

#### Freedom Full Voltage Controls

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#### Product Description

Eaton's Freedom Series™ starters and contactors feature a compact, space-saving design, high strength, impact and temperature resistant insulating materials.

#### Features

- C440 solid-state electronic overload providing reliable, accurate and value-driven protection, including communication capabilities, while reducing inventory carrying costs with wide FLA adjustment (5:1) and selectable trip class
- Adjustable bimetallic ambient compensated overload relays with interchangeable heater packs—available in three basic sizes, covering applications up to 900 hp
- Fixed heater overloads optional
- A full line of snap-on accessories—top and side mounted auxiliary contacts, solid-state and pneumatic timers, and so on
- 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 ± 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

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#### Standards and Certifications

**Note:** See **Tab 17** for additional information on standards and certifications that apply to all enclosed control products.

- UL Listed
- cUL® Listed (indicates appropriate CSA Standard investigation)
- ABS Type Approved
- OSHPD Certified (OSP-0015-10)

#### Certified Type 2 Coordination

Eaton's Freedom Series NEMA starters are UL Certified to achieve IEC 947 Type 2 coordination against 100,000 A 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 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.

### Additional Reference

Other Magnet Coils .....	<b>V10-T2-4</b>
Cover Control .....	<b>V10-T2-6</b>
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Accessories and Modifications .....	<b>Tab 15</b>
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## NEMA Contactors and Starters

Freedom Full Voltage Controls

### Catalog Number Selection

#### NEMA Freedom Line Enclosed Control

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**EC N 22 2 1 A A F -**

Design
N = Freedom NEMA 2 = A200

Class	Page
01 = Non-reversing contactor—three-pole Non-reversing contactor—two-pole Non-reversing contactor—four-pole Non-reversing contactor—five-pole	V10-T2-10 V10-T2-12 V10-T2-14 V10-T2-15
02 = Reversing contactor—three-pole	V10-T2-16
05 = Non-combination non-reversing starter	V10-T2-18
05 = Non-combination single-phase non-reversing starter	V10-T2-20
06 = Non-combination reversing starter	V10-T2-21
07 = Non-combination non-reversing starter with CPT	V10-T2-23
16 = Combination non-reversing starter—fusible disconnect Combination non-reversing starter—non-fusible disconnect Special enclosure combination non-reversing starter—fusible/non-fusible disconnect	V10-T2-25 V10-T2-27 V10-T2-29
17 = Combination reversing starter—fusible disconnect Combination reversing starter—non-fusible disconnect	V10-T2-31 V10-T2-33
18 = Combination non-reversing starter—fusible disconnect with CPT Combination non-reversing starter—non-fusible disconnect with CPT	V10-T2-35 V10-T2-37
22 = Combination non-reversing starter—circuit breaker Special enclosure combination non-reversing starter—circuit breaker	V10-T2-39 V10-T2-42
23 = Combination reversing starter—circuit breaker	V10-T2-44
24 = Combination non-reversing starter—circuit breaker with CPT	V10-T2-47

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	

Modification/Overload Codes
All modification codes, see <b>Tab 15</b> . For solid-state overload codes, <b>Page V10-T2-5</b>

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

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

Cover Control
Type 1 non-comb. (NEW BOX 1 only), <b>Page V10-T2-6</b> Type 1 non-comb., <b>Page V10-T2-7</b> All others, <b>Page V10-T2-8</b>
Contactors
3 = Three poles

Coil Voltage and/or Control Transformers
See code tables below

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 (non-metallic) 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

#### 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	12 Vdc	X	104–120/60
E	208/60	Q	24 Vdc	Y	48/50
G	550/50	R	48 Vdc	Z	By description
H	277/60	S	125 Vdc		
J	208–240/60	T	24/60		

#### Notes

- ① Use for 0–3, HMCP 600 V applications only.
- ② When control power transformer modification codes (**C1–C11**) are used or when starter class includes CPT (that is ECN07, 18) see the table at right for system voltage code.

#### Control Power Transformer Codes (System Voltage)

Code	Primary	Secondary
B	240/480–220/440 wired for 240 V	120/60–110/50
C	240/480–220/440 wired for 480 V	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 240 V	24
S	240/480–220/440 wired for 480 V	24
T	600/60	24
U	277/60	24
V	380/50	24
W	415/50	24
X	240/480/600 wired for 480 V	120
Y	240/480/600 wired for 480 V	24
Z	By description	—

### C440 Solid-State Overload Modifications

#### Reliability and Improved Uptime

- C440 provides the users with peace of mind knowing that their assets are protected with the highest level of motor protection and communication capability in its class
- Extends the life of plant assets with selectable motor protection features such as trip class, phase unbalance and ground fault
- Protects against unnecessary downtime by discovering changes in your system (line/load) with remote monitoring capabilities
- Status LED provides added assurance that valuable assets are protected by indicating the overload operational status

#### Flexibility

- Improves return on investment by reducing inventory carrying costs with wide FLA adjustment (5:1) and selectable trip class
- Design incorporates built-in ground fault protection thus eliminating the need for separate CTs and modules
- Flexible communication with optional I/O enables easy integration into plant management systems for remote monitoring and control

#### Monitoring Capabilities

- Individual phase currents RMS
- Average three-phase current RMS
- Thermal memory
- Fault indication (overload, phase loss, phase unbalance, ground fault)

#### Safety

- IP20 rated terminal blocks
- Available in Eaton's industry leading FlashGard MCCs
- Tested to the highest industry standards such as UL, CSA, CE and IEC
- RoHS compliant

For solid-state overload enclosed control, add R63 or R64 modification code after the base Catalog Number. (Example, ECN0501AAA-**R63/B**).

Modification	IEC Size	NEMA Size	Full Load Current Adjustment Range (A)	Three-Phase without Ground Fault Auto/Manual Reset Overload Selectable Class 10/20/30	Three-Phase with Ground Fault Auto/Manual Reset Overload Selectable Class 10/20/30
Solid-state electronic overload relay <sup>①</sup>	B and C	00	0.33–1.65 <sup>②</sup>	<b>R63/A</b>	<b>R64/A</b>
			1–5	<b>R63/B</b>	<b>R64/B</b>
			4–20	<b>R63/C</b>	<b>R64/C</b>
	C and D	0 and 1	0.33–1.65 <sup>②</sup>	<b>R63/A</b>	<b>R64/A</b>
			1–5	<b>R63/B</b>	<b>R64/B</b>
			4–20	<b>R63/C</b>	<b>R64/C</b>
			9–45	<b>R63/D</b>	<b>R64/D</b>
	D	2	9–45	<b>R63/D</b>	<b>R64/D</b>
	D, F and G	3	20–100	<b>R63/E</b>	<b>R64/E</b>
G	4	28–140	<b>R63/F</b>	<b>R64/F</b>	
N/A	5	60–300	<b>R63/G</b>	<b>R64/G</b>	
N/A	6	120–600	<b>R63/H</b>	<b>R64/H</b>	

#### Notes

- ① Features:
  - Self-powered
  - Phase loss protection
  - Current adjustment knob
  - ±1% repeat accuracy
  - 1NO and 1NC isolated contacts
- ② Not UL Listed.

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## NEMA Contactors and Starters

### Freedom Full Voltage Controls

#### Cover Control

#### Product Selection

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#### Type 1 Non-Combination Cover Control (Box 1 Only)

- Cover control for non-combination starters uses M22 style devices as standard
- Pushbuttons are momentary type
- Field convertible selector switches from momentary to maintained operation and vice versa
- Cover control kits include hardware, M22 pushbuttons, bracket and pre-wired wire harnesses
- See Volume 7, Tab 1, for more details on M22 pushbuttons

#### Type 1 Non-Combination Cover Control (Box 1 Only)

Box 1 offering includes FVNR contactor sizes 00–2, electronic FVNR starters size 00–2 and bi-metallic FVNR starters size 00–1.



Description	Factory Installed Flange Control Position 9 Cover Control Code	Field Installation Kits Catalog Number
<b>Non-Reversing</b>		
No cover mounted pilot devices	<b>A</b>	—
STOP/START oval pushbuttons	<b>B</b>	<b>C600M1</b>
With red RUN pilot light	<b>C</b>	<b>C600M101_①</b>
With red RUN/green OFF lights	<b>D</b>	<b>C600M102_①</b>
OFF/ON oval pushbuttons	<b>E</b>	<b>C600M2</b>
With red RUN pilot light	<b>F</b>	<b>C600M201_①</b>
With red RUN/green OFF lights	<b>G</b>	<b>C600M202_①</b>
STOP/START selector switch	<b>S</b>	<b>C600M13</b>
With red RUN pilot light	<b>T</b>	<b>C600M131_①</b>
With red RUN/green OFF lights	<b>U</b>	<b>C600M132_①</b>
OFF/ON selector switch	<b>V</b>	<b>C600M14</b>
With red RUN pilot light	<b>W</b>	<b>C600M141_①</b>
With red RUN/green OFF lights	<b>X</b>	<b>C600M142_①</b>
HAND/OFF/AUTO selector switch	<b>H</b>	<b>C600M12</b>
With red RUN pilot light	<b>J</b>	<b>C600M121_①</b>
With red RUN/green OFF lights	<b>K</b>	<b>C600M122_①</b>
Green START pushbutton	<b>L</b>	<b>C600M3</b>
Red STOP pushbutton	<b>Y</b>	<b>C600M7 ①</b>
Green ON pushbutton	<b>M</b>	<b>C600M4</b>
Red OFF pushbutton	<b>N</b>	<b>C600M5</b>
Red RUN pilot light	<b>P</b>	<b>C600M9_①</b>
Green OFF pilot light	<b>Q</b>	<b>C600M10_①</b>
Red RUN/green OFF lights	<b>R</b>	<b>C600M11_①</b>
TEST/OFF/AUTO selector switch	—	<b>C600M8</b>

**Note**

① Add code letter from the table below to catalog number for voltage. Example: C600M101**A**.

Rating	Code Letter
85–264 Vac	<b>A</b>
480 Vac	<b>C</b>
12–30 Vac/Vdc	<b>T</b>

### Type 1 Non-Combination Cover Control (Box 2 and Larger Enclosures Only)

- Cover control for combination starters uses 10250T style devices as standard
- 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, **Tab 15**

#### Type 1 Cover Control



### Type 1 Non-Combination Cover Control (Box 2 and Larger Enclosures Only)

Box 2 and Larger Enclosure offering includes contactors size 3–5, electronic starters size 3–5 and bi-metallic starters size 2–5.

Description	Factory Installed Flange Control ① Position 9 Cover Control Code	Field Installation Kits Catalog Number
<b>Non-Reversing</b>		
No cover mounted pilot devices	<b>A</b>	<b>C400GK0</b>
STOP/START pushbuttons	<b>B</b>	<b>C400GK1</b>
With red RUN pilot light	<b>C</b>	<b>C400GK12</b> ②
With red RUN/green OFF lights	<b>D</b>	<b>C400GK16</b> ②
HAND/OFF/AUTO selector switch	<b>H</b>	<b>C400GK3</b>
With red RUN pilot light	<b>J</b>	<b>C400GK32</b> ②
With red RUN/green OFF lights	<b>K</b>	<b>C400GK36</b> ②
Red RUN pilot light	<b>P</b>	<b>C400GK42</b> ②
Green OFF	<b>Q</b>	<b>C400GK41</b> ②
Red RUN/green OFF pilot lights	<b>R</b>	<b>C400GK46</b> ②
<b>Reversing</b>		
No cover mounted pilot devices	<b>A</b>	<b>C400GK0</b>
FOR/REV/STOP pushbuttons	<b>B</b>	<b>C400GR1</b>
With two red pilot lights	<b>C</b>	<b>C400GR14</b> ②
UP/STOP/DOWN pushbuttons	<b>E</b>	<b>C400GR2</b>
With two red pilot lights	<b>F</b>	<b>C400GR24</b> ②
Two red pilot lights	<b>P</b>	<b>C400GK44</b> ②
One green pilot light	<b>Q</b>	<b>C400GK41</b> ②

#### Notes

- ① For more available factory installed flange control, see **Page V10-T2-8**.
- ② Add code letter from the table below to catalog number for voltage—kits only. Example: C400GK0B.

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

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## NEMA Contactors and Starters

### Freedom Full Voltage Controls

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#### Type 1 Combination and All Type 3R, 4X and 12 Cover Control

- Cover control for combination starters uses 10250T style devices as standard
- 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, **Tab 15**

#### 10250T Cover Control Kits



#### Type 1 Combination and All Type 3R, 4X and 12 Cover Control <sup>①</sup>

Description	Factory Installed Flange Control Position 9 Cover Control Code	Field Installation Kits Catalog Number
<b>Non-Reversing</b>		
No cover mounted pilot devices	<b>A</b>	—
START/STOP pushbuttons	<b>B</b>	<b>C400T1</b>
With red RUN pilot light	<b>C</b>	—
With red RUN/green OFF lights	<b>D</b>	—
ON/OFF pushbuttons	<b>E</b>	<b>C400T2</b>
With red RUN pilot light	<b>F</b>	—
With red RUN/green OFF lights	<b>G</b>	—
HAND/OFF/AUTO selector switch	<b>H</b>	<b>C400T12</b>
With red RUN pilot light	<b>J</b>	—
With red RUN/green OFF lights	<b>K</b>	—
START pushbutton	<b>L</b>	<b>C400T3</b>
ON pushbutton	<b>M</b>	<b>C400T4</b>
OFF pushbutton	<b>N</b>	<b>C400T5</b>
Red RUN pilot light	<b>P</b>	<b>C400T9</b> <sup>②</sup>
Green OFF	<b>Q</b>	<b>C400T10</b> <sup>②</sup>
Red RUN/green OFF pilot lights	<b>R</b>	<b>C400T11</b> <sup>②</sup>
START/STOP selector switch	<b>S</b>	<b>C400T13</b>
With red RUN pilot light	<b>T</b>	—
With red RUN/green OFF lights	<b>U</b>	—
ON/OFF selector switch	<b>V</b>	<b>C400T14</b>
With red RUN pilot light	<b>W</b>	—
With red RUN/green OFF lights	<b>X</b>	—
<b>Reversing</b>		
No cover mounted pilot devices	<b>A</b>	—
FOR/REV/STOP pushbuttons	<b>B</b>	<b>C400T6</b>
With two red pilot lights	<b>C</b>	—
With two red/one green pilot lights	<b>D</b>	—
UP/STOP/DOWN pushbuttons	<b>E</b>	—
With two red pilot lights	<b>F</b>	—
FOR/OFF/REV selector switch	<b>H</b>	<b>C400T15</b>
With two red pilot lights	<b>J</b>	—
With two red/one green pilot lights	<b>K</b>	—
Two red pilot lights	<b>P</b>	<sup>③</sup>
One green pilot light	<b>Q</b>	<b>C400T10</b> <sup>②</sup>
Two red/one green pilot lights	<b>R</b>	—
OPEN/OFF/CLOSE selector switch	<b>V</b>	<b>C400T16</b>
With two red pilot lights	<b>W</b>	—
With two red/one green pilot lights	<b>X</b>	—

#### Notes

- <sup>①</sup> For Type 1 non-combination field installation kits, see **Page V10-T2-7**.
- <sup>②</sup> Add code letter from the table below to catalog number for voltage—kits only. Example: C400T9**B**.

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

- <sup>③</sup> Order quantity (2) of **C400T10**.

### Type 1 Non-Combination Empty Enclosure (Box 1 Only)

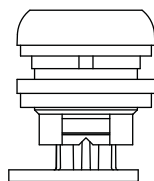
There is a universal empty enclosure for the non-metallic Type 1 Non-Combination Box 1 regardless of the starter or the contactor needed. The only difference is the length of the easily interchangeable reset rod. The reset rod kit provides everything needed to install the correct reset rod, including all the reset rod lengths, a protective shroud, a paddle and a reset button with nut.

Box 1 offering includes FVNR contactors size 00–2, FVR contactors size 00–0, FVNR electronic starters size 00–2, and FVNR bi-metallic starters size 00-1.

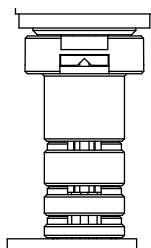
Empty Enclosure Stocking Needs	Catalog Number
Empty enclosure	<b>C899B001</b>
Reset rod kit	<b>RESET001</b>

The table below shows which reset rod is used with each starter or contactor.

