	ECN0782CAA	ECN0783CAA ③	ECN0788CAA	AN16VN0CB
	600	900		ECN0781DAA	ECN0782DAA	ECN0783DAA ③	ECN0788DAA	AN16VN0DB
	240	800		ECN0791BAA	ECN0792BAA	ECN0793BAA ③	ECN0798BAA	AN16WN0BB
	480	1600		ECN0791CAA	ECN0792CAA	ECN0793CAA ③	ECN0798CAA	AN16WN0CB
9	600	1600	ECN0791DAA	ECN0792DAA	ECN0793DAA ③	ECN0798DAA	AN16WN0DB	

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.

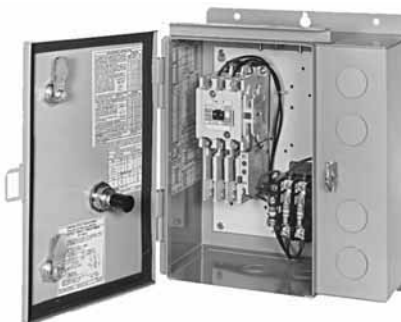
① Maximum horsepower rating of starters for 380V 50 Hz applications:

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

② Other control power transformer primary and/or secondary voltages, see Page 3-20.

③ Type 4 (Painted steel) Sizes 6 – 9.

④ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN0704EAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.



ECN0712CAA

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Non-combination Starters

Table 3-30. Class ECN08 — Non-combination Single Phase Non-reversing Starter

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ① Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	115 230	1/3 1	120 240	ECN08A1AAA ECN08A1BAA	(Select Contactor from Size 0 Listing)			AN16AN0AC AN16AN0BC
0	115 230	1 2	120 240	ECN0801AAA ECN0801BAA	ECN0802AAA ECN0802BAA	ECN0804AAA ECN0804BAA	ECN0808AAA ECN0808BAA	AN16BN0AC AN16BN0BC
1	115 230	2 3	120 240	ECN0811AAA ECN0811BAA	ECN0812AAA ECN0812BAA	ECN0814AAA ECN0814BAA	ECN0818AAA ECN0818BAA	AN16DN0AB AN16DN0BB
1P	115 230	3 5	120 240	ECN08C1AAA ECN08C1BAA	ECN08C2AAA ECN08C2BAA	ECN08C4AAA ECN08C4BAA	ECN08C8AAA ECN08C8BAA	AN16PN0A AN16PN0B
2	115 230	3 7-1/2	120 240	ECN0821AAA ECN0821BAA	ECN0822AAA ECN0822BAA	ECN0824AAA ECN0824BAA	ECN0828AAA ECN0828BAA	AN16GN0AB AN16GN0BB
3	115 230	7-1/2 15	120 240	ECN0831AAA ECN0831BAA	ECN0832AAA ECN0832BAA	ECN0834AAA ECN0834BAA	ECN0838AAA ECN0838BAA	AN16KN0A AN16KN0B

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

① The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECN0804**4**AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

3

Cover Control **Page 3-21**
 Other Magnet Coils **Page 3-20**
 Dimensions **Page 15-2**
 Accessories **Page 16-4**
 Modifications **Page 16-40**
 Technical Data **Page 18-7**

Combination Starters — Fusible and Non-fusible

Features

- 3-Phase Magnetic
- 3-Pole Non-reversing or Reversing
- Standard Interchangeable Heater OLR
- Optional Electronic Overload
- 600V Maximum
- 100,000 RMS Short Circuit Rating with Fuses

3

Product Selection

Table 3-31. Class ECN16 — Combination Non-reversing Starter — Fusible Disconnect

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage	Fuse Clip Amps	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ^{①②}	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	—	—	120	30A	ECN16A1AAB	ECN16A2AAB	ECN16A4AAB	ECN16A8AAB	AN16AN0AC
	200	1-1/2	208		ECN16A1EAB	ECN16A2EAB	ECN16A4EAB	ECN16A8EAB	AN16AN0EC
	230	1-1/2	240		ECN16A1BAB	ECN16A2BAB	ECN16A4BAB	ECN16A8BAB	AN16AN0BC
	460	2	480		ECN16A1CAC	ECN16A2CAC	ECN16A4CAC	ECN16A8CAC	AN16AN0CC
	575	2	600		ECN16A1DAC	ECN16A2DAC	ECN16A4DAC	ECN16A8DAC	AN16AN0DC
0	—	—	120	30A	ECN1601AAB	ECN1602AAB	ECN1604AAB	ECN1608AAB	AN16BN0AC
	200	3	208		ECN1601EAB	ECN1602EAB	ECN1604EAB	ECN1608EAB	AN16BN0EC
	230	3	240		ECN1601BAB	ECN1602BAB	ECN1604BAB	ECN1608BAB	AN16BN0BC
	460	5	480		ECN1601CAC	ECN1602CAC	ECN1604CAC	ECN1608CAC	AN16BN0CC
	575	5	600		ECN1601DAC	ECN1602DAC	ECN1604DAC	ECN1608DAC	AN16BN0DC
1	—	—	120	30A	ECN1611AAB	ECN1612AAB	ECN1614AAB	ECN1618AAB	AN16DN0AB
	200	7-1/2	208		ECN1611EAB	ECN1612EAB	ECN1614EAB	ECN1618EAB	AN16DN0EB
	230	7-1/2	240		ECN1611BAB	ECN1612BAB	ECN1614BAB	ECN1618BAB	AN16DN0BB
	460	10	480		ECN1611CAC	ECN1612CAC	ECN1614CAC	ECN1618CAC	AN16DN0CB
	575	10	600		ECN1611DAC	ECN1612DAC	ECN1614DAC	ECN1618DAC	AN16DN0DB
2	—	—	120	60A	ECN1621AAD	ECN1622AAD	ECN1624AAD	ECN1628AAD	AN16GN0AB
	200	10	208		ECN1621EAD	ECN1622EAD	ECN1624EAD	ECN1628EAD	AN16GN0EB
	230	15	240		ECN1621BAD	ECN1622BAD	ECN1624BAD	ECN1628BAD	AN16GN0BB
	460	25	480		ECN1621CAE	ECN1622CAE	ECN1624CAE	ECN1628CAE	AN16GN0CB
	575	25	600		ECN1621DAE	ECN1622DAE	ECN1624DAE	ECN1628DAE	AN16GN0DB
3	—	—	120	100A	ECN1631AAF	ECN1632AAF	ECN1634AAF	ECN1638AAF	AN16KN0A
	200	25	208		ECN1631EAF	ECN1632EAF	ECN1634EAF	ECN1638EAF	AN16KN0E
	230	30	240		ECN1631BAF	ECN1632BAF	ECN1634BAF	ECN1638BAF	AN16KN0B
	460	50	480		ECN1631CAG	ECN1632CAG	ECN1634CAG	ECN1638CAG	AN16KN0C
	575	50	600		ECN1631DAG	ECN1632DAG	ECN1634DAG	ECN1638DAG	AN16KN0D
4	—	—	120	200A	ECN1641AAH	ECN1642AAH	ECN1644AAH	ECN1648AAH	AN16NN0A
	200	40	208		ECN1641EAH	ECN1642EAH	ECN1644EAH	ECN1648EAH	AN16NN0E
	230	50	240		ECN1641BAH	ECN1642BAH	ECN1644BAH	ECN1648BAH	AN16NN0B
	460	100	480		ECN1641CAJ	ECN1642CAJ	ECN1644CAJ	ECN1648CAJ	AN16NN0C
	575	100	600		ECN1641DAJ	ECN1642DAJ	ECN1644DAJ	ECN1648DAJ	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 All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ② Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECN160**4**EAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control **Page 3-21**
 Other Magnet Coils **Page 3-20**
 Dimensions **Page 15-2**
 Accessories **Page 16-4**
 Modifications **Page 16-40**
 Technical Data **Page 18-7**

Combination Starters — Fusible and Non-fusible

Table 3-31. Class ECN16 — Combination Non-reversing Starter — Fusible Disconnect (Continued)

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage	Fuse Clip Amps	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^⑥ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ^{①②}	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	
5	—	—	120	400A	ECN1651AAK	ECN1652AAK	ECN1654AAK	ECN1658AAK	AN16SN0AB
	200	75	208		ECN1651EAK	ECN1652EAK	ECN1654EAK	ECN1658EAK	AN16SN0EB
	230	100	240		ECN1651BAK	ECN1652BAK	ECN1654BAK	ECN1658BAK	AN16SN0BB
	460	200	480		ECN1651CAL	ECN1652CAL	ECN1654CAL	ECN1658CAL	AN16SN0CB
	575	200	600		ECN1651DAL	ECN1652DAL	ECN1654DAL	ECN1658DAL	AN16SN0DB
6	—	—	120	600A	ECN1661AAM	ECN1662AAM	ECN1663AAM ^③	ECN1668AAM	AN16TN0AB
	200	150	208		ECN1661EAM	ECN1662EAM	ECN1663EAM ^③	ECN1668EAM	AN16TN0EB
	230	200	240		ECN1661BAM	ECN1662BAM	ECN1663BAM ^③	ECN1668BAM	AN16TN0BB
	460	400	480		ECN1661CAN	ECN1662CAN	ECN1663CAN ^③	ECN1668CAN	AN16TN0CB
	575	400	600		ECN1661DAN	ECN1662DAN	ECN1663DAN ^③	ECN1668DAN	AN16TN0DB
7	—	—	120	⑤	ECN1671AAU	ECN1672AAU	ECN1673AAU ^③	ECN1678AAU	AN16UN0AB
	230	300	240		ECN1671BAU	ECN1672BAU	ECN1673BAU ^③	ECN1678BAU	AN16UN0BB
	460	600	480		ECN1671CAU	ECN1672CAU	ECN1673CAU ^③	ECN1678CAU	AN16UN0CB
	575	600	600		ECN1671DAU	ECN1672DAU	ECN1673DAU ^③	ECN1678DAU	AN16UN0DB
8	—	—	120	⑤	ECN1681AAU	ECN1682AAU	ECN1683AAU ^③	ECN1688AAU	AN16VN0AB
	230	450	240		ECN1681BAU	ECN1682BAU	ECN1683BAU ^③	ECN1688BAU	AN16VN0BB
	460	900	480		ECN1681CAU	ECN1682CAU	ECN1683CAU ^③	ECN1688CAU	AN16VN0CB
	575	900	600		ECN1681DAU	ECN1682DAU	ECN1683DAU ^③	ECN1688DAU	AN16VN0DB
9	—	—	120	⑤	ECN1691AAU	ECN1692AAU	ECN1693AAU ^③	ECN1698AAU	AN16WN0A
	230	800	240		ECN1691BAU	ECN1692BAU	ECN1693BAU ^③	ECN1698BAU	AN16WN0B
	460	1000 ^④	480		ECN1691CAU	ECN1692CAU	ECN1693CAU ^③	ECN1698CAU	AN16WN0C
	575	1000	600		ECN1691DAU	ECN1692DAU	ECN1693DAU ^③	ECN1698DAU	AN16WN0D

3

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 All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ② Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ③ Type 4 (Painted steel) Sizes 6 – 9.
- ④ For 1250 and 1600 hp ratings at 460V, consult Eaton.
- ⑤ Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.
- ⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECN1604EAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control **Page 3-21**
 Other Magnet Coils **Page 3-20**
 Dimensions **Page 15-2**
 Accessories **Page 16-4**
 Modifications **Page 16-40**
 Technical Data **Page 18-7**

Combination Starters — Fusible and Non-fusible

Table 3-32. Class ECN16 — Combination Non-reversing Starter — Non-fusible Disconnect ^③

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage	Disconnect Amps	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^⑦ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ^{① ②}	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	—	—	120	30A	ECN16A1AAA	ECN16A2AAA	ECN16A4AAA	ECN16A8AAA	AN16AN0AC
	200	1-1/2	208		ECN16A1EAA	ECN16A2EAA	ECN16A4EAA	ECN16A8EAA	AN16AN0EC
	230	1-1/2	240		ECN16A1BAA	ECN16A2BAA	ECN16A4BAA	ECN16A8BAA	AN16AN0BC
	460	2	480		ECN16A1CAA	ECN16A2CAA	ECN16A4CAA	ECN16A8CAA	AN16AN0CC
	575	2	600		ECN16A1DAA	ECN16A2DAA	ECN16A4DAA	ECN16A8DAA	AN16AN0DC
0	—	—	120	30A	ECN1601AAA	ECN1602AAA	ECN1604AAA	ECN1608AAA	AN16BN0AC
	200	3	208		ECN1601EAA	ECN1602EAA	ECN1604EAA	ECN1608EAA	AN16BN0EC
	230	3	240		ECN1601BAA	ECN1602BAA	ECN1604BAA	ECN1608BAA	AN16BN0BC
	460	5	480		ECN1601CAA	ECN1602CAA	ECN1604CAA	ECN1608CAA	AN16BN0CC
	575	5	600		ECN1601DAA	ECN1602DAA	ECN1604DAA	ECN1608DAA	AN16BN0DC
1	—	—	120	30A	ECN1611AAA	ECN1612AAA	ECN1614AAA	ECN1618AAA	AN16DN0AB
	200	7-1/2	208		ECN1611EAA	ECN1612EAA	ECN1614EAA	ECN1618EAA	AN16DN0EB
	230	7-1/2	240		ECN1611BAA	ECN1612BAA	ECN1614BAA	ECN1618BAA	AN16DN0BB
	460	10	480		ECN1611CAA	ECN1612CAA	ECN1614CAA	ECN1618CAA	AN16DN0CB
	575	10	600		ECN1611DAA	ECN1612DAA	ECN1614DAA	ECN1618DAA	AN16DN0DB
2	—	—	120	60A	ECN1621AAA	ECN1622AAA	ECN1624AAA	ECN1628AAA	AN16GN0AB
	200	10	208		ECN1621EAA	ECN1622EAA	ECN1624EAA	ECN1628EAA	AN16GN0EB
	230	15	240		ECN1621BAA	ECN1622BAA	ECN1624BAA	ECN1628BAA	AN16GN0BB
	460	25	480		ECN1621CAA	ECN1622CAA	ECN1624CAA	ECN1628CAA	AN16GN0CB
	575	25	600		ECN1621DAA	ECN1622DAA	ECN1624DAA	ECN1628DAA	AN16GN0DB
3	—	—	120	100A	ECN1631AAA	ECN1632AAA	ECN1634AAA	ECN1638AAA	AN16KN0A
	200	25	208		ECN1631EAA	ECN1632EAA	ECN1634EAA	ECN1638EAA	AN16KN0E
	230	30	240		ECN1631BAA	ECN1632BAA	ECN1634BAA	ECN1638BAA	AN16KN0B
	460	50	480		ECN1631CAA	ECN1632CAA	ECN1634CAA	ECN1638CAA	AN16KN0C
	575	50	600		ECN1631DAA	ECN1632DAA	ECN1634DAA	ECN1638DAA	AN16KN0D
4	—	—	120	200A	ECN1641AAA	ECN1642AAA	ECN1644AAA	ECN1648AAA	AN16NN0A
	200	40	208		ECN1641EAA	ECN1642EAA	ECN1644EAA	ECN1648EAA	AN16NN0E
	230	50	240		ECN1641BAA	ECN1642BAA	ECN1644BAA	ECN1648BAA	AN16NN0B
	460	100	480		ECN1641CAA	ECN1642CAA	ECN1644CAA	ECN1648CAA	AN16NN0C
	575	100	600		ECN1641DAA	ECN1642DAA	ECN1644DAA	ECN1648DAA	AN16NN0D
5	—	—	120	400A	ECN1651AAA	ECN1652AAA	ECN1654AAA	ECN1658AAA	AN16SN0AB
	200	75	208		ECN1651EAA	ECN1652EAA	ECN1654EAA	ECN1658EAA	AN16SN0EB
	230	100	240		ECN1651BAA	ECN1652BAA	ECN1654BAA	ECN1658BAA	AN16SN0BB
	460	200	480		ECN1651CAA	ECN1652CAA	ECN1654CAA	ECN1658CAA	AN16SN0CB
	575	200	600		ECN1651DAA	ECN1652DAA	ECN1654DAA	ECN1658DAA	AN16SN0DB
6	—	—	120	600A	ECN1661AAA	ECN1662AAA	ECN1663AAA ^④	ECN1668AAA	AN16TN0AB
	200	150	208		ECN1661EAA	ECN1662EAA	ECN1663EAA ^④	ECN1668EAA	AN16TN0EB
	230	200	240		ECN1661BAA	ECN1662BAA	ECN1663BAA ^④	ECN1668BAA	AN16TN0BB
	460	400	480		ECN1661CAA	ECN1662CAA	ECN1663CAA ^④	ECN1668CAA	AN16TN0CB
	575	400	600		ECN1661DAA	ECN1662DAA	ECN1663DAA ^④	ECN1668DAA	AN16TN0DB
7	—	—	120	⑥	ECN1671AAA	ECN1672AAA	ECN1673AAA ^④	ECN1678AAA	AN16UN0AB
	230	300	240		ECN1671BAA	ECN1672BAA	ECN1673BAA ^④	ECN1678BAA	AN16UN0BB
	460	600	480		ECN1671CAA	ECN1672CAA	ECN1673CAA ^④	ECN1678CAA	AN16UN0CB
	575	600	600		ECN1671DAA	ECN1672DAA	ECN1673DAA ^④	ECN1678DAA	AN16UN0DB
	8	—	—		120	⑥	ECN1681AAA	ECN1682AAA	ECN1683AAA ^④
230		450	240	ECN1681BAA	ECN1682BAA		ECN1683BAA ^④	ECN1688BAA	AN16VN0BB
460		900	480	ECN1681CAA	ECN1682CAA		ECN1683CAA ^④	ECN1688CAA	AN16VN0CB
575		900	600	ECN1681DAA	ECN1682DAA		ECN1683DAA ^④	ECN1688DAA	AN16VN0DB
9		—	—	120	⑥		ECN1691AAA	ECN1692AAA	ECN1693AAA ^④
	230	800	240	ECN1691BAA		ECN1692BAA	ECN1693BAA ^④	ECN1698BAA	AN16WN0B
	460	1000 ^⑤	480	ECN1691CAA		ECN1692CAA	ECN1693CAA ^④	ECN1698CAA	AN16WN0C
	575	1000	600	ECN1691DAA		ECN1692DAA	ECN1693DAA ^④	ECN1698DAA	AN16WN0D

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 All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code R5.
- ② Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.
- ③ Field installed Fuse Clips available, see Page 16-12.
- ④ Type 4 (Painted steel) Sizes 6 – 9.
- ⑤ For 1250 and 1600 hp ratings at 460V, consult Eaton.
- ⑥ Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.
- ⑦ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN1604AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Table 3-33. Class ECN16 — Special Enclosure Combination Non-reversing Starter — Fusible/Non-fusible Disconnect

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Fuse Clip Amperes ①	Type 1 General Purpose	Type 4X ③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial ②		Component Starter (Open)
					External Reset	External Reset	External Reset	Internal Reset	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	
Horizontal Enclosure — Fusible									
1	—	—	120	30A	ECN1611AAB-E13	—	ECN1618AAB-E13	ECN1618AAB-E13R5	AN16DN0AB
	200	7-1/2	208		ECN1611EAB-E13	—	ECN1618EAB-E13	ECN1618EAB-E13R5	AN16DN0EB
	230	7-1/2	240		ECN1611BAB-E13	—	ECN1618BAB-E13	ECN1618BAB-E13R5	AN16DN0BB
	460	10	480		ECN1611CAC-E13	—	ECN1618CAC-E13	ECN1618CAC-E13R5	AN16DN0CB
	575	10	600		ECN1611DAC-E13	—	ECN1618DAC-E13	ECN1618DAC-E13R5	AN16DN0DB
2	—	—	120	60A	ECN1621AAD-E13	—	ECN1628AAD-E13	ECN1628AAD-E13R5	AN16GN0AB
	200	10	208		ECN1621EAD-E13	—	ECN1628EAD-E13	ECN1628EAD-E13R5	AN16GN0EB
	230	15	240		ECN1621BAD-E13	—	ECN1628BAD-E13	ECN1628BAD-E13R5	AN16GN0BB
	460	25	480		ECN1621CAE-E13	—	ECN1628CAE-E13	ECN1628CAE-E13R5	AN16GN0CB
	575	25	600		ECN1621DAE-E13	—	ECN1628DAE-E13	ECN1628DAE-E13R5	AN16GN0DB
Horizontal Enclosure — Non-fusible									
1	—	—	120	—	ECN1611AAA-E13	—	ECN1618AAA-E13	ECN1618AAA-E13R5	AN16DN0AB
	200	7-1/2	208		ECN1611EAA-E13	—	ECN1618EAA-E13	ECN1618EAA-E13R5	AN16DN0EB
	230	7-1/2	240		ECN1611BAA-E13	—	ECN1618BAA-E13	ECN1618BAA-E13R5	AN16DN0BB
	460	10	480		ECN1611CAA-E13	—	ECN1618CAA-E13	ECN1618CAA-E13R5	AN16DN0CB
	575	10	600		ECN1611DAA-E13	—	ECN1618DAA-E13	ECN1618DAA-E13R5	AN16DN0DB
2	—	—	120	—	ECN1621AAA-E13	—	ECN1628AAA-E13	ECN1628AAA-E13R5	AN16GN0AB
	200	10	208		ECN1621EAA-E13	—	ECN1628EAA-E13	ECN1628EAA-E13R5	AN16GN0EB
	230	15	240		ECN1621BAA-E13	—	ECN1628BAA-E13	ECN1628BAA-E13R5	AN16GN0BB
	460	25	480		ECN1621CAA-E13	—	ECN1628CAA-E13	ECN1628CAA-E13R5	AN16GN0CB
	575	25	600		ECN1621DAA-E13	—	ECN1628DAA-E13	ECN1628DAA-E13R5	AN16GN0DB
Oversize Enclosure — without Control Transformer — Fusible									
0	—	—	120	30A	ECN1601AAB-E3	ECN1604AAB-E3	ECN1608AAB-E3	ECN1608AAB-E3R5	AN16BN0AC
	200	3	208		ECN1601EAB-E3	ECN1604EAB-E3	ECN1608EAB-E3	ECN1608EAB-E3R5	AN16BN0EC
	230	3	240		ECN1601BAB-E3	ECN1604BAB-E3	ECN1608BAB-E3	ECN1608BAB-E3R5	AN16BN0BC
	460	5	480		ECN1601CAC-E3	ECN1604CAC-E3	ECN1608CAC-E3	ECN1608CAC-E3R5	AN16BN0CC
	575	5	600		ECN1601DAC-E3	ECN1604DAC-E3	ECN1608DAC-E3	ECN1608DAC-E3R5	AN16BN0DC
1	—	—	120	30A	ECN1611AAB-E3	ECN1614AAB-E3	ECN1618AAB-E3	ECN1618AAB-E3R5	AN16DN0AB
	200	7-1/2	208		ECN1611EAB-E3	ECN1614EAB-E3	ECN1618EAB-E3	ECN1618EAB-E3R5	AN16DN0EB
	230	7-1/2	240		ECN1611BAB-E3	ECN1614BAB-E3	ECN1618BAB-E3	ECN1618BAB-E3R5	AN16DN0BB
	460	10	480		ECN1611CAC-E3	ECN1614CAC-E3	ECN1618CAC-E3	ECN1618CAC-E3R5	AN16DN0CB
	575	10	600		ECN1611DAC-E3	ECN1614DAC-E3	ECN1618DAC-E3	ECN1618DAC-E3R5	AN16DN0DB
2	—	—	120	60A	ECN1621AAD-E3	ECN1624AAD-E3	ECN1628AAD-E3	ECN1628AAD-E3R5	AN16GN0AB
	200	10	208		ECN1621EAD-E3	ECN1624EAD-E3	ECN1628EAD-E3	ECN1628EAD-E3R5	AN16GN0EB
	230	15	240		ECN1621BAD-E3	ECN1624BAD-E3	ECN1628BAD-E3	ECN1628BAD-E3R5	AN16GN0BB
	460	25	480		ECN1621CAE-E3	ECN1624CAE-E3	ECN1628CAE-E3	ECN1628CAE-E3R5	AN16GN0CB
	575	25	600		ECN1621DAE-E3	ECN1624DAE-E3	ECN1628DAE-E3	ECN1628DAE-E3R5	AN16GN0DB
Oversize Enclosure — without Control Transformer — Non-fusible									
0	—	—	120	—	ECN1601AAA-E3	ECN1604AAA-E3	ECN1608AAA-E3	ECN1608AAA-E3R5	AN16BN0AC
	200	3	208		ECN1601EAA-E3	ECN1604EAA-E3	ECN1608EAA-E3	ECN1608EAA-E3R5	AN16BN0EC
	230	3	240		ECN1601BAA-E3	ECN1604BAA-E3	ECN1608BAA-E3	ECN1608BAA-E3R5	AN16BN0BC
	460	5	480		ECN1601CAA-E3	ECN1604CAA-E3	ECN1608CAA-E3	ECN1608CAA-E3R5	AN16BN0CC
	575	5	600		ECN1601DAA-E3	ECN1604DAA-E3	ECN1608DAA-E3	ECN1608DAA-E3R5	AN16BN0DC
1	—	—	120	—	ECN1611AAA-E3	ECN1614AAA-E3	ECN1618AAA-E3	ECN1618AAA-E3R5	AN16DN0AB
	200	7-1/2	208		ECN1611EAA-E3	ECN1614EAA-E3	ECN1618EAA-E3	ECN1618EAA-E3R5	AN16DN0EB
	230	7-1/2	240		ECN1611BAA-E3	ECN1614BAA-E3	ECN1618BAA-E3	ECN1618BAA-E3R5	AN16DN0BB
	460	10	480		ECN1611CAA-E3	ECN1614CAA-E3	ECN1618CAA-E3	ECN1618CAA-E3R5	AN16DN0CB
	575	10	600		ECN1611DAA-E3	ECN1614DAA-E3	ECN1618DAA-E3	ECN1618DAA-E3R5	AN16DN0DB
2	—	—	120	—	ECN1621AAA-E3	ECN1624AAA-E3	ECN1628AAA-E3	ECN1628AAA-E3R5	AN16GN0AB
	200	10	208		ECN1621EAA-E3	ECN1624EAA-E3	ECN1628EAA-E3	ECN1628EAA-E3R5	AN16GN0EB
	230	15	240		ECN1621BAA-E3	ECN1624BAA-E3	ECN1628BAA-E3	ECN1628BAA-E3R5	AN16GN0BB
	460	25	480		ECN1621CAA-E3	ECN1624CAA-E3	ECN1628CAA-E3	ECN1628CAA-E3R5	AN16GN0CB
	575	25	600		ECN1621DAA-E3	ECN1624DAA-E3	ECN1628DAA-E3	ECN1628DAA-E3R5	AN16GN0DB

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 Fuse clips are for Class R fuses only. For H and J fuses see mods, Page 16-42.
 ② To order Type 12 enclosures with safety door interlock add modification E11.
 ③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN1604EAB-E3. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination Starters — Fusible and Non-fusible

3

Table 3-34. Class ECN17 — Combination Reversing Starter — Fusible Disconnect

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage	Fuse Clip Amps	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ^{①②}	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	120	30A	ECN1701AAB	ECN1702AAB	ECN1704AAB	ECN1708AAB	AN56BN0AC
	200	3	208		ECN1701EAB	ECN1702EAB	ECN1704EAB	ECN1708EAB	AN56BN0EC
	230	3	240		ECN1701BAB	ECN1702BAB	ECN1704BAB	ECN1708BAB	AN56BN0BC
	460	5	480		ECN1701CAC	ECN1702CAC	ECN1704CAC	ECN1708CAC	AN56BN0CC
	575	5	600		ECN1701DAC	ECN1702DAC	ECN1704DAC	ECN1708DAC	AN56BN0DC
1	—	—	120	30A	ECN1711AAB	ECN1712AAB	ECN1714AAB	ECN1718AAB	AN56DN0AB
	200	7-1/2	208		ECN1711EAB	ECN1712EAB	ECN1714EAB	ECN1718EAB	AN56DN0EB
	230	7-1/2	240		ECN1711BAB	ECN1712BAB	ECN1714BAB	ECN1718BAB	AN56DN0BB
	460	10	480		ECN1711CAC	ECN1712CAC	ECN1714CAC	ECN1718CAC	AN56DN0CB
	575	10	600		ECN1711DAC	ECN1712DAC	ECN1714DAC	ECN1718DAC	AN56DN0DB
2	—	—	120	60A	ECN1721AAD	ECN1722AAD	ECN1724AAD	ECN1728AAD	AN56GN0AB
	200	10	208		ECN1721EAD	ECN1722EAD	ECN1724EAD	ECN1728EAD	AN56GN0EB
	230	15	240		ECN1721BAD	ECN1722BAD	ECN1724BAD	ECN1728BAD	AN56GN0BB
	460	25	480		ECN1721CAE	ECN1722CAE	ECN1724CAE	ECN1728CAE	AN56GN0CB
	575	25	600		ECN1721DAE	ECN1722DAE	ECN1724DAE	ECN1728DAE	AN56GN0DB
3	—	—	120	100A	ECN1731AAF	ECN1732AAF	ECN1734AAF	ECN1738AAF	AN56KN0A
	200	25	208		ECN1731EAF	ECN1732EAF	ECN1734EAF	ECN1738EAF	AN56KN0E
	230	30	240		ECN1731BAF	ECN1732BAF	ECN1734BAF	ECN1738BAF	AN56KN0B
	460	50	480		ECN1731CAG	ECN1732CAG	ECN1734CAG	ECN1738CAG	AN56KN0C
	575	50	600		ECN1731DAG	ECN1732DAG	ECN1734DAG	ECN1738DAG	AN56KN0D
4	—	—	120	200A	ECN1741AAH	ECN1742AAH	ECN1744AAH	ECN1748AAH	AN56NN0A
	200	40	208		ECN1741EAH	ECN1742EAH	ECN1744EAH	ECN1748EAH	AN56NN0E
	230	50	240		ECN1741BAH	ECN1742BAH	ECN1744BAH	ECN1748BAH	AN56NN0B
	460	100	480		ECN1741CAJ	ECN1742CAJ	ECN1744CAJ	ECN1748CAJ	AN56NN0C
	575	100	600		ECN1741DAJ	ECN1742DAJ	ECN1744DAJ	ECN1748DAJ	AN56NN0D
5	—	—	120	400A	ECN1751AAK	ECN1752AAK	ECN1754AAK	ECN1758AAK	AN56SN0AB
	200	75	208		ECN1751EAK	ECN1752EAK	ECN1754EAK	ECN1758EAK	AN56SN0EB
	230	100	240		ECN1751BAK	ECN1752BAK	ECN1754BAK	ECN1758BAK	AN56SN0BB
	460	200	480		ECN1751CAL	ECN1752CAL	ECN1754CAL	ECN1758CAL	AN56SN0CB
	575	200	600		ECN1751DAL	ECN1752DAL	ECN1754DAL	ECN1758DAL	AN56SN0DB
6	—	—	120	600A	ECN1761AAM	ECN1762AAM	ECN1763AAM ^③	ECN1768AAM	AN56TN0AB
	200	150	208		ECN1761EAM	ECN1762EAM	ECN1763EAM ^③	ECN1768EAM	AN56TN0EB
	230	200	240		ECN1761BAM	ECN1762BAM	ECN1763BAM ^③	ECN1768BAM	AN56TN0BB
	460	400	480		ECN1761CAN	ECN1762CAN	ECN1763CAN ^③	ECN1768CAN	AN56TN0CB
	575	400	600		ECN1761DAN	ECN1762DAN	ECN1763DAN ^③	ECN1768DAN	AN56TN0DB
7	—	—	120	⑤	ECN1771AAU	ECN1772AAU	ECN1773AAU ^③	ECN1778AAU	AN56UN0AB
	230	300	240		ECN1771BAU	ECN1772BAU	ECN1773BAU ^③	ECN1778BAU	AN56UN0BB
	460	600	480		ECN1771CAU	ECN1772CAU	ECN1773CAU ^③	ECN1778CAU	AN56UN0CB
	575	600	600		ECN1771DAU	ECN1772DAU	ECN1773DAU ^③	ECN1778DAU	AN56UN0DB
	—	—	120		⑤	ECN1781AAU	ECN1782AAU	ECN1783AAU ^③	ECN1788AAU
230	450	240	ECN1781BAU	ECN1782BAU		ECN1783BAU ^③	ECN1788BAU	AN56VN0BB	
460	900	480	ECN1781CAU	ECN1782CAU		ECN1783CAU ^③	ECN1788CAU	AN56VN0CB	
575	900	600	ECN1781DAU	ECN1782DAU		ECN1783DAU ^③	ECN1788DAU	AN56VN0DB	
9	—	—	120	⑤		ECN1791AAU	ECN1792AAU	ECN1793AAU ^③	ECN1798AAU
	230	800	240		ECN1791BAU	ECN1792BAU	ECN1793BAU ^③	ECN1798BAU	AN56WN0B
	460	1000 ^④	480		ECN1791CAU	ECN1792CAU	ECN1793CAU ^③	ECN1798CAU	AN56WN0C
	575	1000	600		ECN1791DAU	ECN1792DAU	ECN1793DAU ^③	ECN1798DAU	AN56WN0D

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 All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ② Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ③ Type 4 (Painted steel) Sizes 6 – 9.
- ④ For 1250 and 1600 hp ratings at 460V, consult Eaton.
- ⑤ Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.
- ⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECN1704EAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control **Page 3-21**
 Other Magnet Coils **Page 3-20**
 Dimensions **Page 15-2**
 Accessories **Page 16-4**
 Modifications **Page 16-40**
 Technical Data **Page 18-7**