Starter or Contactor	Reset Rod Length
NEMA FVNR Size 00–2, solid-state overload	0.43-inch reset
NEMA FVNR Size 00–1, bi-metallic overload	1.68-inch reset
All NEMA FVNR and FVR contactors	No reset needed



FVNR Solid State  
OL Reset—0.43 inches



FVNR Bi-Metallic  
OL Reset—1.68 inches



# 2.1

## NEMA Contactors and Starters

Freedom Full Voltage Controls

### Contactors

#### Non-Reversing Contactors

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##### Features

- One-phase or three-phase magnetic
- Two-, three-, four- or five-pole non-reversing or three-pole reversing
- 600 V maximum

##### Product Selection

#### Class ECN01 – Non-Reversing Contactor – Three-Pole

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating <sup>①</sup>	Magnet Coil Voltage	Type 1 General Purpose Catalog Number	Type 3R Rainproof Catalog Number	Type 4X Watertight and Dust-Tight Stainless Steel <sup>②</sup> Catalog Number	Type 12 Dust-Tight Industrial Catalog Number	Component Contactor (Open) 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
		575	2	600	ECN01A1D3A	ECN01A2D3A			CN15AN3DB
0	18	—	—	120	ECN0101A3A	ECN0102A3A	ECN0104A3A	ECN0108A3A	CN15BN3AB
		200	3	208	ECN0101E3A	ECN0102E3A	ECN0104E3A	ECN0108E3A	CN15BN3EB
		230	3	240	ECN0101B3A	ECN0102B3A	ECN0104B3A	ECN0108B3A	CN15BN3BB
		460	5	480	ECN0101C3A	ECN0102C3A	ECN0104C3A	ECN0108C3A	CN15BN3CB
		575	5	600	ECN0101D3A	ECN0102D3A	ECN0104D3A	ECN0108D3A	CN15BN3DB
1	27	—	—	120	ECN0111A3A	ECN0112A3A	ECN0114A3A	ECN0118A3A	CN15DN3AB
		200	7-1/2	208	ECN0111E3A	ECN0112E3A	ECN0114E3A	ECN0118E3A	CN15DN3EB
		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
2	45	—	—	120	ECN0121A3A	ECN0122A3A	ECN0124A3A	ECN0128A3A	CN15GN3AB
		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
3	90	—	—	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
		575	50	600	ECN0131D3A	ECN0132D3A	ECN0134D3A	ECN0138D3A	CN15KN3D

##### Notes

① Maximum horsepower rating of contactors for 380 V 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. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

### Class ECN01 – Non-Reversing Contactor – Three-Pole, continued

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating <sup>①</sup>	Magnet Coil Voltage	Type 1	Type 3R	Type 4X Watertight and Dust-Tight Stainless Steel <sup>②</sup>	Type 12	Component Contactor (Open)
					General Purpose	Rainproof		Dust-Tight Industrial	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
4	135	—	—	120	ECN0141A3A	ECN0142A3A	ECN0144A3A	ECN0148A3A	CN15NN3A
		200	40	208	ECN0141E3A	ECN0142E3A	ECN0144E3A	ECN0148E3A	CN15NN3E
		230	50	240	ECN0141B3A	ECN0142B3A	ECN0144B3A	ECN0148B3A	CN15NN3B
		460	100	480	ECN0141C3A	ECN0142C3A	ECN0144C3A	ECN0148C3A	CN15NN3C
		575	100	600	ECN0141D3A	ECN0142D3A	ECN0144D3A	ECN0148D3A	CN15NN3D
5	270	—	—	120	ECN0151A3A	ECN0152A3A	ECN0154A3A	ECN0158A3A	CN15SN3A
		200	75	208	ECN0151E3A	ECN0152E3A	ECN0154E3A	ECN0158E3A	CN15SN3E
		230	100	240	ECN0151B3A	ECN0152B3A	ECN0154B3A	ECN0158B3A	CN15SN3B
		460	200	480	ECN0151C3A	ECN0152C3A	ECN0154C3A	ECN0158C3A	CN15SN3C
		575	200	600	ECN0151D3A	ECN0152D3A	ECN0154D3A	ECN0158D3A	CN15SN3D
6	540	—	—	120	ECN0161A3A	ECN0162A3A	ECN0164A3A	ECN0168A3A	CN15TN3A
		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
7	810	—	—	120	ECN0171A3A	ECN0172A3A	ECN0173A3A <sup>③</sup>	ECN0178A3A	CN15UN3A
		230	300	240	ECN0171B3A	ECN0172B3A	ECN0173B3A <sup>③</sup>	ECN0178B3A	CN15UN3B
		460	600	480	ECN0171C3A	ECN0172C3A	ECN0173C3A <sup>③</sup>	ECN0178C3A	CN15UN3C
		575	600	600	ECN0171D3A	ECN0172D3A	ECN0173D3A <sup>③</sup>	ECN0178D3A	CN15UN3D
8	1215	—	—	120	ECN0181A3A	ECN0182A3A	ECN0183A3A <sup>③</sup>	ECN0188A3A	CN15VN3A
		230	450	240	ECN0181B3A	ECN0182B3A	ECN0183B3A <sup>③</sup>	ECN0188B3A	CN15VN3B
		460	900	480	ECN0181C3A	ECN0182C3A	ECN0183C3A <sup>③</sup>	ECN0188C3A	CN15VN3C
		575	900	600	ECN0181D3A	ECN0182D3A	ECN0183D3A <sup>③</sup>	ECN0188D3A	CN15VN3D
9	2250	—	—	120	ECN0191A3A	ECN0192A3A	ECN0193A3A <sup>③</sup>	ECN0198A3A	CN15WN3A
		230	800	240	ECN0191B3A	ECN0192B3A	ECN0193B3A <sup>③</sup>	ECN0198B3A	CN15WN3B
		460	1600	480	ECN0191C3A	ECN0192C3A	ECN0193C3A <sup>③</sup>	ECN0198C3A	CN15WN3C
		575	1600	600	ECN0191D3A	ECN0192D3A	ECN0193D3A <sup>③</sup>	ECN0198D3A	CN15WN3D

#### Notes

<sup>①</sup> Maximum horsepower rating of contactors for 380 V 50 Hz applications.

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

<sup>②</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN0144A3A. 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 13**.

<sup>③</sup> Type 4 (painted steel) sizes 7–9.

# 2.1

## NEMA Contactors and Starters

### Freedom Full Voltage Controls

2

#### Class ECN01 – Non-Reversing Contactor – Two-Pole

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Type 1 General Purpose Catalog Number	Type 3R Rainproof Catalog Number	Type 4X Watertight and Dust-Tight Stainless Steel ① Catalog Number	Type 12 Dust-Tight Industrial Catalog Number	Component Contactor (Open) Catalog Number
00	9	115	1/3	120	ECN01A1A2A	(Select contactor from Size 0 listing)			CN15AN2AB
		—	—	208	ECN01A1E2A				CN15AN2EB
		230	1	240	ECN01A1B2A				CN15AN2BB
		—	—	480	ECN01A1C2A				CN15AN2CB
		—	—	600	ECN01A1D2A				CN15AN2DB
0	18	115	1	120	ECN0101A2A	ECN0102A2A	ECN0104A2A	ECN0108A2A	CN15BN2AB
		—	—	208	ECN0101E2A	ECN0102E2A	ECN0104E2A	ECN0108E2A	CN15BN2EB
		230	2	240	ECN0101B2A	ECN0102B2A	ECN0104B2A	ECN0108B2A	CN15BN2BB
		—	—	480	ECN0101C2A	ECN0102C2A	ECN0104C2A	ECN0108C2A	CN15BN2CB
		—	—	600	ECN0101D2A	ECN0102D2A	ECN0104D2A	ECN0108D2A	CN15BN2DB
1	27	115	2	120	ECN0111A2A	ECN0112A2A	ECN0114A2A	ECN0118A2A	CN15DN2AB
		—	—	208	ECN0111E2A	ECN0112E2A	ECN0114E2A	ECN0118E2A	CN15DN2EB
		230	3	240	ECN0111B2A	ECN0112B2A	ECN0114B2A	ECN0118B2A	CN15DN2BB
		—	—	480	ECN0111C2A	ECN0112C2A	ECN0114C2A	ECN0118C2A	CN15DN2CB
		—	—	600	ECN0111D2A	ECN0112D2A	ECN0114D2A	ECN0118D2A	CN15DN2DB
2	45	115	3	120	ECN0121A2A	ECN0122A2A	ECN0124A2A	ECN0128A2A	CN15GN2AB
		—	—	208	ECN0121E2A	ECN0122E2A	ECN0124E2A	ECN0128E2A	CN15GN2EB
		230	7-1/2	240	ECN0121B2A	ECN0122B2A	ECN0124B2A	ECN0128B2A	CN15GN2BB
		—	—	480	ECN0121C2A	ECN0122C2A	ECN0124C2A	ECN0128C2A	CN15GN2CB
		—	—	600	ECN0121D2A	ECN0122D2A	ECN0124D2A	ECN0128D2A	CN15GN2DB
3	90	115	7-1/2	120	ECN0131A2A	ECN0132A2A	ECN0134A2A	ECN0138A2A	CN15KN2A
		—	—	208	ECN0131E2A	ECN0132E2A	ECN0134E2A	ECN0138E2A	CN15KN2E
		230	15	240	ECN0131B2A	ECN0132B2A	ECN0134B2A	ECN0138B2A	CN15KN2B
		—	—	480	ECN0131C2A	ECN0132C2A	ECN0134C2A	ECN0138C2A	CN15KN2C
		—	—	600	ECN0131D2A	ECN0132D2A	ECN0134D2A	ECN0138D2A	CN15KN2D
4	135	—	—	120	ECN0141A2A	ECN0142A2A	ECN0144A2A	ECN0148A2A	CN15NN2A
		—	—	208	ECN0141E2A	ECN0142E2A	ECN0144E2A	ECN0148E2A	CN15NN2E
		—	—	240	ECN0141B2A	ECN0142B2A	ECN0144B2A	ECN0148B2A	CN15NN2B
		—	—	480	ECN0141C2A	ECN0142C2A	ECN0144C2A	ECN0148C2A	CN15NN2C
		—	—	600	ECN0141D2A	ECN0142D2A	ECN0144D2A	ECN0148D2A	CN15NN2D

#### Notes

- ① The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit.  
 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

### Class ECN01 – Non-Reversing Contactor – Two-Pole, continued

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Type 1 General Purpose	Type 3R Rainproof	Type 4X Watertight and Dust-Tight Stainless Steel ①	Type 12 Dust-Tight Industrial	Component Contactor (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
5	270	—	—	120	ECN0151A2A	ECN0152A2A	ECN0154A2A	ECN0158A2A	CN15SN2A
		—	—	208	ECN0151E2A	ECN0152E2A	ECN0154E2A	ECN0158E2A	CN15SN2E
		—	—	240	ECN0151B2A	ECN0152B2A	ECN0154B2A	ECN0158B2A	CN15SN2B
		—	—	480	ECN0151C2A	ECN0152C2A	ECN0154C2A	ECN0158C2A	CN15SN2C
		—	—	600	ECN0151D2A	ECN0152D2A	ECN0154D2A	ECN0158D2A	CN15SN2D
6	540	—	—	120	ECN0161A2A	ECN0162A2A	ECN0164A2A	ECN0168A2A	CN15TN2A
		—	—	208	ECN0161E2A	ECN0162E2A	ECN0164E2A	ECN0168E2A	CN15TN2E
		—	—	240	ECN0161B2A	ECN0162B2A	ECN0164B2A	ECN0168B2A	CN15TN2B
		—	—	480	ECN0161C2A	ECN0162C2A	ECN0164C2A	ECN0168C2A	CN15TN2C
		—	—	600	ECN0161D2A	ECN0162D2A	ECN0164D2A	ECN0168D2A	CN15TN2D
7	810	—	—	120	ECN0171A2A	ECN0172A2A	ECN0173A2A ②	ECN0178A2A	CN15UN2A
		—	—	208	ECN0171E2A	ECN0172E2A	ECN0173E2A ②	ECN0178E2A	CN15UN2E
		—	—	240	ECN0171B2A	ECN0172B2A	ECN0173B2A ②	ECN0178B2A	CN15UN2B
		—	—	480	ECN0171C2A	ECN0172C2A	ECN0173C2A ②	ECN0178C2A	CN15UN2C
		—	—	600	ECN0171D2A	ECN0172D2A	ECN0173D2A ②	ECN0178D2A	CN15UN2D
8	1215	—	—	120	ECN0181A2A	ECN0182A2A	ECN0183A2A ②	ECN0188A2A	CN15VN2A
		—	—	208	ECN0181E2A	ECN0182E2A	ECN0183E2A ②	ECN0188E2A	CN15VN2E
		—	—	240	ECN0181B2A	ECN0182B2A	ECN0183B2A ②	ECN0188B2A	CN15VN2B
		—	—	480	ECN0181C2A	ECN0182C2A	ECN0183C2A ②	ECN0188C2A	CN15VN2C
		—	—	600	ECN0181D2A	ECN0182D2A	ECN0183D2A ②	ECN0188D2A	CN15VN2D
9	2250	—	—	120	ECN0191A2A	ECN0192A2A	ECN0193A2A ②	ECN0198A2A	CN15WN2A
		—	—	208	ECN0191E2A	ECN0192E2A	ECN0193E2A ②	ECN0198E2A	CN15WN2E
		—	—	240	ECN0191B2A	ECN0192B2A	ECN0193B2A ②	ECN0198B2A	CN15WN2B
		—	—	480	ECN0191C2A	ECN0192C2A	ECN0193C2A ②	ECN0198C2A	CN15WN2C
		—	—	600	ECN0191D2A	ECN0192D2A	ECN0193D2A ②	ECN0198D2A	CN15WN2D

**Notes**

- ① The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit.  
Example: ECN0154A2A. 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 13**.
- ② Type 4 (painted steel) sizes 7–9.

# 2.1

## NEMA Contactors and Starters

### Freedom Full Voltage Controls

#### Class ECN01—Non-Reversing Contactor—Four-Pole

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

**Note**

① The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

### Class ECN01 – Non-Reversing Contactor – Five-Pole

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

**Note**

① The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

# 2.1

## NEMA Contactors and Starters

Freedom Full Voltage Controls

### Reversing Contactors

#### Product Selection

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#### Class ECN02—Reversing Contactor—Three-Pole

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating <sup>①</sup>	Magnet Coil Voltage	Type 1	Type 3R	Type 4X Watertight	Type 12	Component
					General Purpose	Rainproof	and Dust-Tight Stainless Steel <sup>②</sup>	Dust-Tight Industrial	Contactors (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	9	—	—	120	ECN02A1A3A	(Select contactor from Size 0 listing)			CN55AN3AB
		200	1-1/2	208	ECN02A1E3A				CN55AN3EB
		230	1-1/2	240	ECN02A1B3A				CN55AN3BB
		460	2	480	ECN02A1C3A				CN55AN3CB
		575	2	600	ECN02A1D3A				CN55AN3DB
0	18	—	—	120	ECN0201A3A	ECN0202A3A	ECN0204A3A	ECN0208A3A	CN55BN3AB
		200	3	208	ECN0201E3A	ECN0202E3A	ECN0204E3A	ECN0208E3A	CN55BN3EB
		230	3	240	ECN0201B3A	ECN0202B3A	ECN0204B3A	ECN0208B3A	CN55BN3BB
		460	5	480	ECN0201C3A	ECN0202C3A	ECN0204C3A	ECN0208C3A	CN55BN3CB
		575	5	600	ECN0201D3A	ECN0202D3A	ECN0204D3A	ECN0208D3A	CN55BN3DB
1	27	—	—	120	ECN0211A3A	ECN0212A3A	ECN0214A3A	ECN0218A3A	CN55DN3AB
		200	7-1/2	208	ECN0211E3A	ECN0212E3A	ECN0214E3A	ECN0218E3A	CN55DN3EB
		230	7-1/2	240	ECN0211B3A	ECN0212B3A	ECN0214B3A	ECN0218B3A	CN55DN3BB
		460	10	480	ECN0211C3A	ECN0212C3A	ECN0214C3A	ECN0218C3A	CN55DN3CB
		575	10	600	ECN0211D3A	ECN0212D3A	ECN0214D3A	ECN0218D3A	CN55DN3DB
2	45	—	—	120	ECN0221A3A	ECN0222A3A	ECN0224A3A	ECN0228A3A	CN55GN3AB
		200	10	208	ECN0221E3A	ECN0222E3A	ECN0224E3A	ECN0228E3A	CN55GN3EB
		230	15	240	ECN0221B3A	ECN0222B3A	ECN0224B3A	ECN0228B3A	CN55GN3BB
		460	25	480	ECN0221C3A	ECN0222C3A	ECN0224C3A	ECN0228C3A	CN55GN3CB
		575	25	600	ECN0221D3A	ECN0222D3A	ECN0224D3A	ECN0228D3A	CN55GN3DB
3	90	—	—	120	ECN0231A3A	ECN0232A3A	ECN0234A3A	ECN0238A3A	CN55KN3A
		200	25	208	ECN0231E3A	ECN0232E3A	ECN0234E3A	ECN0238E3A	CN55KN3E
		230	30	240	ECN0231B3A	ECN0232B3A	ECN0234B3A	ECN0238B3A	CN55KN3B
		460	50	480	ECN0231C3A	ECN0232C3A	ECN0234C3A	ECN0238C3A	CN55KN3C
		575	50	600	ECN0231D3A	ECN0232D3A	ECN0234D3A	ECN0238D3A	CN55KN3D
4	135	—	—	120	ECN0241A3A	ECN0242A3A	ECN0244A3A	ECN0248A3A	CN55NN3A
		200	40	208	ECN0241E3A	ECN0242E3A	ECN0244E3A	ECN0248E3A	CN55NN3E
		230	50	240	ECN0241B3A	ECN0242B3A	ECN0244B3A	ECN0248B3A	CN55NN3B
		460	100	480	ECN0241C3A	ECN0242C3A	ECN0244C3A	ECN0248C3A	CN55NN3C
		575	100	600	ECN0241D3A	ECN0242D3A	ECN0244D3A	ECN0248D3A	CN55NN3D

#### Notes

① Maximum horsepower rating of contactors for 380 V 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. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

### Class ECN02—Reversing Contactor—Three-Pole, continued

NEMA Size	Continuous Ampere Rating	Motor Voltage	Maximum hp Rating <sup>①</sup>	Magnet Coil Voltage	Type 1	Type 3R	Type 4X Watertight	Type 12	Component
					General Purpose	Rainproof	and Dust-Tight Stainless Steel <sup>②</sup>	Dust-Tight Industrial	Contactor (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
5	270	—	—	120	ECN0251A3A	ECN0252A3A	ECN0254A3A	ECN0258A3A	CN55SN3A
		200	75	208	ECN0251E3A	ECN0252E3A	ECN0254E3A	ECN0258E3A	CN55SN3E
		230	100	240	ECN0251B3A	ECN0252B3A	ECN0254B3A	ECN0258B3A	CN55SN3B
		460	200	480	ECN0251C3A	ECN0252C3A	ECN0254C3A	ECN0258C3A	CN55SN3C
		575	200	600	ECN0251D3A	ECN0252D3A	ECN0254D3A	ECN0258D3A	CN55SN3D
6	540	—	—	120	ECN0261A3A	ECN0262A3A	ECN0263A3A <sup>③</sup>	ECN0268A3A	CN55TN3A
		200	150	208	ECN0261E3A	ECN0262E3A	ECN0263E3A <sup>③</sup>	ECN0268E3A	CN55TN3E
		230	200	240	ECN0261B3A	ECN0262B3A	ECN0263B3A <sup>③</sup>	ECN0268B3A	CN55TN3B
		460	400	480	ECN0261C3A	ECN0262C3A	ECN0263C3A <sup>③</sup>	ECN0268C3A	CN55TN3C
		575	400	600	ECN0261D3A	ECN0262D3A	ECN0263D3A <sup>③</sup>	ECN0268D3A	CN55TN3D
7	810	—	—	120	ECN0271A3A	ECN0272A3A	ECN0273A3A <sup>③</sup>	ECN0278A3A	CN55UN3A
		230	300	240	ECN0271B3A	ECN0272B3A	ECN0273B3A <sup>③</sup>	ECN0278B3A	CN55UN3B
		460	600	480	ECN0271C3A	ECN0272C3A	ECN0273C3A <sup>③</sup>	ECN0278C3A	CN55UN3C
		575	600	600	ECN0271D3A	ECN0272D3A	ECN0273D3A <sup>③</sup>	ECN0278D3A	CN55UN3D
8	1215	—	—	120	ECN0281A3A	ECN0282A3A	ECN0283A3A <sup>③</sup>	ECN0288A3A	CN55VN3A
		230	450	240	ECN0281B3A	ECN0282B3A	ECN0283B3A <sup>③</sup>	ECN0288B3A	CN55VN3B
		460	900	480	ECN0281C3A	ECN0282C3A	ECN0283C3A <sup>③</sup>	ECN0288C3A	CN55VN3C
		575	900	600	ECN0281D3A	ECN0282D3A	ECN0283D3A <sup>③</sup>	ECN0288D3A	CN55VN3D
9	2250	—	—	120	ECN0291A3A	ECN0292A3A	ECN0293A3A <sup>③</sup>	ECN0298A3A	CN55WN3A
		230	800	240	ECN0291B3A	ECN0292B3A	ECN0293B3A <sup>③</sup>	ECN0298B3A	CN55WN3B
		460	1600	480	ECN0291C3A	ECN0292C3A	ECN0293C3A <sup>③</sup>	ECN0298C3A	CN55WN3C
		575	1600	600	ECN0291D3A	ECN0292D3A	ECN0293D3A <sup>③</sup>	ECN0298D3A	CN55WN3D

#### Notes

<sup>①</sup> Maximum horsepower rating of contactors for 380 V 50 Hz applications.

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

<sup>②</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN0254A3A. 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 13**.

<sup>③</sup> Type 4 (painted steel) sizes 6–9.



# 2.1

## NEMA Contactors and Starters

### Freedom Full Voltage Controls

#### Starters

##### Non-Combination Starters

2

##### Features

- C440 Solid-State Overload or Bi-Metallic Overload offering available
- Three-phase or single-phase magnetic
- Three-pole non-reversing or three-pole reversing
- 600 V maximum

##### Product Selection

##### Class ECN05—Non-Combination Non-Reversing Starter

NEMA Size	Motor Voltage	Maximum hp Rating <sup>①</sup>	Magnet Coil Voltage	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
				General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel <sup>②</sup>	Dust-Tight Industrial External Reset	
				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
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
	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
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
	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

##### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

Cover control is indicated by the ninth digit. For example, ECN0511AJA is a HOA switch with red run light.

See the cover control table on **V10-T2-6–V10-T2-8** for full offering.

<sup>①</sup> Maximum horsepower rating of contactors for 380 V 50 Hz applications.

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

<sup>②</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

### Class ECN05—Non-Combination Non-Reversing Starter, continued

NEMA Size	Motor Voltage	Maximum hp Rating <sup>①</sup>	Magnet Coil Voltage	Type 1	Type 3R	Type 4X	Type 12	Component Starter
				General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel <sup>②</sup>	Dust-Tight Industrial External Reset	(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 <sup>③</sup>	ECN0578AAA	AN16UN0AB
	230	300	240	ECN0571BAA	ECN0572BAA	ECN0573BAA <sup>③</sup>	ECN0578BAA	AN16UN0BB
	460	600	480	ECN0571CAA	ECN0572CAA	ECN0573CAA <sup>③</sup>	ECN0578CAA	AN16UN0CB
	575	600	600	ECN0571DAA	ECN0572DAA	ECN0573DAA <sup>③</sup>	ECN0578DAA	AN16UN0DB
8	—	—	120	ECN0581AAA	ECN0582AAA	ECN0583AAA <sup>③</sup>	ECN0588AAA	AN16VN0AB
	230	450	240	ECN0581BAA	ECN0582BAA	ECN0583BAA <sup>③</sup>	ECN0588BAA	AN16VN0BB
	460	900	480	ECN0581CAA	ECN0582CAA	ECN0583CAA <sup>③</sup>	ECN0588CAA	AN16VN0CB
	575	900	600	ECN0581DAA	ECN0582DAA	ECN0583DAA <sup>③</sup>	ECN0588DAA	AN16VN0DB
9	—	—	120	ECN0591AAA	ECN0592AAA	ECN0593AAA <sup>③</sup>	ECN0598AAA	AN16WN0A
	230	800	240	ECN0591BAA	ECN0592BAA	ECN0593BAA <sup>③</sup>	ECN0598BAA	AN16WN0B
	460	1600	480	ECN0591CAA	ECN0592CAA	ECN0593CAA <sup>③</sup>	ECN0598CAA	AN16WN0C
	575	1600	600	ECN0591DAA	ECN0592DAA	ECN0593DAA <sup>③</sup>	ECN0598DAA	AN16WN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> Maximum horsepower rating of contactors for 380 V 50 Hz applications.

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

<sup>②</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN0544AAA. 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 13**.

<sup>③</sup> Type 4 (painted steel) sizes 7–9.

# 2.1

## NEMA Contactors and Starters

### Freedom Full Voltage Controls

2

#### Class ECN05—Non-Combination Single-Phase Non-Reversing Starter

NEMA Size	Motor Voltage	Maximum hp Rating <sup>①</sup>	Magnet Coil Voltage	Type 1	Type 3R	Type 4X	Type 12	Component Starter
				General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel <sup>②</sup>	Dust-Tight Industrial External Reset	(Open)
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	115	1/3	120	ECN05A1AAA-S29	(Select contactor from Size 0 listing)			AN16AN0AC
	230	1	240	ECN05A1BAA-S29				AN16AN0BC
0	115	1	120	ECN0501AAA-S29	ECN0502AAA-S29	ECN0504AAA-S29	ECN0508AAA-S29	AN16BN0AC
	230	2	240	ECN0501BAA-S29	ECN0502BAA-S29	ECN0504BAA-S29	ECN0508BAA-S29	AN16BN0BC
1	115	2	120	ECN0511AAA-S29	ECN0512AAA-S29	ECN0514AAA-S29	ECN0518AAA-S29	AN16DN0AB
	230	3	240	ECN0511BAA-S29	ECN0512BAA-S29	ECN0514BAA-S29	ECN0518BAA-S29	AN16DN0BB
2	115	3	120	ECN0521AAA-S29	ECN0522AAA-S29	ECN0524AAA-S29	ECN0528AAA-S29	AN16GN0AB
	230	7-1/2	240	ECN0521BAA-S29	ECN0522BAA-S29	ECN0524BAA-S29	ECN0528BAA-S29	AN16GN0BB
3	115	7-1/2	120	ECN0531AAA-S29	ECN0532AAA-S29	ECN0534AAA-S29	ECN0538AAA-S29	AN16KN0A
	230	15	240	ECN0531BAA-S29	ECN0532BAA-S29	ECN0534BAA-S29	ECN0538BAA-S29	AN16KN0B

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> Maximum horsepower rating of contactors for 380 V 50 Hz applications.

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

<sup>②</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

### Class ECN06—Non-Combination Reversing Starter

NEMA Size	Motor Voltage	Maximum hp Rating <sup>①</sup>	Magnet Coil Voltage	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
				General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel <sup>②</sup>	Dust-Tight Industrial External Reset	
				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

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> Maximum horsepower rating of contactors for 380 V 50 Hz applications.

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

<sup>②</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

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## NEMA Contactors and Starters

Freedom Full Voltage Controls

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### Class ECN06—Non-Combination Reversing Starter, continued

NEMA Size	Motor Voltage	Maximum hp Rating <sup>①</sup>	Magnet Coil Voltage	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
				General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel <sup>②</sup>	Dust-Tight Industrial External Reset	
				Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
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 <sup>③</sup>	ECN0668AAA	AN56TN0AB
	200	150	208	ECN0661EAA	ECN0662EAA	ECN0663EAA <sup>③</sup>	ECN0668EAA	AN56TN0EB
	230	200	240	ECN0661BAA	ECN0662BAA	ECN0663BAA <sup>③</sup>	ECN0668BAA	AN56TN0BB
	460	400	480	ECN0661CAA	ECN0662CAA	ECN0663CAA <sup>③</sup>	ECN0668CAA	AN56TN0CB
	575	400	600	ECN0661DAA	ECN0662DAA	ECN0663DAA <sup>③</sup>	ECN0668DAA	AN56TN0DB
7	—	—	120	ECN0671AAA	ECN0672AAA	ECN0673AAA <sup>③</sup>	ECN0678AAA	AN56UN0AB
	230	300	240	ECN0671BAA	ECN0672BAA	ECN0673BAA <sup>③</sup>	ECN0678BAA	AN56UN0BB
	460	600	480	ECN0671CAA	ECN0672CAA	ECN0673CAA <sup>③</sup>	ECN0678CAA	AN56UN0CB
	575	600	600	ECN0671DAA	ECN0672DAA	ECN0673DAA <sup>③</sup>	ECN0678DAA	AN56UN0DB
8	—	—	120	ECN0681AAA	ECN0682AAA	ECN0683AAA <sup>③</sup>	ECN0688AAA	AN56VN0AB
	230	450	240	ECN0681BAA	ECN0682BAA	ECN0683BAA <sup>③</sup>	ECN0688BAA	AN56VN0BB
	460	900	480	ECN0681CAA	ECN0682CAA	ECN0683CAA <sup>③</sup>	ECN0688CAA	AN56VN0CB
	575	900	600	ECN0681DAA	ECN0682DAA	ECN0683DAA <sup>③</sup>	ECN0688DAA	AN56VN0DB
9	—	—	120	ECN0691AAA	ECN0692AAA	ECN0693AAA <sup>③</sup>	ECN0698AAA	AN56WN0A
	230	800	240	ECN0691BAA	ECN0692BAA	ECN0693BAA <sup>③</sup>	ECN0698BAA	AN56WN0B
	460	1600	480	ECN0691CAA	ECN0692CAA	ECN0693CAA <sup>③</sup>	ECN0698CAA	AN56WN0C
	575	1600	600	ECN0691DAA	ECN0692DAA	ECN0693DAA <sup>③</sup>	ECN0698DAA	AN56WN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> Maximum horsepower rating of contactors for 380 V 50 Hz applications.

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

<sup>②</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN0654AAA. 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 13**.

<sup>③</sup> Type 4 (painted steel) sizes 6–9.

### Class ECN07—Non-Combination Non-Reversing Starter with CPT

NEMA Size	Primary Voltage <sup>①</sup>	Maximum hp Rating <sup>②</sup>	Secondary Voltage Magnet Coil Voltage	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open) Catalog Number
				General Purpose Catalog Number	Rainproof Catalog Number	Watertight and Dust-Tight Stainless Steel <sup>③</sup> Catalog Number	Dust-Tight Industrial External Reset 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	AN16KN0E
	240	30		ECN0731BAA	ECN0732BAA	ECN0734BAA	ECN0738BAA	AN16KN0B
	480	50		ECN0731CAA	ECN0732CAA	ECN0734CAA	ECN0738CAA	AN16KN0C
	600	50		ECN0731DAA	ECN0732DAA	ECN0734DAA	ECN0738DAA	AN16KN0D
4	208	40	120	ECN0741EAA	ECN0742EAA	ECN0744EAA	ECN0748EAA	AN16NN0E
	240	50		ECN0741BAA	ECN0742BAA	ECN0744BAA	ECN0748BAA	AN16NN0B
	480	100		ECN0741CAA	ECN0742CAA	ECN0744CAA	ECN0748CAA	AN16NN0C
	600	100		ECN0741DAA	ECN0742DAA	ECN0744DAA	ECN0748DAA	AN16NN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① Other control power transformer primary and/or secondary voltages, see **Page V10-T2-4**.

② Maximum horsepower rating of contactors for 380 V 50 Hz applications.

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

③ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN07A4EAA. 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 13**.

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## NEMA Contactors and Starters

### Freedom Full Voltage Controls

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#### Class ECN07—Non-Combination Non-Reversing Starter with CPT, continued

NEMA Size	Primary Voltage <sup>①</sup>	Maximum hp Rating <sup>②</sup>	Secondary Voltage Magnet Coil Voltage	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open) Catalog Number
				General Purpose Catalog Number	Rainproof Catalog Number	Watertight and Dust-Tight Stainless Steel <sup>③</sup> Catalog Number	Dust-Tight Industrial External Reset Catalog Number	
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 <sup>④</sup>	ECN0768EAA	AN56TN0EB
	240	200		ECN0761BAA	ECN0762BAA	ECN0763BAA <sup>④</sup>	ECN0768BAA	AN56TN0BB
	480	400		ECN0761CAA	ECN0762CAA	ECN0763CAA <sup>④</sup>	ECN0768CAA	AN56TN0CB
	600	400		ECN0761DAA	ECN0762DAA	ECN0763DAA <sup>④</sup>	ECN0768DAA	AN56TN0DB
7	240	300	120	ECN0771BAA	ECN0772BAA	ECN0773BAA <sup>④</sup>	ECN0778BAA	AN16UN0BB
	480	600		ECN0771CAA	ECN0772CAA	ECN0773CAA <sup>④</sup>	ECN0778CAA	AN16UN0CB
	600	600		ECN0771DAA	ECN0772DAA	ECN0773DAA <sup>④</sup>	ECN0778DAA	AN16UN0DB
8	240	450	120	ECN0781BAA	ECN0782BAA	ECN0783BAA <sup>④</sup>	ECN0788BAA	AN16VN0BB
	480	900		ECN0781CAA	ECN0782CAA	ECN0783CAA <sup>④</sup>	ECN0788CAA	AN16VN0CB
	600	900		ECN0781DAA	ECN0782DAA	ECN0783DAA <sup>④</sup>	ECN0788DAA	AN16VN0DB
9	240	800	120	ECN0791BAA	ECN0792BAA	ECN0793BAA <sup>④</sup>	ECN0798BAA	AN16WN0B
	480	1600		ECN0791CAA	ECN0792CAA	ECN0793CAA <sup>④</sup>	ECN0798CAA	AN16WN0C
	600	1600		ECN0791DAA	ECN0792DAA	ECN0793DAA <sup>④</sup>	ECN0798DAA	AN16WN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> Other control power transformer primary and/or secondary voltages, see **Page V10-T2-4**.

<sup>②</sup> Maximum horsepower rating of contactors for 380 V 50 Hz applications.

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

<sup>③</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN0804AAA. 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 13**.

<sup>④</sup> Type 4 (painted steel) sizes 6–9.

### Combination Starters—Fusible and Non-Fusible

#### Features

- Three-phase magnetic
- Three-pole non-reversing or reversing
- Standard interchangeable heater OLR
- Optional electronic overload
- 600 V maximum
- 100,000 rms short-circuit rating with fuses

#### Product Selection

#### Class ECN16—Combination Non-Reversing Starter—Fusible Disconnect

NEMA Size	Motor Voltage	Maximum hp Rating		Fuse Clip Amps	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
		Dual Element Fuses	Magnet Coil Voltage		General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel ①	Dust-Tight Industrial External Reset ②③	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
00	—	—	120	30 A	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	30 A	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	30 A	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	60 A	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	100 A	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

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN16A4AAB. 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 13**.

② All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.



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## NEMA Contactors and Starters

### Freedom Full Voltage Controls

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#### Class ECN16—Combination Non-Reversing Starter—Fusible Disconnect, continued

NEMA Size	Motor Voltage	Maximum hp Rating		Fuse Clip Amps	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
		Dual Element Fuses	Magnet Coil Voltage		General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel <sup>①</sup>	Dust-Tight Industrial External Reset <sup>②③</sup>	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
4	—	—	120	200 A	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
5	—	—	120	400 A	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	600 A	ECN1661AAM	ECN1662AAM	ECN1663AAM <sup>④</sup>	ECN1668AAM	AN16TN0AB
	200	150	208		ECN1661EAM	ECN1662EAM	ECN1663EAM <sup>④</sup>	ECN1668EAM	AN16TN0EB
	230	200	240		ECN1661BAM	ECN1662BAM	ECN1663BAM <sup>④</sup>	ECN1668BAM	AN16TN0BB
	460	400	480		ECN1661CAN	ECN1662CAN	ECN1663CAN <sup>④</sup>	ECN1668CAN	AN16TN0CB
	575	400	600		ECN1661DAN	ECN1662DAN	ECN1663DAN <sup>④</sup>	ECN1668DAN	AN16TN0DB
7	—	—	120	⑤	ECN1671AAU	ECN1672AAU	ECN1673AAU <sup>④</sup>	ECN1678AAU	AN16UN0AB
	230	300	240		ECN1671BAU	ECN1672BAU	ECN1673BAU <sup>④</sup>	ECN1678BAU	AN16UN0BB
	460	600	480		ECN1671CAU	ECN1672CAU	ECN1673CAU <sup>④</sup>	ECN1678CAU	AN16UN0CB
	575	600	600		ECN1671DAU	ECN1672DAU	ECN1673DAU <sup>④</sup>	ECN1678DAU	AN16UN0DB
8	—	—	120	⑤	ECN1681AAU	ECN1682AAU	ECN1683AAU <sup>④</sup>	ECN1688AAU	AN16VN0AB
	230	450	240		ECN1681BAU	ECN1682BAU	ECN1683BAU <sup>④</sup>	ECN1688BAU	AN16VN0BB
	460	900	480		ECN1681CAU	ECN1682CAU	ECN1683CAU <sup>④</sup>	ECN1688CAU	AN16VN0CB
	575	900	600		ECN1681DAU	ECN1682DAU	ECN1683DAU <sup>④</sup>	ECN1688DAU	AN16VN0DB
9	—	—	120	⑤	ECN1691AAU	ECN1692AAU	ECN1693AAU <sup>④</sup>	ECN1698AAU	AN16WN0A
	230	800	240		ECN1691BAU	ECN1692BAU	ECN1693BAU <sup>④</sup>	ECN1698BAU	AN16WN0B
	460	1000 <sup>⑥</sup>	480		ECN1691CAU	ECN1692CAU	ECN1693CAU <sup>④</sup>	ECN1698CAU	AN16WN0C
	575	1000	600		ECN1691DAU	ECN1692DAU	ECN1693DAU <sup>④</sup>	ECN1698DAU	AN16WN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

- ① The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN1644AAH. 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 13**.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order modification 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 460 V, consult Eaton.

### Class ECN16—Combination Non-Reversing Starter—Non-Fusible Disconnect ①

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Disconnect Amps	Type 1 General Purpose Catalog Number	Type 3R Rainproof Catalog Number	Type 4X Watertight and Dust-Tight Stainless Steel ② Catalog Number	Type 12 Dust-Tight Industrial External Reset ③④ Catalog Number	Component Starter (Open) Catalog Number
00	—	—	120	30 A	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	30 A	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	30 A	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	60 A	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	100 A	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	200 A	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

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① Field installed fuse clips available, see **Tab 13**.

② The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN16A4AAA. 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 13**.