Combination Starters — Fusible and Non-fusible

Table 3-35. Class ECN17 — Combination Reversing Starter — Non-fusible Disconnect

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage	Disconnect Amps	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ^{①②}	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	120	30A	ECN1701AAA	ECN1702AAA	ECN1704AAA	ECN1708AAA	AN56BN0AC AN56BN0EC AN56BN0BC AN56BN0CC AN56BN0DC
	200	3	208		ECN1701EAA	ECN1702EAA	ECN1704EAA	ECN1708EAA	
	230	3	240		ECN1701BAA	ECN1702BAA	ECN1704BAA	ECN1708BAA	
	460	5	480		ECN1701CAA	ECN1702CAA	ECN1704CAA	ECN1708CAA	
	575	5	600		ECN1701DAA	ECN1702DAA	ECN1704DAA	ECN1708DAA	
1	—	—	120	30A	ECN1711AAA	ECN1712AAA	ECN1714AAA	ECN1718AAA	AN56DN0AB AN56DN0EB AN56DN0BB AN56DN0CB AN56DN0DB
	200	7-1/2	208		ECN1711EAA	ECN1712EAA	ECN1714EAA	ECN1718EAA	
	230	7-1/2	240		ECN1711BAA	ECN1712BAA	ECN1714BAA	ECN1718BAA	
	460	10	480		ECN1711CAA	ECN1712CAA	ECN1714CAA	ECN1718CAA	
	575	10	600		ECN1711DAA	ECN1712DAA	ECN1714DAA	ECN1718DAA	
2	—	—	120	60A	ECN1721AAA	ECN1722AAA	ECN1724AAA	ECN1728AAA	AN56GN0AB AN56GN0EB AN56GN0BB AN56GN0CB AN56GN0DB
	200	10	208		ECN1721EAA	ECN1722EAA	ECN1724EAA	ECN1728EAA	
	230	15	240		ECN1721BAA	ECN1722BAA	ECN1724BAA	ECN1728BAA	
	460	25	480		ECN1721CAA	ECN1722CAA	ECN1724CAA	ECN1728CAA	
	575	25	600		ECN1721DAA	ECN1722DAA	ECN1724DAA	ECN1728DAA	
3	—	—	120	100A	ECN1731AAA	ECN1732AAA	ECN1734AAA	ECN1738AAA	AN56KN0A AN56KN0E AN56KN0B AN56KN0C AN56KN0D
	200	25	208		ECN1731EAA	ECN1732EAA	ECN1734EAA	ECN1738EAA	
	230	30	240		ECN1731BAA	ECN1732BAA	ECN1734BAA	ECN1738BAA	
	460	50	480		ECN1731CAA	ECN1732CAA	ECN1734CAA	ECN1738CAA	
	575	50	600		ECN1731DAA	ECN1732DAA	ECN1734DAA	ECN1738DAA	
4	—	—	120	200A	ECN1741AAA	ECN1742AAA	ECN1744AAA	ECN1748AAA	AN56NN0A AN56NN0E AN56NN0B AN56NN0C AN56NN0D
	200	40	208		ECN1741EAA	ECN1742EAA	ECN1744EAA	ECN1748EAA	
	230	50	240		ECN1741BAA	ECN1742BAA	ECN1744BAA	ECN1748BAA	
	460	100	480		ECN1741CAA	ECN1742CAA	ECN1744CAA	ECN1748CAA	
	575	100	600		ECN1741DAA	ECN1742DAA	ECN1744DAA	ECN1748DAA	
5	—	—	120	400A	ECN1751AAA	ECN1752AAA	ECN1754AAA	ECN1758AAA	AN56SN0AB AN56SN0EB AN56SN0BB AN56SN0CB AN56SN0DB
	200	75	208		ECN1751EAA	ECN1752EAA	ECN1754EAA	ECN1758EAA	
	230	100	240		ECN1751BAA	ECN1752BAA	ECN1754BAA	ECN1758BAA	
	460	200	480		ECN1751CAA	ECN1752CAA	ECN1754CAA	ECN1758CAA	
	575	200	600		ECN1751DAA	ECN1752DAA	ECN1754DAA	ECN1758DAA	
6	—	—	120	600A	ECN1761AAA	ECN1762AAA	ECN1763AAA ^③	ECN1768AAA	AN56TN0AB AN56TN0EB AN56TN0BB AN56TN0CB AN56TN0DB
	200	150	208		ECN1761EAA	ECN1762EAA	ECN1763EAA ^③	ECN1768EAA	
	230	200	240		ECN1761BAA	ECN1762BAA	ECN1763BAA ^③	ECN1768BAA	
	460	400	480		ECN1761CAA	ECN1762CAA	ECN1763CAA ^③	ECN1768CAA	
	575	400	600		ECN1761DAA	ECN1762DAA	ECN1763DAA ^③	ECN1768DAA	
7	—	—	120	⑤	ECN1771AAA	ECN1772AAA	ECN1773AAA ^③	ECN1778AAA	AN56UN0AB AN56UN0BB AN56UN0CB AN56UN0DB
	230	300	240		ECN1771BAA	ECN1772BAA	ECN1773BAA ^③	ECN1778BAA	
	460	600	480		ECN1771CAA	ECN1772CAA	ECN1773CAA ^③	ECN1778CAA	
	575	600	600		ECN1771DAA	ECN1772DAA	ECN1773DAA ^③	ECN1778DAA	
	—	—	120		⑤	ECN1781AAA	ECN1782AAA	ECN1783AAA ^③	
230	450	240	ECN1781BAA	ECN1782BAA		ECN1783BAA ^③	ECN1788BAA		
460	900	480	ECN1781CAA	ECN1782CAA		ECN1783CAA ^③	ECN1788CAA		
575	900	600	ECN1781DAA	ECN1782DAA		ECN1783DAA ^③	ECN1788DAA		
9	—	—	120	⑤		ECN1791AAA	ECN1792AAA	ECN1793AAA ^③	ECN1798AAA
	230	800	240		ECN1791BAA	ECN1792BAA	ECN1793BAA ^③	ECN1798BAA	
	460	1000 ^④	480		ECN1791CAA	ECN1792CAA	ECN1793CAA ^③	ECN1798CAA	
	575	1000	600		ECN1791DAA	ECN1792DAA	ECN1793DAA ^③	ECN1798DAA	

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 All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code R5.

② Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.

③ Type 4 (Painted steel) Sizes 6 – 9.

④ For 1250 and 1600 hp ratings at 460V, consult Eaton.

⑤ Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.

⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN1704AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination Starters — Fusible and Non-fusible

3

Table 3-36. Class ECN18 — Combination Reversing Starter — Fusible Disconnect with CPT ⑥

NEMA Size	Primary Voltage ①	Max. hp Rating	Magnet Coil Voltage	Fuse Clip Amps	Type 1 General Purpose	Type 3R Rainproof	Type 4X Watertight & Dust-Tight Stainless Steel ⑤	Type 12 Dust-Tight Industrial External Reset ②③	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	208	1-1/2	120	30A ④	ECN18A1EAB	ECN18A2EAB	ECN18A4EAB	ECN18A8EAB	AN16AN0EC
	240	1-1/2			ECN18A1BAB	ECN18A2BAB	ECN18A4BAB	ECN18A8BAB	AN16AN0BC
	480	2			ECN18A1CAC	ECN18A2CAC	ECN18A4CAC	ECN18A8CAC	AN16AN0CC
	600	2			ECN18A1DAC	ECN18A2DAC	ECN18A4DAC	ECN18A8DAC	AN16AN0DC
0	208	3	120	30A ④	ECN1801EAB	ECN1802EAB	ECN1804EAB	ECN1808EAB	AN16BN0EC
	240	3			ECN1801BAB	ECN1802BAB	ECN1804BAB	ECN1808BAB	AN16BN0BC
	480	5			ECN1801CAC	ECN1802CAC	ECN1804CAC	ECN1808CAC	AN16BN0CC
	600	5			ECN1801DAC	ECN1802DAC	ECN1804DAC	ECN1808DAC	AN16BN0DC
1	208	7-1/2	120	30A ④	ECN1811EAB	ECN1812EAB	ECN1814EAB	ECN1818EAB	AN16DN0EB
	240	7-1/2			ECN1811BAB	ECN1812BAB	ECN1814BAB	ECN1818BAB	AN16DN0BB
	480	10			ECN1811CAC	ECN1812CAC	ECN1814CAC	ECN1818CAC	AN16DN0CB
	600	10			ECN1811DAC	ECN1812DAC	ECN1814DAC	ECN1818DAC	AN16DN0DB
2	208	10	120	60A ④	ECN1821EAD	ECN1822EAD	ECN1824EAD	ECN1828EAD	AN16GN0EB
	240	15			ECN1821BAD	ECN1822BAD	ECN1824BAD	ECN1828BAD	AN16GN0BB
	480	25			ECN1821CAE	ECN1822CAE	ECN1824CAE	ECN1828CAE	AN16GN0CB
	600	25			ECN1821DAE	ECN1822DAE	ECN1824DAE	ECN1828DAE	AN16GN0DB
3	208	25	120	100A	ECN1831EAF	ECN1832EAF	ECN1834EAF	ECN1838EAF	AN16KN0EB
	240	30			ECN1831BAF	ECN1832BAF	ECN1834BAF	ECN1838BAF	AN16KN0BB
	480	50			ECN1831CAF	ECN1832CAF	ECN1834CAF	ECN1838CAF	AN16KN0CB
	600	50			ECN1831DAF	ECN1832DAF	ECN1834DAF	ECN1838DAF	AN16KN0DB
4	208	40	120	200A	ECN1841EAH	ECN1842EAH	ECN1844EAH	ECN1848EAH	AN16NN0EB
	240	50			ECN1841BAH	ECN1842BAH	ECN1844BAH	ECN1848BAH	AN16NN0BB
	480	100			ECN1841CAJ	ECN1842CAJ	ECN1844CAJ	ECN1848CAJ	AN16NN0CB
	600	100			ECN1841DAJ	ECN1842DAJ	ECN1844DAJ	ECN1848DAJ	AN16NN0DB
5	208	75	120	400A	ECN1851EAK	ECN1852EAK	ECN1854EAK	ECN1858EAK	AN16SN0EB
	240	100			ECN1851BAK	ECN1852BAK	ECN1854BAK	ECN1858BAK	AN16SN0BB
	480	200			ECN1851CAL	ECN1852CAL	ECN1854CAL	ECN1858CAL	AN16SN0CB
	600	200			ECN1851DAL	ECN1852DAL	ECN1854DAL	ECN1858DAL	AN16SN0DB
6	208	150	120	600A	ECN1861EAM	ECN1862EAM	ECN1863EAM ⑤	ECN1868EAM	AN16TN0EB
	240	200			ECN1861BAM	ECN1862BAM	ECN1863BAM ⑤	ECN1868BAM	AN16TN0BB
	480	400			ECN1861CAN	ECN1862CAN	ECN1863CAN ⑤	ECN1868CAN	AN16TN0CB
	600	400			ECN1861DAN	ECN1862DAN	ECN1863DAN ⑤	ECN1868DAN	AN16TN0DB
7	240	300	120	⑦	ECN1871BAU	ECN1872BAU	ECN1873BAU ⑤	ECN1878BAU	AN16UN0EB
	480	600			ECN1871CAU	ECN1872CAU	ECN1873CAU ⑤	ECN1878CAU	AN16UN0CB
	600	600			ECN1871DAU	ECN1872DAU	ECN1873DAU ⑤	ECN1878DAU	AN16UN0DB
8	240	450	120	⑦	ECN1881BAU	ECN1882BAU	ECN1883BAU ⑤	ECN1888BAU	AN16VN0EB
	480	900			ECN1881CAU	ECN1882CAU	ECN1883CAU ⑤	ECN1888CAU	AN16VN0CB
	600	900			ECN1881DAU	ECN1882DAU	ECN1883DAU ⑤	ECN1888DAU	AN16VN0DB
9	240	800	120	⑦	ECN1891BAU	ECN1892BAU	ECN1893BAU ⑤	ECN1898BAU	AN16WN0EB
	480	1000 ⑧			ECN1891CAU	ECN1892CAU	ECN1893CAU ⑤	ECN1898CAU	AN16WN0CB
	600	1000			ECN1891DAU	ECN1892DAU	ECN1893DAU ⑤	ECN1898DAU	AN16WN0DB

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 Other control power transformer primary and/or secondary voltages, see Page 3-20.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order mod code R5.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.
- ④ Fuse clips are for Class R fuses. For H and J fuses see mods, Page 16-42.
- ⑤ Type 4 (Painted steel) Sizes 6 – 9.
- ⑥ 100,000 RMS short-circuit rating.
- ⑦ Supply hp, voltage, FLA and whether motor is design E or not when ordering the motor.
- ⑧ For 1250 and 1600 hp ratings at 460V, consult Eaton.
- ⑨ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN1804EAB. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination Starters — Fusible and Non-fusible

Table 3-37. Class ECN18 — Combination Reversing Starter — Non-fusible Disconnect with CPT

NEMA Size	Primary Voltage ^①	Max. hp Rating	Magnet Coil Voltage	Disconnect Switch Rating	Type 1 General Purpose	Type 3R Rainproof	Type 4X Watertight & Dust-Tight Stainless Steel ^⑦	Type 12 Dust-Tight Industrial External Reset ^{② ③}	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	208	1-1/2	120	30A	ECN18A1EAA	ECN18A2EAA	ECN18A4EAA	ECN18A8EAA	AN16AN0EC
	240	1-1/2			ECN18A1BAA	ECN18A2BAA	ECN18A4BAA	ECN18A8BAA	AN16AN0BC
	480	2			ECN18A1CAA	ECN18A2CAA	ECN18A4CAA	ECN18A8CAA	AN16AN0CC
	600	2			ECN18A1DAA	ECN18A2DAA	ECN18A4DAA	ECN18A8DAA	AN16AN0DC
0	208	3	120	30A	ECN1801EAA	ECN1802EAA	ECN1804EAA	ECN1808EAA	AN16BN0EC
	240	3			ECN1801BAA	ECN1802BAA	ECN1804BAA	ECN1808BAA	AN16BN0BC
	480	5			ECN1801CAA	ECN1802CAA	ECN1804CAA	ECN1808CAA	AN16BN0CC
	600	5			ECN1801DAA	ECN1802DAA	ECN1804DAA	ECN1808DAA	AN16BN0DC
1	208	7-1/2	120	30A	ECN1811EAA	ECN1812EAA	ECN1814EAA	ECN1818EAA	AN16DN0EB
	240	7-1/2			ECN1811BAA	ECN1812BAA	ECN1814BAA	ECN1818BAA	AN16DN0BB
	480	10			ECN1811CAA	ECN1812CAA	ECN1814CAA	ECN1818CAA	AN16DN0CB
	600	10			ECN1811DAA	ECN1812DAA	ECN1814DAA	ECN1818DAA	AN16DN0DB
2	208	10	120	60A	ECN1821EAA	ECN1822EAA	ECN1824EAA	ECN1828EAA	AN16GN0EB
	240	15			ECN1821BAA	ECN1822BAA	ECN1824BAA	ECN1828BAA	AN16GN0BB
	480	25			ECN1821CAA	ECN1822CAA	ECN1824CAA	ECN1828CAA	AN16GN0CB
	600	25			ECN1821DAA	ECN1822DAA	ECN1824DAA	ECN1828DAA	AN16GN0DB
3	208	25	120	100A	ECN1831EAA	ECN1832EAA	ECN1834EAA	ECN1838EAA	AN16KN0EB
	240	30			ECN1831BAA	ECN1832BAA	ECN1834BAA	ECN1838BAA	AN16KN0BB
	480	50			ECN1831CAA	ECN1832CAA	ECN1834CAA	ECN1838CAA	AN16KN0CB
	600	50			ECN1831DAA	ECN1832DAA	ECN1834DAA	ECN1838DAA	AN16KN0DB
4	208	40	120	200A	ECN1841EAA	ECN1842EAA	ECN1844EAA	ECN1848EAA	AN16NN0EB
	240	50			ECN1841BAA	ECN1842BAA	ECN1844BAA	ECN1848BAA	AN16NN0BB
	480	100			ECN1841CAA	ECN1842CAA	ECN1844CAA	ECN1848CAA	AN16NN0CB
	600	100			ECN1841DAA	ECN1842DAA	ECN1844DAA	ECN1848DAA	AN16NN0DB
5	208	75	120	400A	ECN1851EAA	ECN1852EAA	ECN1854EAA	ECN1858EAA	AN16SN0EB
	240	100			ECN1851BAA	ECN1852BAA	ECN1854BAA	ECN1858BAA	AN16SN0BB
	480	200			ECN1851CAA	ECN1852CAA	ECN1854CAA	ECN1858CAA	AN16SN0CB
	600	200			ECN1851DAA	ECN1852DAA	ECN1854DAA	ECN1858DAA	AN16SN0DB
6	208	150	120	600A	ECN1861EAA	ECN1862EAA	ECN1863EAA ^④	ECN1868EAA	AN16TN0EB
	240	200			ECN1861BAA	ECN1862BAA	ECN1863BAA ^④	ECN1868BAA	AN16TN0BB
	480	400			ECN1861CAA	ECN1862CAA	ECN1863CAA ^④	ECN1868CAA	AN16TN0CB
	600	400			ECN1861DAA	ECN1862DAA	ECN1863DAA ^④	ECN1868DAA	AN16TN0DB
7	240	300	120	⑤	ECN1871BAA	ECN1872BAA	ECN1873BAA ^④	ECN1878BAA	AN16UN0EB
	480	600			ECN1871CAA	ECN1872CAA	ECN1873CAA ^④	ECN1878CAA	AN16UN0CB
	600	600			ECN1871DAA	ECN1872DAA	ECN1873DAA ^④	ECN1878DAA	AN16UN0DB
8	240	450	120	⑤	ECN1881BAA	ECN1882BAA	ECN1883BAA ^④	ECN1888BAA	AN16VN0EB
	480	900			ECN1881CAA	ECN1882CAA	ECN1883CAA ^④	ECN1888CAA	AN16VN0CB
	600	900			ECN1881DAA	ECN1882DAA	ECN1883DAA ^④	ECN1888DAA	AN16VN0DB
9	240	800	120	⑤	ECN1891BAA	ECN1892BAA	ECN1893BAA ^④	ECN1898BAA	AN16WN0EB
	480	1000 ^⑥			ECN1891CAA	ECN1892CAA	ECN1893CAA ^④	ECN1898CAA	AN16WN0CB
	600	1000			ECN1891DAA	ECN1892DAA	ECN1893DAA ^④	ECN1898DAA	AN16WN0DB

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 Other control power transformer primary and/or secondary voltages, see Page 3-20.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code R5.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.
- ④ Type 4 (Painted steel) Sizes 6 – 9.
- ⑤ Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.
- ⑥ For 1250 and 1600 hp ratings at 460V, consult Eaton.
- ⑦ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN1804EAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Features

- 3-Phase Magnetic
- 3-Pole Non-reversing or Reversing
- Standard Interchangeable Heater OLR
- Optional Electronic Overload
- 600V Maximum
- 100,000 RMS 480V, 25,000 RMS 600V

Product Selection

Table 3-38. Class ECN22 — Combination Non-reversing Starter — Circuit Breaker

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage ①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ④ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ②③	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	200	1 1-1/2	120	HMCPE 7A	ECN22A1AAC	ECN22A2AAC	ECN22A4AAC	ECN22A8AAC	AN16AN0AC
				HMCPE 15A	ECN22A1AAD	ECN22A2AAD	ECN22A4AAD	ECN22A8AAD	
	230	1 1-1/2		HMCPE 7A	ECN22A1AAC	ECN22A2AAC	ECN22A4AAC	ECN22A8AAC	
				HMCPE 15A	ECN22A1AAD	ECN22A2AAD	ECN22A4AAD	ECN22A8AAD	
	460	1 2	HMCPE 3A	ECN22A1AAB	ECN22A2AAB	ECN22A4AAB	ECN22A8AAB	ECN22A8AAC	
		HMCPE 7A	ECN22A1AAC	ECN22A2AAC	ECN22A4AAC	ECN22A8AAC			
	575	1 2	HMCP 3A	ECN22A1AAB	ECN22A2AAB	ECN22A4AAB	ECN22A8AAB	ECN22A8AAC	
			HMCP 7A	ECN22A1AAC	ECN22A2AAC	ECN22A4AAC	ECN22A8AAC		
0	200	1 3	120	HMCPE 7A	ECN2201AAC	ECN2202AAC	ECN2204AAC	ECN2208AAC	AN16BN0AC
				HMCPE 15A	ECN2201AAD	ECN2202AAD	ECN2204AAD	ECN2208AAD	
	230	1 3		HMCPE 7A	ECN2201AAC	ECN2202AAC	ECN2204AAC	ECN2208AAC	
				HMCPE 15A	ECN2201AAD	ECN2202AAD	ECN2204AAD	ECN2208AAD	
	460	1 3 5	HMCPE 3A	ECN2201AAB	ECN2202AAB	ECN2204AAB	ECN2208AAB	ECN2208AAC	
		HMCPE 7A	ECN2201AAC	ECN2202AAC	ECN2204AAC	ECN2208AAC			
			HMCPE 15A	ECN2201AAD	ECN2202AAD	ECN2204AAD	ECN2208AAD		
	575	1 3 5	HMCP 3A	ECN2201AAB	ECN2202AAB	ECN2204AAB	ECN2208AAB	ECN2208AAC	
			HMCP 15A	ECN2201AAD	ECN2202AAD	ECN2204AAD	ECN2208AAD		
			HMCP 7A	ECN2201AAC	ECN2202AAC	ECN2204AAC	ECN2208AAC		
1	200	1 3 5 7-1/2	120	HMCPE 7A	ECN2211AAC	ECN2212AAC	ECN2214AAC	ECN2218AAC	AN16DN0AB
				HMCPE 15A	ECN2211AAD	ECN2212AAD	ECN2214AAD	ECN2218AAD	
				HMCPE 30A	ECN2211AAE	ECN2212AAE	ECN2214AAE	ECN2218AAE	
				HMCPE 50A	ECN2211AAF	ECN2212AAF	ECN2214AAF	ECN2218AAF	
	230	1 3 5 7-1/2		HMCPE 7A	ECN2211AAC	ECN2212AAC	ECN2214AAC	ECN2218AAC	
				HMCPE 15A	ECN2211AAD	ECN2212AAD	ECN2214AAD	ECN2218AAD	
				HMCPE 30A	ECN2211AAE	ECN2212AAE	ECN2214AAE	ECN2218AAE	
				HMCPE 50A	ECN2211AAF	ECN2212AAF	ECN2214AAF	ECN2218AAF	
	460	1 3 5 10		HMCPE 3A	ECN2211AAB	ECN2212AAB	ECN2214AAB	ECN2218AAB	
				HMCPE 7A	ECN2211AAC	ECN2212AAC	ECN2214AAC	ECN2218AAC	
				HMCPE 15A	ECN2211AAD	ECN2212AAD	ECN2214AAD	ECN2218AAD	
				HMCPE 30A	ECN2211AAE	ECN2212AAE	ECN2214AAE	ECN2218AAE	
575	1 3 5 10	HMCP 3A	ECN2211AAB	ECN2212AAB	ECN2214AAB	ECN2218AAB			
		HMCP 7A	ECN2211AAC	ECN2212AAC	ECN2214AAC	ECN2218AAC			
		HMCP 15A	ECN2211AAD	ECN2212AAD	ECN2214AAD	ECN2218AAD			
		HMCP 30A	ECN2211AAE	ECN2212AAE	ECN2214AAE	ECN2218AAE			

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 magnet coil voltages substitute the eighth digit with appropriate digit based on Table 3-17.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code R5.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.
- ④ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN2204AAC. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Non-metallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Table 3-38. Class ECN22 — Combination Non-reversing Starter — Circuit Breaker (Continued)

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage ①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ⑤ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ②③	Component Starter (Open)	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	
2	200	10	120	HMCP 50A	ECN2221AAF	ECN2222AAF	ECN2224AAF	ECN2228AAF	AN16GN0AB	
	230	10		HMCP 50A	ECN2221AAF	ECN2222AAF	ECN2224AAF	ECN2228AAF		
		15		HMCP 70A	ECN2221AAW	ECN2222AAW	ECN2224AAW	ECN2228AAW		
	460	25		HMCP 50A	ECN2221AAF	ECN2222AAF	ECN2224AAF	ECN2228AAF		
3	200	20	120	HMCP 30A	ECN2221AAE	ECN2222AAE	ECN2224AAE	ECN2228AAE	AN16KN0A	
		25		HMCP 50A	ECN2221AAF	ECN2222AAF	ECN2224AAF	ECN2228AAF		
	230	25		HMCP 100A	ECN2231AAG	ECN2232AAG	ECN2234AAG	ECN2238AAG		
		30		HMCP 100A	ECN2231AAX	ECN2232AAX	ECN2234AAX	ECN2238AAX		
460	50	HMCP 100A	ECN2231AAG	ECN2232AAG	ECN2234AAG	ECN2238AAG	ECN2238AAG			
	575	30	HMCP 50A	ECN2231AAF	ECN2232AAF	ECN2234AAF	ECN2238AAF			
4	200	40	120	HMCP 100A	ECN2231AAG	ECN2232AAG	ECN2234AAG	ECN2238AAG	AN16NN0A	
		50		HMCP 100A	ECN2231AAG	ECN2232AAG	ECN2234AAG	ECN2238AAG		
		100		HMCP 150A	ECN2241AAH	ECN2242AAH	ECN2244AAH	ECN2248AAH		
		100		HMCP 150A	ECN2241AAH	ECN2242AAH	ECN2244AAH	ECN2248AAH		
5	200	50	120	HMCP 150A	ECN2241AAH	ECN2242AAH	ECN2244AAH	ECN2248AAH	AN16SN0AB	
		75		HMCP 150A	ECN2241AAH	ECN2242AAH	ECN2244AAH	ECN2248AAH		
	230	60		HMCP 250A	ECN2251AAJ	ECN2252AAJ	ECN2254AAJ	ECN2258AAJ		
		100		HMCP 400A	ECN2251AAK	ECN2252AAK	ECN2254AAK	ECN2258AAK		
460	125	HMCP 250A	ECN2251AAJ	ECN2252AAJ	ECN2254AAJ	ECN2258AAJ	ECN2258AAK			
	200	HMCP 400A	ECN2251AAK	ECN2252AAK	ECN2254AAK	ECN2258AAK	ECN2258AAK			
6	200	150	120	HMCP 250A	ECN2251AAJ	ECN2252AAJ	ECN2254AAJ	ECN2258AAJ	AN16TN0AB	
		200		HMCP 400A	ECN2251AAK	ECN2252AAK	ECN2254AAK	ECN2258AAK		
	460	350		HMCP 250A	ECN2261AAL	ECN2262AAL	ECN2263AAL ④	ECN2268AAL		
		400		HMCP 400A	ECN2261AAP	ECN2262AAP	ECN2263AAP ④	ECN2268AAP		
7	230	300	120	HMCP 600A	ECN2261AAL	ECN2262AAL	ECN2263AAL ④	ECN2268AAL	AN16UN0AB	
		600		HMCP 600A	ECN2261AAL	ECN2262AAL	ECN2263AAL ④	ECN2268AAL		
		575		600	HMCP 600A	ECN2271AAU	ECN2272AAU	ECN2273AAU ④		ECN2278AAU
				600	HMCP 1200A	ECN2271AAU	ECN2272AAU	ECN2273AAU ④		ECN2278AAU
8	230	450	120	HMCP 600A	ECN2261AAL	ECN2262AAL	ECN2263AAL ④	ECN2268AAL	AN16VN0AB	
		900		HMCP 600A	ECN2261AAL	ECN2262AAL	ECN2263AAL ④	ECN2268AAL		
		900		HMCP 600A	ECN2261AAL	ECN2262AAL	ECN2263AAL ④	ECN2268AAL		
9	230	800	120	HMCP 600A	ECN2261AAL	ECN2262AAL	ECN2263AAL ④	ECN2268AAL	AN16WN0A	
		1600		HMCP 600A	ECN2261AAL	ECN2262AAL	ECN2263AAL ④	ECN2268AAL		
		1600		HMCP 600A	ECN2261AAL	ECN2262AAL	ECN2263AAL ④	ECN2268AAL		

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 magnet coil voltages substitute the eighth digit with appropriate digit based on Table 3-17.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code R5.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.
- ④ Type 4 (Painted steel) Sizes 6 – 9.
- ⑤ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN2204AAC. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination Starters — Circuit Breaker

Table 3-39. Class ECN22 — Special Enclosure Combination Non-reversing Starter — Circuit Breaker

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage ^①	Circuit Breaker Type	Type 1 General Purpose	Type 4X ^② Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial ^③		Component Starter (Open)		
					Catalog Number	Catalog Number	External Reset Catalog Number	Internal Rest Catalog Number	Catalog Number		
Horizontal Enclosure											
1	200	1 3 5 7-1/2	120	HMCPE 7A	ECN2211AAC-E13	ECN2212AAC-E13	ECN2214AAC-E13	ECN2218AAC-E13	AN16DN0AB		
				HMCPE 15A	ECN2211AAD-E13	ECN2212AAD-E13	ECN2214AAD-E13	ECN2218AAD-E13			
				HMCPE 30A	ECN2211AAE-E13	ECN2212AAE-E13	ECN2214AAE-E13	ECN2218AAE-E13			
				HMCPE 50A	ECN2211AAF-E13	ECN2212AAF-E13	ECN2214AAF-E13	ECN2218AAF-E13			
	230	1 3 5 7-1/2	HMCPE 7A	ECN2211AAC-E13	ECN2212AAC-E13	ECN2214AAC-E13	ECN2218AAC-E13				
			HMCPE 15A	ECN2211AAD-E13	ECN2212AAD-E13	ECN2214AAD-E13	ECN2218AAD-E13				
			HMCPE 30A	ECN2211AAE-E13	ECN2212AAE-E13	ECN2214AAE-E13	ECN2218AAE-E13				
			HMCPE 50A	ECN2211AAF-E13	ECN2212AAF-E13	ECN2214AAF-E13	ECN2218AAF-E13				
	460	1 3 5 10	HMCPE 3A	ECN2211AAB-E13	ECN2212AAB-E13	ECN2214AAB-E13	ECN2218AAB-E13				
			HMCPE 7A	ECN2211AAC-E13	ECN2212AAC-E13	ECN2214AAC-E13	ECN2218AAC-E13				
			HMCPE 15A	ECN2211AAD-E13	ECN2212AAD-E13	ECN2214AAD-E13	ECN2218AAD-E13				
			HMCPE 30A	ECN2211AAE-E13	ECN2212AAE-E13	ECN2214AAE-E13	ECN2218AAE-E13				
	575	1 3 5 10	HMCP 3A	ECN2211AAB-E13	ECN2212AAB-E13	ECN2214AAB-E13	ECN2218AAB-E13				
			HMCP 7A	ECN2211AAC-E13	ECN2212AAC-E13	ECN2214AAC-E13	ECN2218AAC-E13				
			HMCP 15A	ECN2211AAD-E13	ECN2212AAD-E13	ECN2214AAD-E13	ECN2218AAD-E13				
			HMCP 30A	ECN2211AAE-E13	ECN2212AAE-E13	ECN2214AAE-E13	ECN2218AAE-E13				
2	200	10	120	HMCPE 50A	ECN2221AAF-E13	ECN2222AAF-E13	ECN2224AAF-E13	ECN2228AAF-E13	AN16GN0AB		
				HMCPE 70A	ECN2221AAW-E13	ECN2222AAW-E13	ECN2224AAW-E13	ECN2228AAW-E13			
	230	10 15		HMCPE 50A	ECN2221AAF-E13	ECN2222AAF-E13	ECN2224AAF-E13	ECN2228AAF-E13			
				HMCPE 70A	ECN2221AAW-E13	ECN2222AAW-E13	ECN2224AAW-E13	ECN2228AAW-E13			
	460	25		HMCPE 50A	ECN2221AAF-E13	ECN2222AAF-E13	ECN2224AAF-E13	ECN2228AAF-E13			
				HMCPE 70A	ECN2221AAW-E13	ECN2222AAW-E13	ECN2224AAW-E13	ECN2228AAW-E13			
	575	15 25		HMCP 30A	ECN2221AAE-E13	ECN2222AAE-E13	ECN2224AAE-E13	ECN2228AAE-E13			
				HMCP 50A	ECN2221AAF-E13	ECN2222AAF-E13	ECN2224AAF-E13	ECN2228AAF-E13			
OverSize Enclosure — without Control Transformer											
0	200	1 3	120	HMCPE 7A	ECN2201AAC-E3	ECN2202AAC-E3	ECN2204AAC-E3	ECN2208AAC-E3	AN16BN0AC		
				HMCPE 15A	ECN2201AAD-E3	ECN2202AAD-E3	ECN2204AAD-E3	ECN2208AAD-E3			
				230	1 3	HMCPE 7A	ECN2201AAC-E3	ECN2202AAC-E3		ECN2204AAC-E3	ECN2208AAC-E3
						HMCPE 15A	ECN2201AAD-E3	ECN2202AAD-E3		ECN2204AAD-E3	ECN2208AAD-E3
	460	1 3 5	HMCPE 3A	ECN2201AAB-E3	ECN2202AAB-E3	ECN2204AAB-E3	ECN2208AAB-E3				
			HMCPE 7A	ECN2201AAC-E3	ECN2202AAC-E3	ECN2204AAC-E3	ECN2208AAC-E3				
			575	1 3 5	HMCP 3A	ECN2201AAB-E3	ECN2202AAB-E3	ECN2204AAB-E3		ECN2208AAB-E3	
					HMCP 15A	ECN2201AAD-E3	ECN2202AAD-E3	ECN2204AAD-E3		ECN2208AAD-E3	
	575	1 3 5	HMCP 7A	ECN2201AAC-E3	ECN2202AAC-E3	ECN2204AAC-E3	ECN2208AAC-E3				
			HMCPE 7A	ECN2201AAC-E3	ECN2202AAC-E3	ECN2204AAC-E3	ECN2208AAC-E3				
			HMCPE 15A	ECN2201AAD-E3	ECN2202AAD-E3	ECN2204AAD-E3	ECN2208AAD-E3				
			HMCPE 30A	ECN2201AAE-E3	ECN2202AAE-E3	ECN2204AAE-E3	ECN2208AAE-E3				
	1	200	1 3 5 7-1/2	120	HMCPE 7A	ECN2211AAC-E3	ECN2212AAC-E3	ECN2214AAC-E3		ECN2218AAC-E3	AN16DN0AB
					HMCPE 15A	ECN2211AAD-E3	ECN2212AAD-E3	ECN2214AAD-E3		ECN2218AAD-E3	
					HMCPE 30A	ECN2211AAE-E3	ECN2212AAE-E3	ECN2214AAE-E3		ECN2218AAE-E3	
					HMCPE 50A	ECN2211AAF-E3	ECN2212AAF-E3	ECN2214AAF-E3		ECN2218AAF-E3	
230		1 3 5 7-1/2	HMCPE 7A	ECN2211AAC-E3	ECN2212AAC-E3	ECN2214AAC-E3	ECN2218AAC-E3				
			HMCPE 15A	ECN2211AAD-E3	ECN2212AAD-E3	ECN2214AAD-E3	ECN2218AAD-E3				
			HMCPE 30A	ECN2211AAE-E3	ECN2212AAE-E3	ECN2214AAE-E3	ECN2218AAE-E3				
			HMCPE 50A	ECN2211AAF-E3	ECN2212AAF-E3	ECN2214AAF-E3	ECN2218AAF-E3				
460		1 3 5 10	HMCPE 3A	ECN2211AAB-E3	ECN2212AAB-E3	ECN2214AAB-E3	ECN2218AAB-E3				
			HMCPE 7A	ECN2211AAC-E3	ECN2212AAC-E3	ECN2214AAC-E3	ECN2218AAC-E3				
			HMCPE 15A	ECN2211AAD-E3	ECN2212AAD-E3	ECN2214AAD-E3	ECN2218AAD-E3				
			HMCPE 30A	ECN2211AAE-E3	ECN2212AAE-E3	ECN2214AAE-E3	ECN2218AAE-E3				
575		1 3 5 10	HMCP 3A	ECN2211AAB-E3	ECN2212AAB-E3	ECN2214AAB-E3	ECN2218AAB-E3				
			HMCP 7A	ECN2211AAC-E3	ECN2212AAC-E3	ECN2214AAC-E3	ECN2218AAC-E3				
			HMCP 15A	ECN2211AAD-E3	ECN2212AAD-E3	ECN2214AAD-E3	ECN2218AAD-E3				
			HMCP 30A	ECN2211AAE-E3	ECN2212AAE-E3	ECN2214AAE-E3	ECN2218AAE-E3				
2	200	10	120	HMCPE 50A	ECN2221AAF-E3	ECN2222AAF-E3	ECN2224AAF-E3	ECN2228AAF-E3	AN16GN0AB		
				HMCPE 70A	ECN2221AAW-E3	ECN2222AAW-E3	ECN2224AAW-E3	ECN2228AAW-E3			
	230	10 15		HMCPE 50A	ECN2221AAF-E3	ECN2222AAF-E3	ECN2224AAF-E3	ECN2228AAF-E3			
				HMCPE 70A	ECN2221AAW-E3	ECN2222AAW-E3	ECN2224AAW-E3	ECN2228AAW-E3			
	460	25		HMCPE 50A	ECN2221AAF-E3	ECN2222AAF-E3	ECN2224AAF-E3	ECN2228AAF-E3			
				HMCPE 70A	ECN2221AAW-E3	ECN2222AAW-E3	ECN2224AAW-E3	ECN2228AAW-E3			
	575	15 25		HMCP 30A	ECN2221AAE-E3	ECN2222AAE-E3	ECN2224AAE-E3	ECN2228AAE-E3			
				HMCP 50A	ECN2221AAF-E3	ECN2222AAF-E3	ECN2224AAF-E3	ECN2228AAF-E3			

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 magnet coil voltages substitute the eighth digit with appropriate digit based on Table 3-17.