③ All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

④ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

# 2.1

## NEMA Contactors and Starters

Freedom Full Voltage Controls

### Class ECN16—Combination Non-Reversing Starter—Non-Fusible Disconnect, continued <sup>①</sup>

2

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Disconnect Amps	Type 1 General Purpose Catalog Number	Type 3R Rainproof Catalog Number	Type 4X Watertight and Dust-Tight Stainless Steel <sup>②</sup> Catalog Number	Type 12 Dust-Tight Industrial External Reset <sup>③④</sup> Catalog Number	Component Starter (Open) Catalog Number
5	—	—	120	400 A	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	600 A	ECN1661AAA	ECN1662AAA	ECN1663AAA <sup>⑤</sup>	ECN1668AAA	AN16TN0AB
	200	150	208		ECN1661EAA	ECN1662EAA	ECN1663EAA <sup>⑤</sup>	ECN1668EAA	AN16TN0EB
	230	200	240		ECN1661BAA	ECN1662BAA	ECN1663BAA <sup>⑤</sup>	ECN1668BAA	AN16TN0BB
	460	400	480		ECN1661CAA	ECN1662CAA	ECN1663CAA <sup>⑤</sup>	ECN1668CAA	AN16TN0CB
	575	400	600		ECN1661DAA	ECN1662DAA	ECN1663DAA <sup>⑤</sup>	ECN1668DAA	AN16TN0DB
7	—	—	120	<sup>⑥</sup>	ECN1671AAA	ECN1672AAA	ECN1673AAA <sup>⑤</sup>	ECN1678AAA	AN16UN0AB
	230	300	240		ECN1671BAA	ECN1672BAA	ECN1673BAA <sup>⑤</sup>	ECN1678BAA	AN16UN0BB
	460	600	480		ECN1671CAA	ECN1672CAA	ECN1673CAA <sup>⑤</sup>	ECN1678CAA	AN16UN0CB
	575	600	600		ECN1671DAA	ECN1672DAA	ECN1673DAA <sup>⑤</sup>	ECN1678DAA	AN16UN0DB
8	—	—	120	<sup>⑥</sup>	ECN1681AAA	ECN1682AAA	ECN1683AAA <sup>⑤</sup>	ECN1688AAA	AN16VN0AB
	230	450	240		ECN1681BAA	ECN1682BAA	ECN1683BAA <sup>⑤</sup>	ECN1688BAA	AN16VN0BB
	460	900	480		ECN1681CAA	ECN1682CAA	ECN1683CAA <sup>⑤</sup>	ECN1688CAA	AN16VN0CB
	575	900	600		ECN1681DAA	ECN1682DAA	ECN1683DAA <sup>⑤</sup>	ECN1688DAA	AN16VN0DB
9	—	—	120	<sup>⑥</sup>	ECN1691AAA	ECN1692AAA	ECN1693AAA <sup>⑤</sup>	ECN1698AAA	AN16WN0A
	230	800	240		ECN1691BAA	ECN1692BAA	ECN1693BAA <sup>⑤</sup>	ECN1698BAA	AN16WN0B
	460	1000 <sup>⑦</sup>	480		ECN1691CAA	ECN1692CAA	ECN1693CAA <sup>⑤</sup>	ECN1698CAA	AN16WN0C
	575	1000	600		ECN1691DAA	ECN1692DAA	ECN1693DAA <sup>⑤</sup>	ECN1698DAA	AN16WN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> Field installed fuse clips available, see **Tab 13**.

<sup>②</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN1654AAA. 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 13**.

<sup>③</sup> All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

<sup>④</sup> Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

<sup>⑤</sup> Type 4 (painted steel) sizes 6–9.

<sup>⑥</sup> Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.

<sup>⑦</sup> For 1250 and 1600 hp ratings at 460 V, consult Eaton.

### 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 <sup>①</sup>	Type 1	Type 4X	Type 12	Component Starter (Open)	
					General Purpose	Watertight and Dust-Tight Stainless Steel	Dust-Tight Industrial <sup>②</sup>	External Reset Catalog Number	Internal Reset Catalog Number
<b>Horizontal Enclosure—Fusible</b>									
1	—	—	120	30 A	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	60 A	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
<b>Horizontal Enclosure—Non-Fusible</b>									
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

**Notes**

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> Fuse clips are for Class R fuses only. For H and J fuses, see modifications in **Tab 15**.

<sup>②</sup> To order Type 12 enclosures with safety door interlock add modification **E11**.

# 2.1

## NEMA Contactors and Starters

### Freedom Full Voltage Controls

#### Class ECN16—Special Enclosure Combination Non-Reversing Starter—Fusible/Non-Fusible Disconnect, continued

2

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Fuse Clip Amperes <sup>①</sup>	Type 1	Type 4X	Type 12	Internal Reset Catalog Number	Component Starter (Open) Catalog Number
					General Purpose External Reset Catalog Number	Watertight and Dust-Tight Stainless Steel <sup>②</sup> External Reset Catalog Number	Dust-Tight Industrial <sup>③</sup> External Reset Catalog Number		
<b>OverSize Enclosure—without Control Transformer—Fusible</b>									
0	—	—	120	30 A	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	30 A	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	60 A	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
<b>OverSize Enclosure—without Control Transformer—Non-Fusible</b>									
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

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> Fuse clips are for Class R fuses only. For H and J fuses, see modifications in **Tab 13**.

<sup>②</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN1604AAB-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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

<sup>③</sup> To order Type 12 enclosures with safety door interlock add modification **E11**.

### Class ECN17—Combination Reversing Starter—Fusible Disconnect

NEMA Size	Motor Voltage	Maximum hp Rating		Fuse Clip Amperes	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
		Dual Element Fuses	Magnet Coil Voltage		General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel ①	Dust-Tight Industrial ②③	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
0	—	—	120	30 A	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	30 A	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	60 A	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	100 A	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	200 A	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

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN1704AAB. 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 13**.

② All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

# 2.1

## NEMA Contactors and Starters

Freedom Full Voltage Controls

### Class ECN17—Combination Reversing Starter—Fusible Disconnect, continued

2

NEMA Size	Motor Voltage	Maximum hp Rating		Fuse Clip Amperes	Type 1	Type 3R	Type 4X	Type 12	Component
		Dual Element Fuses	Magnet Coil Voltage		General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel ①	Dust-Tight Industrial ②③	Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
5	—	—	120	400 A	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	600 A	ECN1761AAM	ECN1762AAM ④	ECN1763AAM	ECN1768AAM	AN56TN0AB
	200	150	208		ECN1761EAM	ECN1762EAM ④	ECN1763EAM	ECN1768EAM	AN56TN0EB
	230	200	240		ECN1761BAM	ECN1762BAM ④	ECN1763BAM	ECN1768BAM	AN56TN0BB
	460	400	480		ECN1761CAN	ECN1762CAN ④	ECN1763CAN	ECN1768CAN	AN56TN0CB
	575	400	600		ECN1761DAN	ECN1762DAN ④	ECN1763DAN	ECN1768DAN	AN56TN0DB
7	—	—	120	⑤	ECN1771AAU	ECN1772AAU ④	ECN1773AAU	ECN1778AAU	AN56UN0AB
	230	300	240		ECN1771BAU	ECN1772BAU ④	ECN1773BAU	ECN1778BAU	AN56UN0BB
	460	600	480		ECN1771CAU	ECN1772CAU ④	ECN1773CAU	ECN1778CAU	AN56UN0CB
	575	600	600		ECN1771DAU	ECN1772DAU ④	ECN1773DAU	ECN1778DAU	AN56UN0DB
8	—	—	120	⑤	ECN1781AAU	ECN1782AAU ④	ECN1783AAU	ECN1788AAU	AN56VN0AB
	230	450	240		ECN1781BAU	ECN1782BAU ④	ECN1783BAU	ECN1788BAU	AN56VN0BB
	460	900	480		ECN1781CAU	ECN1782CAU ④	ECN1783CAU	ECN1788CAU	AN56VN0CB
	575	900	600		ECN1781DAU	ECN1782DAU ④	ECN1783DAU	ECN1788DAU	AN56VN0DB
9	—	—	120	⑤	ECN1791AAU	ECN1792AAU ④	ECN1793AAU	ECN1798AAU	AN56WN0A
	230	800	240		ECN1791BAU	ECN1792BAU ④	ECN1793BAU	ECN1798BAU	AN56WN0B
	460	1000 ⑥	480		ECN1791CAU	ECN1792CAU ④	ECN1793CAU	ECN1798CAU	AN56WN0C
	575	1000	600		ECN1791DAU	ECN1792DAU ④	ECN1793DAU	ECN1798DAU	AN56WN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN1754AAK. 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 13**.

② All Type 12 enclosures are standardized with external reset. For internal reset, order modification 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 460 V, consult Eaton.

### Class ECN17—Combination Reversing Starter—Non-Fusible Disconnect

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Disconnect Amps	Type 1 General Purpose Catalog Number	Type 3R Rainproof Catalog Number	Type 4X Watertight and Dust-Tight Stainless Steel ① Catalog Number	Type 12 Dust-Tight Industrial External Reset ②③ Catalog Number	Component Starter (Open) Catalog Number
0	—	—	120	30 A	ECN1701AAA	ECN1702AAA	ECN1704AAA	ECN1708AAA	AN56BN0AC
	200	3	208		ECN1701EAA	ECN1702EAA	ECN1704EAA	ECN1708EAA	AN56BN0EC
	230	3	240		ECN1701BAA	ECN1702BAA	ECN1704BAA	ECN1708BAA	AN56BN0BC
	460	5	480		ECN1701CAA	ECN1702CAA	ECN1704CAA	ECN1708CAA	AN56BN0CC
	575	5	600		ECN1701DAA	ECN1702DAA	ECN1704DAA	ECN1708DAA	AN56BN0DC
1	—	—	120	30 A	ECN1711AAA	ECN1712AAA	ECN1714AAA	ECN1718AAA	AN56DN0AB
	200	7-1/2	208		ECN1711EAA	ECN1712EAA	ECN1714EAA	ECN1718EAA	AN56DN0EB
	230	7-1/2	240		ECN1711BAA	ECN1712BAA	ECN1714BAA	ECN1718BAA	AN56DN0BB
	460	10	480		ECN1711CAA	ECN1712CAA	ECN1714CAA	ECN1718CAA	AN56DN0CB
	575	10	600		ECN1711DAA	ECN1712DAA	ECN1714DAA	ECN1718DAA	AN56DN0DB
2	—	—	120	60 A	ECN1721AAA	ECN1722AAA	ECN1724AAA	ECN1728AAA	AN56GN0AB
	200	10	208		ECN1721EAA	ECN1722EAA	ECN1724EAA	ECN1728EAA	AN56GN0EB
	230	15	240		ECN1721BAA	ECN1722BAA	ECN1724BAA	ECN1728BAA	AN56GN0BB
	460	25	480		ECN1721CAA	ECN1722CAA	ECN1724CAA	ECN1728CAA	AN56GN0CB
	575	25	600		ECN1721DAA	ECN1722DAA	ECN1724DAA	ECN1728DAA	AN56GN0DB
3	—	—	120	100 A	ECN1731AAA	ECN1732AAA	ECN1734AAA	ECN1738AAA	AN56KN0A
	200	25	208		ECN1731EAA	ECN1732EAA	ECN1734EAA	ECN1738EAA	AN56KN0E
	230	30	240		ECN1731BAA	ECN1732BAA	ECN1734BAA	ECN1738BAA	AN56KN0B
	460	50	480		ECN1731CAA	ECN1732CAA	ECN1734CAA	ECN1738CAA	AN56KN0C
	575	50	600		ECN1731DAA	ECN1732DAA	ECN1734DAA	ECN1738DAA	AN56KN0D
4	—	—	120	200 A	ECN1741AAA	ECN1742AAA	ECN1744AAA	ECN1748AAA	AN56NN0A
	200	40	208		ECN1741EAA	ECN1742EAA	ECN1744EAA	ECN1748EAA	AN56NN0E
	230	50	240		ECN1741BAA	ECN1742BAA	ECN1744BAA	ECN1748BAA	AN56NN0B
	460	100	480		ECN1741CAA	ECN1742CAA	ECN1744CAA	ECN1748CAA	AN56NN0C
	575	100	600		ECN1741DAA	ECN1742DAA	ECN1744DAA	ECN1748DAA	AN56NN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

② All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

③ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.



# 2.1

## NEMA Contactors and Starters

### Freedom Full Voltage Controls

#### Class ECN17—Combination Reversing Starter—Non-Fusible Disconnect, continued

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NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	Disconnect Amps	Type 1 General Purpose Catalog Number	Type 3R Rainproof Catalog Number	Type 4X Watertight and Dust-Tight Stainless Steel <sup>①</sup> Catalog Number	Type 12 Dust-Tight Industrial External Reset <sup>②③</sup> Catalog Number	Component Starter (Open) Catalog Number
5	—	—	120	400 A	ECN1751AAA	ECN1752AAA	ECN1754AAA	ECN1758AAA	AN56SN0AB
	200	75	208		ECN1751EAA	ECN1752EAA	ECN1754EAA	ECN1758EAA	AN56SN0EB
	230	100	240		ECN1751BAA	ECN1752BAA	ECN1754BAA	ECN1758BAA	AN56SN0BB
	460	200	480		ECN1751CAA	ECN1752CAA	ECN1754CAA	ECN1758CAA	AN56SN0CB
	575	200	600		ECN1751DAA	ECN1752DAA	ECN1754DAA	ECN1758DAA	AN56SN0DB
6	—	—	120	600 A	ECN1761AAA	ECN1762AAA	ECN1763AAA <sup>④</sup>	ECN1768AAA	AN56TN0AB
	200	150	208		ECN1761EAA	ECN1762EAA	ECN1763EAA <sup>④</sup>	ECN1768EAA	AN56TN0EB
	230	200	240		ECN1761BAA	ECN1762BAA	ECN1763BAA <sup>④</sup>	ECN1768BAA	AN56TN0BB
	460	400	480		ECN1761CAA	ECN1762CAA	ECN1763CAA <sup>④</sup>	ECN1768CAA	AN56TN0CB
	575	400	600		ECN1761DAA	ECN1762DAA	ECN1763DAA <sup>④</sup>	ECN1768DAA	AN56TN0DB
7	—	—	120	<sup>⑤</sup>	ECN1771AAA	ECN1772AAA	ECN1773AAA <sup>④</sup>	ECN1778AAA	AN56UN0AB
	230	300	240		ECN1771BAA	ECN1772BAA	ECN1773BAA <sup>④</sup>	ECN1778BAA	AN56UN0BB
	460	600	480		ECN1771CAA	ECN1772CAA	ECN1773CAA <sup>④</sup>	ECN1778CAA	AN56UN0CB
	575	600	600		ECN1771DAA	ECN1772DAA	ECN1773DAA <sup>④</sup>	ECN1778DAA	AN56UN0DB
8	—	—	120	<sup>⑤</sup>	ECN1781AAA	ECN1782AAA	ECN1783AAA <sup>④</sup>	ECN1788AAA	AN56VN0AB
	230	450	240		ECN1781BAA	ECN1782BAA	ECN1783BAA <sup>④</sup>	ECN1788BAA	AN56VN0BB
	460	900	480		ECN1781CAA	ECN1782CAA	ECN1783CAA <sup>④</sup>	ECN1788CAA	AN56VN0CB
	575	900	600		ECN1781DAA	ECN1782DAA	ECN1783DAA <sup>④</sup>	ECN1788DAA	AN56VN0DB
9	—	—	120	<sup>⑤</sup>	ECN1791AAA	ECN1792AAA	ECN1793AAA <sup>④</sup>	ECN1798AAA	AN56WN0A
	230	800	240		ECN1791BAA	ECN1792BAA	ECN1793BAA <sup>④</sup>	ECN1798BAA	AN56WN0B
	460	1000 <sup>⑥</sup>	480		ECN1791CAA	ECN1792CAA	ECN1793CAA <sup>④</sup>	ECN1798CAA	AN56WN0C
	575	1000	600		ECN1791DAA	ECN1792DAA	ECN1793DAA <sup>④</sup>	ECN1798DAA	AN56WN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

- ① The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN1754AAA. 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 13**.
- ② All Type 12 enclosures are standardized with external reset. For internal reset, order modification 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 460 V, consult Eaton.

### Class ECN18—Combination Non-Reversing Starter—Fusible Disconnect with CPT <sup>①</sup>

NEMA Size	Primary Voltage <sup>②</sup>	Maximum hp Rating	Magnet Coil Voltage	Fuse Clip Amps	Type 1 General Purpose Catalog Number	Type 3R Rainproof Catalog Number	Type 4X Watertight and Dust-Tight Stainless Steel <sup>③</sup> Catalog Number	Type 12 Dust-Tight Industrial External Reset <sup>④⑤</sup> Catalog Number	Component Starter (Open) Catalog Number
00	208	1-1/2	120	30 A <sup>⑥</sup>	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	30 A <sup>⑥</sup>	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	30 A <sup>⑥</sup>	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	60 A <sup>⑥</sup>	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	100 A	ECN1831EAF	ECN1832EAF	ECN1834EAF	ECN1838EAF	AN16KN0E
	240	30			ECN1831BAF	ECN1832BAF	ECN1834BAF	ECN1838BAF	AN16KN0B
	480	50			ECN1831CAF	ECN1832CAF	ECN1834CAF	ECN1838CAF	AN16KN0C
	600	50			ECN1831DAF	ECN1832DAF	ECN1834DAF	ECN1838DAF	AN16KN0D
4	208	40	120	200 A	ECN1841EAH	ECN1842EAH	ECN1844EAH	ECN1848EAH	AN16NN0E
	240	50			ECN1841BAH	ECN1842BAH	ECN1844BAH	ECN1848BAH	AN16NN0B
	480	100			ECN1841CAJ	ECN1842CAJ	ECN1844CAJ	ECN1848CAJ	AN16NN0C
	600	100			ECN1841DAJ	ECN1842DAJ	ECN1844DAJ	ECN1848DAJ	AN16NN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> 100,000 rms short-circuit rating.

<sup>②</sup> Other control power transformer primary and/or secondary voltages, see **Page V10-T2-4**.

<sup>③</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

<sup>④</sup> All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

<sup>⑤</sup> Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

<sup>⑥</sup> Fuse clips are for Class R fuses. For H and J fuses, see modifications in **Tab 15**.

# 2.1

## NEMA Contactors and Starters

Freedom Full Voltage Controls

2

### Class ECN18—Combination Non-Reversing Starter—Fusible Disconnect with CPT, continued <sup>①</sup>

NEMA Size	Primary Voltage <sup>②</sup>	Maximum hp Rating	Magnet Coil Voltage	Fuse Clip Amps	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
					General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel <sup>③</sup>	Dust-Tight Industrial External Reset <sup>④⑤</sup>	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
5	208	75	120	400 A	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	600 A	ECN1861EAM	ECN1862EAM	ECN1863EAM <sup>⑥</sup>	ECN1868EAM	AN16TN0EB
	240	200			ECN1861BAM	ECN1862BAM	ECN1863BAM <sup>⑥</sup>	ECN1868BAM	AN16TN0BB
	480	400			ECN1861CAN	ECN1862CAN	ECN1863CAN <sup>⑥</sup>	ECN1868CAN	AN16TN0CB
	600	400			ECN1861DAN	ECN1862DAN	ECN1863DAN <sup>⑥</sup>	ECN1868DAN	AN16TN0DB
7	240	300	120	⑦	ECN1871BAU	ECN1872BAU	ECN1873BAU <sup>⑥</sup>	ECN1878BAU	AN16UN0BB
	480	600			ECN1871CAU	ECN1872CAU	ECN1873CAU <sup>⑥</sup>	ECN1878CAU	AN16UN0CB
	600	600			ECN1871DAU	ECN1872DAU	ECN1873DAU <sup>⑥</sup>	ECN1878DAU	AN16UN0DB
8	240	450	120	⑦	ECN1881BAU	ECN1882BAU	ECN1883BAU <sup>⑥</sup>	ECN1888BAU	AN16VN0BB
	480	900			ECN1881CAU	ECN1882CAU	ECN1883CAU <sup>⑥</sup>	ECN1888CAU	AN16VN0CB
	600	900			ECN1881DAU	ECN1882DAU	ECN1883DAU <sup>⑥</sup>	ECN1888DAU	AN16VN0DB
9	240	800	120	⑦	ECN1891BAU	ECN1892BAU	ECN1893BAU <sup>⑥</sup>	ECN1898BAU	AN16WN0B
	480	1000 <sup>⑧</sup>			ECN1891CAU	ECN1892CAU	ECN1893CAU <sup>⑥</sup>	ECN1898CAU	AN16WN0C
	600	1000			ECN1891DAU	ECN1892DAU	ECN1893DAU <sup>⑥</sup>	ECN1898DAU	AN16WN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> 100,000 rms short-circuit rating.

<sup>②</sup> Other control power transformer primary and/or secondary voltages, see **Page V10-T2-4**.

<sup>③</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit.  
Example: ECN1854EAK. 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 13**.

<sup>④</sup> All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

<sup>⑤</sup> Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

<sup>⑥</sup> Type 4 (painted steel) sizes 6–9.

<sup>⑦</sup> Supply hp, voltage, FLA and whether motor is design E or not when ordering the motor.

<sup>⑧</sup> For 1250 and 1600 hp ratings at 460 V, consult Eaton.

### Class ECN18—Combination Non-Reversing Starter—Non-Fusible Disconnect with CPT

NEMA Size	Primary Voltage ①	Maximum hp Rating	Magnet Coil Voltage	Disconnect Switch Rating	Type 1 General Purpose Catalog Number	Type 3R Rainproof Catalog Number	Type 4X Watertight and Dust-Tight Stainless Steel ② Catalog Number	Type 12 Dust-Tight Industrial External Reset ③④ Catalog Number	Component Starter (Open) Catalog Number
00	208	1-1/2	120	30 A	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	30 A	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	30 A	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	60 A	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	100 A	ECN1831EAA	ECN1832EAA	ECN1834EAA	ECN1838EAA	AN16KN0E
	240	30			ECN1831BAA	ECN1832BAA	ECN1834BAA	ECN1838BAA	AN16KN0B
	480	50			ECN1831CAA	ECN1832CAA	ECN1834CAA	ECN1838CAA	AN16KN0C
	600	50			ECN1831DAA	ECN1832DAA	ECN1834DAA	ECN1838DAA	AN16KN0D
4	208	40	120	200 A	ECN1841EAA	ECN1842EAA	ECN1844EAA	ECN1848EAA	AN16NN0E
	240	50			ECN1841BAA	ECN1842BAA	ECN1844BAA	ECN1848BAA	AN16NN0B
	480	100			ECN1841CAA	ECN1842CAA	ECN1844CAA	ECN1848CAA	AN16NN0C
	600	100			ECN1841DAA	ECN1842DAA	ECN1844DAA	ECN1848DAA	AN16NN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① Other control power transformer primary and/or secondary voltages, see **Page V10-T2-4**.

② The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

③ All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

④ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

# 2.1

## NEMA Contactors and Starters

Freedom Full Voltage Controls

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### Class ECN18—Combination Non-Reversing Starter—Non-Fusible Disconnect with CPT, continued

NEMA Size	Primary Voltage <sup>①</sup>	Maximum hp Rating	Magnet Coil Voltage	Disconnect Switch Rating	Type 1	Type 3R	Type 4X	Type 12	Component Starter
					General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel <sup>②</sup>	Dust-Tight Industrial External Reset <sup>③④</sup>	(Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
5	208	75	120	400 A	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	600 A	ECN1861EAA	ECN1862EAA	ECN1863EAA <sup>⑤</sup>	ECN1868EAA	AN16TN0EB
	240	200			ECN1861BAA	ECN1862BAA	ECN1863BAA <sup>⑤</sup>	ECN1868BAA	AN16TN0BB
	480	400			ECN1861CAA	ECN1862CAA	ECN1863CAA <sup>⑤</sup>	ECN1868CAA	AN16TN0CB
	600	400			ECN1861DAA	ECN1862DAA	ECN1863DAA <sup>⑤</sup>	ECN1868DAA	AN16TN0DB
7	240	300	120	⑥	ECN1871BAA	ECN1872BAA	ECN1873BAA <sup>⑤</sup>	ECN1878BAA	AN16UN0BB
	480	600			ECN1871CAA	ECN1872CAA	ECN1873CAA <sup>⑤</sup>	ECN1878CAA	AN16UN0CB
	600	600			ECN1871DAA	ECN1872DAA	ECN1873DAA <sup>⑤</sup>	ECN1878DAA	AN16UN0DB
8	240	450	120	⑥	ECN1881BAA	ECN1882BAA	ECN1883BAA <sup>⑤</sup>	ECN1888BAA	AN16VN0BB
	480	900			ECN1881CAA	ECN1882CAA	ECN1883CAA <sup>⑤</sup>	ECN1888CAA	AN16VN0CB
	600	900			ECN1881DAA	ECN1882DAA	ECN1883DAA <sup>⑤</sup>	ECN1888DAA	AN16VN0DB
9	240	800	120	⑥	ECN1891BAA	ECN1892BAA	ECN1893BAA <sup>⑤</sup>	ECN1898BAA	AN16WN0B
	480	1000 <sup>⑦</sup>			ECN1891CAA	ECN1892CAA	ECN1893CAA <sup>⑤</sup>	ECN1898CAA	AN16WN0C
	600	1000			ECN1891DAA	ECN1892DAA	ECN1893DAA <sup>⑤</sup>	ECN1898DAA	AN16WN0D

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① Other control power transformer primary and/or secondary voltages, see **Page V10-T2-4**.

② The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN1854EAA. 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 13**.

③ All Type 12 enclosures are standardized with external reset. For internal reset, order modification 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) sizes 6–9.

⑥ Supply hp, voltage, FLA and whether motor is design E or not when ordering the starter.

⑦ For 1250 and 1600 hp ratings at 460 V, consult Eaton.

### Combination Starters—Circuit Breaker

#### Features

- Three-phase magnetic
- Three-pole non-reversing or reversing
- Standard interchangeable heater OLR
- Optional electronic overload
- 600 V maximum
- 100,000 rms 480 V, 25,000 rms 600 V

#### Product Selection

#### Class ECN22—Combination Non-Reversing Starter—Circuit Breaker

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage ①	Circuit Breaker Size	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)		
					General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel ②	Dust-Tight Industrial External Reset ③④			
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number		
00	200	1	120	7A	ECN22A1AAC	ECN22A2AAC	ECN22A4AAC	ECN22A8AAC	AN16AN0AC		
		1-1/2		15A	ECN22A1AAD	ECN22A2AAD	ECN22A4AAD	ECN22A8AAD			
	230	1	7A	ECN22A1AAC	ECN22A2AAC	ECN22A4AAC	ECN22A8AAC				
		1-1/2	15A	ECN22A1AAD	ECN22A2AAD	ECN22A4AAD	ECN22A8AAD				
	460	1	3A	ECN22A1AAB	ECN22A2AAB	ECN22A4AAB	ECN22A8AAB				
		2	7A	ECN22A1AAC	ECN22A2AAC	ECN22A4AAC	ECN22A8AAC				
	575	1	3A	ECN22A1AAB	ECN22A2AAB	ECN22A4AAB	ECN22A8AAB				
		2	7A	ECN22A1AAC	ECN22A2AAC	ECN22A4AAC	ECN22A8AAC				
	0	200	1	120	7A	ECN2201AAC	ECN2202AAC	ECN2204AAC		ECN2208AAC	AN16BN0AC
			3		15A	ECN2201AAD	ECN2202AAD	ECN2204AAD		ECN2208AAD	
		230	1	7A	ECN2201AAC	ECN2202AAC	ECN2204AAC	ECN2208AAC			
			3	15A	ECN2201AAD	ECN2202AAD	ECN2204AAD	ECN2208AAD			
460		1	3A	ECN2201AAB	ECN2202AAB	ECN2204AAB	ECN2208AAB				
		3	7A	ECN2201AAC	ECN2202AAC	ECN2204AAC	ECN2208AAC				
575		1	3A	ECN2201AAB	ECN2202AAB	ECN2204AAB	ECN2208AAB				
		3	15A	ECN2201AAD	ECN2202AAD	ECN2204AAD	ECN2208AAD				
		5	7A	ECN2201AAC	ECN2202AAC	ECN2204AAC	ECN2208AAC				

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

② The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. 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 13**.

③ All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

④ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

# 2.1

## NEMA Contactors and Starters

Freedom Full Voltage Controls

### Class ECN22—Combination Non-Reversing Starter—Circuit Breaker, continued

2

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage ①	Circuit Breaker Size	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
					General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel ②	Dust-Tight Industrial External Reset ③④	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
1	200	1	120	7 A	ECN2211AAC	ECN2212AAC	ECN2214AAC	ECN2218AAC	AN16DN0AB
				15 A	ECN2211AAD	ECN2212AAD	ECN2214AAD	ECN2218AAD	
				30 A	ECN2211AAE	ECN2212AAE	ECN2214AAE	ECN2218AAE	
				50 A	ECN2211AAF	ECN2212AAF	ECN2214AAF	ECN2218AAF	
	230	1	3	7 A	ECN2211AAC	ECN2212AAC	ECN2214AAC	ECN2218AAC	
				15 A	ECN2211AAD	ECN2212AAD	ECN2214AAD	ECN2218AAD	
				30 A	ECN2211AAE	ECN2212AAE	ECN2214AAE	ECN2218AAE	
				50 A	ECN2211AAF	ECN2212AAF	ECN2214AAF	ECN2218AAF	
	460	1	3	3 A	ECN2211AAB	ECN2212AAB	ECN2214AAB	ECN2218AAB	
				7 A	ECN2211AAC	ECN2212AAC	ECN2214AAC	ECN2218AAC	
				15 A	ECN2211AAD	ECN2212AAD	ECN2214AAD	ECN2218AAD	
				30 A	ECN2211AAE	ECN2212AAE	ECN2214AAE	ECN2218AAE	
	575	1	3	3 A	ECN2211AAB	ECN2212AAB	ECN2214AAB	ECN2218AAB	
				7 A	ECN2211AAC	ECN2212AAC	ECN2214AAC	ECN2218AAC	
				15 A	ECN2211AAD	ECN2212AAD	ECN2214AAD	ECN2218AAD	
				30 A	ECN2211AAE	ECN2212AAE	ECN2214AAE	ECN2218AAE	
2	200	10	120	50 A	ECN2221AAF	ECN2222AAF	ECN2224AAF	ECN2228AAF	AN16GN0AB
				70 A	ECN2221AAW	ECN2222AAW	ECN2224AAW	ECN2228AAW	
	230	10	50 A	ECN2221AAF	ECN2222AAF	ECN2224AAF	ECN2228AAF		
			70 A	ECN2221AAW	ECN2222AAW	ECN2224AAW	ECN2228AAW		
	460	25	50 A	ECN2221AAF	ECN2222AAF	ECN2224AAF	ECN2228AAF		
			30 A	ECN2221AAE	ECN2222AAE	ECN2224AAE	ECN2228AAE		
	575	15	50 A	ECN2221AAF	ECN2222AAF	ECN2224AAF	ECN2228AAF		
			30 A	ECN2221AAE	ECN2222AAE	ECN2224AAE	ECN2228AAE		
3	200	20	120	100 A	ECN2231AAG	ECN2232AAG	ECN2234AAG	ECN2238AAG	AN16KN0A
				100 A	ECN2231AAX	ECN2232AAX	ECN2234AAX	ECN2238AAX	
	230	25	100 A	ECN2231AAG	ECN2232AAG	ECN2234AAG	ECN2238AAG		
			100 A	ECN2231AAX	ECN2232AAX	ECN2234AAX	ECN2238AAX		
	460	50	100 A	ECN2231AAG	ECN2232AAG	ECN2234AAG	ECN2238AAG		
			50 A	ECN2231AAF	ECN2232AAF	ECN2234AAF	ECN2238AAF		
	575	30	100 A	ECN2231AAG	ECN2232AAG	ECN2234AAG	ECN2238AAG		
			100 A	ECN2231AAF	ECN2232AAF	ECN2234AAF	ECN2238AAF		
4	200	40	120	150 A	ECN2241AAH	ECN2242AAH	ECN2244AAH	ECN2248AAH	AN16NN0A
				150 A	ECN2241AAH	ECN2242AAH	ECN2244AAH	ECN2248AAH	
	230	50	150 A	ECN2241AAH	ECN2242AAH	ECN2244AAH	ECN2248AAH		
			150 A	ECN2241AAH	ECN2242AAH	ECN2244AAH	ECN2248AAH		

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

② The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit.

③ Example: ECN2214AAC. 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 13**.

④ All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

⑤ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

### Class ECN22—Combination Non-Reversing Starter—Circuit Breaker, continued

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage ①	Circuit Breaker Size	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
					General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel ②	Dust-Tight Industrial External Reset ③④	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
5	200	50	120	250 A	ECN2251AAJ	ECN2252AAJ	ECN2254AAJ	ECN2258AAJ	AN16SN0AB
		75		400 A	ECN2251AAK	ECN2252AAK	ECN2254AAK	ECN2258AAK	
	230	60	250 A	ECN2251AAJ	ECN2252AAJ	ECN2254AAJ	ECN2258AAJ		
		100	400 A	ECN2251AAK	ECN2252AAK	ECN2254AAK	ECN2258AAK		
	460	125	250 A	ECN2251AAJ	ECN2252AAJ	ECN2254AAJ	ECN2258AAJ		
		200	400 A	ECN2251AAK	ECN2252AAK	ECN2254AAK	ECN2258AAK		
	575	150	250 A	ECN2251AAJ	ECN2252AAJ	ECN2254AAJ	ECN2258AAJ		
		200	400 A	ECN2251AAK	ECN2252AAK	ECN2254AAK	ECN2258AAK		
6	200	150	120	600 A	ECN2261AAL	ECN2262AAL	ECN2263AAL ⑤	ECN2268AAL	AN16TN0AB
	230	200		ECN2261AAL	ECN2262AAL	ECN2263AAL ⑤	ECN2268AAL		
	460	350		ECN2261AAL	ECN2262AAL	ECN2263AAL ⑤	ECN2268AAL		
		400		1200 A	ECN2261AAP	ECN2262AAP	ECN2263AAP ⑤	ECN2268AAP	
	575	400		600 A	ECN2261AAL	ECN2262AAL	ECN2263AAL ⑤	ECN2268AAL	
7	230	300	120	—	ECN2271AAU	ECN2272AAU	ECN2273AAU ⑤	ECN2278AAU	AN16UN0AB
	460	600		—	ECN2271AAU	ECN2272AAU	ECN2273AAU ⑤	ECN2278AAU	
	575	600		—	ECN2271AAU	ECN2272AAU	ECN2273AAU ⑤	ECN2278AAU	
8	230	450	120	—	ECN2281AAU	ECN2282AAU	ECN2283AAU ⑤	ECN2288AAU	AN16VN0AB
	460	900		—	ECN2281AAU	ECN2282AAU	ECN2283AAU ⑤	ECN2288AAU	
	575	900		—	ECN2281AAU	ECN2282AAU	ECN2283AAU ⑤	ECN2288AAU	
9	230	800	120	—	ECN2291AAU	ECN2292AAU	ECN2293AAU ⑤	ECN2298AAU	AN16WN0A
	460	1600		—	ECN2291AAU	ECN2292AAU	ECN2293AAU ⑤	ECN2298AAU	
	575	1600		—	ECN2291AAU	ECN2292AAU	ECN2293AAU ⑤	ECN2298AAU	

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

② The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit.

Example: ECN2254AAJ. 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 13**.

③ All Type 12 enclosures are standardized with external reset. For internal reset, order modification 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) sizes 6–9.



# 2.1

## NEMA Contactors and Starters

### Freedom Full Voltage Controls

2

#### Class ECN22—Special Enclosure Combination Non-Reversing Starter—Circuit Breaker

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage ①	Circuit Breaker Size	Type 1	Type 4X	Type 12		Component Starter (Open) Catalog Number
					General Purpose Catalog Number	Watertight and Dust-Tight Stainless Steel ② Catalog Number	Dust-Tight Industrial ③ External Reset Catalog Number	Internal Reset Catalog Number	
<b>Horizontal Enclosure</b>									
1	200	1	120	7 A	ECN2211AAC-E13	ECN2212AAC-E13	ECN2214AAC-E13	ECN2218AAC-E13	AN16DN0AB
		3		15 A	ECN2211AAD-E13	ECN2212AAD-E13	ECN2214AAD-E13	ECN2218AAD-E13	
		5		30 A	ECN2211AAE-E13	ECN2212AAE-E13	ECN2214AAE-E13	ECN2218AAE-E13	
		7-1/2		50 A	ECN2211AAF-E13	ECN2212AAF-E13	ECN2214AAF-E13	ECN2218AAF-E13	
	230	1	7 A	ECN2211AAC-E13	ECN2212AAC-E13	ECN2214AAC-E13	ECN2218AAC-E13		
		3	15 A	ECN2211AAD-E13	ECN2212AAD-E13	ECN2214AAD-E13	ECN2218AAD-E13		
		5	30 A	ECN2211AAE-E13	ECN2212AAE-E13	ECN2214AAE-E13	ECN2218AAE-E13		
		7-1/2	50 A	ECN2211AAF-E13	ECN2212AAF-E13	ECN2214AAF-E13	ECN2218AAF-E13		
	460	1	3A	ECN2211AAB-E13	ECN2212AAB-E13	ECN2214AAB-E13	ECN2218AAB-E13		
		3	7 A	ECN2211AAC-E13	ECN2212AAC-E13	ECN2214AAC-E13	ECN2218AAC-E13		
		5	15 A	ECN2211AAD-E13	ECN2212AAD-E13	ECN2214AAD-E13	ECN2218AAD-E13		
		10	30 A	ECN2211AAE-E13	ECN2212AAE-E13	ECN2214AAE-E13	ECN2218AAE-E13		
	575	1	3 A	ECN2211AAB-E13	ECN2212AAB-E13	ECN2214AAB-E13	ECN2218AAB-E13		
		3	7 A	ECN2211AAC-E13	ECN2212AAC-E13	ECN2214AAC-E13	ECN2218AAC-E13		
		5	15 A	ECN2211AAD-E13	ECN2212AAD-E13	ECN2214AAD-E13	ECN2218AAD-E13		
		10	30 A	ECN2211AAE-E13	ECN2212AAE-E13	ECN2214AAE-E13	ECN2218AAE-E13		
2	200	10	120	50 A	ECN2221AAF-E13	ECN2222AAF-E13	ECN2224AAF-E13	ECN2228AAF-E13	AN16GN0AB
	230	10		ECN2221AAF-E13	ECN2222AAF-E13	ECN2224AAF-E13	ECN2228AAF-E13		
		15		70 A	ECN2221AAW-E13	ECN2222AAW-E13	ECN2224AAW-E13	ECN2228AAW-E13	
	460	25		50 A	ECN2221AAF-E13	ECN2222AAF-E13	ECN2224AAF-E13	ECN2228AAF-E13	
	575	15		30 A	ECN2221AAE-E13	ECN2222AAE-E13	ECN2224AAE-E13	ECN2228AAE-E13	
		25		50 A	ECN2221AAF-E13	ECN2222AAF-E13	ECN2224AAF-E13	ECN2228AAF-E13	

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

② The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN2212AAC-E13. 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 13**.