② To order Type 12 enclosures with safety door interlock add modification E11.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN2204AAC-E3. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control	Page 3-21
Other Magnet Coils	Page 3-20
Dimensions	Page 15-2
Accessories	Page 16-4
Modifications	Page 16-40
Technical Data	Page 18-7

Combination Starters — Circuit Breaker

Table 3-40. Class ECN23 — Combination Reversing Starter — Circuit Breaker ④

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage ①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ⑤ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ②③	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	200	1 1-1/2	120	HMCPE 7A HMCPE 15A	ECN23A1AAC ECN23A1AAD	ECN23A2AAC ECN23A2AAD	ECN23A4AAC ECN23A4AAD	ECN23A8AAC ECN23A8AAD	AN56AN0AC
	230	1 1-1/2		HMCPE 7A HMCPE 15A	ECN23A1AAC ECN23A1AAD	ECN23A2AAC ECN23A2AAD	ECN23A4AAC ECN23A4AAD	ECN23A8AAC ECN23A8AAD	
	460	1 2		HMCPE 3A HMCPE 7A	ECN23A1AAB ECN23A1AAC	ECN23A2AAB ECN23A2AAC	ECN23A4AAB ECN23A4AAC	ECN23A8AAB ECN23A8AAC	
	575	1 2		HMCP 3A HMCP 7A	ECN23A1AAB ECN23A1AAC	ECN23A2AAB ECN23A2AAC	ECN23A4AAB ECN23A4AAC	ECN23A8AAB ECN23A8AAC	
0	200	1 3	120	HMCPE 7A HMCPE 15A	ECN2301AAC ECN2301AAD	ECN2302AAC ECN2302AAD	ECN2304AAC ECN2304AAD	ECN2308AAC ECN2308AAD	AN56BN0AC
	230	1 3		HMCPE 7A HMCPE 15A	ECN2301AAC ECN2301AAD	ECN2302AAC ECN2302AAD	ECN2304AAC ECN2304AAD	ECN2308AAC ECN2308AAD	
	460	1 3 5		HMCPE 3A HMCPE 7A HMCPE 15A	ECN2301AAB ECN2301AAC ECN2301AAD	ECN2302AAB ECN2302AAC ECN2302AAD	ECN2304AAB ECN2304AAC ECN2304AAD	ECN2308AAB ECN2308AAC ECN2308AAD	
	575	1 3 5		HMCP 3A HMCP 15A HMCP 7A	ECN2301AAB ECN2301AAD ECN2301AAC	ECN2302AAB ECN2302AAD ECN2302AAC	ECN2304AAB ECN2304AAD ECN2304AAC	ECN2308AAB ECN2308AAD ECN2308AAC	
1	200	1 3 5 7-1/2	120	HMCPE 7A HMCPE 15A HMCPE 30A HMCPE 50A	ECN2311AAC ECN2311AAD ECN2311AAE ECN2311AAF	ECN2312AAC ECN2312AAD ECN2312AAE ECN2312AAF	ECN2314AAC ECN2314AAD ECN2314AAE ECN2314AAF	ECN2318AAC ECN2318AAD ECN2318AAE ECN2318AAF	AN56DN0AB
	230	1 3 5 7-1/2		HMCPE 7A HMCPE 15A HMCPE 30A HMCPE 50A	ECN2311AAC ECN2311AAD ECN2311AAE ECN2311AAF	ECN2312AAC ECN2312AAD ECN2312AAE ECN2312AAF	ECN2314AAC ECN2314AAD ECN2314AAE ECN2314AAF	ECN2318AAC ECN2318AAD ECN2318AAE ECN2318AAF	
	460	1 3 5 10		HMCPE 3A HMCPE 7A HMCPE 15A HMCPE 30A	ECN2311AAB ECN2311AAC ECN2311AAD ECN2311AAE	ECN2312AAB ECN2312AAC ECN2312AAD ECN2312AAE	ECN2314AAB ECN2314AAC ECN2314AAD ECN2314AAE	ECN2318AAB ECN2318AAC ECN2318AAD ECN2318AAE	
	575	1 3 5 10		HMCP 3A HMCP 7A HMCP 15A HMCP 30A	ECN2311AAB ECN2311AAC ECN2311AAD ECN2311AAE	ECN2312AAB ECN2312AAC ECN2312AAD ECN2312AAE	ECN2314AAB ECN2314AAC ECN2314AAD ECN2314AAE	ECN2318AAB ECN2318AAC ECN2318AAD ECN2318AAE	
2	200	10	120	HMCPE 50A	ECN2321AAF	ECN2322AAF	ECN2324AAF	ECN2328AAF	AN56GN0AB
	230	10 15		HMCPE 50A HMCPE 70A	ECN2321AAF ECN2321AAW	ECN2322AAF ECN2322AAW	ECN2324AAF ECN2324AAW	ECN2328AAF ECN2328AAW	
	460	25		HMCPE 50A	ECN2321AAF	ECN2322AAF	ECN2324AAF	ECN2328AAF	
	575	15 25		HMCP 30A HMCP 50A	ECN2321AAE ECN2321AAF	ECN2322AAE ECN2322AAF	ECN2324AAE ECN2324AAF	ECN2328AAE ECN2328AAF	

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 magnet coil voltages substitute the eighth digit with appropriate digit based on Table 3-17.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code R5.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.
- ④ 100,000 RMS short-circuit – 480V
25,000 RMS short-circuit – 600V
- ⑤ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN2304AAC. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination Starters — Circuit Breaker

Table 3-40. Class ECN23 — Combination Reversing Starter — Circuit Breaker (Continued)

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage ^①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^⑦ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ^{②③}	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
3	200	20 25	120	HMCPE 100A	ECN2331AAG	ECN2332AAG	ECN2334AAG	ECN2338AAG	AN56KN0A
				HMCPE 100A	ECN2331AAX	ECN2332AAX	ECN2334AAX	ECN2338AAX	
	230	25 30		HMCPE 100A	ECN2331AAG	ECN2332AAG	ECN2334AAG	ECN2338AAG	
				HMCPE 100A	ECN2331AAX	ECN2332AAX	ECN2334AAX	ECN2338AAX	
	460	50	HMCPE 100A	ECN2331AAG	ECN2332AAG	ECN2334AAG	ECN2338AAG		
	575	30 50	HMCP 50A	ECN2331AAF	ECN2332AAF	ECN2334AAF	ECN2338AAF		
			HMCP 100A	ECN2331AAG	ECN2332AAG	ECN2334AAG	ECN2338AAG		
4	200	40	120	HMCP 150A	ECN2341AAH	ECN2342AAH	ECN2344AAH	ECN2348AAH	AN56NN0A
				HMCP 150A	ECN2341AAH	ECN2342AAH	ECN2344AAH	ECN2348AAH	
	230	50		HMCP 150A	ECN2341AAH	ECN2342AAH	ECN2344AAH	ECN2348AAH	
				HMCP 150A	ECN2341AAH	ECN2342AAH	ECN2344AAH	ECN2348AAH	
	460	100	HMCP 150A	ECN2341AAH	ECN2342AAH	ECN2344AAH	ECN2348AAH		
	575	100	HMCP 150A	ECN2341AAH	ECN2342AAH	ECN2344AAH	ECN2348AAH		
5	200	50 75	230	HMCP 250A	ECN2351AAJ	ECN2352AAJ	ECN2354AAJ	ECN2358AAJ	AN56SN0AB
				HMCP 400A	ECN2351AAK	ECN2352AAK	ECN2354AAK	ECN2358AAK	
	230	60 100		HMCP 250A	ECN2351AAJ	ECN2352AAJ	ECN2354AAJ	ECN2358AAJ	
				HMCP 400A	ECN2351AAK	ECN2352AAK	ECN2354AAK	ECN2358AAK	
	460	125 200	HMCP 250A	ECN2351AAJ	ECN2352AAJ	ECN2354AAJ	ECN2358AAJ		
			HMCP 400A	ECN2351AAK	ECN2352AAK	ECN2354AAK	ECN2358AAK		
	575	150 200	HMCP 250A	ECN2351AAJ	ECN2352AAJ	ECN2354AAJ	ECN2358AAJ		
			HMCP 400A	ECN2351AAK	ECN2352AAK	ECN2354AAK	ECN2358AAK		
6	200	150	120	HMCP 600A	ECN2361AAL	ECN2362AAL	ECN2363AAL ^⑤	ECN2368AAL	AN56TN0AB
				HMCP 600A	ECN2361AAL	ECN2362AAL	ECN2363AAL ^⑤	ECN2368AAL	
	230	200		HMCP 600A	ECN2361AAL	ECN2362AAL	ECN2363AAL ^⑤	ECN2368AAL	
				HMCP 1200A	ECN2361AAP	ECN2362AAP	ECN2363AAP ^⑤	ECN2368AAP	
	460	350 400	HMCP 600A	ECN2361AAL	ECN2362AAL	ECN2363AAL ^⑤	ECN2368AAL		
			HMCP 600A	ECN2361AAL	ECN2362AAL	ECN2363AAL ^⑤	ECN2368AAL		
	575	400	HMCP 600A	ECN2361AAL	ECN2362AAL	ECN2363AAL ^⑤	ECN2368AAL		
7	230	300	120	—	ECN2371AAU ^⑥	ECN2372AAU ^⑥	ECN2373AAU ^{⑥⑥}	ECN2378AAU ^⑥	AN56UN0AB
				—	ECN2371AAU ^⑥	ECN2372AAU ^⑥	ECN2373AAU ^{⑥⑥}	ECN2378AAU ^⑥	
	460	600		—	ECN2371AAU ^⑥	ECN2372AAU ^⑥	ECN2373AAU ^{⑥⑥}	ECN2378AAU ^⑥	
	575	600	—	ECN2371AAU ^⑥	ECN2372AAU ^⑥	ECN2373AAU ^{⑥⑥}	ECN2378AAU ^⑥		
8	230	450	120	—	ECN2381AAU ^⑥	ECN2382AAU ^⑥	ECN2383AAU ^{⑥⑥}	ECN2388AAU ^⑥	AN56VN0AB
				—	ECN2381AAU ^⑥	ECN2382AAU ^⑥	ECN2383AAU ^{⑥⑥}	ECN2388AAU ^⑥	
	460	900		—	ECN2381AAU ^⑥	ECN2382AAU ^⑥	ECN2383AAU ^{⑥⑥}	ECN2388AAU ^⑥	
	575	900	—	ECN2381AAU ^⑥	ECN2382AAU ^⑥	ECN2383AAU ^{⑥⑥}	ECN2388AAU ^⑥		
9	230	800	120	—	ECN2391AAU ^⑥	ECN2392AAU ^⑥	ECN2393AAU ^{⑥⑥}	ECN2398AAU ^⑥	AN56WN0A
				—	ECN2391AAU ^⑥	ECN2392AAU ^⑥	ECN2393AAU ^{⑥⑥}	ECN2398AAU ^⑥	
	460	1600		—	ECN2391AAU ^⑥	ECN2392AAU ^⑥	ECN2393AAU ^{⑥⑥}	ECN2398AAU ^⑥	
	575	1600	—	ECN2391AAU ^⑥	ECN2392AAU ^⑥	ECN2393AAU ^{⑥⑥}	ECN2398AAU ^⑥		

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 magnet coil voltages substitute the eighth digit with appropriate digit based on Table 3-17.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code R5.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.
- ④ 100,000 RMS Short-circuit – 480V
25,000 RMS Short-circuit – 600V
- ⑤ Type 4 (Painted steel) Sizes 6 – 9.
- ⑥ Provide FLA to size disconnect properly.
- ⑦ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN2304AAC. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination Starters — Circuit Breaker

3

Table 3-41. Class ECN24 — Combination Non-reversing Starter — Circuit Breaker with CPT ④

NEMA Size	Motor Voltage ①	Max. hp Rating	Magnet Coil Voltage ①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ⑤ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ②③	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	200	1 1-1/2	120	HMCPE 7A	ECN24A1EAC	ECN24A2EAC	ECN24A4EAC	ECN24A8EAC	AN16AN0AC
				HMCPE 15A	ECN24A1EAD	ECN24A2EAD	ECN24A4EAD	ECN24A8EAD	
	230	1 1-1/2		HMCPE 7A	ECN24A1BAC	ECN24A2BAC	ECN24A4BAC	ECN24A8BAC	
				HMCPE 15A	ECN24A1BAD	ECN24A2BAD	ECN24A4BAD	ECN24A8BAD	
460	1 2	HMCPE 3A	ECN24A1CAB	ECN24A2CAB	ECN24A4CAB	ECN24A8CAB			
		HMCPE 7A	ECN24A1CAC	ECN24A2CAC	ECN24A4CAC	ECN24A8CAC			
575	1 2	HMCP 3A	ECN24A1DAB	ECN24A2DAB	ECN24A4DAB	ECN24A8DAB			
		HMCP 7A	ECN24A1DAC	ECN24A2DAC	ECN24A4DAC	ECN24A8DAC			
0	200	1 3	120	HMCPE 7A	ECN2401EAC	ECN2402EAC	ECN2404EAC	ECN2408EAC	AN16BN0AC
				HMCPE 15A	ECN2401EAD	ECN2402EAD	ECN2404EAD	ECN2408EAD	
	230	1 3		HMCPE 7A	ECN2401BAC	ECN2402BAC	ECN2404BAC	ECN2408BAC	
				HMCPE 15A	ECN2401BAD	ECN2402BAD	ECN2404BAD	ECN2408BAD	
460	1 3 5	HMCPE 3A	ECN2401CAB	ECN2402CAB	ECN2404CAB	ECN2408CAB			
		HMCPE 7A	ECN2401CAC	ECN2402CAC	ECN2404CAC	ECN2408CAC			
575	1 3 5	HMCP 3A	ECN2401DAB	ECN2402DAB	ECN2404DAB	ECN2408DAB			
		HMCP 15A	ECN2401DAD	ECN2402DAD	ECN2404DAD	ECN2408DAD			
575	1 3 5	HMCP 7A	ECN2401DAC	ECN2402DAC	ECN2404DAC	ECN2408DAC			
1	200	1 3 5 7-1/2	120	HMCPE 7A	ECN2411EAC	ECN2412EAC	ECN2414EAC	ECN2418EAC	AN16DN0AB
				HMCPE 15A	ECN2411EAD	ECN2412EAD	ECN2414EAD	ECN2418EAD	
	230	1 3 5 7-1/2		HMCPE 30A	ECN2411EAE	ECN2412EAE	ECN2414EAE	ECN2418EAE	
				HMCPE 50A	ECN2411EAF	ECN2412EAF	ECN2414EAF	ECN2418EAF	
460	1 3 5 10	HMCPE 7A	ECN2411BAC	ECN2412BAC	ECN2414BAC	ECN2418BAC			
		HMCPE 15A	ECN2411BAD	ECN2412BAD	ECN2414BAD	ECN2418BAD			
575	1 3 5 10	HMCPE 30A	ECN2411BAE	ECN2412BAE	ECN2414BAE	ECN2418BAE			
		HMCPE 50A	ECN2411BAF	ECN2412BAF	ECN2414BAF	ECN2418BAF			
2	200	10 15	120	HMCPE 3A	ECN2411CAB	ECN2412CAB	ECN2414CAB	ECN2418CAB	AN16GN0AB
				HMCPE 7A	ECN2411CAC	ECN2412CAC	ECN2414CAC	ECN2418CAC	
	460	25		HMCPE 15A	ECN2411CAD	ECN2412CAD	ECN2414CAD	ECN2418CAD	
				HMCPE 30A	ECN2411CAE	ECN2412CAE	ECN2414CAE	ECN2418CAE	
575	15 25	HMCP 3A	ECN2411DAB	ECN2412DAB	ECN2414DAB	ECN2418DAB			
		HMCP 7A	ECN2411DAC	ECN2412DAC	ECN2414DAC	ECN2418DAC			
575	15 25	HMCP 15A	ECN2411DAD	ECN2412DAD	ECN2414DAD	ECN2418DAD			
		HMCP 30A	ECN2411DAE	ECN2412DAE	ECN2414DAE	ECN2418DAE			
2	200	10 15	120	HMCPE 50A	ECN2421EAF	ECN2422EAF	ECN2424EAF	ECN2428EAF	AN16GN0AB
				HMCPE 70A	ECN2421BAW	ECN2422BAW	ECN2424BAW	ECN2428BAW	
	460	25		HMCPE 50A	ECN2421CAF	ECN2422CAF	ECN2424CAF	ECN2428CAF	
				HMCP 30A	ECN2421CAE	ECN2422CAE	ECN2424CAE	ECN2428CAE	
575	15 25	HMCP 50A	ECN2421DAF	ECN2422DAF	ECN2424DAF	ECN2428DAF			

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 voltages, substitute the eighth digit with appropriate digit based on Table 3-18.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code R5.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.
- ④ 100,000 RMS short-circuit – 480V
25,000 RMS short-circuit – 600V
- ⑤ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN2404AAC. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination Starters — Circuit Breaker

Table 3-41. Class ECN24 — Combination Non-reversing Starter — Circuit Breaker with CPT ④ (Continued)

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage ①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ⑦ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ②③	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
3	200	20 25	120	HMCPE 100A HMCPE 100A	ECN2431EAG ECN2431EAX	ECN2432EAG ECN2432EAX	ECN2434EAG ECN2434EAX	ECN2438EAG ECN2438EAX	AN16KN0A
	230	25 30		HMCPE 100A HMCPE 100A	ECN2431BAG ECN2431BAX	ECN2432BAG ECN2432BAX	ECN2434BAG ECN2434BAX	ECN2438BAG ECN2438BAX	
	460	50		HMCPE 100A	ECN2431CAG ECN2431CAX	ECN2432CAG ECN2432CAX	ECN2434CAG ECN2434CAX	ECN2438CAG ECN2438CAX	
	575	30 50		HMCP 50A HMCP 100A	ECN2431DAF ECN2431DAG	ECN2432DAF ECN2432DAG	ECN2434DAF ECN2434DAG	ECN2438DAF ECN2438DAG	
4	200	40	120	HMCP 150A HMCP 150A	ECN2441EAH ECN2441BAH	ECN2442EAH ECN2442BAH	ECN2444EAH ECN2444BAH	ECN2448EAH ECN2448BAH	AN16NN0A
	230	50		HMCP 150A HMCP 150A	ECN2441CAH ECN2441DAH	ECN2442CAH ECN2442DAH	ECN2444CAH ECN2444DAH	ECN2448CAH ECN2448DAH	
	460	100		HMCP 150A HMCP 150A	ECN2441CAH ECN2441DAH	ECN2442CAH ECN2442DAH	ECN2444CAH ECN2444DAH	ECN2448CAH ECN2448DAH	
	575	100		HMCP 150A HMCP 150A	ECN2441CAH ECN2441DAH	ECN2442CAH ECN2442DAH	ECN2444CAH ECN2444DAH	ECN2448CAH ECN2448DAH	
5	200	50 75	120	HMCP 250A HMCP 400A	ECN2451EAJ ECN2451EAK	ECN2452EAJ ECN2452EAK	ECN2454EAJ ECN2454EAK	ECN2458EAJ ECN2458EAK	AN16SN0AB
	230	60 100		HMCP 250A HMCP 400A	ECN2451BAJ ECN2451BAK	ECN2452BAJ ECN2452BAK	ECN2454BAJ ECN2454BAK	ECN2458BAJ ECN2458BAK	
	460	125 200		HMCP 250A HMCP 400A	ECN2451CAJ ECN2451CAK	ECN2452CAJ ECN2452CAK	ECN2454CAJ ECN2454CAK	ECN2458CAJ ECN2458CAK	
	575	150 200		HMCP 250A HMCP 400A	ECN2451DAJ ECN2451DAK	ECN2452DAJ ECN2452DAK	ECN2454DAJ ECN2454DAK	ECN2458DAJ ECN2458DAK	
6	200	150	120	HMCP 600A	ECN2461EAL	ECN2462EAL	ECN2463EAL ⑤	ECN2468EAL	AN16TN0AB
	230	200		HMCP 600A	ECN2461BAL	ECN2462BAL	ECN2463BAL ⑤	ECN2468BAL	
	460	350 400		HMCP 600A HMCP 1200A	ECN2461CAL ECN2461CAP	ECN2462CAL ECN2462CAP	ECN2463CAL ⑤ ECN2463CAP ⑤	ECN2468CAL ECN2468CAP	
	575	400		HMCP 600A	ECN2461DAL	ECN2462DAL	ECN2463DAL ⑤	ECN2468DAL	
7	230	300	120	—	ECN2471BAU ⑥	ECN2472BAU ⑥	ECN2473BAU ⑥⑥	ECN2478BAU ⑥	AN16UN0AB
	460	600		—	ECN2471CAU ⑥	ECN2472CAU ⑥	ECN2473CAU ⑥⑥	ECN2478CAU ⑥	
	575	600		—	ECN2471DAU ⑥	ECN2472DAU ⑥	ECN2473DAU ⑥⑥	ECN2478DAU ⑥	
8	230	450	120	—	ECN2481BAU ⑥	ECN2482BAU ⑥	ECN2483BAU ⑥⑥	ECN2488BAU ⑥	AN16VN0AB
	460	900		—	ECN2481CAU ⑥	ECN2482CAU ⑥	ECN2483CAU ⑥⑥	ECN2488CAU ⑥	
	575	900		—	ECN2481DAU ⑥	ECN2482DAU ⑥	ECN2483DAU ⑥⑥	ECN2488DAU ⑥	
9	230	800	120	—	ECN2491BAU ⑥	ECN2492BAU ⑥	ECN2493BAU ⑥⑥	ECN2498BAU ⑥	AN16WN0A
	460	1600		—	ECN2491CAU ⑥	ECN2492CAU ⑥	ECN2493CAU ⑥⑥	ECN2498CAU ⑥	
	575	1600		—	ECN2491DAU ⑥	ECN2492DAU ⑥	ECN2493DAU ⑥⑥	ECN2498DAU ⑥	

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 voltages, substitute the eighth digit with appropriate digit based on Table 3-18.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code R5.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.
- ④ 100,000 RMS short-circuit – 480V
25,000 RMS short-circuit – 600V
- ⑤ Type 4 (Painted steel) Sizes 6 – 9.
- ⑥ Provide FLA to size disconnect properly.
- ⑦ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN2404AAC. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Cover Control Page 3-21
 Other Magnet Coils Page 3-20
 Dimensions Page 15-2
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Wiring Diagrams