③ To order Type 12 enclosures with safety door interlock add modification **E11**.

### Class ECN22—Special Enclosure Combination Non-Reversing Starter—Circuit Breaker, continued

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

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

② The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit.  
 Example: ECN2202AAC-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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

③ To order Type 12 enclosures with safety door interlock add modification **E11**.

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## NEMA Contactors and Starters

Freedom Full Voltage Controls

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### Class ECN23—Combination Reversing Starter—Circuit Breaker ①

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage ②	Circuit Breaker Size	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)		
					General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel ③	Dust-Tight Industrial External Reset ④⑤			
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number		
00	200	1	120	7 A	ECN23A1AAC	ECN23A2AAC	ECN23A4AAC	ECN23A8AAC	AN56AN0AC		
		1-1/2		15 A	ECN23A1AAD	ECN23A2AAD	ECN23A4AAD	ECN23A8AAD			
	230	1	7 A	ECN23A1AAC	ECN23A2AAC	ECN23A4AAC	ECN23A8AAC				
		1-1/2	15 A	ECN23A1AAD	ECN23A2AAD	ECN23A4AAD	ECN23A8AAD				
	460	1	3 A	ECN23A1AAB	ECN23A2AAB	ECN23A4AAB	ECN23A8AAB				
		2	7 A	ECN23A1AAC	ECN23A2AAC	ECN23A4AAC	ECN23A8AAC				
	575	1	3 A	ECN23A1AAB	ECN23A2AAB	ECN23A4AAB	ECN23A8AAB				
		2	7 A	ECN23A1AAC	ECN23A2AAC	ECN23A4AAC	ECN23A8AAC				
	0	200	1	120	7 A	ECN2301AAC	ECN2302AAC	ECN2304AAC		ECN2308AAC	AN56BN0AC
			3		15 A	ECN2301AAD	ECN2302AAD	ECN2304AAD		ECN2308AAD	
230		1	7 A	ECN2301AAC	ECN2302AAC	ECN2304AAC	ECN2308AAC				
		3	15 A	ECN2301AAD	ECN2302AAD	ECN2304AAD	ECN2308AAD				
460		1	3 A	ECN2301AAB	ECN2302AAB	ECN2304AAB	ECN2308AAB				
		3	7 A	ECN2301AAC	ECN2302AAC	ECN2304AAC	ECN2308AAC				
		5	15 A	ECN2301AAD	ECN2302AAD	ECN2304AAD	ECN2308AAD				
575		1	3 A	ECN2301AAB	ECN2302AAB	ECN2304AAB	ECN2308AAB				
		3	15 A	ECN2301AAD	ECN2302AAD	ECN2304AAD	ECN2308AAD				
		5	7 A	ECN2301AAC	ECN2302AAC	ECN2304AAC	ECN2308AAC				
1		200	1	120	7 A	ECN2311AAC	ECN2312AAC	ECN2314AAC	ECN2318AAC	AN56DN0AB	
			3		15 A	ECN2311AAD	ECN2312AAD	ECN2314AAD	ECN2318AAD		
			5		30 A	ECN2311AAE	ECN2312AAE	ECN2314AAE	ECN2318AAE		
			7-1/2		50 A	ECN2311AAF	ECN2312AAF	ECN2314AAF	ECN2318AAF		
	230	1	7 A	ECN2311AAC	ECN2312AAC	ECN2314AAC	ECN2318AAC				
		3	15 A	ECN2311AAD	ECN2312AAD	ECN2314AAD	ECN2318AAD				
		5	30 A	ECN2311AAE	ECN2312AAE	ECN2314AAE	ECN2318AAE				
		7-1/2	50 A	ECN2311AAF	ECN2312AAF	ECN2314AAF	ECN2318AAF				
	460	1	3 A	ECN2311AAB	ECN2312AAB	ECN2314AAB	ECN2318AAB				
		3	7 A	ECN2311AAC	ECN2312AAC	ECN2314AAC	ECN2318AAC				
		5	15 A	ECN2311AAD	ECN2312AAD	ECN2314AAD	ECN2318AAD				
		10	30 A	ECN2311AAE	ECN2312AAE	ECN2314AAE	ECN2318AAE				
	575	1	3 A	ECN2311AAB	ECN2312AAB	ECN2314AAB	ECN2318AAB				
		3	7 A	ECN2311AAC	ECN2312AAC	ECN2314AAC	ECN2318AAC				
		5	15 A	ECN2311AAD	ECN2312AAD	ECN2314AAD	ECN2318AAD				
		10	30 A	ECN2311AAE	ECN2312AAE	ECN2314AAE	ECN2318AAE				

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① 100,000 rms short-circuit—480 V; 25,000 rms short-circuit—600 V.

② For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

③ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. 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 non-metallic, change that digit to **5**. For details on these alternate enclosures, see **Tab 13**.

④ All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

⑤ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

### Class ECN23—Combination Reversing Starter—Circuit Breaker, continued ①

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage ②	Circuit Breaker Size	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
					General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel ③	Dust-Tight Industrial External Reset ④⑤	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
2	200	10	120	50 A	ECN2321AAF	ECN2322AAF	ECN2324AAF	ECN2328AAF	AN56GN0AB
		15			ECN2321AAF	ECN2322AAF	ECN2324AAF	ECN2328AAF	
	460	25	50 A	ECN2321AAW	ECN2322AAW	ECN2324AAW	ECN2328AAW		
		15		ECN2321AAF	ECN2322AAF	ECN2324AAF	ECN2328AAF		
	575	15	30 A	ECN2321AAE	ECN2322AAE	ECN2324AAE	ECN2328AAE		
		25		ECN2321AAF	ECN2322AAF	ECN2324AAF	ECN2328AAF		
3	200	20	120	100 A	ECN2331AAG	ECN2332AAG	ECN2334AAG	ECN2338AAG	AN56KN0A
		25			ECN2331AAX	ECN2332AAX	ECN2334AAX	ECN2338AAX	
	230	25	100 A	ECN2331AAG	ECN2332AAG	ECN2334AAG	ECN2338AAG		
		30		ECN2331AAX	ECN2332AAX	ECN2334AAX	ECN2338AAX		
	460	50	100 A	ECN2331AAG	ECN2332AAG	ECN2334AAG	ECN2338AAG		
		30		ECN2331AAF	ECN2332AAF	ECN2334AAF	ECN2338AAF		
	575	30	100 A	ECN2331AAG	ECN2332AAG	ECN2334AAG	ECN2338AAG		
		50		ECN2331AAG	ECN2332AAG	ECN2334AAG	ECN2338AAG		
4	200	40	120	150 A	ECN2341AAH	ECN2342AAH	ECN2344AAH	ECN2348AAH	AN56NN0A
		50			ECN2341AAH	ECN2342AAH	ECN2344AAH	ECN2348AAH	
	460	100	150 A	ECN2341AAH	ECN2342AAH	ECN2344AAH	ECN2348AAH		
		100		ECN2341AAH	ECN2342AAH	ECN2344AAH	ECN2348AAH		
5	200	50	230	250 A	ECN2351AAJ	ECN2352AAJ	ECN2354AAJ	ECN2358AAJ	AN56SN0AB
		75			ECN2351AAK	ECN2352AAK	ECN2354AAK	ECN2358AAK	
	230	60	250 A	ECN2351AAJ	ECN2352AAJ	ECN2354AAJ	ECN2358AAJ		
		100		ECN2351AAK	ECN2352AAK	ECN2354AAK	ECN2358AAK		
	460	125	250 A	ECN2351AAJ	ECN2352AAJ	ECN2354AAJ	ECN2358AAJ		
		200		ECN2351AAK	ECN2352AAK	ECN2354AAK	ECN2358AAK		
	575	150	250 A	ECN2351AAJ	ECN2352AAJ	ECN2354AAJ	ECN2358AAJ		
		200		ECN2351AAK	ECN2352AAK	ECN2354AAK	ECN2358AAK		

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① 100,000 rms short-circuit—480 V; 25,000 rms short-circuit—600 V.

② For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

③ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN2324AAF. 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 13**.

④ All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

⑤ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

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## NEMA Contactors and Starters

### Freedom Full Voltage Controls

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#### Class ECN23—Combination Reversing Starter—Circuit Breaker, continued <sup>①</sup>

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage <sup>②</sup>	Circuit Breaker Size	Type 1 General Purpose	Type 3R Rainproof	Type 4X Watertight and Dust-Tight Stainless Steel <sup>③</sup>	Type 12 Dust-Tight Industrial External Reset <sup>④⑤</sup>	Component Starter (Open)
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
6	200	150	120	600 A	ECN2361AAL	ECN2362AAL	ECN2363AAL <sup>⑥</sup>	ECN2368AAL	AN56TN0AB
	230	200			ECN2361AAL	ECN2362AAL	ECN2363AAL <sup>⑥</sup>	ECN2368AAL	
	460	350			ECN2361AAL	ECN2362AAL	ECN2363AAL <sup>⑥</sup>	ECN2368AAL	
		400		1200 A	ECN2361AAP	ECN2362AAP	ECN2363AAP <sup>⑥</sup>	ECN2368AAP	
	575	400		600 A	ECN2361AAL	ECN2362AAL	ECN2363AAL <sup>⑥</sup>	ECN2368AAL	
7	230	300	120	—	ECN2371AAU <sup>⑦</sup>	ECN2372AAU <sup>⑦</sup>	ECN2373AAU <sup>⑥⑦</sup>	ECN2378AAU <sup>⑦</sup>	AN56UN0AB
	460	600		—	ECN2371AAU <sup>⑦</sup>	ECN2372AAU <sup>⑦</sup>	ECN2373AAU <sup>⑥⑦</sup>	ECN2378AAU <sup>⑦</sup>	
	575	600		—	ECN2371AAU <sup>⑦</sup>	ECN2372AAU <sup>⑦</sup>	ECN2373AAU <sup>⑥⑦</sup>	ECN2378AAU <sup>⑦</sup>	
8	230	450	120	—	ECN2381AAU <sup>⑦</sup>	ECN2382AAU <sup>⑦</sup>	ECN2383AAU <sup>⑥⑦</sup>	ECN2388AAU <sup>⑦</sup>	AN56VN0AB
	460	900		—	ECN2381AAU <sup>⑦</sup>	ECN2382AAU <sup>⑦</sup>	ECN2383AAU <sup>⑥⑦</sup>	ECN2388AAU <sup>⑦</sup>	
	575	900		—	ECN2381AAU <sup>⑦</sup>	ECN2382AAU <sup>⑦</sup>	ECN2383AAU <sup>⑥⑦</sup>	ECN2388AAU <sup>⑦</sup>	
9	230	800	120	—	ECN2391AAU <sup>⑦</sup>	ECN2392AAU <sup>⑦</sup>	ECN2393AAU <sup>⑥⑦</sup>	ECN2398AAU <sup>⑦</sup>	AN56WN0A
	460	1600		—	ECN2391AAU <sup>⑦</sup>	ECN2392AAU <sup>⑦</sup>	ECN2393AAU <sup>⑥⑦</sup>	ECN2398AAU <sup>⑦</sup>	
	575	1600		—	ECN2391AAU <sup>⑦</sup>	ECN2392AAU <sup>⑦</sup>	ECN2393AAU <sup>⑥⑦</sup>	ECN2398AAU <sup>⑦</sup>	

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> 100,000 rms short-circuit—480 V; 25,000 rms short-circuit—600 V.

<sup>②</sup> For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

<sup>③</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit.

Example: ECN2363AAL. 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 13**.

<sup>④</sup> All Type 12 enclosures are standardized with external reset. For internal reset, order modification code **R5**.

<sup>⑤</sup> Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification **E11**.

<sup>⑥</sup> Type 4 (painted steel) sizes 6–9.

<sup>⑦</sup> Provide FLA to size disconnect properly.

### Class ECN24—Combination Non-Reversing Starter—Circuit Breaker with CPT ①

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage ②	Circuit Breaker Size	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)		
					General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel ③	Dust-Tight Industrial External Reset ④⑤			
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number		
00	200	1	120	7 A	ECN24A1EAC	ECN24A2EAC	ECN24A4EAC	ECN24A8EAC	AN16AN0AC		
		1-1/2		15 A	ECN24A1EAD	ECN24A2EAD	ECN24A4EAD	ECN24A8EAD			
	230	1	7 A	ECN24A1BAC	ECN24A2BAC	ECN24A4BAC	ECN24A8BAC				
		1-1/2	15 A	ECN24A1BAD	ECN24A2BAD	ECN24A4BAD	ECN24A8BAD				
	460	1	3 A	ECN24A1CAB	ECN24A2CAB	ECN24A4CAB	ECN24A8CAB				
		2	7 A	ECN24A1CAC	ECN24A2CAC	ECN24A4CAC	ECN24A8CAC				
	575	1	3 A	ECN24A1DAB	ECN24A2DAB	ECN24A4DAB	ECN24A8DAB				
		2	7 A	ECN24A1DAC	ECN24A2DAC	ECN24A4DAC	ECN24A8DAC				
	0	200	1	120	7 A	ECN2401EAC	ECN2402EAC	ECN2404EAC		ECN2408EAC	AN16BN0AC
			3		15 A	ECN2401EAD	ECN2402EAD	ECN2404EAD		ECN2408EAD	
230		1	7 A	ECN2401BAC	ECN2402BAC	ECN2404BAC	ECN2408BAC				
		3	15 A	ECN2401BAD	ECN2402BAD	ECN2404BAD	ECN2408BAD				
460		1	3 A	ECN2401CAB	ECN2402CAB	ECN2404CAB	ECN2408CAB				
		3	7 A	ECN2401CAC	ECN2402CAC	ECN2404CAC	ECN2408CAC				
		5	15 A	ECN2401CAD	ECN2402CAD	ECN2404CAD	ECN2408CAD				
575		1	3 A	ECN2401DAB	ECN2402DAB	ECN2404DAB	ECN2408DAB				
		3	15 A	ECN2401DAD	ECN2402DAD	ECN2404DAD	ECN2408DAD				
		5	7 A	ECN2401DAC	ECN2402DAC	ECN2404DAC	ECN2408DAC				
1		200	1	120	7 A	ECN2411EAC	ECN2412EAC	ECN2414EAC	ECN2418EAC	AN16DN0AB	
			3		15 A	ECN2411EAD	ECN2412EAD	ECN2414EAD	ECN2418EAD		
			5		30 A	ECN2411EAE	ECN2412EAE	ECN2414EAE	ECN2418EAE		
			7-1/2		50 A	ECN2411EAF	ECN2412EAF	ECN2414EAF	ECN2418EAF		
		230	1	7 A	ECN2411BAC	ECN2412BAC	ECN2414BAC	ECN2418BAC			
	3		15 A	ECN2411BAD	ECN2412BAD	ECN2414BAD	ECN2418BAD				
	5		30 A	ECN2411BAE	ECN2412BAE	ECN2414BAE	ECN2418BAE				
	7-1/2		50 A	ECN2411BAF	ECN2412BAF	ECN2414BAF	ECN2418BAF				
	460	1	3 A	ECN2411CAB	ECN2412CAB	ECN2414CAB	ECN2418CAB				
		3	7 A	ECN2411CAC	ECN2412CAC	ECN2414CAC	ECN2418CAC				
		5	15 A	ECN2411CAD	ECN2412CAD	ECN2414CAD	ECN2418CAD				
		10	30 A	ECN2411CAE	ECN2412CAE	ECN2414CAE	ECN2418CAE				
	575	1	3 A	ECN2411DAB	ECN2412DAB	ECN2414DAB	ECN2418DAB				
		3	7 A	ECN2411DAC	ECN2412DAC	ECN2414DAC	ECN2418DAC				
		5	15 A	ECN2411DAD	ECN2412DAD	ECN2414DAD	ECN2418DAD				
		10	30 A	ECN2411DAE	ECN2412DAE	ECN2414DAE	ECN2418DAE				

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

① 100,000 rms short-circuit—480 V; 25,000 rms short-circuit—600 V.

② For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

③ The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN24A4EAC. 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 13**.

④ All Type 12 enclosures are standardized with external reset. For internal reset, order modification code R5.

⑤ Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.

# 2.1

## NEMA Contactors and Starters

Freedom Full Voltage Controls

### Class ECN24—Combination Non-Reversing Starter—Circuit Breaker with CPT, continued <sup>①</sup>

2

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage <sup>②</sup>	Circuit Breaker Size	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)		
					General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel <sup>③</sup>	Dust-Tight Industrial External Reset <sup>④⑤</sup>			
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number		
2	200	10	120	50 A	ECN2421EAF	ECN2422EAF	ECN2424EAF	ECN2428EAF	AN16GN0AB		
					ECN2421BAF	ECN2422BAF	ECN2424BAF	ECN2428BAF			
					ECN2421BAW	ECN2422BAW	ECN2424BAW	ECN2428BAW			
	460	25	50 A	ECN2421CAF	ECN2422CAF	ECN2424CAF	ECN2428CAF				
				575	15	30 A	ECN2421CAE	ECN2422CAE		ECN2424CAE	ECN2428CAE
							50 A	ECN2421DAF		ECN2422DAF	ECN2424DAF
3	200	20	120	100 A	ECN2431EAG	ECN2432EAG	ECN2434EAG	ECN2438EAG	AN16KN0A		
					ECN2431EAX	ECN2432EAX	ECN2434EAX	ECN2438EAX			
	230	25		ECN2431BAG	ECN2432BAG	ECN2434BAG	ECN2438BAG				
				ECN2431BAX	ECN2432BAX	ECN2434BAX	ECN2438BAX				
	460	50		ECN2431CAG	ECN2432CAG	ECN2434CAG	ECN2438CAG				
				575	30	50 A	ECN2431DAF	ECN2432DAF		ECN2434DAF	ECN2438DAF
		50	100 A			ECN2431DAG	ECN2432DAG	ECN2434DAG		ECN2438DAG	
	4	200	40	120	150 A	ECN2441EAH	ECN2442EAH	ECN2444EAH		ECN2448EAH	AN16NN0A
ECN2441BAH						ECN2442BAH	ECN2444BAH	ECN2448BAH			
460		100		ECN2441CAH	ECN2442CAH	ECN2444CAH	ECN2448CAH				
				575	100		ECN2441DAH	ECN2442DAH	ECN2444DAH	ECN2448DAH	
5	200	50	120	250 A	ECN2451EAJ	ECN2452EAJ	ECN2454EAJ	ECN2458EAJ	AN16SN0AB		
				400 A	ECN2451EAK	ECN2452EAK	ECN2454EAK	ECN2458EAK			
	230	60		250 A	ECN2451BAJ	ECN2452BAJ	ECN2454BAJ	ECN2458BAJ			
				400 A	ECN2451BAK	ECN2452BAK	ECN2454BAK	ECN2458BAK			
	460	125		250 A	ECN2451CAJ	ECN2452CAJ	ECN2454CAJ	ECN2458CAJ			
				400 A	ECN2451CAK	ECN2452CAK	ECN2454CAK	ECN2458CAK			
	575	150		250 A	ECN2451DAJ	ECN2452DAJ	ECN2454DAJ	ECN2458DAJ			
				400 A	ECN2451DAK	ECN2452DAK	ECN2454DAK	ECN2458DAK			

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> 100,000 rms short-circuit—480 V; 25,000 rms short-circuit—600 V.