Wiring Diagrams

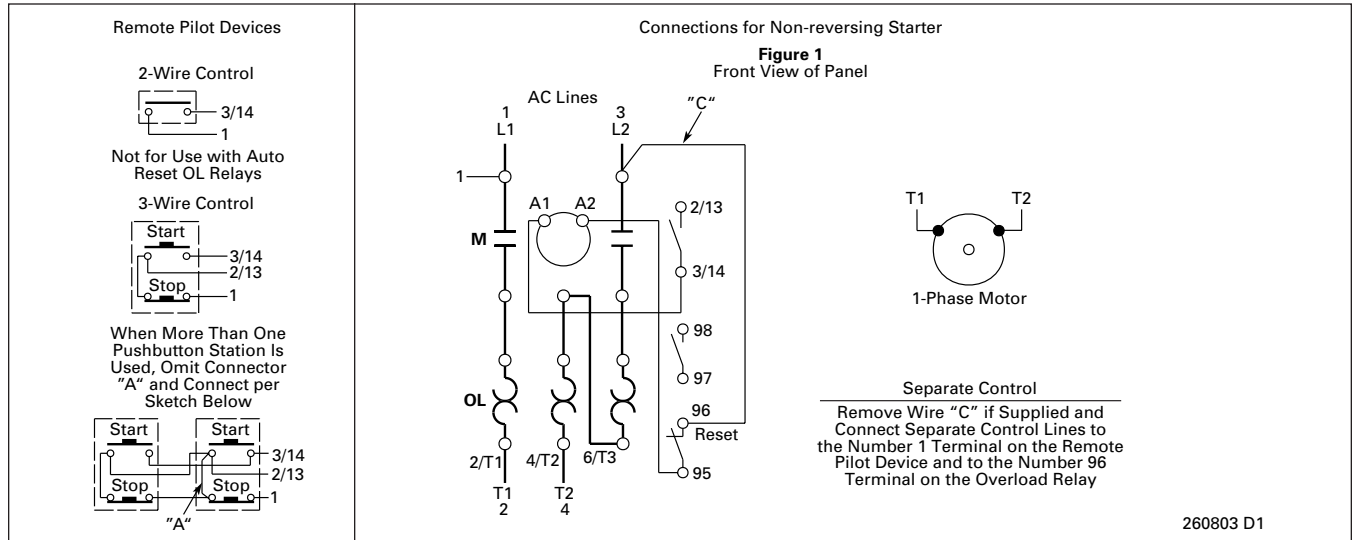


Figure 3-3. Non-reversing Starter — Single-Phase Non-combination

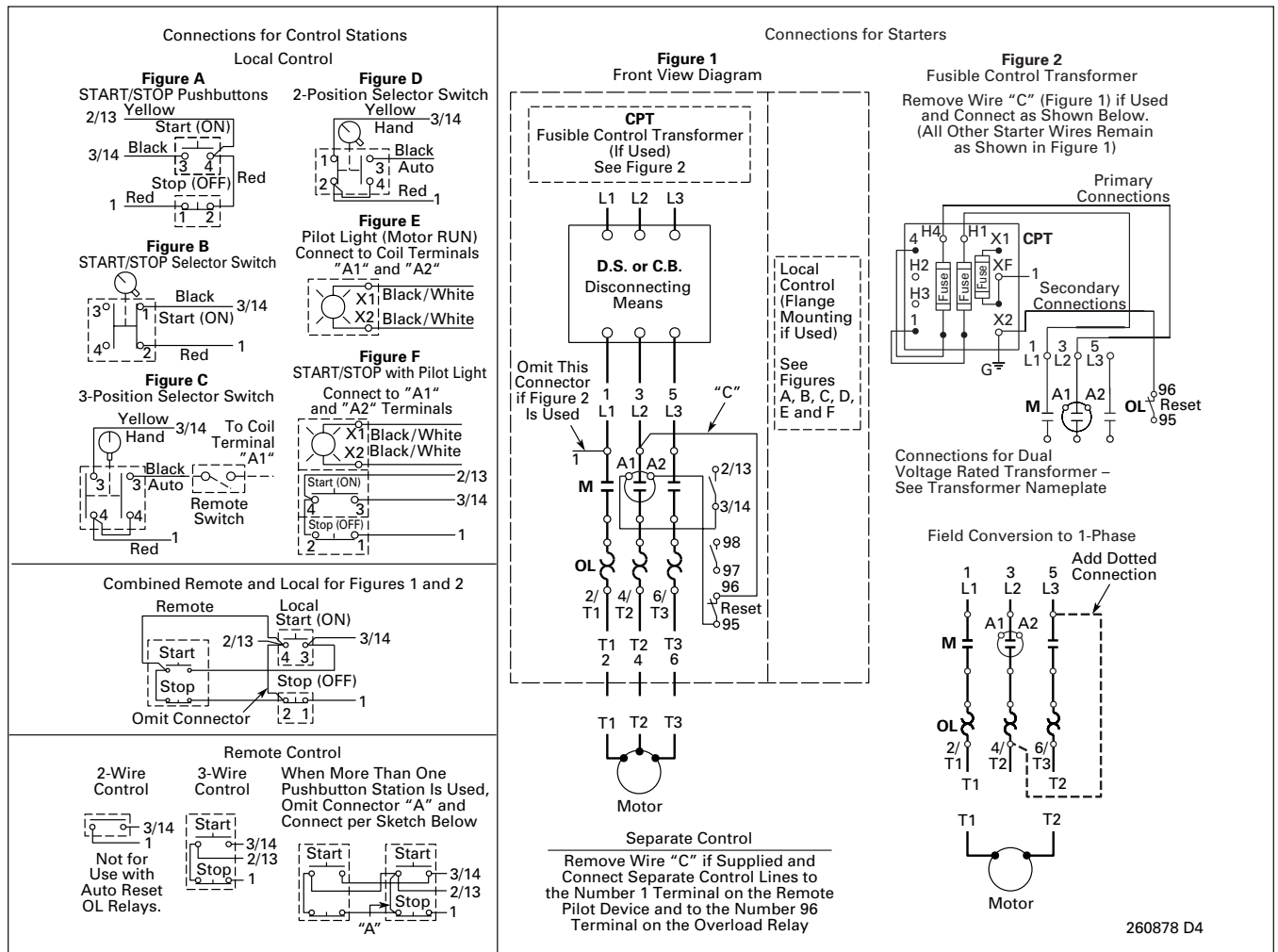


Figure 3-4. Non-reversing Starter — Combination

Wiring Diagrams

3

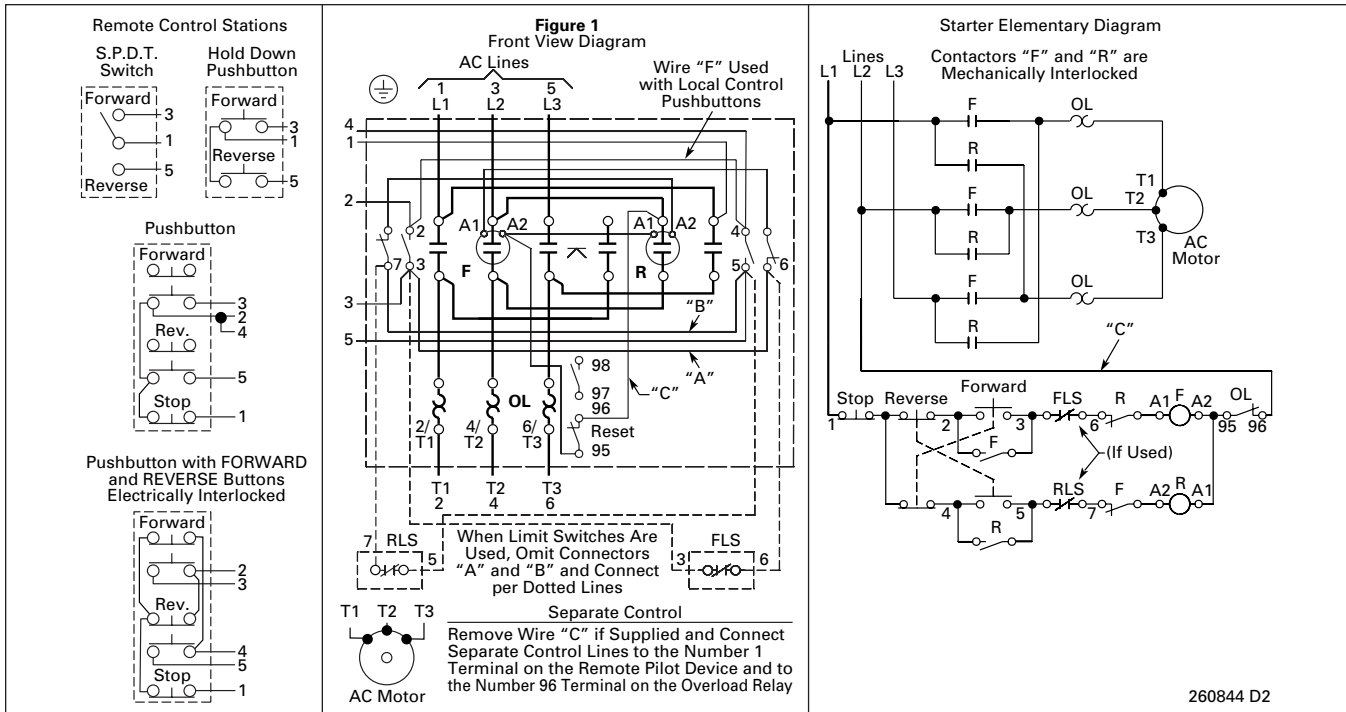


Figure 3-5. Reversing Starter — Non-combination

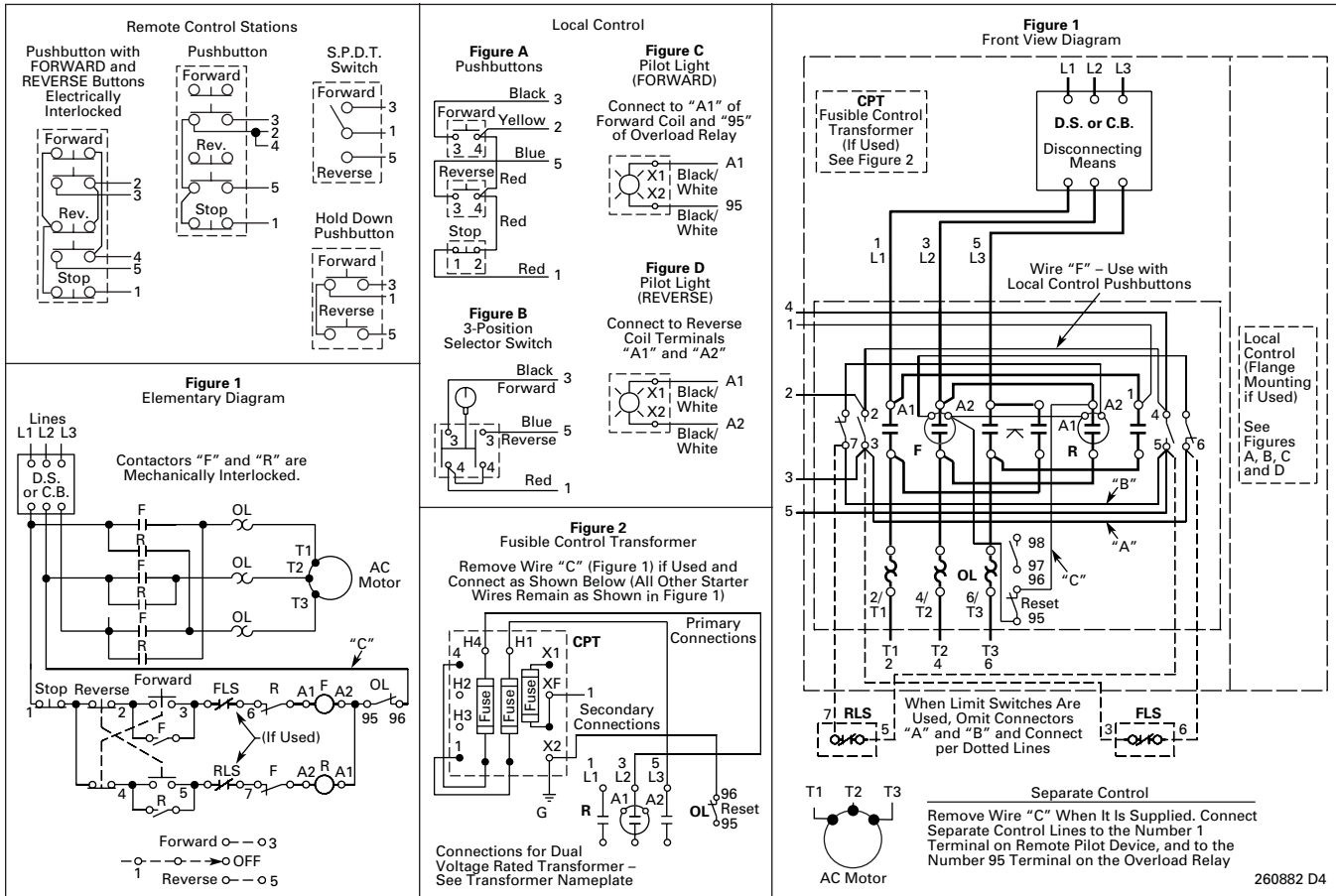


Figure 3-6. Reversing Starter — Combination

Non-reversing Cover Control

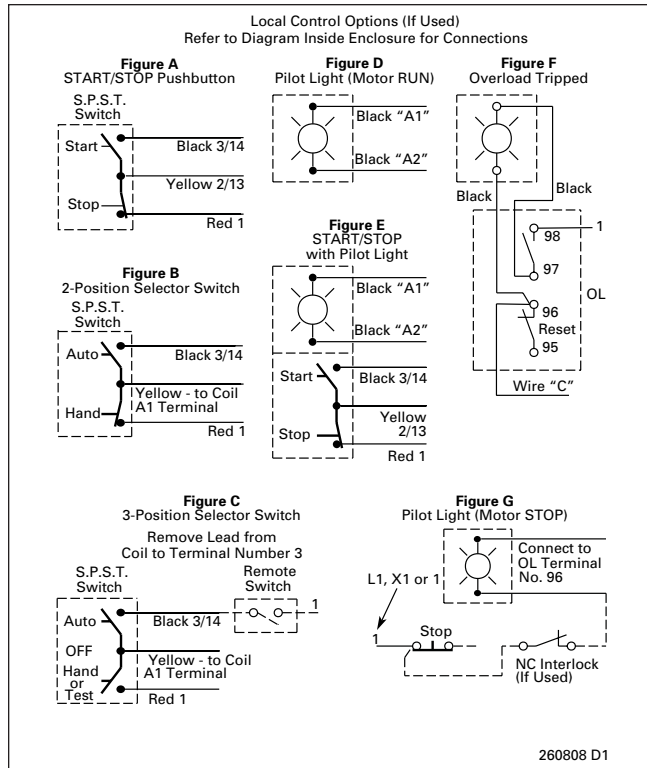


Figure 3-7. Type 1 C400GK Control Options

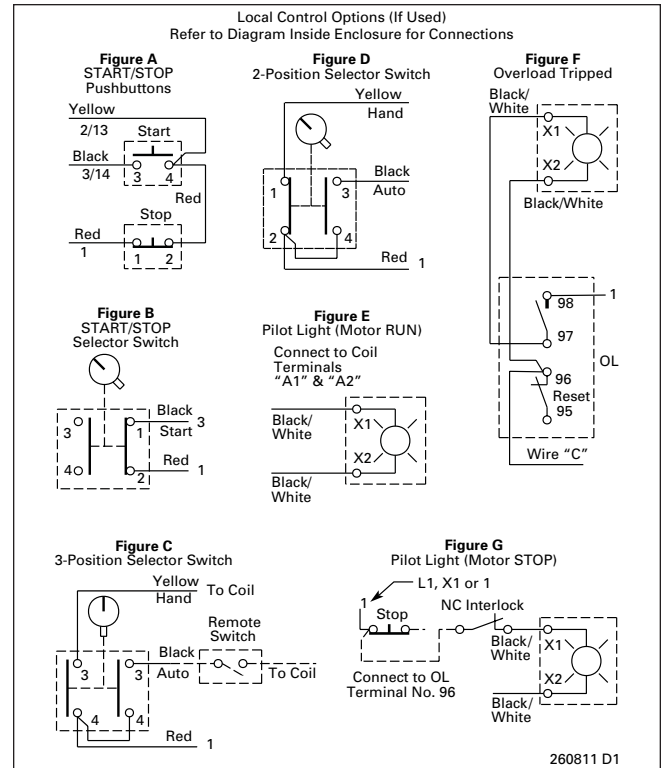


Figure 3-8. C400T Control Options

Reversing Cover Control

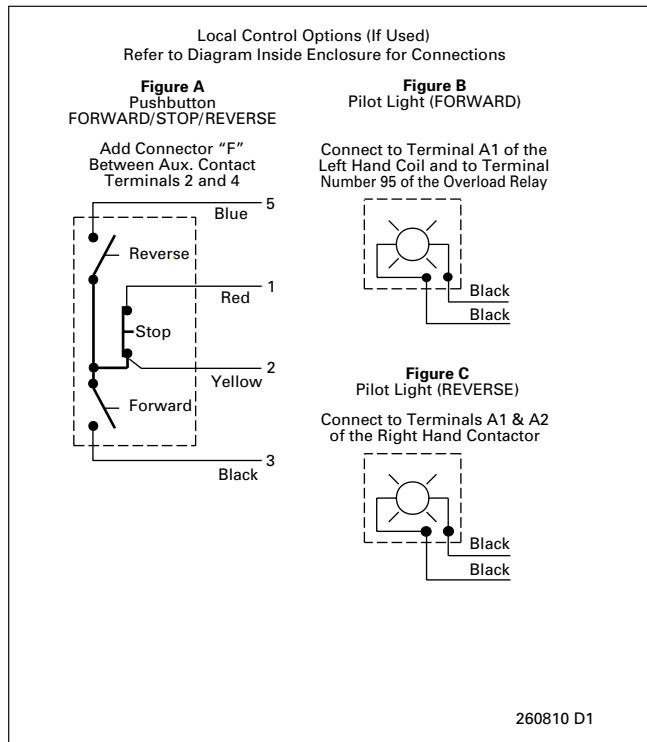


Figure 3-9. Type 1 C400GR Control Options

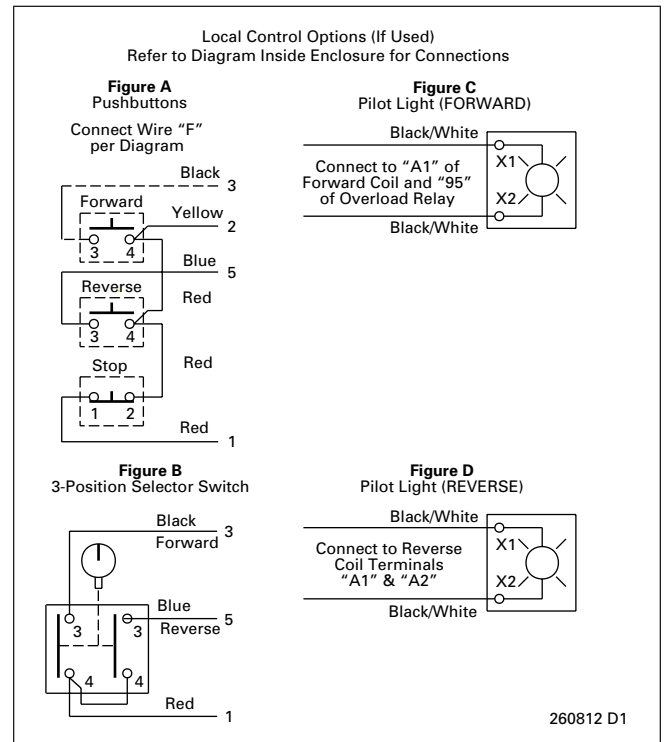


Figure 3-10. C400T Control Options

Product Selection

Table 3-42. Class EC216 — Combination Non-reversing Starter — Fusible Disconnect ①

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage	Fuse Clip Amps	Type 1 General Purpose	Type 3R Rainproof	Type 4X ④ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ②③	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	—	—	120	30A	EC216A1AAB	EC216A2AAB	EC216A4AAB	EC216A8AAB	A200MACAC
	200	1-1/2	208		EC216A1EAB	EC216A2EAB	EC216A4EAB	EC216A8EAB	A200MACB
	230	1-1/2	240		EC216A1BAB	EC216A2BAB	EC216A4BAB	EC216A8BAB	A200MACW
	460	2	480		EC216A1CAC	EC216A2CAC	EC216A4CAC	EC216A8CAC	A200MACX
	575	2	600		EC216A1DAC	EC216A2DAC	EC216A4DAC	EC216A8DAC	A200MACE
0	—	—	120	30A	EC21601AAB	EC21602AAB	EC21604AAB	EC21608AAB	A200M0CAC
	200	3	208		EC21601EAB	EC21602EAB	EC21604EAB	EC21608EAB	A200M0CB
	230	3	240		EC21601BAB	EC21602BAB	EC21604BAB	EC21608BAB	A200M0CW
	460	5	480		EC21601CAC	EC21602CAC	EC21604CAC	EC21608CAC	A200M0CX
	575	5	600		EC21601DAC	EC21602DAC	EC21604DAC	EC21608DAC	A200M0CE
1	—	—	120	30A	EC21611AAB	EC21612AAB	EC21614AAB	EC21618AAB	A200M1CAC
	200	7-1/2	208		EC21611EAB	EC21612EAB	EC21614EAB	EC21618EAB	A200M1CB
	230	7-1/2	240		EC21611BAB	EC21612BAB	EC21614BAB	EC21618BAB	A200M1CW
	460	10	480		EC21611CAC	EC21612CAC	EC21614CAC	EC21618CAC	A200M1CX
	575	10	600		EC21611DAC	EC21612DAC	EC21614DAC	EC21618DAC	A200M1CE
2	—	—	120	60A	EC21621AAD	EC21622AAD	EC21624AAD	EC21628AAD	A200M2CAC
	200	10	208		EC21621EAD	EC21622EAD	EC21624EAD	EC21628EAD	A200M2CB
	230	15	240		EC21621BAD	EC21622BAD	EC21624BAD	EC21628BAD	A200M2CW
	460	25	480		EC21621CAE	EC21622CAE	EC21624CAE	EC21628CAE	A200M2CX
	575	25	600		EC21621DAE	EC21622DAE	EC21624DAE	EC21628DAE	A200M2CE
3	—	—	120	100A	EC21631AAF	EC21632AAF	EC21634AAF	EC21638AAF	A200M3CAC
	200	25	208		EC21631EAF	EC21632EAF	EC21634EAF	EC21638EAF	A200M3CB
	230	30	240		EC21631BAF	EC21632BAF	EC21634BAF	EC21638BAF	A200M3CW
	460	50	480		EC21631CAG	EC21632CAG	EC21634CAG	EC21638CAG	A200M3CX
	575	50	600		EC21631DAG	EC21632DAG	EC21634DAG	EC21638DAG	A200M3CE
4	—	—	120	200A	EC21641AAH	EC21642AAH	EC21644AAH	EC21648AAH	A200M4CAC
	200	40	208		EC21641EAH	EC21642EAH	EC21644EAH	EC21648EAH	A200M4CB
	230	50	240		EC21641BAH	EC21642BAH	EC21644BAH	EC21648BAH	A200M4CW
	460	100	480		EC21641CAJ	EC21642CAJ	EC21644CAJ	EC21648CAJ	A200M4CX
	575	100	600		EC21641DAJ	EC21642DAJ	EC21644DAJ	EC21648DAJ	A200M4CE

Starters do not include heater packs. Order quantity of 3 heater packs. For Heater Pack Selection, see **Page 16-19**.

- ① For Ambient Compensated Overload Relay with Auto-Reset, add suffix **D**.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ④ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: EC21604EAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control	Page 3-21
Dimensions	Page 15-2
Accessories	Page 16-18
Modifications	Page 16-40
Renewal Parts	Page 17-8
Technical Data	CA08102001E

Combination Starters — Fusible and Non-fusible

Table 3-42. Class EC216 — Combination Non-reversing Starter — Fusible Disconnect (Continued) ①

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage	Fuse Clip Amps	Type 1 General Purpose	Type 3R Rainproof	Type 4X ⑥ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ②③	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	
5	—	—	120	400A	EC21651AAK	EC21652AAK	EC21654AAK	EC21658AAK	A200M5CAC A200M5CB A200M5CW A200M5CX A200M5CE
	200	75	208		EC21651EAK	EC21652EAK	EC21654EAK	EC21658EAK	
	230	100	240		EC21651BAK	EC21652BAK	EC21654BAK	EC21658BAK	
	460	200	480		EC21651CAL	EC21652CAL	EC21654CAL	EC21658CAL	
	575	200	600		EC21651DAL	EC21652DAL	EC21654DAL	EC21658DAL	
6	—	—	120	600A	EC21661AAM	EC21662AAM	EC21663AAM ④	EC21668AAM	A200M6CAC A200M6CB A200M6CW A200M6CX A200M6CE
	200	150	208		EC21661EAM	EC21662EAM	EC21663EAM ④	EC21668EAM	
	230	200	240		EC21661BAM	EC21662BAM	EC21663BAM ④	EC21668BAM	
	460	400	480		EC21661CAN	EC21662CAN	EC21663CAN ④	EC21668CAN	
	575	400	600		EC21661DAN	EC21662DAN	EC21663DAN ④	EC21668DAN	
7	—	—	120	⑤	EC21671AAU	EC21672AAU	EC21673AAU ④	EC21678AAU	A200M7CJ A200M7CW A200M7CX A200M7CE
	230	300	240		EC21671BAU	EC21672BAU	EC21673BAU ④	EC21678BAU	
	460	600	480		EC21671CAU	EC21672CAU	EC21673CAU ④	EC21678CAU	
	575	600	600		EC21671DAU	EC21672DAU	EC21673DAU ④	EC21678DAU	
8	—	—	120	⑤	EC21681AAU	EC21682AAU	EC21683AAU ④	EC21688AAU	A200M8CJ A200M8CW A200M8CX A200M8CE
	230	450	240		EC21681BAU	EC21682BAU	EC21683BAU ④	EC21688BAU	
	460	900	480		EC21681CAU	EC21682CAU	EC21683CAU ④	EC21688CAU	
	575	900	600		EC21681DAU	EC21682DAU	EC21683DAU ④	EC21688DAU	
9	—	—	120	⑤	EC21691AAU	EC21692AAU	EC21693AAU ④	EC21698AAU	A200M9CJ A200M9CW A200M9CX A200M9CE
	230	800	240		EC21691BAU	EC21692BAU	EC21693BAU ④	EC21698BAU	
	460	1000 ⑤	480		EC21691CAU	EC21692CAU	EC21693CAU ④	EC21698CAU	
	575	1000	600		EC21691DAU	EC21692DAU	EC21693DAU ④	EC21698DAU	

Starters do not include heater packs. Order quantity of 3 heater packs. For Heater Pack Selection, see **Page 16-19**.

- ① For Ambient Compensated Overload Relay with Auto-Reset, add suffix **D**.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ④ Type 4 (Painted steel) Sizes 6 – 9.
- ⑤ Contact Eaton.
- ⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: EC2160**4**EAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

3

Cover Control Page 3-21
 Dimensions Page 15-2
 Accessories Page 16-18
 Modifications Page 16-40
 Renewal Parts Page 17-8
 Technical Data CA08102001E

Combination Starters — Fusible and Non-fusible

3

Table 3-43. Class EC218 — Combination Reversing Starter — Fusible Disconnect with CPT ①

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage	Fuse Clip Amps	Type 1 General Purpose	Type 3R Rainproof	Type 4X ④ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ②③	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	—	—	120	30A	EC218A1AAB	EC218A2AAB	EC218A4AAB	EC218A8AAB	A200MACAC
	200	1-1/2	208		EC218A1EAB	EC218A2EAB	EC218A4EAB	EC218A8EAB	A200MACB
	230	1-1/2	240		EC218A1BAB	EC218A2BAB	EC218A4BAB	EC218A8BAB	A200MACW
	460	2	480		EC218A1CAC	EC218A2CAC	EC218A4CAC	EC218A8CAC	A200MACX
	575	2	600		EC218A1DAC	EC218A2DAC	EC218A4DAC	EC218A8DAC	A200MACE
0	—	—	120	30A	EC21801AAB	EC21802AAB	EC21804AAB	EC21808AAB	A200M0CAC
	200	3	208		EC21801EAB	EC21802EAB	EC21804EAB	EC21808EAB	A200M0CB
	230	3	240		EC21801BAB	EC21802BAB	EC21804BAB	EC21808BAB	A200M0CW
	460	5	480		EC21801CAC	EC21802CAC	EC21804CAC	EC21808CAC	A200M0CX
	575	5	600		EC21801DAC	EC21802DAC	EC21804DAC	EC21808DAC	A200M0CE
1	—	—	120	30A	EC21811AAB	EC21812AAB	EC21814AAB	EC21818AAB	A200M1CAC
	200	7-1/2	208		EC21811EAB	EC21812EAB	EC21814EAB	EC21818EAB	A200M1CB
	230	7-1/2	240		EC21811BAB	EC21812BAB	EC21814BAB	EC21818BAB	A200M1CW
	460	10	480		EC21811CAC	EC21812CAC	EC21814CAC	EC21818CAC	A200M1CX
	575	10	600		EC21811DAC	EC21812DAC	EC21814DAC	EC21818DAC	A200M1CE
2	—	—	120	60A	EC21821AAD	EC21822AAD	EC21824AAD	EC21828AAD	A200M2CAC
	200	10	208		EC21821EAD	EC21822EAD	EC21824EAD	EC21828EAD	A200M2CB
	230	15	240		EC21821BAD	EC21822BAD	EC21824BAD	EC21828BAD	A200M2CW
	460	25	480		EC21821CAE	EC21822CAE	EC21824CAE	EC21828CAE	A200M2CX
	575	25	600		EC21821DAE	EC21822DAE	EC21824DAE	EC21828DAE	A200M2CE
3	—	—	120	100A	EC21831AAF	EC21832AAF	EC21834AAF	EC21838AAF	A200M3CAC
	200	25	208		EC21831EAF	EC21832EAF	EC21834EAF	EC21838EAF	A200M3CB
	230	30	240		EC21831BAF	EC21832BAF	EC21834BAF	EC21838BAF	A200M3CW
	460	50	480		EC21831CAG	EC21832CAG	EC21834CAG	EC21838CAG	A200M3CX
	575	50	600		EC21831DAG	EC21832DAG	EC21834DAG	EC21838DAG	A200M3CE
4	—	—	120	200A	EC21841AAH	EC21842AAH	EC21844AAH	EC21848AAH	A200M4CAC
	200	40	208		EC21841EAH	EC21842EAH	EC21844EAH	EC21848EAH	A200M4CB
	230	50	240		EC21841BAH	EC21842BAH	EC21844BAH	EC21848BAH	A200M4CW
	460	100	480		EC21841CAJ	EC21842CAJ	EC21844CAJ	EC21848CAJ	A200M4CX
	575	100	600		EC21841DAJ	EC21842DAJ	EC21844DAJ	EC21848DAJ	A200M4CE

Starters do not include heater packs. Order quantity of 3 heater packs. For Heater Pack Selection, see **Page 16-19**.

- ① For Ambient Compensated Overload Relay with Auto-Reset, add suffix **D**.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ④ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: EC21804EAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control	Page 3-21
Dimensions	Page 15-2
Accessories	Page 16-18
Modifications	Page 16-40
Renewal Parts	Page 17-8
Technical Data	CA08102001E

Combination Starters — Fusible and Non-fusible

Table 3-43. Class EC218 — Combination Reversing Starter — Fusible Disconnect with CPT (Continued) ①

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage 1	Fuse Clip Amps	Type 1 General Purpose	Type 3R Rainproof	Type 4X ⑥ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ②③	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	
5	—	—	120	400A	EC21851AAK	EC21852AAK	EC21854AAK	EC21858AAK	A200M5CAC A200M5CB A200M5CW A200M5CX A200M5CE
	200	75	208		EC21851EAK	EC21852EAK	EC21854EAK	EC21858EAK	
	230	100	240		EC21851BAK	EC21852BAK	EC21854BAK	EC21858BAK	
	460	200	480		EC21851CAL	EC21852CAL	EC21854CAL	EC21858CAL	
	575	200	600		EC21851DAL	EC21852DAL	EC21854DAL	EC21858DAL	
6	—	—	120	600A	EC21861AAM	EC21862AAM	EC21863AAM ④	EC21868AAM	A200M6CAC A200M6CB A200M6CW A200M6CX A200M6CE
	200	150	208		EC21861EAM	EC21862EAM	EC21863EAM ④	EC21868EAM	
	230	200	240		EC21861BAM	EC21862BAM	EC21863BAM ④	EC21868BAM	
	460	400	480		EC21861CAN	EC21862CAN	EC21863CAN ④	EC21868CAN	
	575	400	600		EC21861DAN	EC21862DAN	EC21863DAN ④	EC21868DAN	
7	—	—	120	⑤	EC21871AAU	EC21872AAU	EC21873AAU ④	EC21878AAU	A200M7CJ A200M7CW A200M7CX A200M7CE
	230	300	240		EC21871BAU	EC21872BAU	EC21873BAU ④	EC21878BAU	
	460	600	480		EC21871CAU	EC21872CAU	EC21873CAU ④	EC21878CAU	
	575	600	600		EC21871DAU	EC21872DAU	EC21873DAU ④	EC21878DAU	
	—	—	120		⑤	EC21881AAU	EC21882AAU	EC21883AAU ④	
230	450	240	EC21881BAU	EC21882BAU	EC21883BAU ④	EC21888BAU			
460	900	480	EC21881CAU	EC21882CAU	EC21883CAU ④	EC21888CAU			
575	900	600	EC21881DAU	EC21882DAU	EC21883DAU ④	EC21888DAU			
9	—	—	120	⑤	EC21891AAU	EC21892AAU	EC21893AAU ④	EC21898AAU	A200M9CJ A200M9CW A200M9CX A200M9CE
	230	800	240		EC21891BAU	EC21892BAU	EC21893BAU ④	EC21898BAU	
	460	1000 ⑤	480		EC21891CAU	EC21892CAU	EC21893CAU ④	EC21898CAU	
	575	1000	600		EC21891DAU	EC21892DAU	EC21893DAU ④	EC21898DAU	

3

Starters do not include heater packs. Order quantity of 3 heater packs. For Heater Pack Selection, see **Page 16-19**.

- ① For Ambient Compensated Overload Relay with Auto-Reset, add suffix **D**.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ④ Type 4 (Painted steel) Sizes 6 – 9.
- ⑤ Contact Eaton.
- ⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: EC21804EAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control Page 3-21
 Dimensions Page 15-2
 Accessories Page 16-18
 Modifications Page 16-40
 Renewal Parts Page 17-8
 Technical Data CA08102001E

Combination Starters — Circuit Breaker

3

Table 3-44. Class EC222 — Combination Non-reversing Starter — Circuit Breaker ②

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage ①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ⑤ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ③④	Component Starter (Open)				
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number				
00	200	1 1-1/2	120	HMCPE 7A HMCPE 15A	EC222A1AAC EC222A1AAD	EC222A2AAC EC222A2AAD	EC222A4AAC EC222A4AAD	EC222A8AAC EC222A8AAD	A200MACAC				
	230	1 1-1/2		HMCPE 7A HMCPE 15A	EC222A1AAC EC222A1AAD	EC222A2AAC EC222A2AAD	EC222A4AAC EC222A4AAD	EC222A8AAC EC222A8AAD					
	460	1 2		HMCPE 3A HMCPE 7A	EC222A1AAB EC222A1AAC	EC222A2AAB EC222A2AAC	EC222A4AAB EC222A4AAC	EC222A8AAB EC222A8AAC					
	575	1 2		HMCP 3A HMCP 7A	EC222A1AAB EC222A1AAC	EC222A2AAB EC222A2AAC	EC222A4AAB EC222A4AAC	EC222A8AAB EC222A8AAC					
0	200	1 3	120	HMCPE 7A HMCPE 15A	EC22201AAC EC22201AAD	EC22202AAC EC22202AAD	EC22204AAC EC22204AAD	EC22208AAC EC22208AAD	A200M0CAC				
	230	1 3		HMCPE 7A HMCPE 15A	EC22201AAC EC22201AAD	EC22202AAC EC22202AAD	EC22204AAC EC22204AAD	EC22208AAC EC22208AAD					
	460	1 3 5		HMCPE 3A HMCPE 7A HMCPE 15A	EC22201AAB EC22201AAC EC22201AAD	EC22202AAB EC22202AAC EC22202AAD	EC22204AAB EC22204AAC EC22204AAD	EC22208AAB EC22208AAC EC22208AAD					
	575	1 3 5		HMCPE 3A HMCPE 15A HMCPE 7A	EC22201AAB EC22201AAD EC22201AAC	EC22202AAB EC22202AAD EC22202AAC	EC22204AAB EC22204AAD EC22204AAC	EC22208AAB EC22208AAD EC22208AAC					
1	200	1 3 5 7-1/2	120	HMCPE 7A HMCPE 15A HMCPE 30A HMCPE 50A	EC22211AAC EC22211AAD EC22211AAE EC22211AAF	EC22212AAC EC22212AAD EC22212AAE EC22212AAF	EC22214AAC EC22214AAD EC22214AAE EC22214AAF	EC22218AAC EC22218AAD EC22218AAE EC22218AAF	A200M1CAC				
				230	1 3 5 7-1/2	HMCPE 7A HMCPE 15A HMCPE 30A HMCPE 50A	EC22211AAC EC22211AAD EC22211AAE EC22211AAF	EC22212AAC EC22212AAD EC22212AAE EC22212AAF		EC22214AAC EC22214AAD EC22214AAE EC22214AAF	EC22218AAC EC22218AAD EC22218AAE EC22218AAF		
						460	1 3 5 10	HMCPE 3A HMCPE 7A HMCPE 15A HMCPE 30A		EC22211AAB EC22211AAC EC22211AAD EC22211AAE	EC22212AAB EC22212AAC EC22212AAD EC22212AAE	EC22214AAB EC22214AAC EC22214AAD EC22214AAE	EC22218AAB EC22218AAC EC22218AAD EC22218AAE
								575		1 3 5 10	HMCPE 3A HMCPE 7A HMCPE 15A HMCPE 30A	EC22211AAB EC22211AAC EC22211AAD EC22211AAE	EC22212AAB EC22212AAC EC22212AAD EC22212AAE

Starters do not include heater packs. Order quantity of 3 heater packs. For Heater Pack Selection, see **Page 16-19**.

- ① For other magnet coil voltages substitute the eighth digit with appropriate digit based on **Table 3-17**.
- ② For Ambient Compensated Overload Relay with Auto-Reset, add suffix **D**.
- ③ All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ④ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ⑤ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: EC2220**4**AAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Cover Control	Page 3-21
Dimensions	Page 15-2
Accessories	Page 16-18
Modifications	Page 16-40
Renewal Parts	Page 17-8
Technical Data	CA08102001E

Combination Starters — Circuit Breaker

Table 3-44. Class EC222 — Combination Non-reversing Starter — Circuit Breaker (Continued) ②

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage ①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ⑤ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ③④	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
2	200	10	120	HMCPE 50A	EC22221AAF	EC22222AAF	EC22224AAF	EC22228AAF	A200M2CAC
	230	10		HMCPE 50A	EC22221AAF	EC22222AAF	EC22224AAF	EC22228AAF	
		15		HMCPE 70A	EC22221AAW	EC22222AAW	EC22224AAW	EC22228AAW	
	460	25		HMCPE 50A	EC22221AAF	EC22222AAF	EC22224AAF	EC22228AAF	
	575	15	HMCP 30A	EC22221AAE	EC22222AAE	EC22224AAE	EC22228AAE		
		25	HMCP 50A	EC22221AAF	EC22222AAF	EC22224AAF	EC22228AAF		
3	200	20	120	HMCPE 100A	EC22231AAG	EC22232AAG	EC22234AAG	EC22238AAG	A200M3CAC
		25		HMCPE 100A	EC22231AAX	EC22232AAX	EC22234AAX	EC22238AAX	
	230	25		HMCPE 100A	EC22231AAG	EC22232AAG	EC22234AAG	EC22238AAG	
		30		HMCPE 100A	EC22231AAX	EC22232AAX	EC22234AAX	EC22238AAX	
	460	50	HMCPE 100A	EC22231AAG	EC22232AAG	EC22234AAG	EC22238AAG		
	575	30	HMCP 50A	EC22231AAF	EC22232AAF	EC22234AAF	EC22238AAF		
		50	HMCP 100A	EC22231AAG	EC22232AAG	EC22234AAG	EC22238AAG		
4	200	40	120	HMCP 150A	EC22241AAH	EC22242AAH	EC22244AAH	EC22248AAH	A200M4CAC
	230	50		HMCP 150A	EC22241AAH	EC22242AAH	EC22244AAH	EC22248AAH	
	460	100		HMCP 150A	EC22241AAH	EC22242AAH	EC22244AAH	EC22248AAH	
	575	100		HMCP 150A	EC22241AAH	EC22242AAH	EC22244AAH	EC22248AAH	
5	200	50	120	HMCP 250A	EC22251AAJ	EC22252AAJ	EC22254AAJ	EC22258AAJ	A200M5CAC
		75		HMCP 400A	EC22251AAK	EC22252AAK	EC22254AAK	EC22258AAK	
	230	60		HMCP 250A	EC22251AAJ	EC22252AAJ	EC22254AAJ	EC22258AAJ	
		100		HMCP 400A	EC22251AAK	EC22252AAK	EC22254AAK	EC22258AAK	
	460	125	HMCP 250A	EC22251AAJ	EC22252AAJ	EC22254AAJ	EC22258AAJ		
		200	HMCP 400A	EC22251AAK	EC22252AAK	EC22254AAK	EC22258AAK		
	575	150	HMCP 250A	EC22251AAJ	EC22252AAJ	EC22254AAJ	EC22258AAJ		
		200	HMCP 400A	EC22251AAK	EC22252AAK	EC22254AAK	EC22258AAK		
6	200	150	120	HMCP 600A	EC22261AAL	EC22262AAL	EC22263AAL ⑤	EC22268AAL	A200M6CAC
	230	200		HMCP 600A	EC22261AAL	EC22262AAL	EC22263AAL ⑤	EC22268AAL	
	460	350		HMCP 600A	EC22261AAL	EC22262AAL	EC22263AAL ⑤	EC22268AAL	
		400		HMCP 1200A	EC22261AAP	EC22262AAP	EC22263AAP ⑤	EC22268AAP	
	575	400	HMCP 600A	EC22261AAL	EC22262AAL	EC22263AAL ⑤	EC22268AAL		

Starters do not include heater packs. Order quantity of 3 heater packs. For Heater Pack Selection, see Page 16-19.