<sup>②</sup> For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

<sup>③</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit. Example: ECN2424EAF. 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 13**.

<sup>④</sup> All Type 12 enclosures are standardized with external reset. For internal reset, order modification code R5.

<sup>⑤</sup> Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.

### Class ECN24—Combination Non-Reversing Starter—Circuit Breaker with CPT, continued <sup>①</sup>

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage <sup>②</sup>	Circuit Breaker Size	Type 1	Type 3R	Type 4X	Type 12	Component Starter (Open)
					General Purpose	Rainproof	Watertight and Dust-Tight Stainless Steel <sup>③</sup>	Dust-Tight Industrial External Reset <sup>④⑤</sup>	
					Catalog Number	Catalog Number	Catalog Number	Catalog Number	Catalog Number
6	200	150	120	600 A	ECN2461EAL	ECN2462EAL	ECN2463EAL <sup>⑥</sup>	ECN2468EAL	AN16TN0AB
	230	200			ECN2461BAL	ECN2462BAL	ECN2463BAL <sup>⑥</sup>	ECN2468BAL	
	460	350			ECN2461CAL	ECN2462CAL	ECN2463CAL <sup>⑥</sup>	ECN2468CAL	
		400		1200 A	ECN2461CAP	ECN2462CAP	ECN2463CAP <sup>⑥</sup>	ECN2468CAP	
	575	400		600 A	ECN2461DAL	ECN2462DAL	ECN2463DAL <sup>⑥</sup>	ECN2468DAL	
7	230	300	120	—	ECN2471BAU <sup>⑦</sup>	ECN2472BAU <sup>⑦</sup>	ECN2473BAU <sup>⑥⑦</sup>	ECN2478BAU <sup>⑦</sup>	AN16UN0AB
	460	600		—	ECN2471CAU <sup>⑦</sup>	ECN2472CAU <sup>⑦</sup>	ECN2473CAU <sup>⑥⑦</sup>	ECN2478CAU <sup>⑦</sup>	
	575	600		—	ECN2471DAU <sup>⑦</sup>	ECN2472DAU <sup>⑦</sup>	ECN2473DAU <sup>⑥⑦</sup>	ECN2478DAU <sup>⑦</sup>	
8	230	450	120	—	ECN2481BAU <sup>⑦</sup>	ECN2482BAU <sup>⑦</sup>	ECN2483BAU <sup>⑥⑦</sup>	ECN2488BAU <sup>⑦</sup>	AN16VN0AB
	460	900		—	ECN2481CAU <sup>⑦</sup>	ECN2482CAU <sup>⑦</sup>	ECN2483CAU <sup>⑥⑦</sup>	ECN2488CAU <sup>⑦</sup>	
	575	900		—	ECN2481DAU <sup>⑦</sup>	ECN2482DAU <sup>⑦</sup>	ECN2483DAU <sup>⑥⑦</sup>	ECN2488DAU <sup>⑦</sup>	
9	230	800	120	—	ECN2491BAU <sup>⑦</sup>	ECN2492BAU <sup>⑦</sup>	ECN2493BAU <sup>⑥⑦</sup>	ECN2498BAU <sup>⑦</sup>	AN16WN0A
	460	1600		—	ECN2491CAU <sup>⑦</sup>	ECN2492CAU <sup>⑦</sup>	ECN2493CAU <sup>⑥⑦</sup>	ECN2498CAU <sup>⑦</sup>	
	575	1600		—	ECN2491DAU <sup>⑦</sup>	ECN2492DAU <sup>⑦</sup>	ECN2493DAU <sup>⑥⑦</sup>	ECN2498DAU <sup>⑦</sup>	

#### Notes

**Starters do not include heater packs.** Select one carton of three heater packs. For heater pack selection, see **Tab 15**.

**Starters with electronic overload,** see Modification Codes in **Tab 15**, or solid-state overload codes on **Page V10-T2-5**.

<sup>①</sup> 100,000 rms short-circuit—480 V; 25,000 rms short-circuit—600 V.

<sup>②</sup> For other magnet coil voltages substitute the eighth digit with appropriate digit based on modification table on **Page V10-T2-4**.

<sup>③</sup> The catalog numbers listed in the Type 4X column are for Type 4X 304-Grade stainless steel, as indicated by the **seventh** digit.

Example: ECN2463EAL. 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 13**.

<sup>④</sup> All Type 12 enclosures are standardized with external reset. For internal reset, order modification code R5.

<sup>⑤</sup> Type 12 enclosure is without safety door interlock. When safety door interlock is required, add modification E11.

<sup>⑥</sup> Type 4 (painted steel) sizes 6–9.

<sup>⑦</sup> Provide FLA to size disconnect properly.



# 2.1

## NEMA Contactors and Starters

### Freedom Full Voltage Controls

#### Wiring Diagrams

#### Non-Reversing Starter—Single- and Three-Phase Non-Combination

2

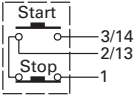
##### Remote Pilot Devices

##### Two-Wire Control

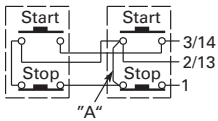


Not for Use with Auto Reset OL Relays

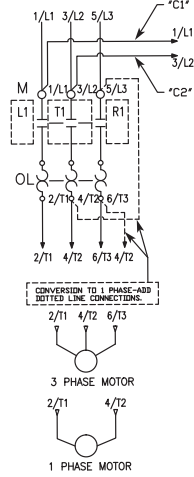
##### Three-Wire Control



When More than One Pushbutton Station is Used, Omit Connector "A" and Connect per Sketch Below



##### Connections for Non-Reversing Starter

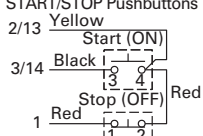


#### Non-Reversing Starter—Combination

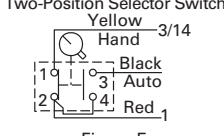
##### Connections for Control Stations

##### Local Control

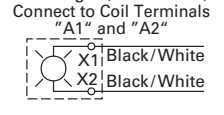
##### Figure A



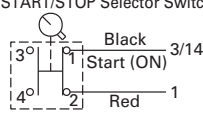
##### Figure D



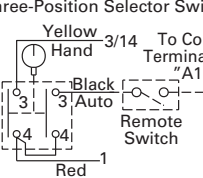
##### Figure E



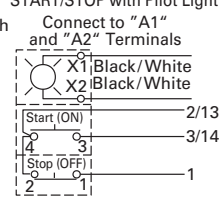
##### Figure B



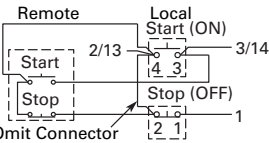
##### Figure C



##### Figure F



##### Combined Remote and Local for Figures 1 and 2

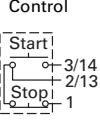


##### Remote Control

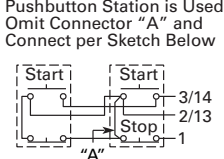
##### Two-Wire Control



##### Three-Wire Control

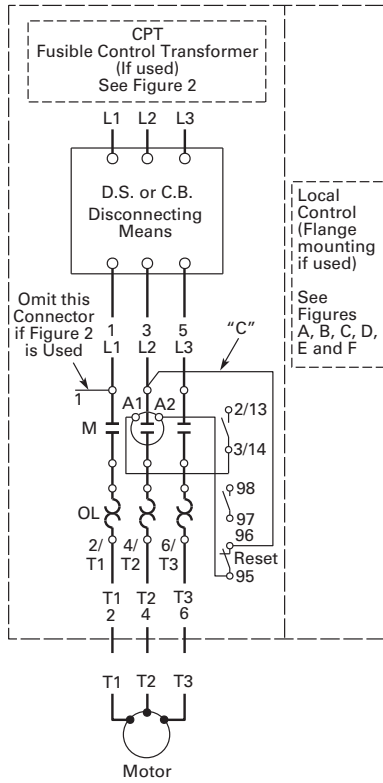


When More than One Pushbutton Station is Used



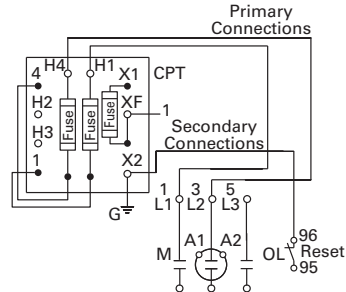
##### Connections for Starters

##### Figure 1 Front View Diagram

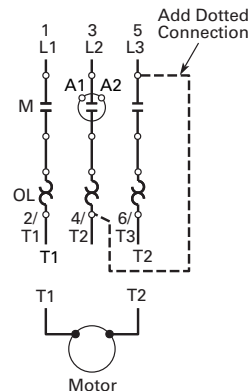


##### Figure 2 Fusible Control Transformer

Remove Wire "C" (Figure 1) if Used and Connect as Shown Below (All other starter wires remain as shown in Figure 1)



##### Field Conversion to Single-Phase

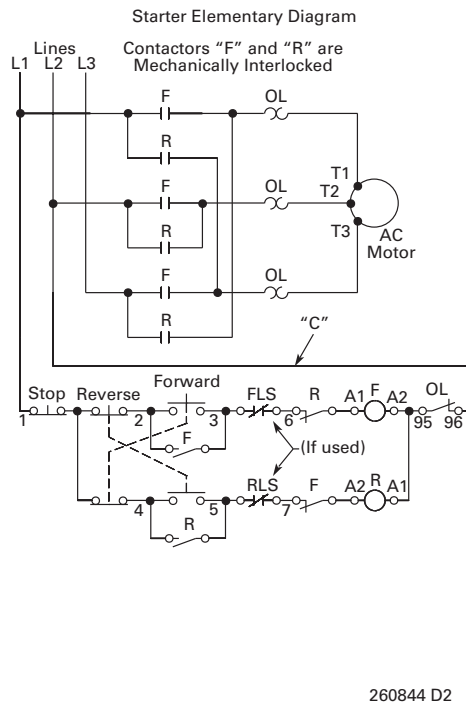
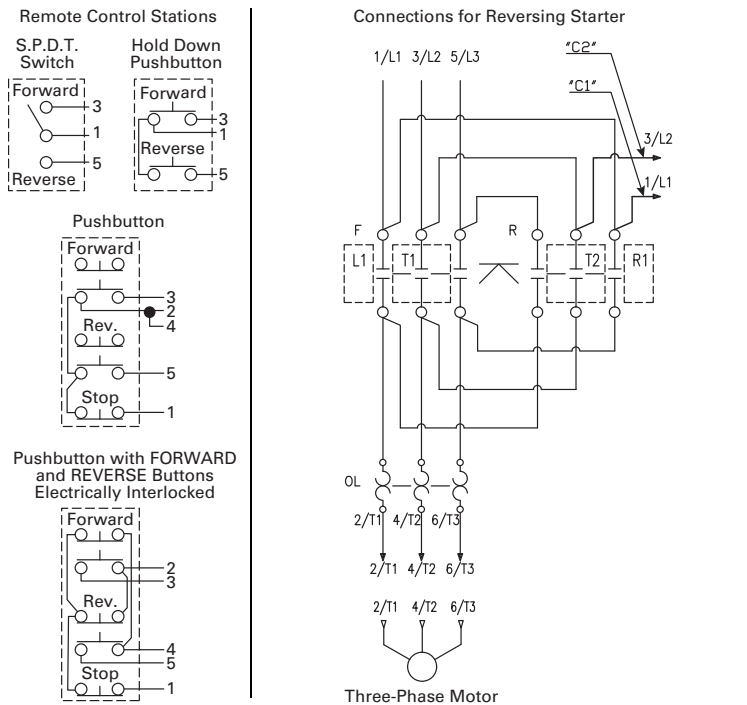


##### Separate Control

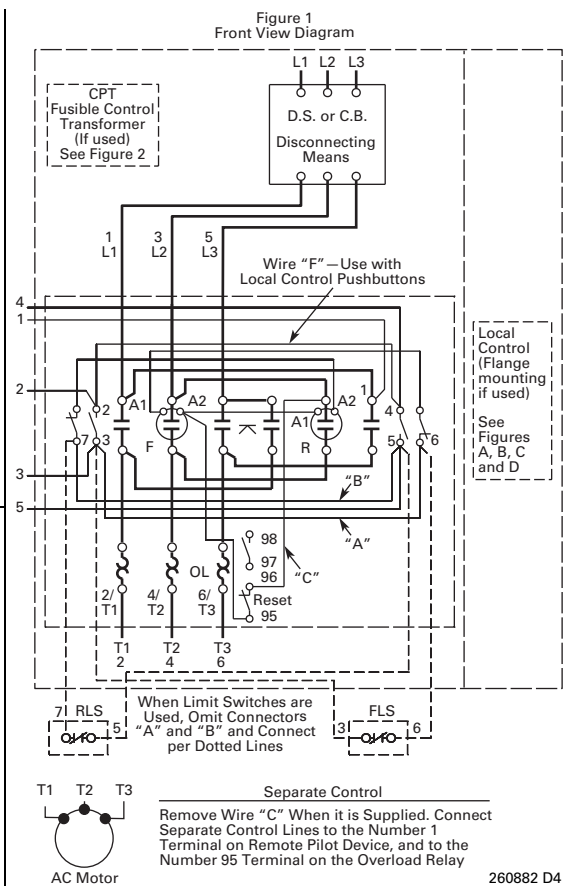
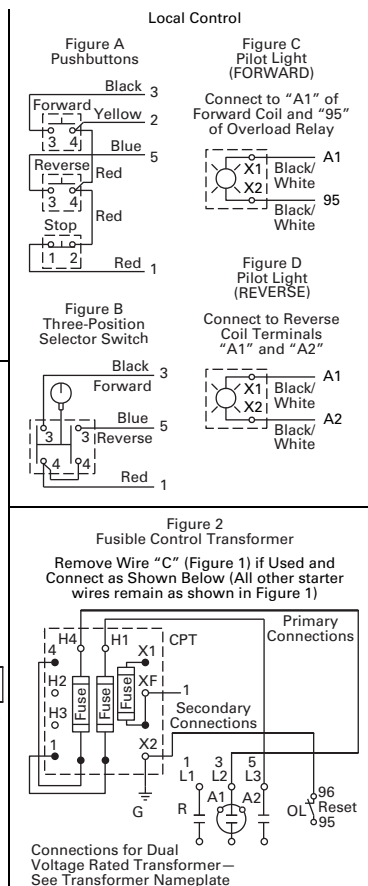
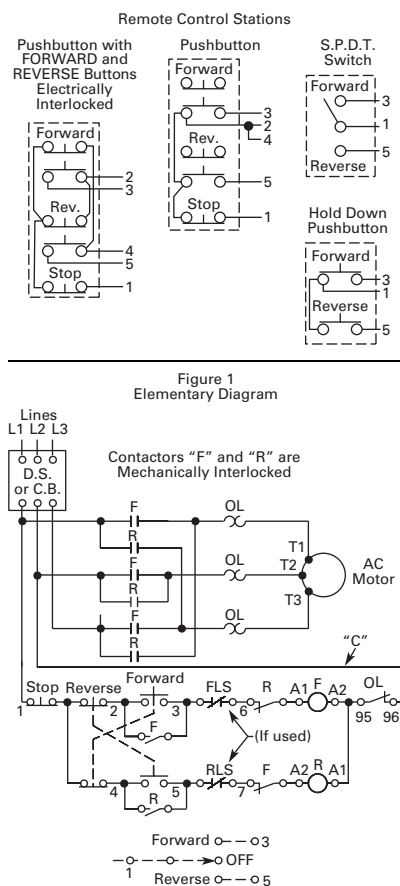
Remove Wire "C" if Supplied and Connect Separate Control Lines to the Number 1 Terminal on the Remote Pilot Device and to the Number 96 Terminal on the Overload Relay

260878 D4

### Reversing Starter—Non-Combination



### Reversing Starter—Combination



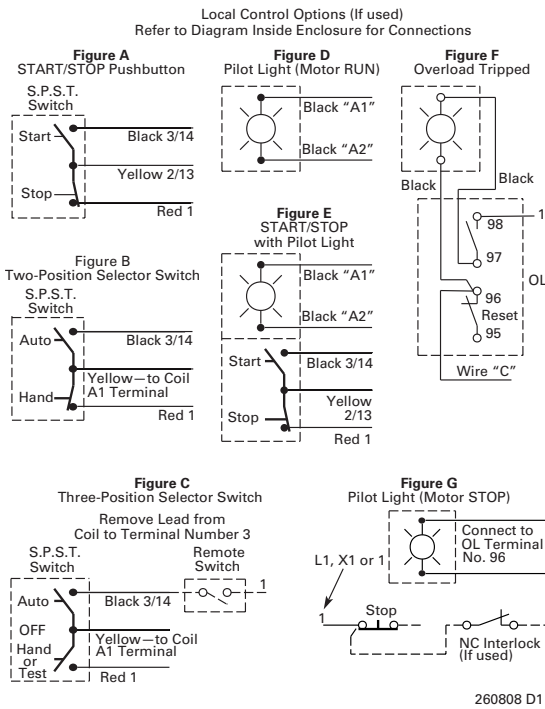
# 2.1

## NEMA Contactors and Starters

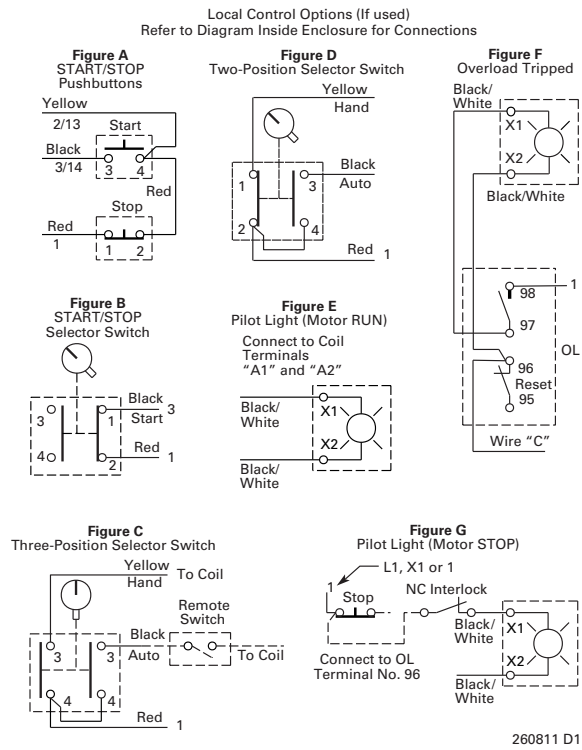
Freedom Full Voltage Controls

### Non-Reversing Cover Control

#### Type 1 C400G Control Options

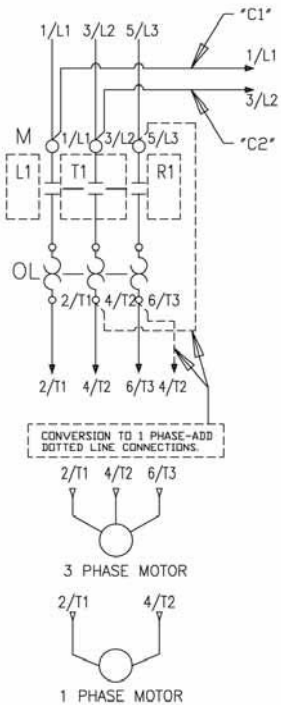


#### C400T Control Options



#### Type 1 C600M Control Options

##### Connections for Non-Reversing Starter



##### Schematic Symbol Legend

	Normally Open Auxiliary
	Normally Closed Auxiliary
	Normally Open Momentary PB
	Normally Closed Momentary PB
	Contactor Coil
	Red Pilot Light
	Green Pilot Light
	Normally Closed Overload Auxiliary
	Normally Open Overload Auxiliary
	M22-XLED230-T: Used to lower voltage for pilot lights.
	Two-position selector switch (STOP/START, OFF/ON)
	Three-position selector switch (HOA)
	Signifies Location of Side and Top Adder Auxiliary Referenced on Diagram Under Auxiliary Symbol

##### CAUTION

READ AND FOLLOW INSTRUCTIONS PRIOR TO WIRING OR CONNECTING POWER. THIS PRODUCT CAN BE FACTORY OR FIELD CONFIGURED FOR MULTIPLE CONTROL MODES OR CONTROL VOLTAGES. CHECK NAMEPLATE FOR COIL VOLTAGE.

##### SEPARATE CONTROL POWER

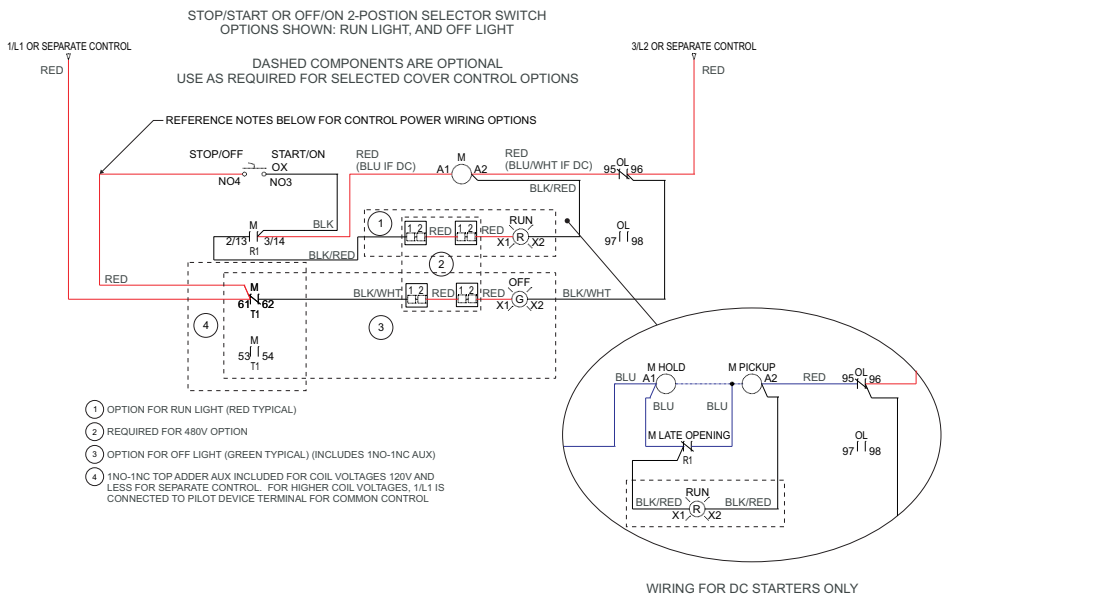
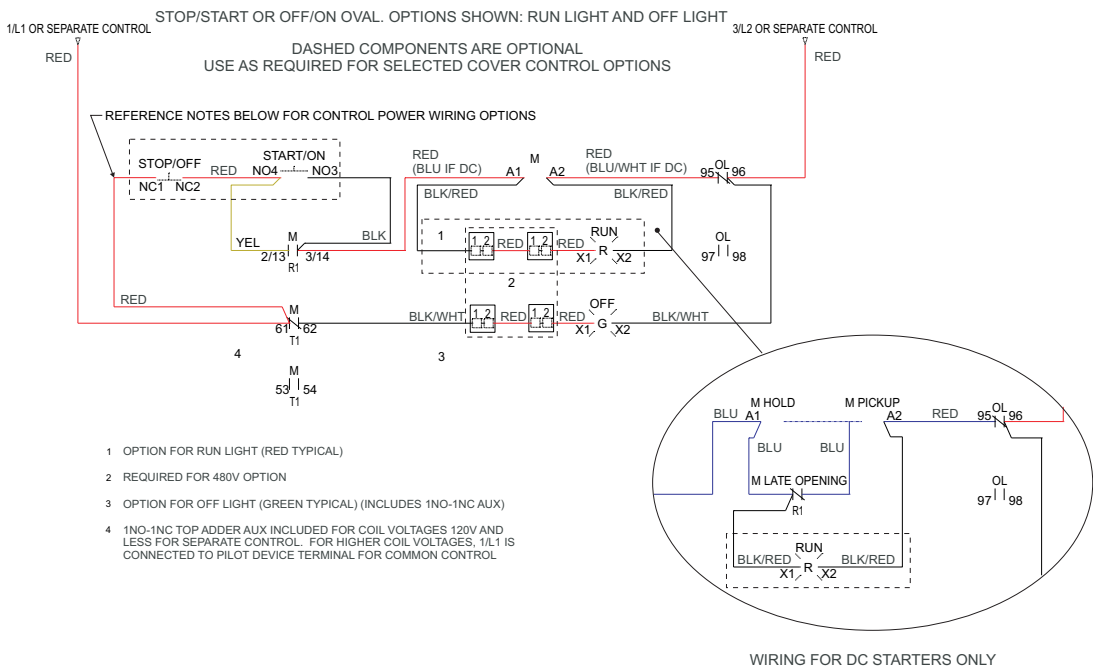
FOR COIL VOLTAGES 120V AND LESS: CONNECT SEPARATE CONTROL LINES TO THE NO. 91 TERMINAL ON THE TOP ADDER AUX. AND TO THE NO. 96 TERMINAL ON THE OVERLOAD RELAY.

FOR COIL VOLTAGES GREATER THAN 120V: REMOVE WIRE 'C2' IF SUPPLIED. IF WIRE 'C1' IS TERMINATED ON L1, DISCONNECT FROM L1. CONNECT SEPARATE CONTROL LINES TO THE 'C1' WIRE OR APPROPRIATE PILOT DEVICE TERMINAL PER DIAGRAM AND TO THE NO. 96 TERMINAL ON THE OVERLOAD RELAY.

##### COMMON CONTROL POWER

FOR COIL VOLTAGES 120V AND LESS: ADD WIRE 'C2' IF NOT SUPPLIED. ADD CONNECTOR BETWEEN L1 TERMINAL AND THE NO. 61 TERMINAL ON THE TOP ADDER AUX. OR APPROPRIATE PILOT DEVICE TERMINAL PER DIAGRAM. FOR COIL VOLTAGES GREATER THAN 120V: ADD WIRE 'C1' AND 'C2' IF NOT SUPPLIED.

### C600M Wiring Kit Diagrams



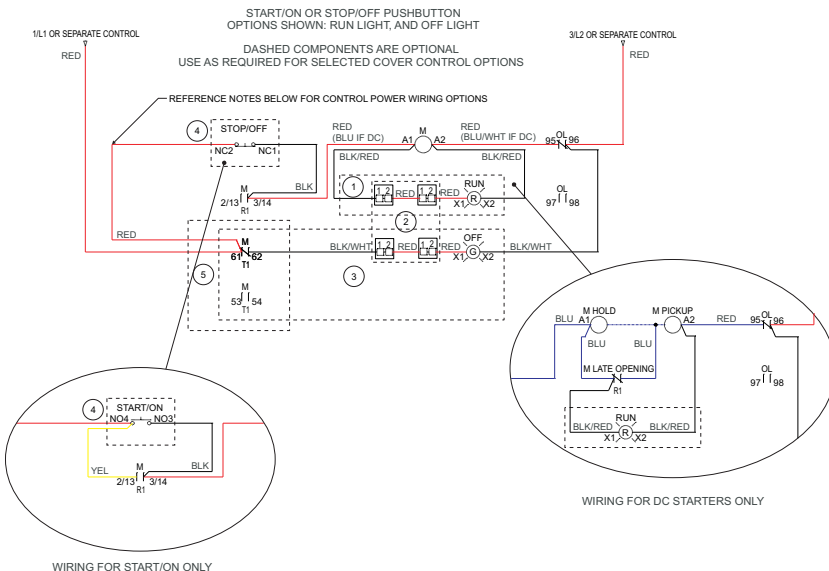
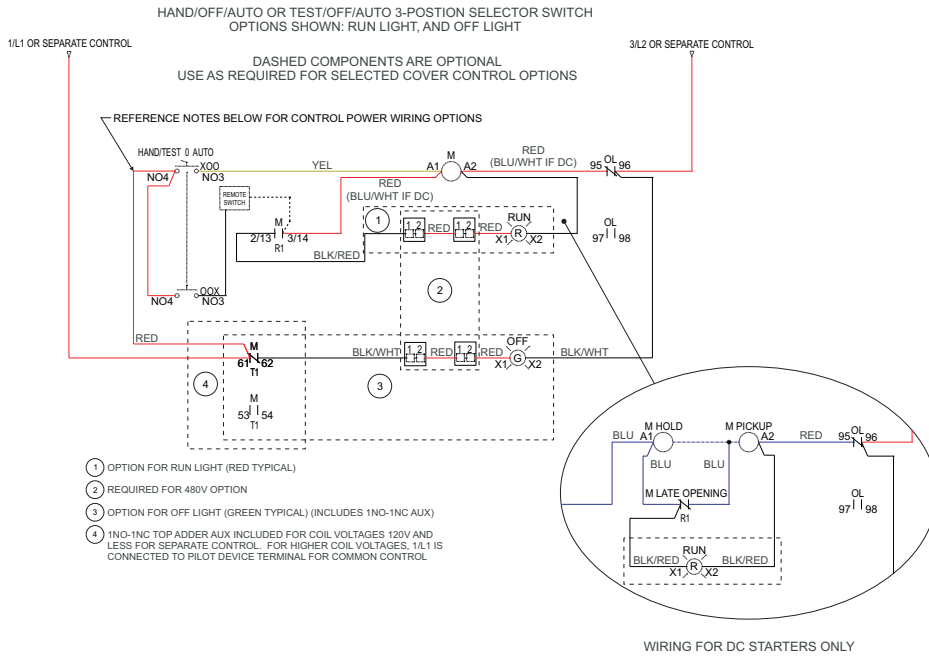
# 2.1

## NEMA Contactors and Starters

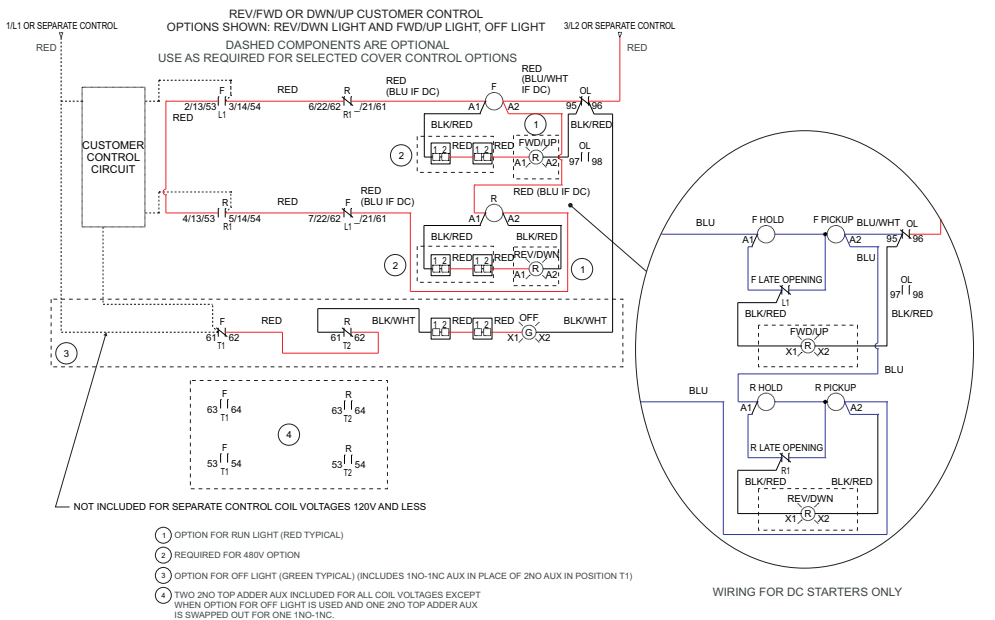
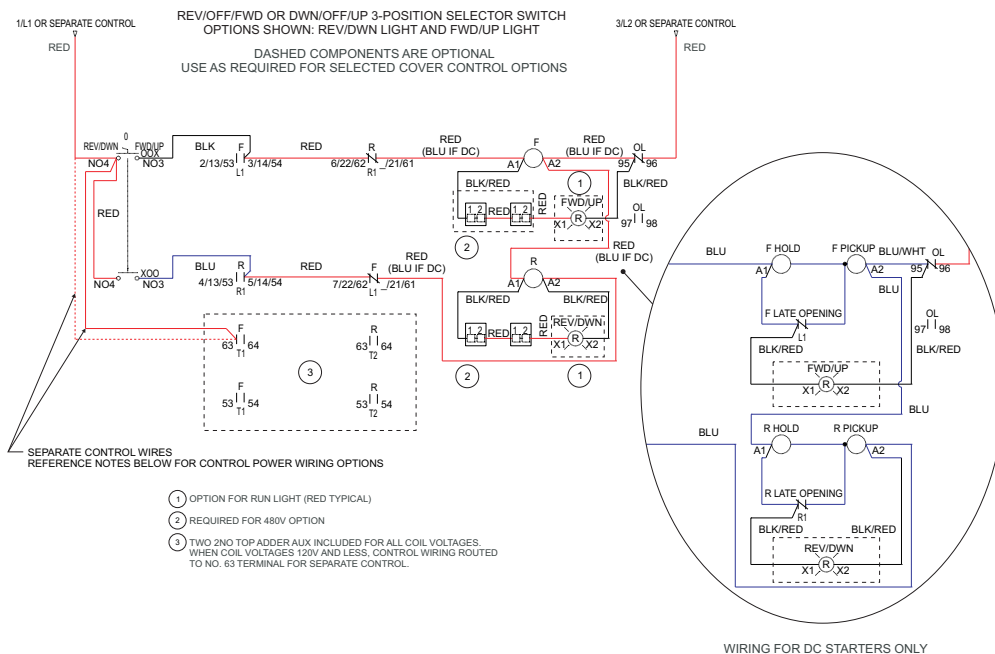
### Freedom Full Voltage Controls

#### C600M Wiring Kit Diagrams, continued

2



### C600M Wiring Kit Diagrams, continued



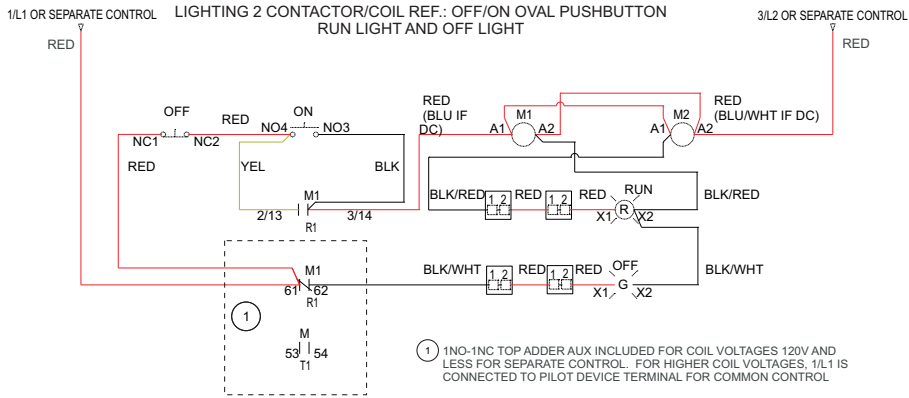
# 2.1

## NEMA Contactors and Starters

### Freedom Full Voltage Controls

#### C600M Wiring Kit Diagrams, continued

2



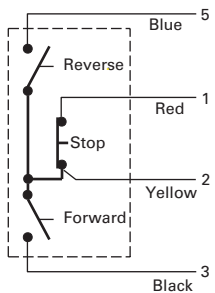
### Reversing Cover Control

#### Type 1 C400GR Control Options

Local Control Options (If used)  
Refer to Diagram Inside Enclosure for Connections

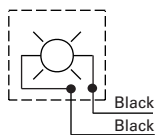
**Figure A**  
Pushbutton  
FORWARD/STOP/REVERSE

Add Connector "F"  
Between Aux. Contact  
Terminals 2 and 4



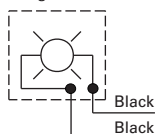
**Figure B**  
Pilot Light (FORWARD)

Connect to Terminal A1 of the  
Left Hand Coil and to Terminal  
Number 95 of the Overload Relay



**Figure C**  
Pilot Light (REVERSE)

Connect to Terminals A1 and A2  
of the Right Hand Contactor



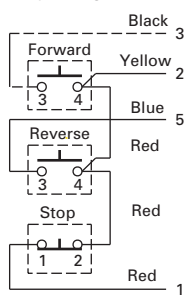
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#### C400T Control Options

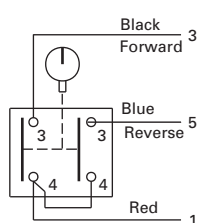
Local Control Options (If used)  
Refer to Diagram Inside Enclosure for Connections

**Figure A**  
Pushbuttons

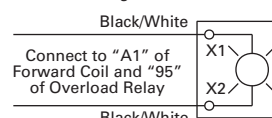
Connect Wire "F"  
per Diagram



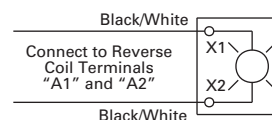
**Figure B**  
Three-Position Selector Switch



**Figure C**  
Pilot Light (FORWARD)



**Figure D**  
Pilot Light (REVERSE)



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