- ① For other magnet coil voltages substitute the eighth digit with appropriate digit based on Table 3-17.
- ② For Ambient Compensated Overload Relay with Auto-Reset, add suffix **D**.
- ③ All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ④ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ⑤ Type 4 (Painted steel) Size 6.
- ⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: EC2220**4**AAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see Tab 14.

3

Cover Control Page 3-21
 Dimensions Page 15-2
 Accessories Page 16-18
 Modifications Page 16-40
 Renewal Parts Page 17-8
 Technical Data CA08102001E

Combination Starters — Circuit Breaker

3

Table 3-45. Class EC224 — Combination Non-reversing Starter — Circuit Breaker with CPT ②

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage ①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ⑤ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ③④	Component Starter (Open)				
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number				
00	200	1 1-1/2	120	HMCPE 7A HMCPE 15A	EC224A1EAC EC224A1EAD	EC224A2EAC EC224A2EAD	EC224A4EAC EC224A4EAD	EC224A8EAC EC224A8EAD	A200MACAC				
	230	1 1-1/2		HMCPE 7A HMCPE 15A	EC224A1BAC EC224A1BAD	EC224A2BAC EC224A2BAD	EC224A4BAC EC224A4BAD	EC224A8BAC EC224A8BAD					
	460	1 2		HMCPE 3A HMCPE 7A	EC224A1CAB EC224A1CAC	EC224A2CAB EC224A2CAC	EC224A4CAB EC224A4CAC	EC224A8CAB EC224A8CAC					
	575	1 2		HMCP 3A HMCP 7A	EC224A1DAB EC224A1DAC	EC224A2DAB EC224A2DAC	EC224A4DAB EC224A4DAC	EC224A8DAB EC224A8DAC					
0	200	1 3	120	HMCPE 7A HMCPE 15A	EC22401EAC EC22401EAD	EC22402EAC EC22402EAD	EC22404EAC EC22404EAD	EC22408EAC EC22408EAD	A200M0CAC				
	230	1 3		HMCPE 7A HMCPE 15A	EC22401BAC EC22401BAD	EC22402BAC EC22402BAD	EC22404BAC EC22404BAD	EC22408BAC EC22408BAD					
	460	1 3 5		HMCPE 3A HMCPE 7A HMCPE 15A	EC22401CAB EC22401CAC EC22401CAD	EC22402CAB EC22402CAC EC22402CAD	EC22404CAB EC22404CAC EC22404CAD	EC22408CAB EC22408CAC EC22408CAD					
	575	1 3 5		HMCP 3A HMCP 15A HMCP 7A	EC22401DAB EC22401DAD EC22401DAC	EC22402DAB EC22402DAD EC22402DAC	EC22404DAB EC22404DAD EC22404DAC	EC22408DAB EC22408DAD EC22408DAC					
1	200	1 3 5 7-1/2	120	HMCPE 7A HMCPE 15A HMCPE 30A HMCPE 50A	EC22411EAC EC22411EAD EC22411EAE EC22411EAF	EC22412EAC EC22412EAD EC22412EAE EC22412EAF	EC22414EAC EC22414EAD EC22414EAE EC22414EAF	EC22418EAC EC22418EAD EC22418EAE EC22418EAF	A200M1CAC				
				230	1 3 5 7-1/2	HMCPE 7A HMCPE 15A HMCPE 30A HMCPE 50A	EC22411BAC EC22411BAD EC22411BAE EC22411BAF	EC22412BAC EC22412BAD EC22412BAE EC22412BAF		EC22414BAC EC22414BAD EC22414BAE EC22414BAF	EC22418BAC EC22418BAD EC22418BAE EC22418BAF		
						460	1 3 5 10	HMCPE 3A HMCPE 7A HMCPE 15A HMCPE 30A		EC22411CAB EC22411CAC EC22411CAD EC22411CAE	EC22412CAB EC22412CAC EC22412CAD EC22412CAE	EC22414CAB EC22414CAC EC22414CAD EC22414CAE	EC22418CAB EC22418CAC EC22418CAD EC22418CAE
								575		1 3 5 10	HMCP 3A HMCP 7A HMCP 15A HMCP 30A	EC22411DAB EC22411DAC EC22411DAD EC22411DAE	EC22412DAB EC22412DAC EC22412DAD EC22412DAE

Starters do not include heater packs. Order quantity of 3 heater packs. For Heater Pack Selection, see Page 16-19.

- ① For other magnet coil voltages substitute the eighth digit with appropriate digit based on Table 3-17.
- ② For Ambient Compensated Overload Relay with Auto-Reset, add suffix **D**.
- ③ All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ④ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ⑤ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: EC22404EAC. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see Tab 14.

Cover Control	Page 3-21
Dimensions	Page 15-2
Accessories	Page 16-18
Modifications	Page 16-40
Renewal Parts	Page 17-8
Technical Data	CA08102001E

Combination Starters — Circuit Breaker

Table 3-45. Class EC224 — Combination Non-reversing Starter — Circuit Breaker with CPT (Continued) ②

NEMA Size	Motor Voltage	Max. hp Rating Dual Element Fuses	Magnet Coil Voltage ①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ⑤ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ③④	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
2	200	10	120	HMCPE 50A	EC22421EAF	EC22422EAF	EC22424EAF	EC22428EAF	A200M2CAC
	230	10		HMCPE 50A HMCPE 70A	EC22421BAF EC22421BAW	EC22422BAF EC22422BAW	EC22424BAF EC22424BAW	EC22428BAF EC22428BAW	
	460	25		HMCPE 50A	EC22421CAF	EC22422CAF	EC22424CAF	EC22428CAF	
	575	15 25		HMCPE 30A HMCPE 50A	EC22421CAE EC22421DAF	EC22422CAE EC22422DAF	EC22424CAE EC22424DAF	EC22428CAE EC22428DAF	
3	200	20 25	120	HMCPE 100A HMCPE 100A	EC22431EAG EC22431EAX	EC22432EAG EC22432EAX	EC22434EAG EC22434EAX	EC22438EAG EC22438EAX	A200M3CAC
	230	25 30		HMCPE 100A HMCPE 100A	EC22431BAG EC22431BAX	EC22432BAG EC22432BAX	EC22434BAG EC22434BAX	EC22438BAG EC22438BAX	
	460	50		HMCPE 100A	EC22431CAG	EC22432CAG	EC22434CAG	EC22438CAG	
	575	30 50		HMCP 50A HMCP 100A	EC22431DAF EC22431DAG	EC22432DAF EC22432DAG	EC22434DAF EC22434DAG	EC22438DAF EC22438DAG	
4	200	40	120	HMCP 150A	EC22441EAH	EC22442EAH	EC22444EAH	EC22448EAH	A200M4CAC
	230	50		HMCP 150A	EC22441BAH	EC22442BAH	EC22444BAH	EC22448BAH	
	460	100		HMCP 150A	EC22441CAH	EC22442CAH	EC22444CAH	EC22448CAH	
	575	100		HMCP 150A	EC22441DAH	EC22442DAH	EC22444DAH	EC22448DAH	
5	200	50 75	120	HMCP 250A HMCP 400A	EC22451EAJ EC22451EAK	EC22452EAJ EC22452EAK	EC22454EAJ EC22454EAK	EC22458EAJ EC22458EAK	A200M5CAC
	230	60 100		HMCP 250A HMCP 400A	EC22451BAJ EC22451BAK	EC22452BAJ EC22452BAK	EC22454BAJ EC22454BAK	EC22458BAJ EC22458BAK	
	460	125 200		HMCP 250A HMCP 400A	EC22451CAJ EC22451CAK	EC22452CAJ EC22452CAK	EC22454CAJ EC22454CAK	EC22458CAJ EC22458CAK	
	575	150 200		HMCP 250A HMCP 400A	EC22451DAJ EC22451DAK	EC22452DAJ EC22452DAK	EC22454DAJ EC22454DAK	EC22458DAJ EC22458DAK	
6	200	150	120	HMCP 600A	EC22461EAL	EC22462EAL	EC22463EAL ⑤	EC22468EAL	A200M6CAC
	230	200		HMCP 600A	EC22461BAL	EC22462BAL	EC22463BAL ⑤	EC22468BAL	
	460	350 400		HMCP 600A HMCP 1200A	EC22461CAL EC22461CAP	EC22462CAL EC22462CAP	EC22463CAL ⑤ EC22463CAP ⑤	EC22468CAL EC22468CAP	
	575	400		HMCP 600A	EC22461DAL	EC22462DAL	EC22463DAL ⑤	EC22468DAL	

Starters do not include heater packs. Order quantity of 3 heater packs. For Heater Pack Selection, see Page 16-19.

- ① For other magnet coil voltages substitute the eighth digit with appropriate digit based on Table 3-17.
- ② For Ambient Compensated Overload Relay with Auto-Reset, add suffix **D**.
- ③ All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ④ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.
- ⑤ Type 4 (Painted steel) Size 6.
- ⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: EC2240**4**EAC. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see Tab 14.

3

Cover Control Page 3-21
 Dimensions Page 15-2
 Accessories Page 16-18
 Modifications Page 16-40
 Renewal Parts Page 17-8
 Technical Data CA08102001E



Catalog Number ECH2211FAD

Product Description

Setting the Standard in Motor Control

Eaton's Cutler-Hammer® Advantage Motor Starters have extended operating life in a physical space requirement one half the size of conventional motor starters.

Offering motor overcurrent protection accurate to 2% at maximum FLC, Advantage also maintains constant coil power regardless of varying control circuit conditions, eliminating coil burnout, contact chatter and welding due to low voltage of fluttering control signals.

Advantage is designed with a full complement of features that make it the most versatile motor starter in the industry. Multifunction overload protection options provide application flexibility while reducing inventory. Communication capability extends benefits, allowing Advantage to be interactively linked to higher order control systems for monitoring, troubleshooting and control.

Technological advances incorporated in the Advantage design, such as pre-start diagnostics, increased accuracy and the ability to communicate with other systems, are benefits not realized in traditional motor starters.

Features, Functions, Benefits

Advantage Breakthroughs

To achieve the level of benefits envisioned for Advantage controls at a competitive price, it was discovered early in the development process that simply improving existing design concepts would fall short of the mark. A new approach involving a higher level of technology was required. The result was the incorporation of three technical breakthroughs — new current sensing monitoring, an energy-balanced contact closure system that increased life by decreasing electrical and mechanical wear and an intelligent coil controller optimizing the contact closing process based on varying control circuit conditions. Coordinating these breakthroughs to provide enhanced motor control performance is concentrated in the SURE chip.

Advantage uses the right combination of brains and brawn in effecting a motor start. The power circuit of the contactor employs heavy-duty silver alloy contacts scientifically designed for long life. The addition of a uniquely developed application-specific micro-processor chip, regulates power supplied to the operating coil. The regulated closing profile is tailored to existing control circuit conditions. This results in an energy balanced system which reduces armature/magnet crash and contact bounce, extending mechanical and electrical life.

Improved Protection and Motor Utilization

The motor circuit monitoring and overload protection functions of Advantage starters are provided by three current sensors closely monitored by the microprocessor. This sensor/microprocessor combination yields a protection scheme closely paralleling that of the motor heating damage boundary expressed in terms of current and time. Accurate to 2%, Advantage allows full utilization of motor capability without motor damage or nuisance tripping.

No Heaters, Small Size

Advantage starters eliminate the need for costly heater elements and their associated installation expense. Standard overload protection functions include phase loss and unbalance protection, selectable trip class, automatic/manual reset and ground current protection.

Built-In Communications Capabilities Provide Two-Way Control

Advantage also offers low cost communication capability. ON-OFF commands, status and motor data can be linked to automated control systems without the addition of costly sensors, I/O modules and transducers, in a language compatible with many computer-based software systems in use today.

Protected by 22 patents and proven in many years of operating experience in harsh industrial applications, Advantage motor starters and contactors offer the user unprecedented value at a price competitive with traditional devices.

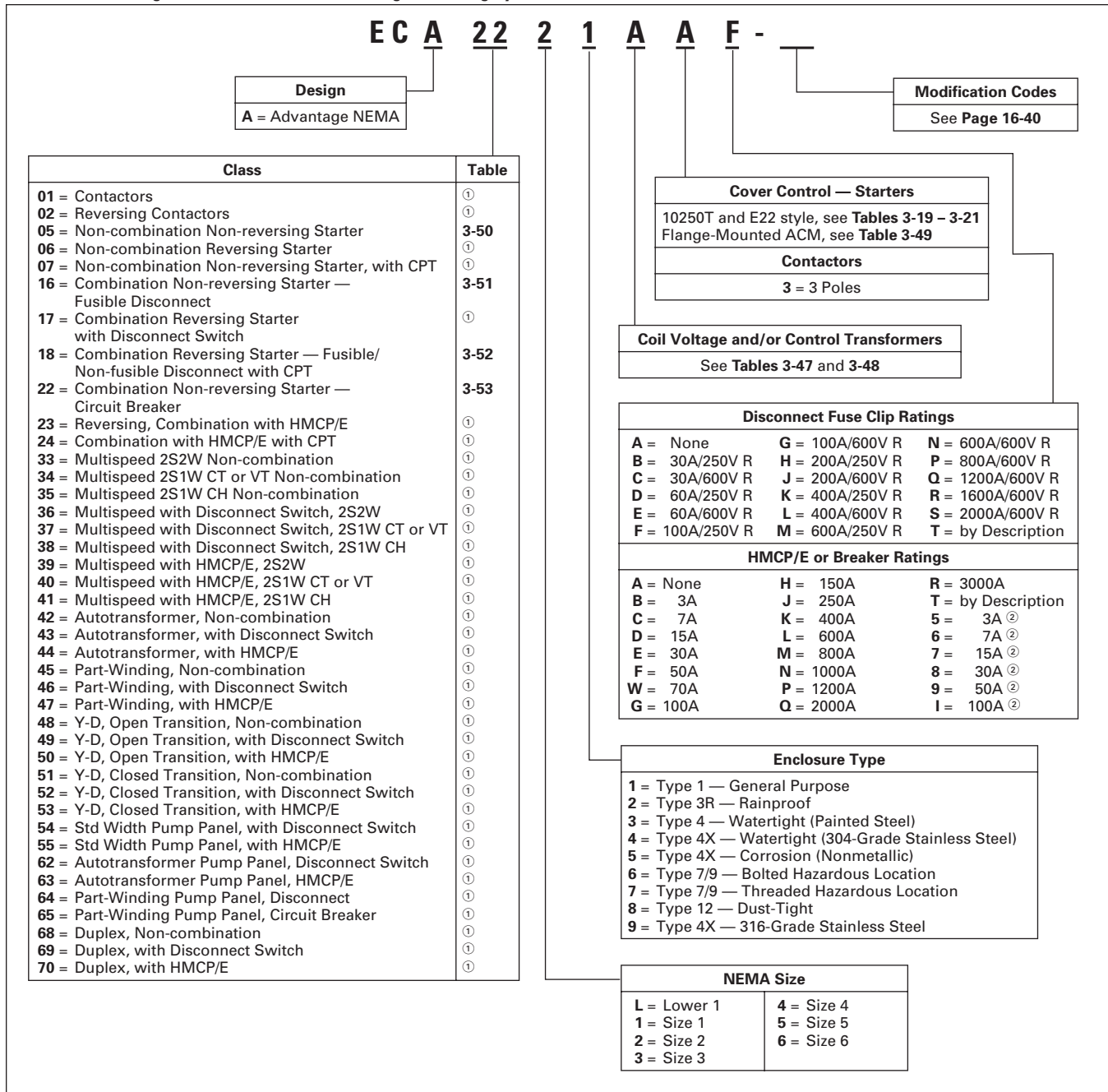
Standards and Certifications

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

- UL Listed
- cUL Listed (indicates appropriate CSA Standard investigation)
- ABS Type Approved

Catalog Number Selection

Table 3-46. Advantage Line Enclosed Control Catalog Numbering System



① Contact Eaton for more information.
② Use with Sizes L – 3, HMCP 600V applications only.

Table 3-47. Magnet Coil Codes (System Voltage) ③

Code	Magnet Coil	Code	Magnet Coil
F	120/60	Z	By Description
N	110/50		

③ When control power transformer modification codes (C1 – C11) are used or when starter class includes CPT (i.e. ECN07, 18), see Table 3-48 for system voltage code.

Table 3-48. Control Power Transformer Codes (System Voltage)

Code	Primary	Secondary	Code	Primary	Secondary
B	240/480 – 220/440	120/60 – 110/50	H	277/60	120/60
C	240/480 – 220/440	120/60 – 110/50	L	380/50	110/50
	Wired for 480V		M	415/50	110/50
D	600/60 – 550/50	120/60 – 110/50	X	240/480/600	120
E	208/60	120/60	Z	Wired for 480V	By Description

Cover Control

Flange Mounted Pilot ACM Devices — NEMA 1, 12 Only

For **Factory Installed** flange mounted pilot devices using **Advantage Control Modules (ACMs)**, change the 9th character from **A** to **Y** and add one of the following (**A49** through **A62**) Mod Code Suffixes to the Catalog Number. In addition, one **A63** Mod may be added if desired.

Table 3-49. Flange Mounted Pilot ACM Devices —

Flange Mounted Pilot Devices Description	Factory Installed	Field Installation Kits
	Mod Code Suffix	Catalog Number
Full Voltage Status Only with Reset START/STOP START/STOP/HOA ON/OFF/AUTO	A49 A50 A51 A52	WPBFV1 WPBFV2 WPBFV3 WPBFV4
Reversing Status Only with Reset FWD/REV/STOP FWD/REV/STOP/HOA	A53 A54 A55	WPBR1 WPBR2 WPBR3
2-Speed Status Only with Reset FAST/SLOW/STOP FAST/SLOW/STOP/HOA	A56 A57 A58	WPB2S1 WPB2S2 WPB2S3
Reduced Voltage Status Only with Reset START/STOP START/STOP/HOA ON/OFF/AUTO	A59 A60 A61 A62	WPBRV1 WPBRV2 WPBRV3 WPBRV4
Metering Module 10 ft. Interconnect Cable 6 ft. Interconnect Cable 3 ft. Interconnect Cable 1 ft. Interconnect Jumper	A63 — — — —	WMETER ① WACM10 WACM6 WACM3 WACM1

① This device is not compatible with Advantage Starters on DeviceNet via the WPONIDNA.

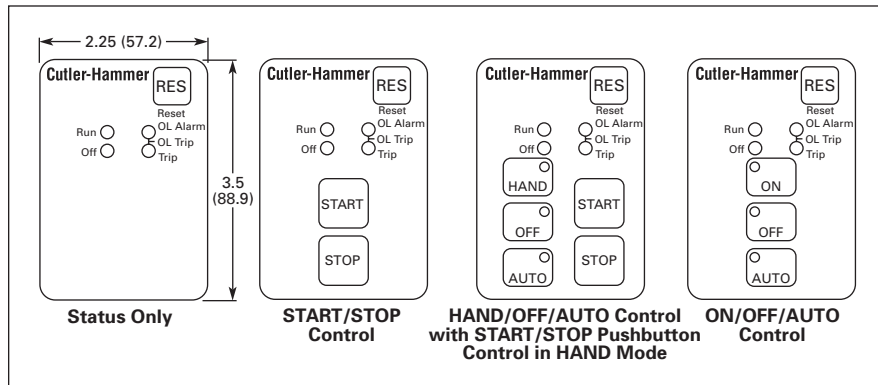


Figure 3-11. Flange Mounted Pilot ACM Devices

Other Cover Control Devices

See **Page 3-21** in NEMA Contactors & Starters, Freedom Line.

Non-combination Starters

Features and Product Selection

- Full Voltage
- Solid-State Overload Relays
- 600V Maximum

3

Table 3-50. Class ECA05 — Non-combination Non-reversing Starter

NEMA Size	Motor Voltage ①	Maximum hp Rating ①	Magnet Coil Voltage ③④	Type 3R Rainproof	Type 4X Watertight & Dust-Tight Stainless Steel ⑤	Type 12 Dust-Tight Industrial ⑥	Component Starter (Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number
1-L ②	200 230 460 575	1 1 2 2	120	ECA05L2FAA	ECA05L4FAA	ECA05L8FAA	W200MLCFC
1	200 230 460 575	7-1/2 7-1/2 10 10	120	ECA0512FAA	ECA0514FAA	ECA0518FAA	W200M1CFC
2	200 230 460 575	10 15 25 25	120	ECA0522FAA	ECA0524FAA	ECA0528FAA	W200M2CFC
3	200 230 460 575	25 30 50 50	120	ECA0532FAA	ECA0534FAA	ECA0538FAA	W200M3CFC
4	200 230 460 575	40 50 100 100	120	ECA0542FAA	ECA0544FAA	ECA0548FAA	W200M4CFC
5	200 230 460 575	75 100 200 200	120	ECA0552FAA	ECA0554FAA	ECA0558FAA	W200M5CFC
6	200 230 460 575	150 200 400 400	120 ⑦	ECA0562EAA ECA0562BAA ECA0562CAA ECA0562DAA	ECA0564EAA ECA0564BAA ECA0564CAA ECA0564DAA	ECA0568EAA ECA0568BAA ECA0568CAA ECA0568DAA	W200M6CFC

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

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

- ② For motor full load current (FLA) range of .47A – 3.81A with a 1.15 to 1.25 service factor and for motor hp range of 1/4 hp to 2 hp at 460V.
- ③ All starters provided with coils for separate control.

④ Starters for 50 Hz operation use 110V 50 Hz magnet coil. Change 8th character from **F** to **N**.

⑤ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECA05L4FAA. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

- ⑥ Choose a Type 12 enclosure for Type 1 applications.
- ⑦ Size 6 includes control power transformer.

Cover Mounted Control –
 10250T Series **Page 3-21**
 Cover Mounted
 Control – ACM Series **Page 3-61**
 Accessories **Page 16-12**
 Modifications **Page 16-40**
 Technical Data **Page 18-13**

Features and Product Selection

- Full Voltage
- Solid-State Overload Relays
- 600V Maximum
- 100,000 AIC Short Circuit — 600V Maximum

Table 3-51. Class ECA16 — Combination Non-reversing Starter — Fusible Disconnect

NEMA Size	Motor Voltage	Maximum hp Rating Dual Element Fuses	Magnet Coil Voltage ②③	Fuse Clip Amps. ⑦	Type 1 General Purpose	Type 3R Rainproof	Type 4X Watertight & Dust-Tight Stainless Steel ⑥	Type 12 Dust-Tight Industrial ④⑤	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
1-L ①	200 230	1	120	30A	ECA16L1FAB	ECA16L2FAB	ECA16L4FAB	ECA16L8FAB	W200MLCFC
	460 575	2	120	30A	ECA16L1FAC	ECA16L2FAC	ECA16L4FAC	ECA16L8FAC	W200MLCFC
1	200 230	7-1/2	120	30A	ECA1611FAB	ECA1612FAB	ECA1614FAB	ECA1618FAB	W200M1CFC
	460 575	10	120	30A	ECA1611FAC	ECA1612FAC	ECA1614FAC	ECA1618FAC	W200M1CFC
2	200 230	10 15	120	60A	ECA1621FAD	ECA1622FAD	ECA1624FAD	ECA1628FAD	W200M2CFC
	460 575	25	120	60A	ECA1621FAE	ECA1622FAE	ECA1624FAE	ECA1628FAE	W200M2CFC
3	200 230	25 30	120	100A	ECA1631FAF	ECA1632FAF	ECA1634FAF	ECA1638FAF	W200M3CFC
	460 575	50	120	100A	ECA1631FAG	ECA1632FAG	ECA1634FAG	ECA1638FAG	W200M3CFC
4	200 230	40 50	120	200A	ECA1641FAH	ECA1642FAH	ECA1644FAH	ECA1648FAH	W200M4CFC
	460 575	100	120	200A	ECA1641FAJ	ECA1642FAJ	ECA1644FAJ	ECA1648FAJ	W200M4CFC
5	200 230	75 100	120	400A	ECA1651FAK	ECA1652FAK	ECA1654FAK	ECA1658FAK	W200M5CFC
	460 575	200	120	400A	ECA1651FAL	ECA1652FAL	ECA1654FAL	ECA1658FAL	W200M5CFC
6	200 230	150 200	120 ⑧	600A	ECA1661EAM ECA1661BAM	ECA1662EAM ECA1662BAM	ECA1663EAM ECA1663BAM	ECA1668EAM ECA1668BAM	W200M6CFC
	460 575	400		600A	ECA1661CAN ECA1661DAN	ECA1662CAN ECA1662DAN	ECA1663CAN ECA1663DAN	ECA1668CAN ECA1668DAN	W200M6CFC

- ① For motor full load current (FLA) range of .47A – 3.81A with a 1.15 to 1.25 service factor and for motor hp range of 1/4 hp to 2 hp at 460V.
- ② All starters provided with coils for separate control.
- ③ Starters for 50 Hz operation use 110V 50 Hz magnet coil. Change 8th character from **F** to **N**.
- ④ All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
- ⑤ Type 12 enclosure is without safety door interlock. When safety door interlock is required, change seventh character from **8** to **9**, i.e. ECA1618FAC would become ECA1619FAC.
- ⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECA16L4FAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
- ⑦ Fuse clips are for Class R fuses only. For H and J fuses see mods, **Page 16-42**.
- ⑧ Size 6 includes control power transformer.



ECA1611FAA

Cover Mounted Control –
10250T Series **Page 3-21**
Cover Mounted
Control – ACM Series **Page 3-61**
Accessories **Page 16-12**
Modifications **Page 16-40**
Technical Data **Page 18-13**

Combination Starters — Fusible and Non-fusible

Table 3-52. Class ECA18 — Combination Reversing Starter — Fusible/Non-fusible Disconnect with CPT

NEMA Size	Primary Voltage ^②	Max. hp Rating Dual Element Fuses	Secondary Voltage Magnet Coil Voltage	Fuse Clip Amps. ^⑥	Type 1 General Purpose	Type 3R Rainproof	Type 4X Watertight & Dust-Tight Stainless Steel ^⑤	Type 12 Dust-Tight Industrial ^{③④}	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
Fusible ^⑦									
1-L ^①	208 240	1	120	30A	ECA18L1EAB ECA18L1BAB	ECA18L2EAB ECA18L2BAB	ECA18L4EAB ECA18L4BAB	ECA18L8EAB ECA18L8BAB	W200MLCFC
	480 600	2	120	30A	ECA18L1CAC ECA18L1DAC	ECA18L2CAC ECA18L2DAC	ECA18L4CAC ECA18L4DAC	ECA18L8CAC ECA18L8DAC	W200MLCFC
1	208 240	7-1/2	120	30A	ECA1811EAB ECA1811BAB	ECA1812EAB ECA1812BAB	ECA1814EAB ECA1814BAB	ECA1818EAB ECA1818BAB	W200M1CFC
	480 600	10	120	30A	ECA1811CAC ECA1811DAC	ECA1812CAC ECA1812DAC	ECA1814CAC ECA1814DAC	ECA1818CAC ECA1818DAC	W200M1CFC
2	208 240	10 15	120	60A	ECA1821EAD ECA1821BAD	ECA1822EAD ECA1822BAD	ECA1824EAD ECA1824BAD	ECA1828EAD ECA1828BAD	W200M2CFC
	480 600	25	120	60A	ECA1821CAE ECA1821DAE	ECA1822CAE ECA1822DAE	ECA1824CAE ECA1824DAE	ECA1828CAE ECA1828DAE	W200M2CFC
3	208 240	25 30	120	100A	ECA1831EAF ECA1831BAF	ECA1832EAF ECA1832BAF	ECA1834EAF ECA1834BAF	ECA1838EAF ECA1838BAF	W200M3CFC
	480 600	50	120	100A	ECA1831CAG ECA1831DAG	ECA1832CAG ECA1832DAG	ECA1834CAG ECA1834DAG	ECA1838CAG ECA1838DAG	W200M3CFC
4	208 240	40 50	120	200A	ECA1841EAH ECA1841BAH	ECA1842EAH ECA1842BAH	ECA1844EAH ECA1844BAH	ECA1848EAH ECA1848BAH	W200M4CFC
	480 600	100	120	200A	ECA1841CAJ ECA1841DAJ	ECA1842CAJ ECA1842DAJ	ECA1844CAJ ECA1844DAJ	ECA1848CAJ ECA1848DAJ	W200M4CFC
Non-fusible									
1-L ^①	208 240 480 600	1 1 2 2	120	30A	ECA18L1EAA ECA18L1BAA ECA18L1CAA ECA18L1DAA	ECA18L2EAA ECA18L2BAA ECA18L2CAA ECA18L2DAA	ECA18L4EAA ECA18L4BAA ECA18L4CAA ECA18L4DAA	ECA18L8EAA ECA18L8BAA ECA18L8CAA ECA18L8DAA	W200MLCFC
	1	208 240 480 600	7-1/2 7-1/2 10 10	120	30A	ECA1811EAA ECA1811BAA ECA1811CAA ECA1811DAA	ECA1812EAA ECA1812BAA ECA1812CAA ECA1812DAA	ECA1814EAA ECA1814BAA ECA1814CAA ECA1814DAA	ECA1818EAA ECA1818BAA ECA1818CAA ECA1818DAA
2	208 240 480 600	10 15 25 25	120	60A	ECA1821EAA ECA1821BAA ECA1821CAA ECA1821DAA	ECA1822EAA ECA1822BAA ECA1822CAA ECA1822DAA	ECA1824EAA ECA1824BAA ECA1824CAA ECA1824DAA	ECA1828EAA ECA1828BAA ECA1828CAA ECA1828DAA	W200M2CFC
	3	208 240 480 600	25 30 50 50	120	100A	ECA1831EAA ECA1831BAA ECA1831CAA ECA1831DAA	ECA1832EAA ECA1832BAA ECA1832CAA ECA1832DAA	ECA1834EAA ECA1834BAA ECA1834CAA ECA1834DAA	ECA1838EAA ECA1838BAA ECA1838CAA ECA1838DAA
4	208 240 480 600	40 50 100 100	120	200A	ECA1841EAA ECA1841BAA ECA1841CAA ECA1841DAA	ECA1842EAA ECA1842BAA ECA1842CAA ECA1842DAA	ECA1844EAA ECA1844BAA ECA1844CAA ECA1844DAA	ECA1848EAA ECA1848BAA ECA1848CAA ECA1848DAA	W200M4CFC

① For motor full load current (FLA) range of .47A – 3.81A with a 1.15 to 1.25 service factor and for motor hp range of 1/4 hp to 2 hp at 460V.
 ② Other control power transformer primary and/or secondary voltages, see **Page 3-60**.
 ③ All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
 ④ Type 12 enclosure is without safety door interlock. When safety door interlock is required, change seventh character from **8** to **9**, i.e. ECA1818EAA would become ECA1819EAA.

⑤ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit **4**. Example: ECA16L4EAB. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
 ⑥ Fuse clips are for Class R fuses only. For H and J Fuses see mods, **Page 16-42**.
 ⑦ 100,000 AIC short circuit.

Cover Mounted Control –
 10250T Series **Page 3-21**
 Cover Mounted
 Control – ACM Series **Page 3-61**
 Accessories **Page 16-12**
 Modifications **Page 16-40**
 Technical Data **Page 18-13**

Features and Product Selection

- Full Voltage
- Solid-State Overload Relays
- 600V Maximum

Table 3-53. Class ECA22 — Combination Non-reversing Starter — Circuit Breaker

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage ⁽²⁾⁽³⁾	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X Watertight & Dust-Tight Stainless Steel ⁽⁴⁾	Type 12 Dust-Tight Industrial ⁽⁵⁾	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
1-L ⁽¹⁾	200	1	120	HMCPE 7A	ECA22L1FAC	ECA22L2FAC	ECA22L4FAC	ECA22L8FAC	W200MLCFC
	230	1		HMCPE 7A	ECA22L1FAC	ECA22L2FAC	ECA22L4FAC	ECA22L8FAC	
	460	1		HMCPE 3A	ECA22L1FAB	ECA22L2FAB	ECA22L4FAB	ECA22L8FAB	
	575	3		HMCPE 7A	ECA22L1FAC	ECA22L2FAC	ECA22L4FAC	ECA22L8FAC	
1	200	1	120	HMCPE 7A	ECA2211FAC	ECA2212FAC	ECA2214FAC	ECA2218FAC	W200M1CFC
		3		HMCPE 15A	ECA2211FAD	ECA2212FAD	ECA2214FAD	ECA2218FAD	
		5		HMCPE 30A	ECA2211FAE	ECA2212FAE	ECA2214FAE	ECA2218FAE	
		7-1/2		HMCPE 50A	ECA2211FAF	ECA2212FAF	ECA2214FAF	ECA2218FAF	
	230	1	120	HMCPE 7A	ECA2211FAC	ECA2212FAC	ECA2214FAC	ECA2218FAC	W200M1CFC
		3		HMCPE 15A	ECA2211FAD	ECA2212FAD	ECA2214FAD	ECA2218FAD	
		5		HMCPE 30A	ECA2211FAE	ECA2212FAE	ECA2214FAE	ECA2218FAE	
	460	1	120	HMCPE 3A	ECA2211FAB	ECA2212FAB	ECA2214FAB	ECA2218FAB	W200M1CFC
		3		HMCPE 7A	ECA2211FAC	ECA2212FAC	ECA2214FAC	ECA2218FAC	
		5		HMCPE 15A	ECA2211FAD	ECA2212FAD	ECA2214FAD	ECA2218FAD	
		10		HMCPE 30A	ECA2211FAE	ECA2212FAE	ECA2214FAE	ECA2218FAE	
	575	1	120	HMCPE 7A	ECA2211FAC	ECA2212FAC	ECA2214FAC	ECA2218FAC	W200M1CFC
3		HMCPE 15A		ECA2211FAD	ECA2212FAD	ECA2214FAD	ECA2218FAD		
5		HMCPE 30A		ECA2211FAE	ECA2212FAE	ECA2214FAE	ECA2218FAE		
10		HMCPE 50A		ECA2211FAF	ECA2212FAF	ECA2214FAF	ECA2218FAF		
2	200	10	120	HMCPE 50A	ECA2221FAF	ECA2222FAF	ECA2224FAF	ECA2228FAF	W200M2CFC
	230	10		HMCPE 50A	ECA2221FAF	ECA2222FAF	ECA2224FAF	ECA2228FAF	
	460	15		HMCPE 70A	ECA2221FAW	ECA2222FAW	ECA2224FAW	ECA2228FAW	
	575	25		HMCPE 50A	ECA2221FAF	ECA2222FAF	ECA2224FAF	ECA2228FAF	
	575	15		HMCPE 30A	ECA2221FA8	ECA2222FA8	ECA2224FA8	ECA2228FA8	
3	200	20	120	HMCPE 100A	ECA2231FAG	ECA2232FAG	ECA2234FAG	ECA2238FAG	W200M3CFC
		25		HMCPE 100A	ECA2231FAG	ECA2232FAG	ECA2234FAG	ECA2238FAG	
	25	HMCPE 100A		ECA2231FAG	ECA2232FAG	ECA2234FAG	ECA2238FAG		
	30	HMCPE 100A		ECA2231FAG	ECA2232FAG	ECA2234FAG	ECA2238FAG		
	460	50		HMCPE 100A	ECA2231FAG	ECA2232FAG	ECA2234FAG	ECA2238FAG	
	575	30		HMCPE 50A	ECA2231FA9	ECA2232FA9	ECA2234FA9	ECA2238FA9	
4	200	40	120	HMCPE 150A	ECA2241FAH	ECA2242FAH	ECA2244FAH	ECA2248FAH	W200M4CFC
	230	50		HMCPE 150A	ECA2241FAH	ECA2242FAH	ECA2244FAH	ECA2248FAH	
	460	100		HMCPE 150A	ECA2241FAH	ECA2242FAH	ECA2244FAH	ECA2248FAH	
	575	100		HMCPE 150A	ECA2241FAH	ECA2242FAH	ECA2244FAH	ECA2248FAH	
5	200	50	120	HMCPE 250A	ECA2251FAJ	ECA2252FAJ	ECA2254FAJ	ECA2258FAJ	W200M5CFC
		75		HMCPE 400A	ECA2251FAK	ECA2252FAK	ECA2254FAK	ECA2258FAK	
	230	60		HMCPE 250A	ECA2251FAJ	ECA2252FAJ	ECA2254FAJ	ECA2258FAJ	
	460	100		HMCPE 400A	ECA2251FAK	ECA2252FAK	ECA2254FAK	ECA2258FAK	
	575	125		HMCPE 250A	ECA2251FAJ	ECA2252FAJ	ECA2254FAJ	ECA2258FAJ	
	575	200		HMCPE 400A	ECA2251FAK	ECA2252FAK	ECA2254FAK	ECA2258FAK	
6	200	150	120 ⁽⁶⁾	HMCPE 600A	ECA2261EAL	ECA2262EAL	ECA2264EAL	ECA2268EAL	W200M6CFC
	230	200		HMCPE 600A	ECA2261BAL	ECA2262BAL	ECA2264BAL	ECA2268BAL	
	460	350		HMCPE 600A	ECA2261CAL	ECA2262CAL	ECA2264CAL	ECA2268CAL	
	575	400		HMCPE 1200A	ECA2261FAP	ECA2262FAP	ECA2264FAP	ECA2268FAP	
575	400	HMCPE 600A	ECA2261DAL	ECA2262DAL	ECA2264DAL	ECA2268DAL			

⁽¹⁾ For motor full load current (FLA) range of .47A – 3.81A with a 1.15 to 1.25 service factor and for motor hp range of 1/4 hp to 2 hp at 460V.
⁽²⁾ All starters provided with coils for separate control.
⁽³⁾ Starters for 50 Hz operation use 110V 50 Hz magnet coil. Change 8th character from **F** to **N**.
⁽⁴⁾ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECA22L4FAC. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.
⁽⁵⁾ All Type 12 enclosures are standardized with external reset. For internal reset, order Mod Code **R5**.
⁽⁶⁾ Size 6 includes control power transformer.

Cover Mounted Control –
 10250T Series **Page 3-21**
 Cover Mounted
 Control – ACM Series **Page 3-61**
 Accessories **Page 16-12**
 Modifications **Page 16-40**
 Technical Data **Page 18-13**

Wiring Diagrams

3

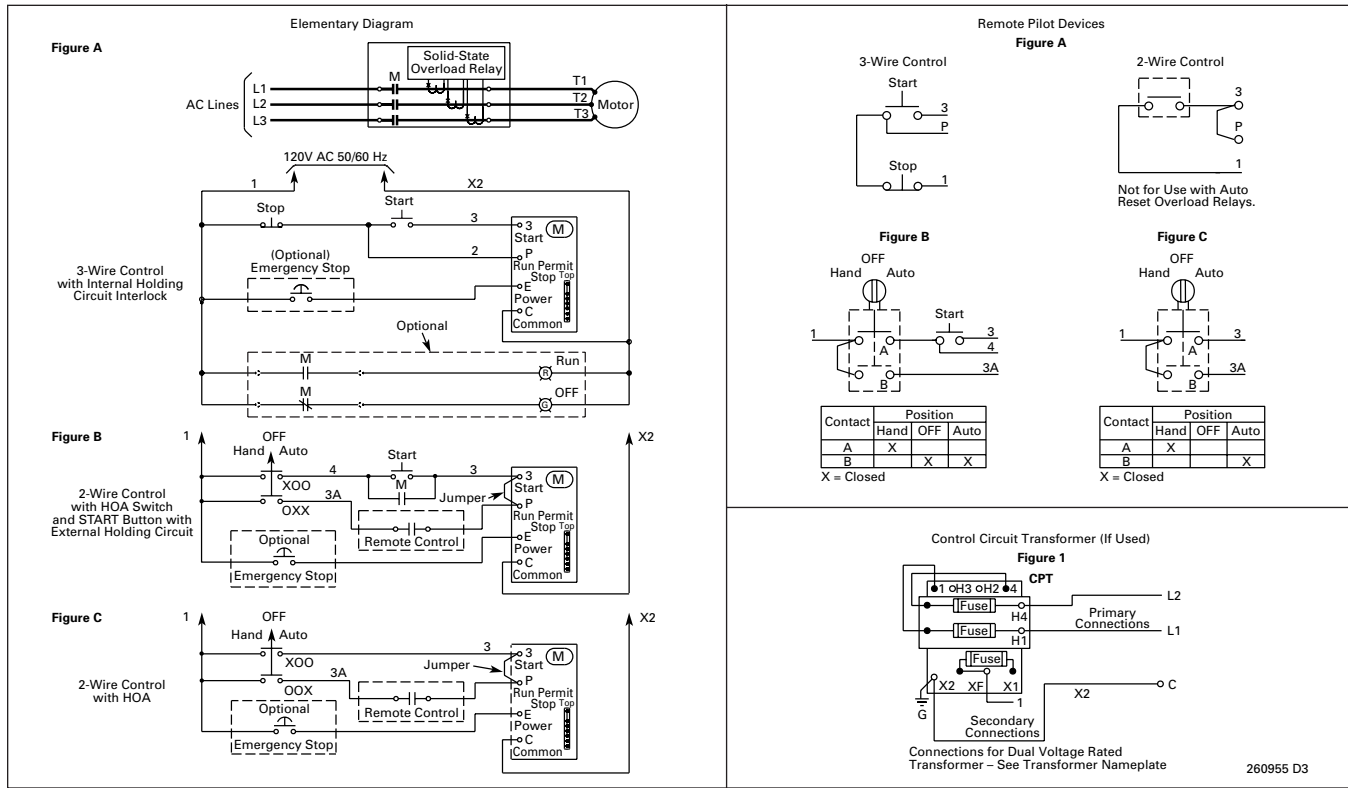


Figure 3-12. Advantage Non-reversing — Non-combination

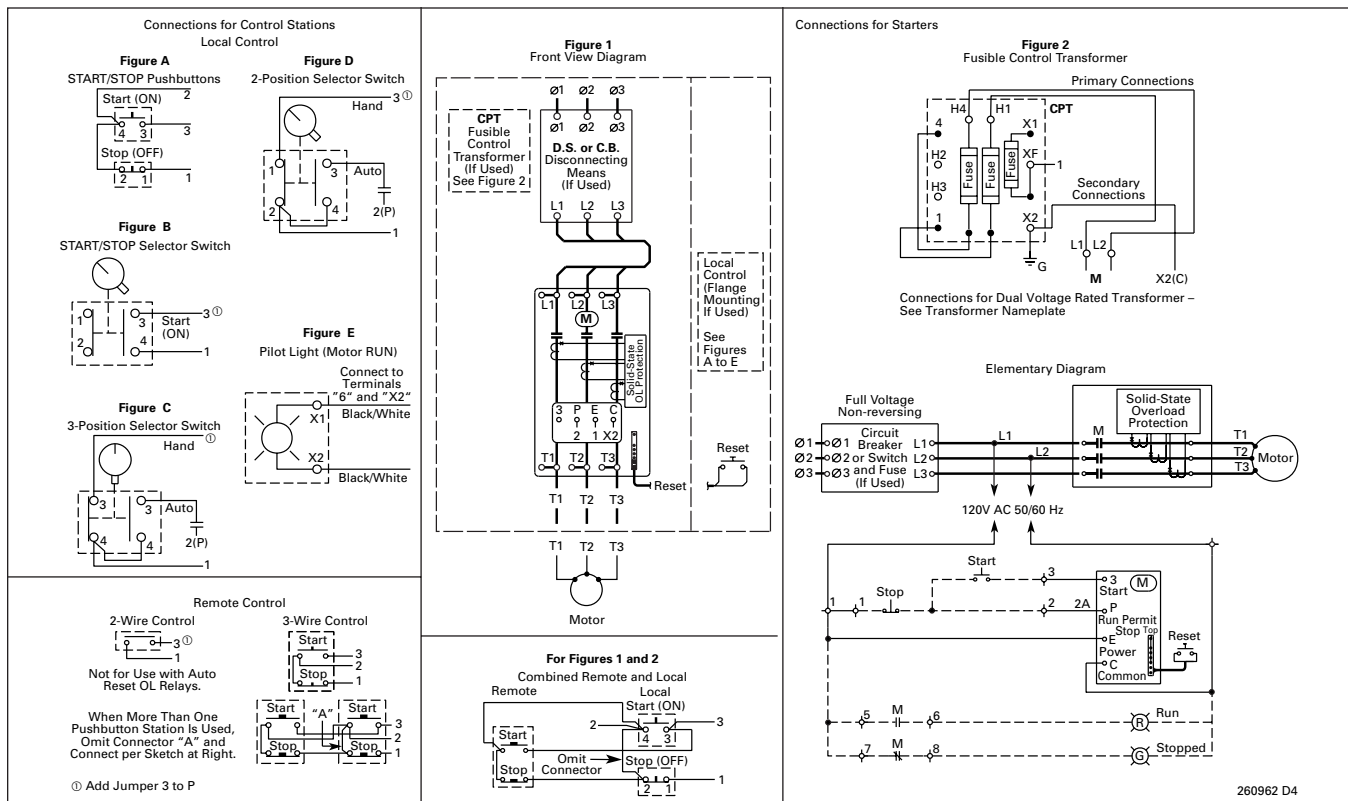


Figure 3-13. Advantage Non-reversing — Combination

Catalog Number Selection

Note: For Catalog Number Selection for Freedom Multispeed Starters, see Page 3-20.

Cover Control

Flange Control Kits

For on-the-job conversion of Type 1, 3R, 4X and 12 enclosed starters. Knockouts are provided on the Type 1 flange. Type 3R, 4X and 12 have pre-punched holes with removable hole plugs.

Factory Installed

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 **ECN3414CAA** with FAST/OFF/SLOW selector switch and 2 red pilot lights, change the **A** to **J**, i.e. ECN3414CJA.



Table 3-54. Multispeed Pilot Devices

Description	Factory Installed Flange Control			Field Installation Kits	
	Position 9 Alpha	Type 1 Non-combination ①	All Others ②	Type 1 Non-combination ①	All Others ②
				Catalog Number	Catalog Number
No Cover Mounted Pilot Devices	A	■	■	C400GK0	—
FAST/SLOW/STOP Pushbuttons	B	■	■	C400GK9 ④	C400T7
with 2 Red Pilot Lights	C	■	■	C400GK94 ③	—
with 2 Red/1 Green Pilot Lights	D	—	■	—	—
HIGH/LOW/STOP Pushbuttons	E	—	■	—	C400T8
with 2 Red Pilot Lights	F	—	■	—	—
with 2 Red/1 Green Pilot Lights	G	—	■	—	—
FAST/OFF/SLOW Selector Switch	H	—	■	—	C400T17
with 2 Red Pilot Lights	J	—	■	—	—
with 2 Red/1 Green Pilot Lights	K	—	■	—	—
Two Red Pilot Lights	P	■	■	C400GK44 ③	⑤
One Green Pilot Light	Q	■	■	C400GK41 ③	C400T10 ③
Two Red/One Green Pilot Lights	R	■	■	—	—
HIGH/OFF/LOW Selector Switch	V	—	■	—	C400T18
with 2 Red Pilot Lights	W	—	■	—	—
with 2 Red/1 Green Pilot Lights	X	—	■	—	—

① Type 1, NEMA Sizes 00 – 2 Non-combination ONLY.
 ② Type 1, NEMA Sizes 3 – 7 Non-combination PLUS all Type 3R, 4X, 12 Non-combination PLUS all Combination.
 ③ Add Code Letter from table below to Catalog Number for voltage — Kits only. Example: C400GK94B.

Rating	Code Letter	Rating	Code Letter	Rating	Code Letter
120V 60 Hz	A	240V 60 Hz	B	480V 60 Hz	C
208V 60 Hz	E	380V 50 Hz	L	600V 60 Hz	D

④ Uses a FAST/SLOW/OFF pushbutton.
 ⑤ Order quantity 2 of C400T9 ③.

Non-combination

Features

- 3-Phase Magnetic, 3-Pole
- Interchangeable Heater OLR
- 600V Maximum

3

Product Selection

Table 3-55. Class ECN33 — Non-combination 2-Speed 2-Winding Starter

NEMA Size	Motor Voltage ①	Maximum hp Rating		Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
		Constant or Variable Torque	Constant Horsepower		Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	—	120	ECN3301AAA	ECN3302AAA	ECN3304AAA	ECN3308AAA	AN700BN022A
	200	3	2	208	ECN3301EAA	ECN3302EAA	ECN3304EAA	ECN3308EAA	AN700BN022E
	230	3	2	240	ECN3301BAA	ECN3302BAA	ECN3304BAA	ECN3308BAA	AN700BN022B
	460	5	3	480	ECN3301CAA	ECN3302CAA	ECN3304CAA	ECN3308CAA	AN700BN022C
575	5	3	600	ECN3301DAA	ECN3302DAA	ECN3304DAA	ECN3308DAA	AN700BN022D	
1	—	—	—	120	ECN3311AAA	ECN3312AAA	ECN3314AAA	ECN3318AAA	AN700DN022A
	200	7-1/2	5	208	ECN3311EAA	ECN3312EAA	ECN3314EAA	ECN3318EAA	AN700DN022E
	230	7-1/2	5	240	ECN3311BAA	ECN3312BAA	ECN3314BAA	ECN3318BAA	AN700DN022B
	460	10	7-1/2	480	ECN3311CAA	ECN3312CAA	ECN3314CAA	ECN3318CAA	AN700DN022C
575	10	7-1/2	600	ECN3311DAA	ECN3312DAA	ECN3314DAA	ECN3318DAA	AN700DN022D	
2	—	—	—	120	ECN3321AAA	ECN3322AAA	ECN3324AAA	ECN3328AAA	AN700GN022A
	200	10	7-1/2	208	ECN3321EAA	ECN3322EAA	ECN3324EAA	ECN3328EAA	AN700GN022E
	230	15	10	240	ECN3321BAA	ECN3322BAA	ECN3324BAA	ECN3328BAA	AN700GN022B
	460	25	20	480	ECN3321CAA	ECN3322CAA	ECN3324CAA	ECN3328CAA	AN700GN022C
575	25	20	600	ECN3321DAA	ECN3322DAA	ECN3324DAA	ECN3328DAA	AN700GN022D	
3	—	—	—	120	ECN3331AAA	ECN3332AAA	ECN3334AAA	ECN3338AAA	AN700KN022A
	200	25	20	208	ECN3331EAA	ECN3332EAA	ECN3334EAA	ECN3338EAA	AN700KN022E
	230	30	25	240	ECN3331BAA	ECN3332BAA	ECN3334BAA	ECN3338BAA	AN700KN022B
	460	50	40	480	ECN3331CAA	ECN3332CAA	ECN3334CAA	ECN3338CAA	AN700KN022C
575	50	40	600	ECN3331DAA	ECN3332DAA	ECN3334DAA	ECN3338DAA	AN700KN022D	
4	—	—	—	120	ECN3341AAA	ECN3342AAA	ECN3344AAA	ECN3348AAA	AN700NN022A
	200	40	30	208	ECN3341EAA	ECN3342EAA	ECN3344EAA	ECN3348EAA	AN700NN022E
	230	50	40	240	ECN3341BAA	ECN3342BAA	ECN3344BAA	ECN3348BAA	AN700NN022B
	460	100	75	480	ECN3341CAA	ECN3342CAA	ECN3344CAA	ECN3348CAA	AN700NN022C
575	100	75	600	ECN3341DAA	ECN3342DAA	ECN3344DAA	ECN3348DAA	AN700NN022D	
5	—	—	—	120	ECN3351AAA	ECN3352AAA	ECN3354AAA	ECN3358AAA	AN700SN022A
	200	75	60	208	ECN3351EAA	ECN3352EAA	ECN3354EAA	ECN3358EAA	AN700SN022E
	230	100	75	240	ECN3351BAA	ECN3352BAA	ECN3354BAA	ECN3358BAA	AN700SN022B
	460	200	150	480	ECN3351CAA	ECN3352CAA	ECN3354CAA	ECN3358CAA	AN700SN022C
575	200	150	600	ECN3351DAA	ECN3352DAA	ECN3354DAA	ECN3358DAA	AN700SN022D	
6	200	150	100	208	ECN3361EAA	ECN3362EAA	ECN3363EAA ^②	ECN3368EAA	AN700TN022E
	230	200	150	240	ECN3361BAA	ECN3362BAA	ECN3363BAA ^②	ECN3368BAA	AN700TN022B
	460	400	300	480	ECN3361CAA	ECN3362CAA	ECN3363CAA ^②	ECN3368CAA	AN700TN022C
	575	400	300	600	ECN3361DAA	ECN3362DAA	ECN3363DAA ^②	ECN3368DAA	AN700TN022D
7	230	300	225	240	ECN3371BAA	ECN3372BAA	ECN3373BAA ^②	ECN3378BAA	AN700UN022B
	460	600	450	480	ECN3371CAA	ECN3372CAA	ECN3373CAA ^②	ECN3378CAA	AN700UN022C
	575	600	450	600	ECN3371DAA	ECN3372DAA	ECN3373DAA ^②	ECN3378DAA	AN700UN022D

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, Page 16-6.

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

NEMA Size	0	1	2	3	4	5	6
Constant or Variable Torque	5	10	25	50	75	150	300
Constant Horsepower	3	7-1/2	20	40	60	100	200

② Type 4 (Painted steel) Sizes 6 – 7.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN3304AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Other Magnet Coils Page 3-20
 Cover Control Page 3-67
 Dimensions Page 15-4
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Non-combination

Table 3-56. Class ECN34 — Non-combination 2-Speed 1-Winding Starter (CT or VT)

NEMA Size	Motor Voltage ^①	Max. hp Rating	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	120	ECN3401AAA	ECN3402AAA	ECN3404AAA	ECN3408AAA	AN700BN0218A
	200	3	208	ECN3401EAA	ECN3402EAA	ECN3404EAA	ECN3408EAA	AN700BN0218E
	230	3	240	ECN3401BAA	ECN3402BAA	ECN3404BAA	ECN3408BAA	AN700BN0218B
	460	5	480	ECN3401CAA	ECN3402CAA	ECN3404CAA	ECN3408CAA	AN700BN0218C
	575	5	600	ECN3401DAA	ECN3402DAA	ECN3404DAA	ECN3408DAA	AN700BN0218D
1	—	—	120	ECN3411AAA	ECN3412AAA	ECN3414AAA	ECN3418AAA	AN700DN0218A
	200	7-1/2	208	ECN3411EAA	ECN3412EAA	ECN3414EAA	ECN3418EAA	AN700DN0218E
	230	7-1/2	240	ECN3411BAA	ECN3412BAA	ECN3414BAA	ECN3418BAA	AN700DN0218B
	460	10	480	ECN3411CAA	ECN3412CAA	ECN3414CAA	ECN3418CAA	AN700DN0218C
	575	10	600	ECN3411DAA	ECN3412DAA	ECN3414DAA	ECN3418DAA	AN700DN0218D
2	—	—	120	ECN3421AAA	ECN3422AAA	ECN3424AAA	ECN3428AAA	AN700GN0218A
	200	10	208	ECN3421EAA	ECN3422EAA	ECN3424EAA	ECN3428EAA	AN700GN0218E
	230	15	240	ECN3421BAA	ECN3422BAA	ECN3424BAA	ECN3428BAA	AN700GN0218B
	460	25	480	ECN3421CAA	ECN3422CAA	ECN3424CAA	ECN3428CAA	AN700GN0218C
	575	25	600	ECN3421DAA	ECN3422DAA	ECN3424DAA	ECN3428DAA	AN700GN0218D
3	—	—	120	ECN3431AAA	ECN3432AAA	ECN3434AAA	ECN3438AAA	AN700KN0218A
	200	25	208	ECN3431EAA	ECN3432EAA	ECN3434EAA	ECN3438EAA	AN700KN0218E
	230	30	240	ECN3431BAA	ECN3432BAA	ECN3434BAA	ECN3438BAA	AN700KN0218B
	460	50	480	ECN3431CAA	ECN3432CAA	ECN3434CAA	ECN3438CAA	AN700KN0218C
	575	50	600	ECN3431DAA	ECN3432DAA	ECN3434DAA	ECN3438DAA	AN700KN0218D
4	—	—	120	ECN3441AAA	ECN3442AAA	ECN3444AAA	ECN3448AAA	AN700NN0218A
	200	40	208	ECN3441EAA	ECN3442EAA	ECN3444EAA	ECN3448EAA	AN700NN0218E
	230	50	240	ECN3441BAA	ECN3442BAA	ECN3444BAA	ECN3448BAA	AN700NN0218B
	460	100	480	ECN3441CAA	ECN3442CAA	ECN3444CAA	ECN3448CAA	AN700NN0218C
	575	100	600	ECN3441DAA	ECN3442DAA	ECN3444DAA	ECN3448DAA	AN700NN0218D
5	—	—	120	ECN3451AAA	ECN3452AAA	ECN3454AAA	ECN3458AAA	AN700SN0218A
	200	75	208	ECN3451EAA	ECN3452EAA	ECN3454EAA	ECN3458EAA	AN700SN0218E
	230	100	240	ECN3451BAA	ECN3452BAA	ECN3454BAA	ECN3458BAA	AN700SN0218B
	460	200	480	ECN3451CAA	ECN3452CAA	ECN3454CAA	ECN3458CAA	AN700SN0218C
	575	200	600	ECN3451DAA	ECN3452DAA	ECN3454DAA	ECN3458DAA	AN700SN0218D
6	200	150	208	ECN3461EAA	ECN3462EAA	ECN3463EAA ^②	ECN3468EAA	AN700TN0218E
	230	200	240	ECN3461BAA	ECN3462BAA	ECN3463BAA ^②	ECN3468BAA	AN700TN0218B
	460	400	480	ECN3461CAA	ECN3462CAA	ECN3463CAA ^②	ECN3468CAA	AN700TN0218C
	575	400	600	ECN3461DAA	ECN3462DAA	ECN3463DAA ^②	ECN3468DAA	AN700TN0218D

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, see **Page 16-6**.

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

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

② Type 4 (Painted steel) Size 6.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN3404AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see **Tab 14**.

Other Magnet Coils **Page 3-20**
 Cover Control **Page 3-67**
 Dimensions **Page 15-4**
 Accessories **Page 16-4**
 Modifications **Page 16-40**
 Technical Data **Page 18-7**

Non-combination

Table 3-57. Class ECN35 — Non-combination 2-Speed 1-Winding Starter (Constant Horsepower)

NEMA Size	Motor Voltage ①	Max. hp Rating	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X ③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	120	ECN3501AAA	ECN3502AAA	ECN3504AAA	ECN3508AAA	AN700BN0218A
	200	2	208	ECN3501EAA	ECN3502EAA	ECN3504EAA	ECN3508EAA	AN700BN0218E
	230	2	240	ECN3501BAA	ECN3502BAA	ECN3504BAA	ECN3508BAA	AN700BN0218B
	460	3	480	ECN3501CAA	ECN3502CAA	ECN3504CAA	ECN3508CAA	AN700BN0218C
	575	3	600	ECN3501DAA	ECN3502DAA	ECN3504DAA	ECN3508DAA	AN700BN0218D
1	—	—	120	ECN3511AAA	ECN3512AAA	ECN3514AAA	ECN3518AAA	AN700DN0218A
	200	5	208	ECN3511EAA	ECN3512EAA	ECN3514EAA	ECN3518EAA	AN700DN0218E
	230	5	240	ECN3511BAA	ECN3512BAA	ECN3514BAA	ECN3518BAA	AN700DN0218B
	460	7-1/2	480	ECN3511CAA	ECN3512CAA	ECN3514CAA	ECN3518CAA	AN700DN0218C
	575	7-1/2	600	ECN3511DAA	ECN3512DAA	ECN3514DAA	ECN3518DAA	AN700DN0218D
2	—	—	120	ECN3521AAA	ECN3522AAA	ECN3524AAA	ECN3528AAA	AN700GN0218A
	200	7-1/2	208	ECN3521EAA	ECN3522EAA	ECN3524EAA	ECN3528EAA	AN700GN0218E
	230	10	240	ECN3521BAA	ECN3522BAA	ECN3524BAA	ECN3528BAA	AN700GN0218B
	460	20	480	ECN3521CAA	ECN3522CAA	ECN3524CAA	ECN3528CAA	AN700GN0218C
	575	20	600	ECN3521DAA	ECN3522DAA	ECN3524DAA	ECN3528DAA	AN700GN0218D
3	—	—	120	ECN3531AAA	ECN3532AAA	ECN3534AAA	ECN3538AAA	AN700KN0218A
	200	20	208	ECN3531EAA	ECN3532EAA	ECN3534EAA	ECN3538EAA	AN700KN0218E
	230	25	240	ECN3531BAA	ECN3532BAA	ECN3534BAA	ECN3538BAA	AN700KN0218B
	460	40	480	ECN3531CAA	ECN3532CAA	ECN3534CAA	ECN3538CAA	AN700KN0218C
	575	40	600	ECN3531DAA	ECN3532DAA	ECN3534DAA	ECN3538DAA	AN700KN0218D
4	—	—	120	ECN3541AAA	ECN3542AAA	ECN3544AAA	ECN3548AAA	AN700NN0218A
	200	30	208	ECN3541EAA	ECN3542EAA	ECN3544EAA	ECN3548EAA	AN700NN0218E
	230	40	240	ECN3541BAA	ECN3542BAA	ECN3544BAA	ECN3548BAA	AN700NN0218B
	460	75	480	ECN3541CAA	ECN3542CAA	ECN3544CAA	ECN3548CAA	AN700NN0218C
	575	75	600	ECN3541DAA	ECN3542DAA	ECN3544DAA	ECN3548DAA	AN700NN0218D
5	—	—	120	ECN3551AAA	ECN3552AAA	ECN3554AAA	ECN3558AAA	AN700SN0218A
	200	60	208	ECN3551EAA	ECN3552EAA	ECN3554EAA	ECN3558EAA	AN700SN0218E
	230	75	240	ECN3551BAA	ECN3552BAA	ECN3554BAA	ECN3558BAA	AN700SN0218B
	460	150	480	ECN3551CAA	ECN3552CAA	ECN3554CAA	ECN3558CAA	AN700SN0218C
	575	150	600	ECN3551DAA	ECN3552DAA	ECN3554DAA	ECN3558DAA	AN700SN0218D
6	200	100	208	ECN3561EAA	ECN3562EAA	ECN3563EAA ②	ECN3568EAA	AN700TN0218E
	230	150	240	ECN3561BAA	ECN3562BAA	ECN3563BAA ②	ECN3568BAA	AN700TN0218B
	460	300	480	ECN3561CAA	ECN3562CAA	ECN3563CAA ②	ECN3568CAA	AN700TN0218C
	575	300	600	ECN3561DAA	ECN3562DAA	ECN3563DAA ②	ECN3568DAA	AN700TN0218D

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, see Page 16-6.

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

NEMA Size	0	1	2	3	4	5	6
Horsepower	3	7-1/2	20	40	60	100	200

② Type 4 (Painted steel) Size 6.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN3504AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Other Magnet Coils Page 3-20
 Cover Control Page 3-67
 Dimensions Page 15-4
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination

Features

- Choice of Fusible/Non-fusible Combination with Disconnect Switch or Combination HMCP or Magnetic Trip Circuit Breaker
- 3-Phase Magnetic, 3-Pole
- Interchangeable Heater OLR
- 600V Maximum

3

Product Selection

Table 3-58. Class ECN36 — Combination 2-Speed 2-Winding Starter — Fusible Disconnect

NEMA Size	Motor Voltage ①	Maximum hp Rating		Magnet Coil Voltage	Fuse Clip Amperes	Type 1 General Purpose	Type 3R Rainproof	Type 4X ③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
		Constant or Variable Torque	Constant Horsepower			Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	—	120	30A	ECN3601AAB	ECN3602AAB	ECN3604AAB	ECN3608AAB	AN700BN022A
	200	3	2	208		ECN3601EAB	ECN3602EAB	ECN3604EAB	ECN3608EAB	AN700BN022E
	230	3	2	240		ECN3601BAB	ECN3602BAB	ECN3604BAB	ECN3608BAB	AN700BN022B
	460	5	3	480		ECN3601CAC	ECN3602CAC	ECN3604CAC	ECN3608CAC	AN700BN022C
	575	5	3	600		ECN3601DAC	ECN3602DAC	ECN3604DAC	ECN3608DAC	AN700BN022D
1	—	—	—	120	30A	ECN3611AAB	ECN3612AAB	ECN3614AAB	ECN3618AAB	AN700DN022A
	200	7-1/2	5	208		ECN3611EAB	ECN3612EAB	ECN3614EAB	ECN3618EAB	AN700DN022E
	230	7-1/2	5	240		ECN3611BAB	ECN3612BAB	ECN3614BAB	ECN3618BAB	AN700DN022B
	460	10	7-1/2	480		ECN3611CAC	ECN3612CAC	ECN3614CAC	ECN3618CAC	AN700DN022C
	575	10	7-1/2	600		ECN3611DAC	ECN3612DAC	ECN3614DAC	ECN3618DAC	AN700DN022D
2	—	—	—	120	60A	ECN3621AAB	ECN3622AAB	ECN3624AAB	ECN3628AAB	AN700GN022A
	200	10	7-1/2	208		ECN3621EAB	ECN3622EAB	ECN3624EAB	ECN3628EAB	AN700GN022E
	230	15	10	240		ECN3621BAB	ECN3622BAB	ECN3624BAB	ECN3628BAB	AN700GN022B
	460	25	20	480		ECN3621CAC	ECN3622CAC	ECN3624CAC	ECN3628CAC	AN700GN022C
	575	25	20	600		ECN3621DAE	ECN3622DAE	ECN3624DAE	ECN3628DAE	AN700GN022D
3	—	—	—	120	100A	ECN3631AAF	ECN3632AAF	ECN3634AAF	ECN3638AAF	AN700KN022A
	200	25	20	208		ECN3631EAF	ECN3632EAF	ECN3634EAF	ECN3638EAF	AN700KN022E
	230	30	25	240		ECN3631BAF	ECN3632BAF	ECN3634BAF	ECN3638BAF	AN700KN022B
	460	50	40	480		ECN3631CAG	ECN3632CAG	ECN3634CAG	ECN3638CAG	AN700KN022C
	575	50	40	600		ECN3631DAG	ECN3632DAG	ECN3634DAG	ECN3638DAG	AN700KN022D
4	—	—	—	120	200A	ECN3641AAH	ECN3642AAH	ECN3644AAH	ECN3648AAH	AN700NN022A
	200	40	30	208		ECN3641EAH	ECN3642EAH	ECN3644EAH	ECN3648EAH	AN700NN022E
	230	50	40	240		ECN3641BAH	ECN3642BAH	ECN3644BAH	ECN3648BAH	AN700NN022B
	460	100	75	480		ECN3641CAJ	ECN3642CAJ	ECN3644CAJ	ECN3648CAJ	AN700NN022C
	575	100	75	600		ECN3641DAJ	ECN3642DAJ	ECN3644DAJ	ECN3648DAJ	AN700NN022D
5	—	—	—	120	400A	ECN3651AAK	ECN3652AAK	ECN3654AAK	ECN3658AAK	AN700SN022A
	200	75	60	208		ECN3651EAK	ECN3652EAK	ECN3654EAK	ECN3658EAK	AN700SN022E
	230	100	75	240		ECN3651BAK	ECN3652BAK	ECN3654BAK	ECN3658BAK	AN700SN022B
	460	200	150	480		ECN3651CAL	ECN3652CAL	ECN3654CAL	ECN3658CAL	AN700SN022C
	575	200	150	600		ECN3651DAL	ECN3652DAL	ECN3654DAL	ECN3658DAL	AN700SN022D
6	200	150	100	208	600A	ECN3661EAM	ECN3662EAM	ECN3663EAM ②	ECN3668EAM	AN700TN022E
	230	200	150	240		ECN3661BAM	ECN3662BAM	ECN3663BAM ②	ECN3668BAM	AN700TN022B
	460	400	300	480		ECN3661CAN	ECN3662CAN	ECN3663CAN ②	ECN3668CAN	AN700TN022C
	575	400	300	600		ECN3661DAN	ECN3662DAN	ECN3663DAN ②	ECN3668DAN	AN700TN022D

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, **Page 16-6.**

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

NEMA Size	0	1	2	3	4	5	6
Constant or Variable Torque	5	10	25	50	75	150	300
Constant Horsepower	3	7-1/2	20	40	60	100	200

② Type 4 (Painted steel) Size 6.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN3604AAB. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see **Tab 14.**

Other Magnet Coils **Page 3-20**
 Cover Control **Page 3-67**
 Dimensions **Page 15-4**
 Accessories **Page 16-4**
 Modifications **Page 16-40**
 Technical Data **Page 18-7**

Combination

3

Table 3-59. Class ECN36 — Combination 2-Speed 2-Winding Starter — Non-fusible Disconnect

NEMA Size	Motor Voltage ^①	Maximum hp Rating		Magnet Coil Voltage	Disconnect Amperes	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
		Constant or Variable Torque	Constant Horsepower			Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	—	120	30A	ECN3601AAA	ECN3602AAA	ECN3604AAA	ECN3608AAA	AN700BN022A
	200	3	2	208		ECN3601EAA	ECN3602EAA	ECN3604EAA	ECN3608EAA	AN700BN022E
	230	3	2	240		ECN3601BAA	ECN3602BAA	ECN3604BAA	ECN3608BAA	AN700BN022B
	460	5	3	480		ECN3601CAA	ECN3602CAA	ECN3604CAA	ECN3608CAA	AN700BN022C
575	5	3	600	ECN3601DAA	ECN3602DAA	ECN3604DAA	ECN3608DAA	AN700BN022D		
1	—	—	—	120	30A	ECN3611AAA	ECN3612AAA	ECN3614AAA	ECN3618AAA	AN700DN022A
	200	7-1/2	5	208		ECN3611EAA	ECN3612EAA	ECN3614EAA	ECN3618EAA	AN700DN022E
	230	7-1/2	5	240		ECN3611BAA	ECN3612BAA	ECN3614BAA	ECN3618BAA	AN700DN022B
	460	10	7-1/2	480		ECN3611CAA	ECN3612CAA	ECN3614CAA	ECN3618CAA	AN700DN022C
	575	10	7-1/2	600		ECN3611DAA	ECN3612DAA	ECN3614DAA	ECN3618DAA	AN700DN022D
2	—	—	—	120	60A	ECN3621AAA	ECN3622AAA	ECN3624AAA	ECN3628AAA	AN700GN022A
	200	10	7-1/2	208		ECN3621EAA	ECN3622EAA	ECN3624EAA	ECN3628EAA	AN700GN022E
	230	15	10	240		ECN3621BAA	ECN3622BAA	ECN3624BAA	ECN3628BAA	AN700GN022B
	460	25	20	480		ECN3621CAA	ECN3622CAA	ECN3624CAA	ECN3628CAA	AN700GN022C
	575	25	20	600		ECN3621DAA	ECN3622DAA	ECN3624DAA	ECN3628DAA	AN700GN022D
3	—	—	—	120	100A	ECN3631AAA	ECN3632AAA	ECN3634AAA	ECN3638AAA	AN700KN022A
	200	25	20	208		ECN3631EAA	ECN3632EAA	ECN3634EAA	ECN3638EAA	AN700KN022E
	230	30	25	240		ECN3631BAA	ECN3632BAA	ECN3634BAA	ECN3638BAA	AN700KN022B
	460	50	40	480		ECN3631CAA	ECN3632CAA	ECN3634CAA	ECN3638CAA	AN700KN022C
	575	50	40	600		ECN3631DAA	ECN3632DAA	ECN3634DAA	ECN3638DAA	AN700KN022D
4	—	—	—	120	200A	ECN3641AAA	ECN3642AAA	ECN3644AAA	ECN3648AAA	AN700NN022A
	200	40	30	208		ECN3641EAA	ECN3642EAA	ECN3644EAA	ECN3648EAA	AN700NN022E
	230	50	40	240		ECN3641BAA	ECN3642BAA	ECN3644BAA	ECN3648BAA	AN700NN022B
	460	100	75	480		ECN3641CAA	ECN3642CAA	ECN3644CAA	ECN3648CAA	AN700NN022C
	575	100	75	600		ECN3641DAA	ECN3642DAA	ECN3644DAA	ECN3648DAA	AN700NN022D
5	—	—	—	120	400A	ECN3651AAA	ECN3652AAA	ECN3654AAA	ECN3658AAA	AN700SN022A
	200	75	60	208		ECN3651EAA	ECN3652EAA	ECN3654EAA	ECN3658EAA	AN700SN022E
	230	100	75	240		ECN3651BAA	ECN3652BAA	ECN3654BAA	ECN3658BAA	AN700SN022B
	460	200	150	480		ECN3651CAA	ECN3652CAA	ECN3654CAA	ECN3658CAA	AN700SN022C
	575	200	150	600		ECN3651DAA	ECN3652DAA	ECN3654DAA	ECN3658DAA	AN700SN022D
6	200	150	100	208	600A	ECN3661EAA	ECN3662EAA	ECN3663EAA ^②	ECN3668EAA	AN700TN022E
	230	200	150	240		ECN3661BAA	ECN3662BAA	ECN3663BAA ^②	ECN3668BAA	AN700TN022B
	460	400	300	480		ECN3661CAA	ECN3662CAA	ECN3663CAA ^②	ECN3668CAA	AN700TN022C
	575	400	300	600		ECN3661DAA	ECN3662DAA	ECN3663DAA ^②	ECN3668DAA	AN700TN022D

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, **Page 16-6.**

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

NEMA Size	0	1	2	3	4	5	6
Constant or Variable Torque	5	10	25	50	75	150	300
Constant Horsepower	3	7-1/2	20	40	60	100	200

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN3604AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see **Tab 14.**

② Type 4 (Painted steel) Size 6.

Other Magnet Coils **Page 3-20**
 Cover Control **Page 3-67**
 Dimensions **Page 15-4**
 Accessories **Page 16-4**
 Modifications **Page 16-40**
 Technical Data **Page 18-7**

Combination

3

Table 3-60. Class ECN37 — Combination 2-Speed 1-Winding Starter (CT or VT) — Fusible Disconnect

NEMA Size	Motor Voltage ①	Max. hp Rating	Magnet Coil Voltage	Fuse Clip Amperes	Type 1 General Purpose	Type 3R Rainproof	Type 4X ③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	120	30A	ECN3701AAB	ECN3702AAB	ECN3704AAB	ECN3708AAB	AN700BN0218A AN700BN0218E AN700BN0218B AN700BN0218C AN700BN0218D
	200	3	208		ECN3701EAB	ECN3702EAB	ECN3704EAB	ECN3708EAB	
	230	3	240		ECN3701BAB	ECN3702BAB	ECN3704BAB	ECN3708BAB	
	460	5	480		ECN3701CAC	ECN3702CAC	ECN3704CAC	ECN3708CAC	
	575	5	600		ECN3701DAC	ECN3702DAC	ECN3704DAC	ECN3708DAC	
1	—	—	120	30A	ECN3711AAB	ECN3712AAB	ECN3714AAB	ECN3718AAB	AN700DN0218A AN700DN0218E AN700DN0218B AN700DN0218C AN700DN0218D
	200	7-1/2	208		ECN3711EAB	ECN3712EAB	ECN3714EAB	ECN3718EAB	
	230	7-1/2	240		ECN3711BAB	ECN3712BAB	ECN3714BAB	ECN3718BAB	
	460	10	480		ECN3711CAC	ECN3712CAC	ECN3714CAC	ECN3718CAC	
	575	10	600		ECN3711DAC	ECN3712DAC	ECN3714DAC	ECN3718DAC	
2	—	—	120	60A	ECN3721AAD	ECN3722AAD	ECN3724AAD	ECN3728AAD	AN700GN0218A AN700GN0218E AN700GN0218B AN700GN0218C AN700GN0218D
	200	10	208		ECN3721EAD	ECN3722EAD	ECN3724EAD	ECN3728EAD	
	230	15	240		ECN3721BAD	ECN3722BAD	ECN3724BAD	ECN3728BAD	
	460	25	480		ECN3721CAE	ECN3722CAE	ECN3724CAE	ECN3728CAE	
	575	25	600		ECN3721DAE	ECN3722DAE	ECN3724DAE	ECN3728DAE	
3	—	—	120	100A	ECN3731AAF	ECN3732AAF	ECN3734AAF	ECN3738AAF	AN700KN0218A AN700KN0218E AN700KN0218B AN700KN0218C AN700KN0218D
	200	25	208		ECN3731EAF	ECN3732EAF	ECN3734EAF	ECN3738EAF	
	230	30	240		ECN3731BAF	ECN3732BAF	ECN3734BAF	ECN3738BAF	
	460	50	480		ECN3731CAG	ECN3732CAG	ECN3734CAG	ECN3738CAG	
	575	50	600		ECN3731DAG	ECN3732DAG	ECN3734DAG	ECN3738DAG	
4	—	—	120	200A	ECN3741AAH	ECN3742AAH	ECN3744AAH	ECN3748AAH	AN700NN0218A AN700NN0218E AN700NN0218B AN700NN0218C AN700NN0218D
	200	40	208		ECN3741EAH	ECN3742EAH	ECN3744EAH	ECN3748EAH	
	230	50	240		ECN3741BAH	ECN3742BAH	ECN3744BAH	ECN3748BAH	
	460	100	480		ECN3741CAJ	ECN3742CAJ	ECN3744CAJ	ECN3748CAJ	
	575	100	600		ECN3741DAJ	ECN3742DAJ	ECN3744DAJ	ECN3748DAJ	
5	—	—	120	400A	ECN3751AAK	ECN3752AAK	ECN3754AAK	ECN3758AAK	AN700SN0218A AN700SN0218E AN700SN0218B AN700SN0218C AN700SN0218D
	200	75	208		ECN3751EAK	ECN3752EAK	ECN3754EAK	ECN3758EAK	
	230	100	240		ECN3751BAK	ECN3752BAK	ECN3754BAK	ECN3758BAK	
	460	200	480		ECN3751CAL	ECN3752CAL	ECN3754CAL	ECN3758CAL	
	575	200	600		ECN3751DAL	ECN3752DAL	ECN3754DAL	ECN3758DAL	
6	200	150	208	600A	ECN3761EAM	ECN3762EAM	ECN3763EAM ②	ECN3768EAM	AN700TN0218A AN700TN0218B AN700TN0218C AN700TN0218D
	230	200	240		ECN3761BAM	ECN3762BAM	ECN3763BAM ②	ECN3768BAM	
	460	400	480		ECN3761CAN	ECN3762CAN	ECN3763CAN ②	ECN3768CAN	
	575	400	600		ECN3761DAN	ECN3762DAN	ECN3763DAN ②	ECN3768DAN	

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, see Page 16-6.

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

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

② Type 4 (Painted steel) Size 6.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN3704AAB. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Other Magnet Coils Page 3-20
 Cover Control Page 3-67
 Dimensions Page 15-4
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination

3

Table 3-61. Class ECN37 — Combination 2-Speed 1-Winding Starter (CT or VT) — Non-fusible Disconnect

NEMA Size	Motor Voltage ①	Max. hp Rating	Magnet Coil Voltage	Disconnect Amperes	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	120	30A	ECN3701AAA	ECN3702AAA	ECN3704AAA	ECN3708AAA	AN700BN0218A AN700BN0218E AN700BN0218B AN700BN0218C AN700BN0218D
	200	3	208		ECN3701EAA	ECN3702EAA	ECN3704EAA	ECN3708EAA	
	230	3	240		ECN3701BAA	ECN3702BAA	ECN3704BAA	ECN3708BAA	
	460	5	480		ECN3701CAA	ECN3702CAA	ECN3704CAA	ECN3708CAA	
	575	5	600		ECN3701DAA	ECN3702DAA	ECN3704DAA	ECN3708DAA	
1	—	—	120	30A	ECN3711AAA	ECN3712AAA	ECN3714AAA	ECN3718AAA	AN700DN0218A AN700DN0218E AN700DN0218B AN700DN0218C AN700DN0218D
	200	7-1/2	208		ECN3711EAA	ECN3712EAA	ECN3714EAA	ECN3718EAA	
	230	7-1/2	240		ECN3711BAA	ECN3712BAA	ECN3714BAA	ECN3718BAA	
	460	10	480		ECN3711CAA	ECN3712CAA	ECN3714CAA	ECN3718CAA	
	575	10	600		ECN3711DAA	ECN3712DAA	ECN3714DAA	ECN3718DAA	
2	—	—	120	60A	ECN3721AAA	ECN3722AAA	ECN3724AAA	ECN3728AAA	AN700GN0218A AN700GN0218E AN700GN0218B AN700GN0218C AN700GN0218D
	200	10	208		ECN3721EAA	ECN3722EAA	ECN3724EAA	ECN3728EAA	
	230	15	240		ECN3721BAA	ECN3722BAA	ECN3724BAA	ECN3728BAA	
	460	25	480		ECN3721CAA	ECN3722CAA	ECN3724CAA	ECN3728CAA	
	575	25	600		ECN3721DAA	ECN3722DAA	ECN3724DAA	ECN3728DAA	
3	—	—	120	100A	ECN3731AAA	ECN3732AAA	ECN3734AAA	ECN3738AAA	AN700KN0218A AN700KN0218E AN700KN0218B AN700KN0218C AN700KN0218D
	200	25	208		ECN3731EAA	ECN3732EAA	ECN3734EAA	ECN3738EAA	
	230	30	240		ECN3731BAA	ECN3732BAA	ECN3734BAA	ECN3738BAA	
	460	50	480		ECN3731CAA	ECN3732CAA	ECN3734CAA	ECN3738CAA	
	575	50	600		ECN3731DAA	ECN3732DAA	ECN3734DAA	ECN3738DAA	
4	—	—	120	200A	ECN3741AAA	ECN3742AAA	ECN3744AAA	ECN3748AAA	AN700NN0218A AN700NN0218E AN700NN0218B AN700NN0218C AN700NN0218D
	200	40	208		ECN3741EAA	ECN3742EAA	ECN3744EAA	ECN3748EAA	
	230	50	240		ECN3741BAA	ECN3742BAA	ECN3744BAA	ECN3748BAA	
	460	100	480		ECN3741CAA	ECN3742CAA	ECN3744CAA	ECN3748CAA	
	575	100	600		ECN3741DAA	ECN3742DAA	ECN3744DAA	ECN3748DAA	
5	—	—	120	400A	ECN3751AAA	ECN3752AAA	ECN3754AAA	ECN3758AAA	AN700SN0218A AN700SN0218E AN700SN0218B AN700SN0218C AN700SN0218D
	200	75	208		ECN3751EAA	ECN3752EAA	ECN3754EAA	ECN3758EAA	
	230	100	240		ECN3751BAA	ECN3752BAA	ECN3754BAA	ECN3758BAA	
	460	200	480		ECN3751CAA	ECN3752CAA	ECN3754CAA	ECN3758CAA	
	575	200	600		ECN3751DAA	ECN3752DAA	ECN3754DAA	ECN3758DAA	
6	200	150	208	600A	ECN3761EAA	ECN3762EAA	ECN3763EAA ^②	ECN3768EAA	AN700TN0218A AN700TN0218E AN700TN0218B AN700TN0218C AN700TN0218D
	230	200	240		ECN3761BAA	ECN3762BAA	ENC3763BAA ^②	ECN3768BAA	
	460	400	480		ECN3761CAA	ECN3762CAA	ENC3763CAA ^②	ECN3768CAA	
	575	400	600		ECN3761DAA	ECN3762DAA	ENC3763DAA ^②	ECN3768DAA	

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, see **Page 16-6**.

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

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

② Type 4 (Painted steel) Size 6.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN3704AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see **Tab 14**.

Other Magnet Coils **Page 3-20**
 Cover Control **Page 3-67**
 Dimensions **Page 15-4**
 Accessories **Page 16-4**
 Modifications **Page 16-40**
 Technical Data **Page 18-7**

Combination

3

Table 3-62. Class ECN38 — Combination 2-Speed 1-Winding Starter (Constant Horsepower) — Fusible Disconnect

NEMA Size	Motor Voltage ①	Max. hp Rating	Magnet Coil Voltage	Fuse Clip Amperes	Type 1 General Purpose	Type 3R Rainproof	Type 4X ③ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	120	30A	ECN3801AAB	ECN3802AAB	ECN3804AAB	ECN3808AAB	AN700BN0218A AN700BN0218E AN700BN0218B AN700BN0218C AN700BN0218D
	200	2	208		ECN3801EAB	ECN3802EAB	ECN3804EAB	ECN3808EAB	
	230	2	240		ECN3801BAB	ECN3802BAB	ECN3804BAB	ECN3808BAB	
	460	3	480		ECN3801CAC	ECN3802CAC	ECN3804CAC	ECN3808CAC	
	575	3	600		ECN3801DAC	ECN3802DAC	ECN3804DAC	ECN3808DAC	
1	—	—	120	30A	ECN3811AAB	ECN3812AAB	ECN3814AAB	ECN3818AAB	AN700DN0218A AN700DN0218E AN700DN0218B AN700DN0218C AN700DN0218D
	200	5	208		ECN3811EAB	ECN3812EAB	ECN3814EAB	ECN3818EAB	
	230	5	240		ECN3811BAB	ECN3812BAB	ECN3814BAB	ECN3818BAB	
	460	7-1/2	480		ECN3811CAC	ECN3812CAC	ECN3814CAC	ECN3818CAC	
	575	7-1/2	600		ECN3811DAC	ECN3812DAC	ECN3814DAC	ECN3818DAC	
2	—	—	120	60A	ECN3821AAD	ECN3822AAD	ECN3824AAD	ECN3828AAD	AN700GN0218A AN700GN0218E AN700GN0218B AN700GN0218C AN700GN0218D
	200	7-1/2	208		ECN3821EAD	ECN3822EAD	ECN3824EAD	ECN3828EAD	
	230	10	240		ECN3821BAD	ECN3822BAD	ECN3824BAD	ECN3828BAD	
	460	20	480		ECN3821CAE	ECN3822CAE	ECN3824CAE	ECN3828CAE	
	575	20	600		ECN3821DAE	ECN3822DAE	ECN3824DAE	ECN3828DAE	
3	—	—	120	100A	ECN3831AAF	ECN3832AAF	ECN3834AAF	ECN3838AAF	AN700KN0218A AN700KN0218E AN700KN0218B AN700KN0218C AN700KN0218D
	200	20	208		ECN3831EAF	ECN3832EAF	ECN3834EAF	ECN3838EAF	
	230	25	240		ECN3831BAF	ECN3832BAF	ECN3834BAF	ECN3838BAF	
	460	40	480		ECN3831CAG	ECN3832CAG	ECN3834CAG	ECN3838CAG	
	575	40	600		ECN3831DAG	ECN3832DAG	ECN3834DAG	ECN3838DAG	
4	—	—	120	200A	ECN3841AAH	ECN3842AAH	ECN3844AAH	ECN3848AAH	AN700NN0218A AN700NN0218E AN700NN0218B AN700NN0218C AN700NN0218D
	200	30	208		ECN3841EAH	ECN3842EAH	ECN3844EAH	ECN3848EAH	
	230	40	240		ECN3841BAH	ECN3842BAH	ECN3844BAH	ECN3848BAH	
	460	75	480		ECN3841CAJ	ECN3842CAJ	ECN3844CAJ	ECN3848CAJ	
	575	75	600		ECN3841DAJ	ECN3842DAJ	ECN3844DAJ	ECN3848DAJ	
5	—	—	120	400A	ECN3851AAK	ECN3852AAK	ECN3854AAK	ECN3858AAK	AN700SN0218A AN700SN0218E AN700SN0218B AN700SN0218C AN700SN0218D
	200	60	208		ECN3851EAK	ECN3852EAK	ECN3854EAK	ECN3858EAK	
	230	75	240		ECN3851BAK	ECN3852BAK	ECN3854BAK	ECN3858BAK	
	460	150	480		ECN3851CAL	ECN3852CAL	ECN3854CAL	ECN3858CAL	
	575	150	600		ECN3851DAL	ECN3852DAL	ECN3854DAL	ECN3858DAL	
6	200	100	208	600A	ECN3861EAM	ECN3862EAM	ECN3863EAM ②	ECN3868EAM	AN700TN0218A AN700TN0218B AN700TN0218C AN700TN0218D
	230	150	240		ECN3861BAM	ECN3862BAM	ECN3863BAM ②	ECN3868BAM	
	460	300	480		ECN3861CAN	ECN3862CAN	ECN3863CAN ②	ECN3868CAN	
	575	300	600		ECN3861DAN	ECN3862DAL	ECN3863DAN ②	ECN3868DAN	

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, see Page 16-6.

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

NEMA Size	0	1	2	3	4	5	6
Horsepower	3	7-1/2	20	40	60	100	200

② Type 4 (Painted steel) Size 6.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN3804AAB. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Other Magnet Coils Page 3-20
 Cover Control Page 3-67
 Dimensions Page 15-4
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination

3

Table 3-63. Class ECN38 — Combination 2-Speed 1-Winding Starter (Constant Horsepower) — Non-fusible Disconnect

NEMA Size	Motor Voltage ①	Max. hp Rating	Magnet Coil Voltage	Disconnect Amperes	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^② Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	120	30A	ECN3801AAA	ECN3802AAA	ECN3804AAA	ECN3808AAA	AN700BN0218A AN700BN0218E AN700BN0218B AN700BN0218C AN700BN0218D
	200	2	208		ECN3801EAA	ECN3802EAA	ECN3804EAA	ECN3808EAA	
	230	2	240		ECN3801BAA	ECN3802BAA	ECN3804BAA	ECN3808BAA	
	460	3	480		ECN3801CAA	ECN3802CAA	ECN3804CAA	ECN3808CAA	
	575	3	600		ECN3801DAA	ECN3802DAA	ECN3804DAA	ECN3808DAA	
1	—	—	120	30A	ECN3811AAA	ECN3812AAA	ECN3814AAA	ECN3818AAA	AN700DN0218A AN700DN0218E AN700DN0218B AN700DN0218C AN700DN0218D
	200	5	208		ECN3811EAA	ECN3812EAA	ECN3814EAA	ECN3818EAA	
	230	5	240		ECN3811BAA	ECN3812BAA	ECN3814BAA	ECN3818BAA	
	460	7-1/2	480		ECN3811CAA	ECN3812CAA	ECN3814CAA	ECN3818CAA	
	575	7-1/2	600		ECN3811DAA	ECN3812DAA	ECN3814DAA	ECN3818DAA	
2	—	—	120	60A	ECN3821AAA	ECN3822AAA	ECN3824AAA	ECN3828AAA	AN700GN0218A AN700GN0218E AN700GN0218B AN700GN0218C AN700GN0218D
	200	7-1/2	208		ECN3821EAA	ECN3822EAA	ECN3824EAA	ECN3828EAA	
	230	10	240		ECN3821BAA	ECN3822BAA	ECN3824BAA	ECN3828BAA	
	460	20	480		ECN3821CAA	ECN3822CAA	ECN3824CAA	ECN3828CAA	
	575	20	600		ECN3821DAA	ECN3822DAA	ECN3824DAA	ECN3828DAA	
3	—	—	120	100A	ECN3831AAA	ECN3832AAA	ECN3834AAA	ECN3838AAA	AN700KN0218A AN700KN0218E AN700KN0218B AN700KN0218C AN700KN0218D
	200	20	208		ECN3831EAA	ECN3832EAA	ECN3834EAA	ECN3838EAA	
	230	25	240		ECN3831BAA	ECN3832BAA	ECN3834BAA	ECN3838BAA	
	460	40	480		ECN3831CAA	ECN3832CAA	ECN3834CAA	ECN3838CAA	
	575	40	600		ECN3831DAA	ECN3832DAA	ECN3834DAA	ECN3838DAA	
4	—	—	120	200A	ECN3841AAA	ECN3842AAA	ECN3844AAA	ECN3848AAA	AN700NN0218A AN700NN0218E AN700NN0218B AN700NN0218C AN700NN0218D
	200	30	208		ECN3841EAA	ECN3842EAA	ECN3844EAA	ECN3848EAA	
	230	40	240		ECN3841BAA	ECN3842BAA	ECN3844BAA	ECN3848BAA	
	460	75	480		ECN3841CAA	ECN3842CAA	ECN3844CAA	ECN3848CAA	
	575	75	600		ECN3841DAA	ECN3842DAA	ECN3844DAA	ECN3848DAA	
5	—	—	120	400A	ECN3851AAA	ECN3852AAA	ECN3854AAA	ECN3858AAA	AN700SN0218A AN700SN0218E AN700SN0218B AN700SN0218C AN700SN0218D
	200	60	208		ECN3851EAA	ECN3852EAA	ECN3854EAA	ECN3858EAA	
	230	75	240		ECN3851BAA	ECN3852BAA	ECN3854BAA	ECN3858BAA	
	460	150	480		ECN3851CAA	ECN3852CAA	ECN3854CAA	ECN3858CAA	
	575	150	600		ECN3851DAA	ECN3852DAA	ECN3854DAA	ECN3858DAA	
6	200	100	208	600A	ECN3861EAA	ECN3862EAA	ECN3863EAA ^②	ECN3868EAA	AN700TN0218E AN700TN0218B AN700TN0218C AN700TN0218D
	230	150	240		ECN3861BAA	ECN3862BAA	ECN3863BAA ^②	ECN3868BAA	
	460	300	480		ECN3861CAA	ECN3862CAA	ECN3863CAA ^②	ECN3868CAA	
	575	300	600		ECN3861DAA	ECN3862DAA	ECN3863DAA ^②	ECN3868DAA	

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, see Page 16-6.

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

NEMA Size	0	1	2	3	4	5	6
Horsepower	3	7-1/2	20	40	60	100	200

② Type 4 (Painted steel) Size 6.

③ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN3804AAA. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see Tab 14.

Other Magnet Coils Page 3-20
 Cover Control Page 3-67
 Dimensions Page 15-4
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination

3

Table 3-64. Class ECN39 — Combination 2-Speed 2-Winding Starter — Circuit Breaker

NEMA Size	Motor Voltage	Maximum hp Rating		Magnet Coil Voltage ^①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^⑥ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ^{②③}	Component Starter (Open)
		Constant or Variable Torque	Constant Horsepower			Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	200	1 3	1 2	208	HMCPE 7A HMCPE 15A	ECN3901EAC ECN3901EAD	ECN3902EAC ECN3902EAD	ECN3904EAC ECN3904EAD	ECN3908EAC ECN3908EAD	AN700BN022E
	230	1 3	1 2	240	HMCPE 7A HMCPE 15A	ECN3901BAC ECN3901BAD	ECN3902BAC ECN3902BAD	ECN3904BAC ECN3904BAD	ECN3908BAC ECN3908BAD	AN700BN022B
	460	3/4 2 5	3/4 2 3	480	HMCPE 3A HMCPE 7A HMCPE 15A	ECN3901CAB ECN3901CAC ECN3901CAD	ECN3902CAB ECN3902CAC ECN3902CAD	ECN3904CAB ECN3904CAC ECN3904CAD	ECN3908CAB ECN3908CAC ECN3908CAD	AN700BN022C
	575	1 3 5	1 3 —	600	HMCP 3A HMCP 7A HMCP 15A	ECN3901DA5 ECN3901DA6 ECN3901DA7	ECN3902DA5 ECN3902DA6 ECN3902DA7	ECN3904DA5 ECN3904DA6 ECN3904DA7	ECN3908DA5 ECN3908DA6 ECN3908DA7	AN700BN022D
1	200	1 2 7-1/2	1 2 5	208	HMCPE 7A HMCPE 15A HMCPE 30A	ECN3911EAC ECN3911EAD ECN3911EAE	ECN3912EAC ECN3912EAD ECN3912EAE	ECN3914EAC ECN3914EAD ECN3914EAE	ECN3918EAC ECN3918EAD ECN3918EAE	AN700DN022E
	230	1 2 7-1/2	1 2 5	240	HMCPE 7A HMCPE 15A HMCPE 30A	ECN3911BAC ECN3911BAD ECN3911BAE	ECN3912BAC ECN3912BAD ECN3912BAE	ECN3914BAC ECN3914BAD ECN3914BAE	ECN3918BAC ECN3918BAD ECN3918BAE	AN700DN022B
	460	3/4 2 5 10	3/4 2 5 7-1/2	480	HMCPE 3A HMCPE 7A HMCPE 15A HMCPE 30A	ECN3911CAB ECN3911CAC ECN3911CAD ECN3911CAE	ECN3912CAB ECN3912CAC ECN3912CAD ECN3912CAE	ECN3914CAB ECN3914CAC ECN3914CAD ECN3914CAE	ECN3918CAB ECN3918CAC ECN3918CAD ECN3918CAE	AN700DN022C
	575	1 3 7-1/2 10	1 3 7-1/2 —	600	HMCP 3A HMCP 7A HMCP 15A HMCP 30A	ECN3911DA5 ECN3911DA6 ECN3911DA7 ECN3911DA8	ECN3912DA5 ECN3912DA6 ECN3912DA7 ECN3912DA8	ECN3914DA5 ECN3914DA6 ECN3914DA7 ECN3914DA8	ECN3918DA5 ECN3918DA6 ECN3918DA7 ECN3918DA8	AN700DN022D
2	200	10	7-1/2	208	HMCPE 50A	ECN3921EAF	ECN3922EAF	ECN3924EAF	ECN3928EAF	AN700GN022E
	230	15	10	240	HMCPE 50A	ECN3921BAF	ECN3922BAF	ECN3924BAF	ECN3928BAF	AN700GN022B
	460	25	20	480	HMCPE 50A	ECN3921CAF	ECN3922CAF	ECN3924CAF	ECN3928CAF	AN700GN022C
	575	25	20	600	HMCP 50A	ECN3921DA9	ECN3922DA9	ECN3924DA9	ECN3928DA9	AN700GN022D
3	200	25	20	208	HMCPE 100A	ECN3931EAG	ECN3932EAG	ECN3934EAG	ECN3938EAG	AN700KN022E
	230	30	25	240	HMCPE 100A	ECN3931BAG	ECN3932BAG	ECN3934BAG	ECN3938BAG	AN700KN022B
	460	50	40	480	HMCPE 100A	ECN3931CAG	ECN3932CAG	ECN3934CAG	ECN3938CAG	AN700KN022C
	575	50	40	600	HMCP 100A	ECN3931DAI	ECN3932DAI	ECN3934DAI	ECN3938DAI	AN700KN022D
4	200	40	30	208	HMCP 150A	ECN3941EAH	ECN3942EAH	ECN3944EAH	ECN3948EAH	AN700NN022E
	230	50	40	240	HMCP 150A	ECN3941BAH	ECN3942BAH	ECN3944BAH	ECN3948BAH	AN700NN022B
	460	100	75	480	HMCP 150A	ECN3941CAH	ECN3942CAH	ECN3944CAH	ECN3948CAH	AN700NN022C
	575	100	75	600	HMCP 150A	ECN3941DAH	ECN3942DAH	ECN3944DAH	ECN3948DAH	AN700NN022D
5	200	60 75	60 —	208	HMCP 250A HMCP 400A	ECN3951EAJ ECN3951EAK	ECN3952EAJ ECN3952EAK	ECN3954EAJ ECN3954EAK	ECN3958EAJ ECN3958EAK	AN700SN022E
	230	75 100	75 —	240	HMCP 250A HMCP 400A	ECN3951BAJ ECN3951BAK	ECN3952BAJ ECN3952BAK	ECN3954BAJ ECN3954BAK	ECN3958BAJ ECN3958BAK	AN700SN022B
	460	150 200	150 —	480	HMCP 250A HMCP 400A	ECN3951CAJ ECN3951CAK	ECN3952CAJ ECN3952CAK	ECN3954CAJ ECN3954CAK	ECN3958CAJ ECN3958CAK	AN700SN022C
	575	200	150	600	HMCP 250A	ECN3951DAJ	ECN3952DAJ	ECN3954DAJ	ECN3958DAJ	AN700SN022D
6	200	150	100	208	⑤	ECN3961EAU	ECN3962EAU	ECN3963EAU ^④	ECN3968EAU	AN700TN022E
	230	200	150	240	⑤	ECN3961BAU	ECN3962BAU	ECN3963BAU ^④	ECN3968BAU	AN700TN022B
	460	400	300	480	⑤	ECN3961CAU	ECN3962CAU	ECN3963CAU ^④	ECN3968CAU	AN700TN022C
	575	400	300	600	⑤	ECN3961DAU	ECN3962DAU	ECN3963DAU ^④	ECN3968DAU	AN700TN022D

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, Page 16-6.

- 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.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order mod code **R5**.
- ③ Type 12 enclosure is without safety door interlock.
- ④ Type 4 (Painted steel) Size 6.
- ⑤ Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.
- ⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN3904EAC. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Other Magnet Coils Page 3-20
 Cover Control Page 3-67
 Dimensions Page 15-4
 Accessories Page 16-4
 Modifications Page 16-4-9
 Technical Data Page 18-7

Combination

3

Table 3-65. Class ECN40 — Combination 2-Speed 1-Winding Starter (CT or VT) — Circuit Breaker

NEMA Size	Motor Voltage	Max. hp Rating	Magnet Coil Voltage ^①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^② Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ^{②③}	Component Starter (Open)	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	
0	200	1 3	208	HMCPE 7A HMCPE 15A	ECN4001EAC ECN4001EAD	ECN4002EAC ECN4002EAD	ECN4004EAC ECN4004EAD	ECN4008EAC ECN4008EAD	AN700BN0218E	
	230	1 3	240	HMCPE 7A HMCPE 15A	ECN4001BAC ECN4001BAD	ECN4002BAC ECN4002BAD	ECN4004BAC ECN4004BAD	ECN4008BAC ECN4008BAD	AN700BN0218B	
	460	3/4 2 5	480	HMCPE 3A HMCPE 7A HMCPE 15A	ECN4001CAB ECN4001CAC ECN4001CAD	ECN4002CAB ECN4002CAC ECN4002CAD	ECN4004CAB ECN4004CAC ECN4004CAD	ECN4008CAB ECN4008CAC ECN4008CAD	AN700BN0218C	
	575	1 3 5	600	HMCP 3A HMCP 7A HMCP 15A	ECN4001DA5 ECN4001DA6 ECN4001DA7	ECN4002DA5 ECN4002DA6 ECN4002DA7	ECN4004DA5 ECN4004DA6 ECN4004DA7	ECN4008DA5 ECN4008DA6 ECN4008DA7	AN700BN0218D	
1	200	1 2 7-1/2	208	HMCPE 7A HMCPE 15A HMCPE 30A	ECN4011EAC ECN4011EAD ECN4011EAE	ECN4012EAC ECN4012EAD ECN4012EAE	ECN4014EAC ECN4014EAD ECN4014EAE	ECN4018EAC ECN4018EAD ECN4018EAE	AN700DN0218E	
	230	1 2 7-1/2	240	HMCPE 7A HMCPE 15A HMCPE 30A	ECN4011BAC ECN4011BAD ECN4011BAE	ECN4012BAC ECN4012BAD ECN4012BAE	ECN4014BAC ECN4014BAD ECN4014BAE	ECN4018BAC ECN4018BAD ECN4018BAE	AN700DN0218B	
	460	3/4 2 5 10	480	HMCPE 3A HMCPE 7A HMCPE 15A HMCPE 30A	ECN4011CAB ECN4011CAC ECN4011CAD ECN4011CAE	ECN4012CAB ECN4012CAC ECN4012CAD ECN4012CAE	ECN4014CAB ECN4014CAC ECN4014CAD ECN4014CAE	ECN4018CAB ECN4018CAC ECN4018CAD ECN4018CAE	AN700DN0218C	
	575	1 3 7-1/2 10	600	HMCP 3A HMCP 7A HMCP 15A HMCP 30A	ECN4011DA5 ECN4011DA6 ECN4011DA7 ECN4011DA8	ECN4012DA5 ECN4012DA6 ECN4012DA7 ECN4012DA8	ECN4014DA5 ECN4014DA6 ECN4014DA7 ECN4014DA8	ECN4018DA5 ECN4018DA6 ECN4018DA7 ECN4018DA8	AN700DN0218D	
2	200 230 460	10 15 25	208 240 480	HMCPE 50A	ECN4021EAF ECN4021BAF ECN4021CAF	ECN4022EAF ECN4022BAF ECN4022CAF	ECN4024EAF ECN4024BAF ECN4024CAF	ECN4028EAF ECN4028BAF ECN4028CAF	AN700GN0218E AN700GN0218B AN700GN0218C	
	575	25	600	HMCP 50A	ECN4021DA9	ECN4022DA9	ECN4024DA9	ECN4028DA9	AN700GN0218D	
3	200 230 460	25 30 50	208 240 480	HMCPE 100A	ECN4031EAG ECN4031BAG ECN4031CAG	ECN4032EAG ECN4032BAG ECN4032CAG	ECN4034EAG ECN4034BAG ECN4034CAG	ECN4038EAG ECN4038BAG ECN4038CAG	AN700KN0218E AN700KN0218B AN700KN0218C	
	575	50	600	HMCP 100A	ECN4031DAI	ECN4032DAI	ECN4034DAI	ECN4038DAI	AN700KN0218D	
4	200 230 460 575	40 50 100 100	208 240 480 600	HMCP 150A	ECN4041EAH ECN4041BAH ECN4041CAH ECN4041DAH	ECN4042EAH ECN4042BAH ECN4042CAH ECN4042DAH	ECN4044EAH ECN4044BAH ECN4044CAH ECN4044DAH	ECN4048EAH ECN4048BAH ECN4048CAH ECN4048DAH	AN700NN0218E AN700NN0218B AN700NN0218C AN700NN0218D	
	5	200	60 75	208	HMCP 250A HMCP 400A	ECN4051EAJ ECN4051EAK	ECN4052EAJ ECN4052EAK	ECN4054EAJ ECN4054EAK	ECN4058EAJ ECN4058EAK	AN700SN0218E
		230	75 100	240	HMCP 250A HMCP 400A	ECN4051BAJ ECN4051BAK	ECN4052BAJ ECN4052BAK	ECN4054BAJ ECN4054BAK	ECN4058BAJ ECN4058BAK	AN700SN0218B
		460	150 200	480	HMCP 250A HMCP 400A	ECN4051CAJ ECN4051CAK	ECN4052CAJ ECN4052CAK	ECN4054CAJ ECN4054CAK	ECN4058CAJ ECN4058CAK	AN700SN0218C
575		200	600	HMCP 250A	ECN4051DAJ	ECN4052DAJ	ECN4054DAJ	ECN4058DAJ	AN700SN0218D	
6	200	150	208	⑤	ECN4061EAU	ECN4062EAU	ECN4063EAU ^④	ECN4068EAU	AN700TN0218E	
	230	200	240	⑤	ECN4061BAU	ECN4062BAU	ECN4063BAU ^④	ECN4068BAU	AN700TN0218B	
	460	400	480	⑤	ECN4061CAU	ECN4062CAU	ECN4063CAU ^④	ECN4068CAU	AN700TN0218C	
	575	400	600	⑤	ECN4061DAU	ECN4062DAU	ECN4063DAU ^④	ECN4068DAU	AN700TN0218D	

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays – 1 for each speed). Heater Pack Selection, see Page 16-6.

- 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.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order mod code **R5**.
- ③ Type 12 enclosure is without safety door interlock.
- ④ Type 4 (Painted steel) Size 6.
- ⑤ Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.
- ⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN4004EAC. To order Type 4X 316-Grade Stainless Steel, change that digit to **9**. To order Type 4 Painted Steel, change that digit to **3**. To order Nonmetallic, change that digit to **5**. For details on these Alternate Enclosures, see **Tab 14**.

Other Magnet Coils Page 3-20
 Cover Control Page 3-67
 Dimensions Page 15-4
 Accessories Page 16-4
 Modifications Page 16-40
 Technical Data Page 18-7

Combination

Table 3-66. Class ECN41 — Combination 2-Speed 1-Winding Starter (Constant Horsepower) — Circuit Breaker

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage ①	Circuit Breaker Type	Type 1 General Purpose	Type 3R Rainproof	Type 4X ^④ Watertight & Dust-Tight Stainless Steel	Type 12 Dust-Tight Industrial External Reset ^{②③}	Component Starter (Open)	
		Constant Horsepower			Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number	
0	200	1 2	208	HMCPE 7A HMCPE 15A	ECN4101EAC ECN4101EAD	ECN4102EAC ECN4102EAD	ECN4104EAC ECN4104EAD	ECN4108EAC ECN4108EAD	AN700BN0218E	
	230	1 2	240	HMCPE 7A HMCPE 15A	ECN4101BAC ECN4101BAD	ECN4102BAC ECN4102BAD	ECN4104BAC ECN4104BAD	ECN4108BAC ECN4108BAD	AN700BN0218B	
	460	3/4 2 3	480	HMCPE 3A HMCPE 7A HMCPE 15A	ECN4101CAB ECN4101CAC ECN4101CAD	ECN4102CAB ECN4102CAC ECN4102CAD	ECN4104CAB ECN4104CAC ECN4104CAD	ECN4108CAB ECN4108CAC ECN4108CAD	AN700BN0218C	
	575	1 3	600	HMCP 3A HMCP 7A	ECN4101DA5 ECN4101DA6	ECN4102DA5 ECN4102DA6	ECN4104DA5 ECN4104DA6	ECN4108DA5 ECN4108DA6	AN700BN0218D	
1	200	1 2 5	208	HMCPE 7A HMCPE 5A HMCPE 30A	ECN4111EAC ECN4111EAD ECN4111EAE	ECN4112EAC ECN4112EAD ECN4112EAE	ECN4114EAC ECN4114EAD ECN4114EAE	ECN4118EAC ECN4118EAD ECN4118EAE	AN700DN0218E	
	230	1 2 5	240	HMCPE 7A HMCPE 15A HMCPE 30A	ECN4111BAC ECN4111BAD ECN4111BAE	ECN4112BAC ECN4112BAD ECN4112BAE	ECN4114BAC ECN4114BAD ECN4114BAE	ECN4118BAC ECN4118BAD ECN4118BAE	AN700DN0218B	
	460	3/4 2 5 7-1/2	480	HMCPE 3A HMCPE 7A HMCPE 15A HMCPE 30A	ECN4111CAB ECN4111CAC ECN4111CAD ECN4111CAE	ECN4112CAB ECN4112CAC ECN4112CAD ECN4112CAE	ECN4114CAB ECN4114CAC ECN4114CAD ECN4114CAE	ECN4118CAB ECN4118CAC ECN4118CAD ECN4118CAE	AN700DN0218C	
	575	1 3 7-1/2	600	HMCP 3A HMCP 7A HMCP 15A	ECN4111DA5 ECN4111DA6 ECN4111DA7	ECN4112DA5 ECN4112DA6 ECN4112DA7	ECN4114DA5 ECN4114DA6 ECN4114DA7	ECN4118DA5 ECN4118DA6 ECN4118DA7	AN700DN0218D	
2	200 230 460	7-1/2 10 20	208 240 480	HMCPE 50A	ECN4121EAF ECN4121BAF ECN4121CAF	ECN4122EAF ECN4122BAF ECN4122CAF	ECN4124EAF ECN4124BAF ECN4124CAF	ECN4128EAF ECN4128BAF ECN4128CAF	AN700GN0218E AN700GN0218B AN700GN0218C	
	575	20	600	HMCP 50A	ECN4121DA9	ECN4122DA9	ECN4124DA9	ECN4128DA9	AN700GN0218D	
3	200 230 460	20 25 40	208 240 480	HMCPE 100A	ECN4131EAG ECN4131BAG ECN4131CAG	ECN4132EAG ECN4132BAG ECN4132CAG	ECN4134EAG ECN4134BAG ECN4134CAG	ECN4138EAG ECN4138BAG ECN4138CAG	AN700KN0218E AN700KN0218B AN700KN0218C	
	575	40	600	HMCP 100A	ECN4131DAI	ECN4132DAI	ECN4134DAI	ECN4138DAI	AN700KN0218D	
4	200 230 460 575	30 40 75 75	208 240 480 600	HMCP 150A	ECN4141EAH ECN4141BAH ECN4141CAH ECN4141DAH	ECN4142EAH ECN4142BAH ECN4142CAH ECN4142DAH	ECN4144EAH ECN4144BAH ECN4144CAH ECN4144DAH	ECN4148EAH ECN4148BAH ECN4148CAH ECN4148DAH	AN700NN0218E AN700NN0218B AN700NN0218C AN700NN0218D	
	5	200	60	208	HMCP 250A	ECN4151EAJ	ECN4152EAJ	ECN4154EAJ	ECN4158EAJ	AN700SN0218E
		230	75	240	HMCP 250A	ECN4151BAJ	ECN4152BAJ	ECN4154BAJ	ECN4158BAJ	AN700SN0218B
		460	150	480	HMCP 250A	ECN4151CAJ	ECN4152CAJ	ECN4154CAJ	ECN4158CAJ	AN700SN0218C
575	150	600	HMCP 250A	ECN4151DAJ	ECN4152DAJ	ECN4154DAJ	ECN4158DAJ	AN700SN0218D		
6	200	100	208	⑤	ECN4161EAU	ECN4162EAU	ECN4163EAU ^④	ECN4168EAU	AN700TN0218E	
	230	150	240	⑤	ECN4161BAU	ECN4162BAU	ECN4163BAU ^④	ECN4168BAU	AN700TN0218B	
	460	300	480	⑤	ECN4161CAU	ECN4162CAU	ECN4163CAU ^④	ECN4168CAU	AN700TN0218C	
	575	300	600	⑤	ECN4161DAU	ECN4162DAU	ECN4163DAU ^④	ECN4168DAU	AN700TN0218D	

Starters do not include heater packs. Select 2 cartons of 3 heater packs (2 overload relays — 1 for each speed). Heater Pack Selection, **Page 16-6.**

- 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.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order mod code **R5**.
- ③ Type 12 enclosure is without safety door interlock.
- ④ Type 4 (Painted steel) Size 6.
- ⑤ Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.
- ⑥ The Catalog Numbers listed in the Type 4X column are for Type 4X 304-Grade Stainless Steel, as indicated by the seventh digit 4. Example: ECN4104EAC. To order Type 4X 316-Grade Stainless Steel, change that digit to 9. To order Type 4 Painted Steel, change that digit to 3. To order Nonmetallic, change that digit to 5. For details on these Alternate Enclosures, see **Tab 14**.

Other Magnet Coils **Page 3-20**
 Cover Control **Page 3-67**
 Dimensions **Page 15-4**
 Accessories **Page 16-4**
 Modifications **Page 16-40**
 Technical Data **Page 18-7**

Wiring Diagrams

Wiring Diagrams

3

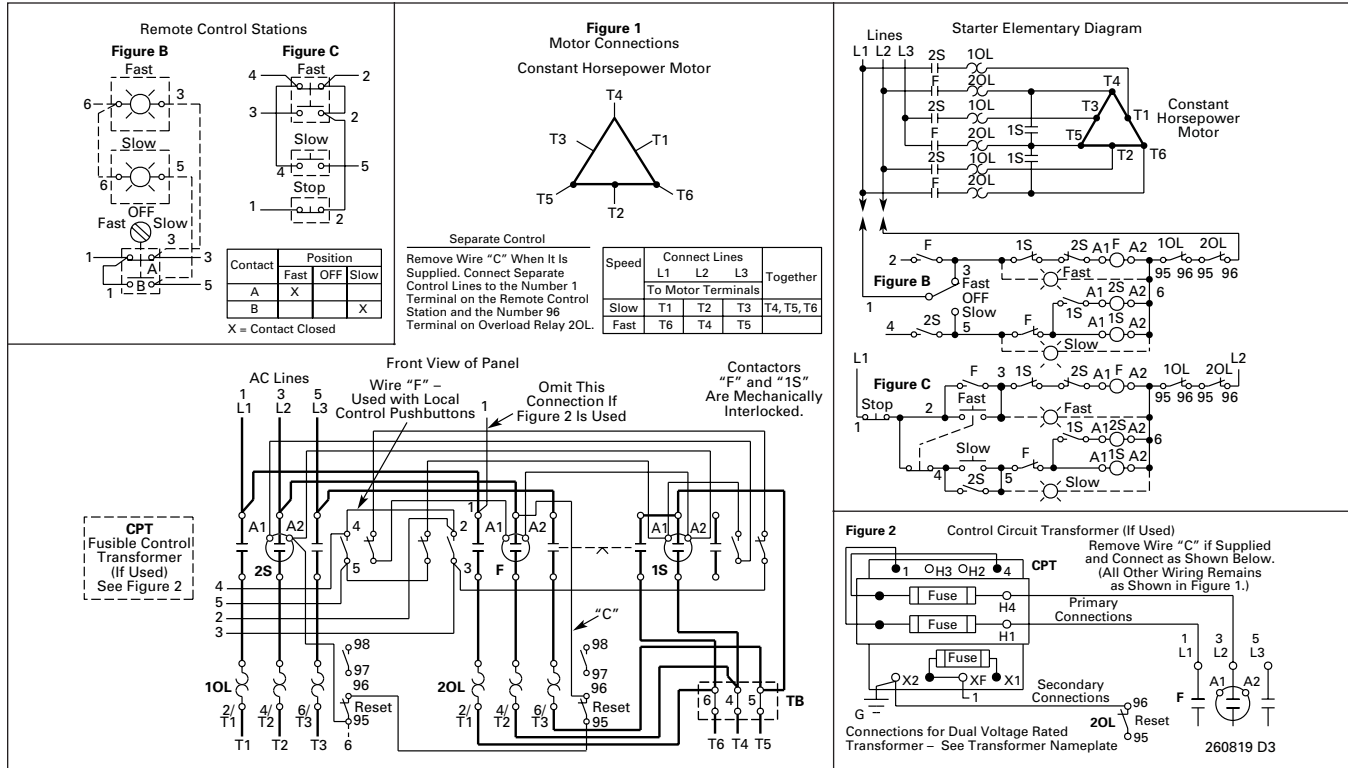


Figure 3-14. Multispeed — 2-Speed 1-Winding Constant Horsepower

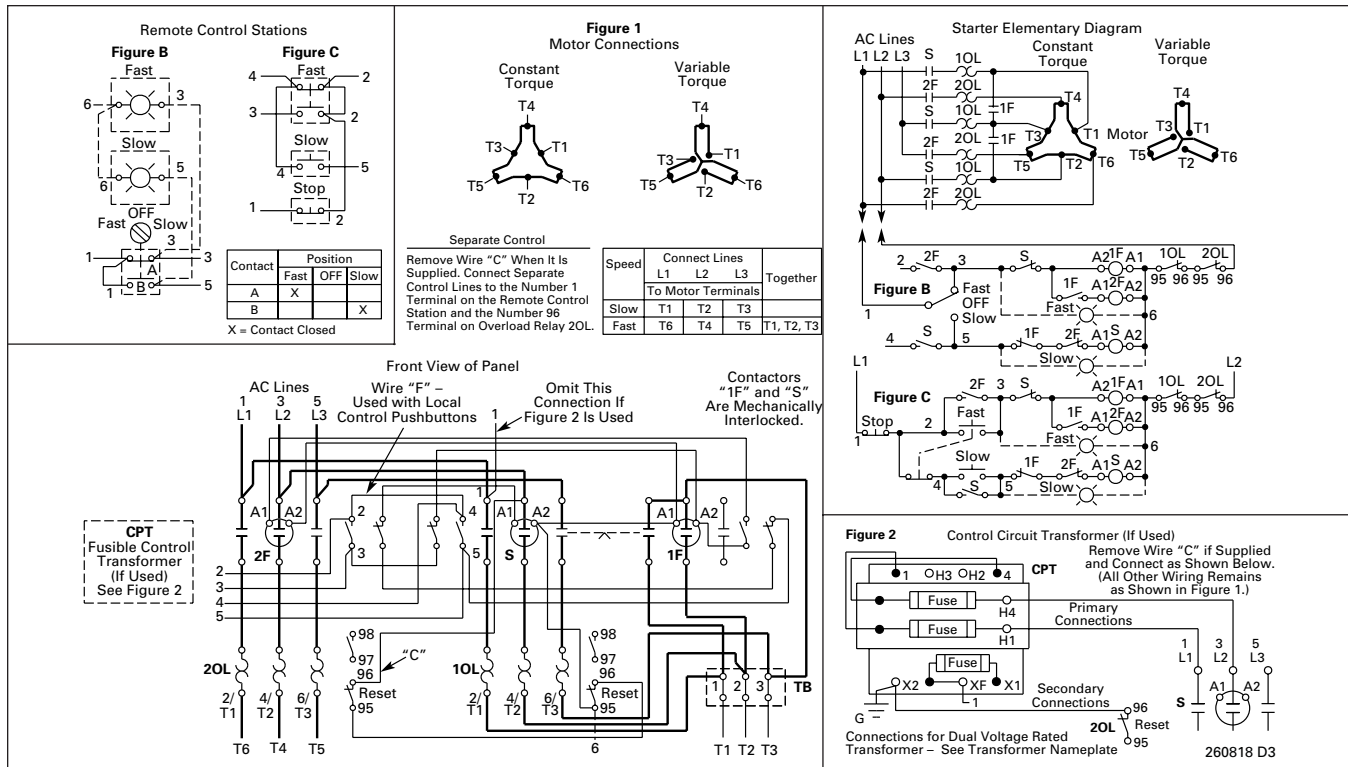


Figure 3-15. Multispeed — 2-Speed 1-Winding Constant or Variable Torque

Wiring Diagrams

3

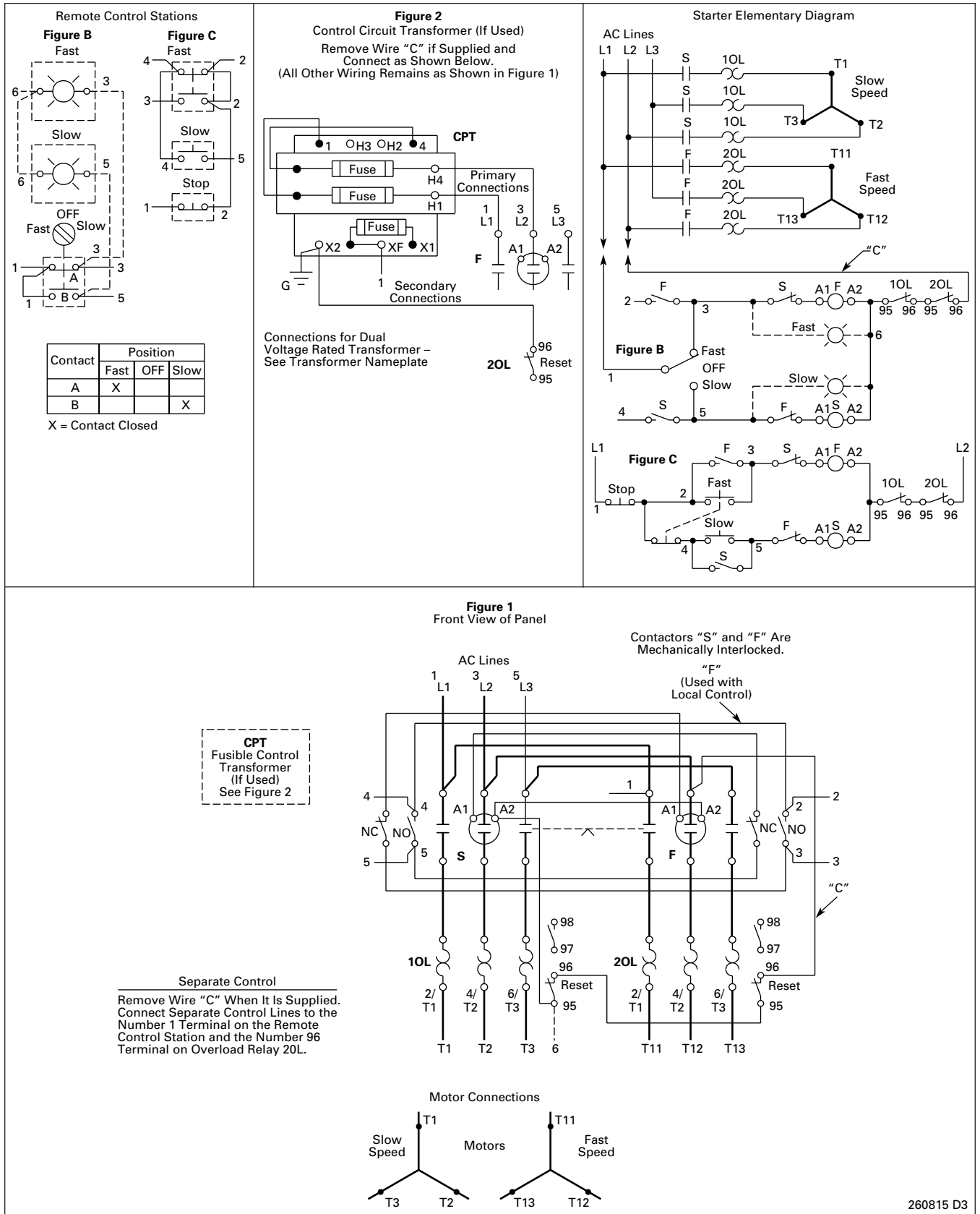


Figure 3-16. Multispeed — 2-Speed 2-Winding

Wiring Diagrams

Multispeed Cover Control

3

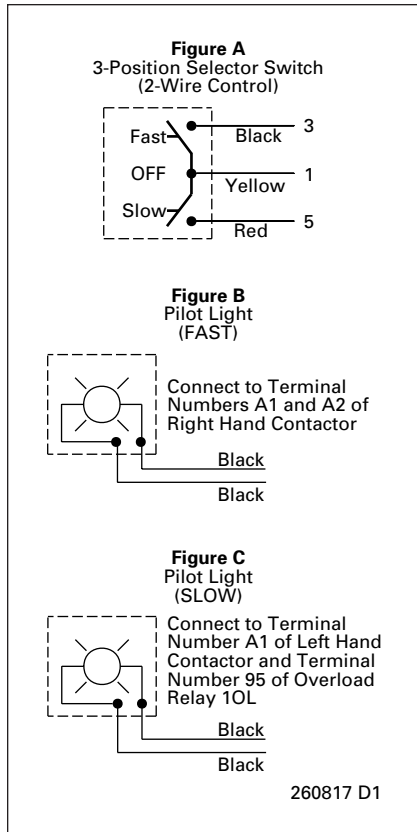


Figure 3-17. 2-Speed 2-Winding C400GK Control Options

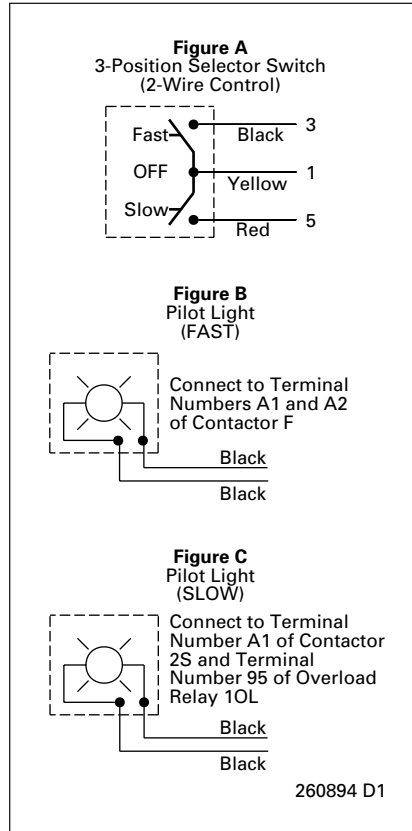


Figure 3-18. 2-Speed 1-Winding CH C400GK Control Options

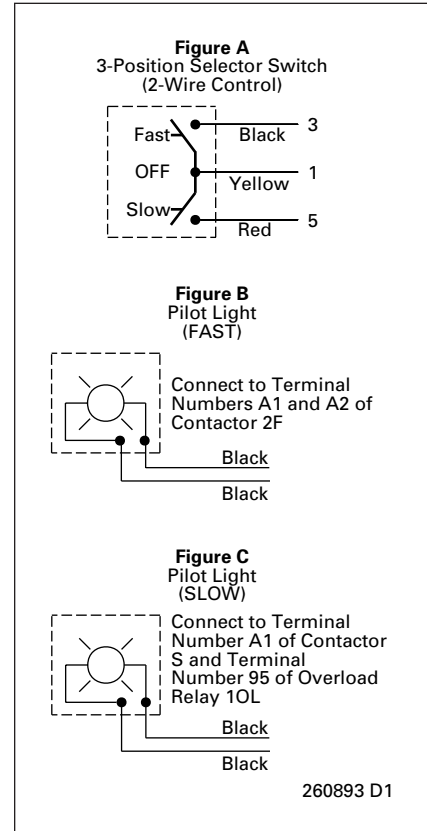


Figure 3-19. 2-Speed 1-Winding CT, VT C400GK Control Options

Wiring Diagrams

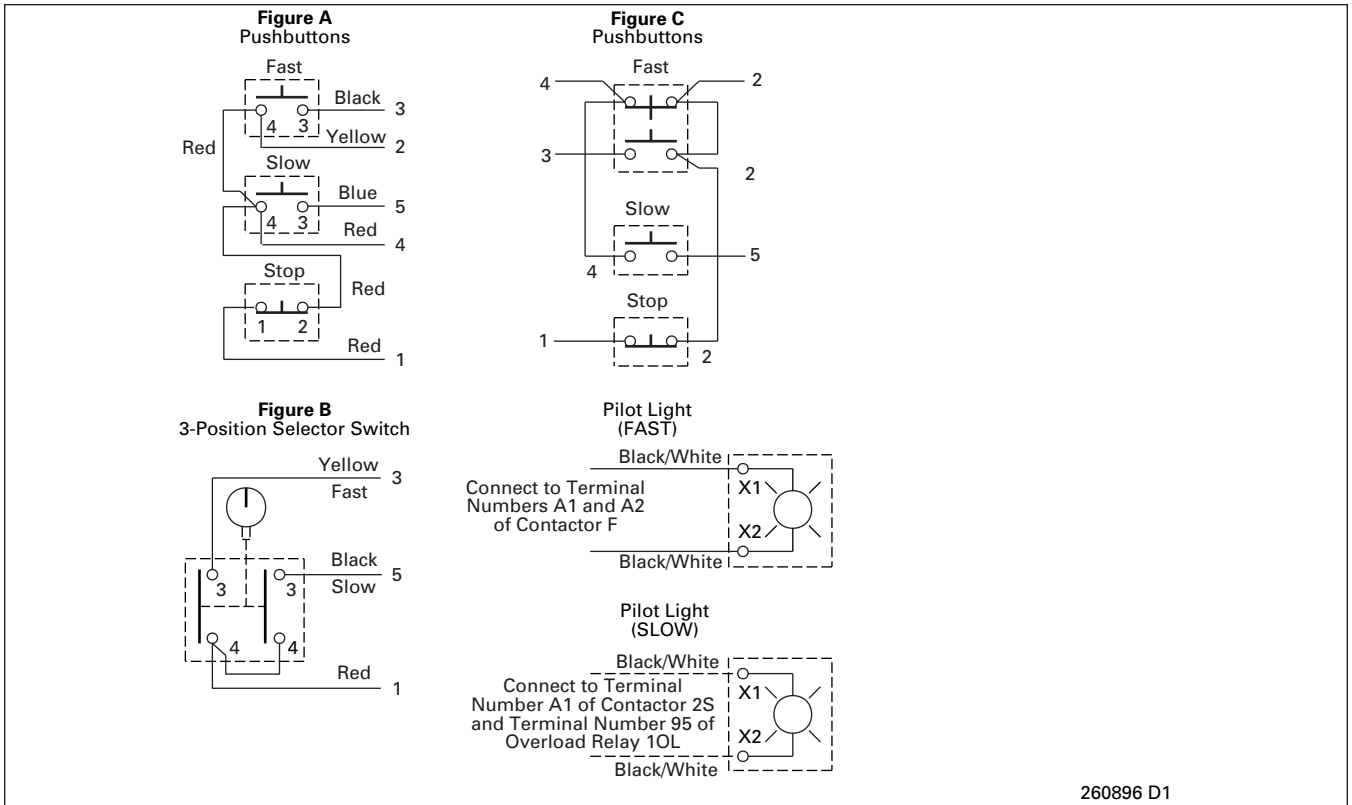


Figure 3-20. 2-Speed 1-Winding CH C400T Control Options

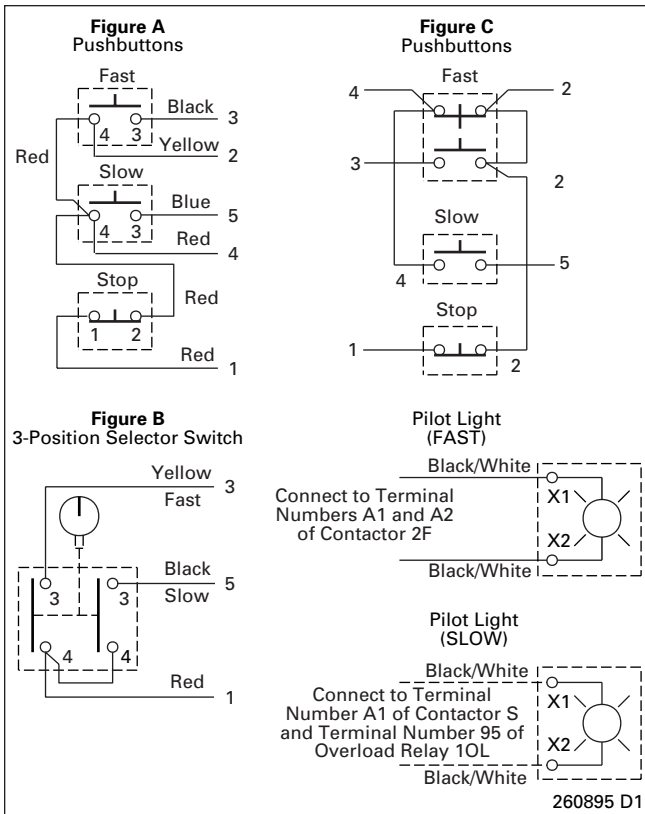


Figure 3-21. 2-Speed 1-Winding CT, VT C400T Control Options

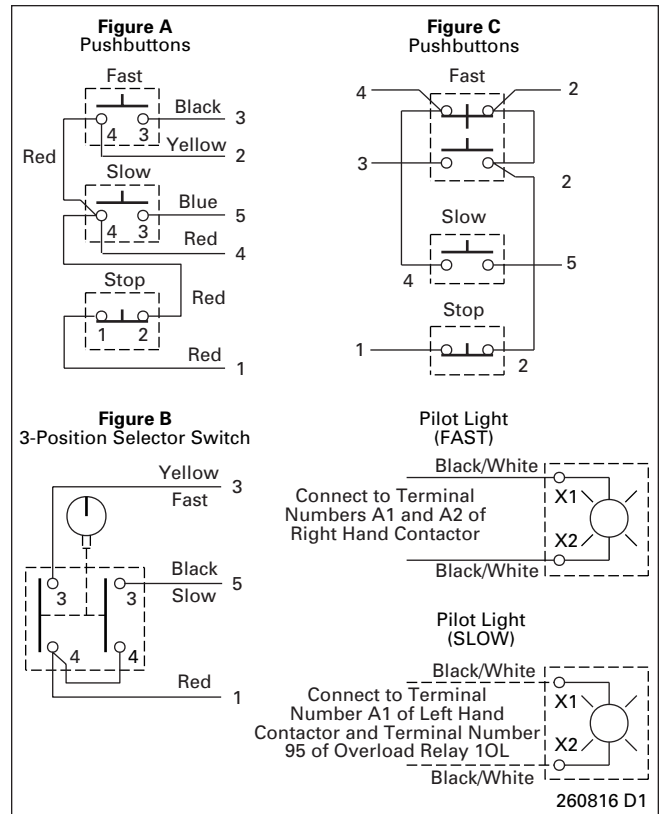


Figure 3-22. 2-Speed 2-Winding C400T Control Options