

Example: ECN1632ABG

coil of 120 V Start/Stop pushbutton with 100 A/600 V fuse.

Freedom combination with disconnect switch Size 3, NEMA Type 3R enclosure, without CPT, magnet

Enclosed Control Soft Starters ECS 92 W 2 Q A H -Modification Design **S** = Soft Starter Class Disconnect **Fuse Clip Ratings** 0 = S801/S752 Non-Combination 91 = S801/S752 Disconnect = None B = 30 A/250 V (R)2 = S801/S752 Breaker = 30 A/600 V (R)3 = S811 Non-Combination = 60 A/250 V (R)94 = S811 Disconnect Switch = 60 A/600 V (R) **95** = S811 Breaker = 100 A/250 V (F = 100 A/600 V (R = 200 A/250 V (R) Ampere Rating = 200 A/600 V (R) S752 S801/S811 = 400 A/250 V (F = 400 A/600 V (F = 0.8 A **Q** = 37 AI = 600 A/250 V (R $= 1.9 \, \text{A}$ $= 66 \, \text{A}$ = 600 A/600 V (R = 4.4 A **V** = 105 A= 800 A/600 V (L **I** = 9.0 A | **W** = 135 A = 1200 A/600 V ($\mathbf{I} = 16 \, \mathbf{A} \, \mathbf{Y} = 180 \, \mathbf{A}$ = 1600 A/600 V (= 27 A **Z** = 240 A= 2000 A/600 V (= 50 A 1 = 304 A = By Descriptio 2 = 360 A3 = 420 AHMCP or 4 = 500 A**Breaker Ratings** 5 = 650 A**6** = 720 A 7 = 850 A8 = 1000 A : = 7 A = 15 A = 30 AEnclosure Type = 50 A Type 1 – General Purpose = 100 A = Type 3R - Rainproof = 150 A = Type 4 - Watertight = 250 A (Painted Steel) = 400 A = Type 4X - Watertight = 600 A (Stainless Steel) = 800 A= Type 7/9 - Bolted — 1000 A Hazardous Location = 1200 A = Type 7/9 – Threaded = 2000 A Hazardous Location = 3000 A = Type 12 - Dust-Tight = By Description 3 = Type 4X — Stainless Steel (316-Grade) Cover Control = Use Modification Code **Control Power** Transformer See Chart 2

Codes

See Chart 9

Enclosed Control

Modification Codes

ncluding Cover

Control) See Chart 9

Disconnect

Fuse Clip Ratings

= 30 A/250 V

= 30 A/600 V

= 60 A/250 V

= 60 A/600 V

= 100 A/250 V

= 100 A/600 V

= 200 A/250 V

= 200 A/600 V

= 400 A/250 V

= 400 A/600 V

= 600 A/250 V

= 600 A/600 V

= 800 A/600 V

F = By Description

Thermal Magneti

Breaker Ratings

= None

= 20 A

= 30 A

= 60 A

= 100 A

= 200 A

= 300 A

= 400 A

= 600 A

= 800 A

otal Number of Poles 6

= 2 Poles Required

3 Poles Required

4 Poles Required

5 Poles Required

= 6 Poles Required

7 Poles Required

= 8 Poles Required

9 Poles Required

= Consult Factory

Combination Devices -

= 10 Poles

= 12 Poles

= 20 Poles

3-Pole Only

ther Poles -

onsult Factory

6 For NC poles on

ECC product, see

Modification Code

Coil Voltage

 $P = 200 A \quad 0 = 150 A$

R = 250 A

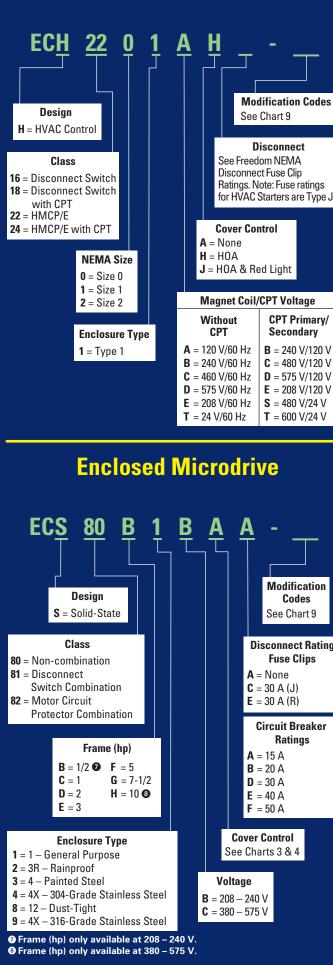
3 = 315 A

= 400 A

See Charts 1 & 2

= By Description

= None



Freedom HVAC Starters $\mathbf{A} = 120/60 \ 110/50 \ \mathbf{K} = 240/50$ $\mathbf{B} = 240/60 \ 220/50$ L = 380/50 V = 32/50 $\mathbf{C} = 480/60 \ 440/50$ M = 415/50W = 48/60X = 104 - 120/60 $\mathbf{D} = 575/60 \ 550/50 \ \mathbf{P} = 12 \ \text{Vdc}$ $0 = 24 \, \text{Vdc}$ **Z** = By Description = 550/50 $= 48 \, \text{Vdc}$ S = 120/125 Vdc J = 208 - 240/60T = 24/60 When control power transformer Modification Codes (CI - CII) are used, pick the system (primary) voltage from this chart. See Chart 2. Note: All IT. contactors and starters are furnished with 24 Vdc coil and control power supply. The eighth digit Ω denotes separate 24 Vdc control source. **Chart 2: Control Power Transformer Codes** Code Primary Secondary 240/480 – 220/440 Wired for 240 240/480 – 220/440 Wired for 480 120/60 - 110/5120/60 - 110/5575/60 - 550/50 120/60 - 110/5120/60 220 V 380/415 V 380/50 110/50 415/50 240/480 - 220/440 Wired for 240 240/480 - 220/440 Wired for 480 $= 240 \text{ V}/60 \text{ Hz} \mid \mathbf{C} = 480 \text{ V}/120 \text{ V}$ 240/480/600 Wired for 480 240/480/600 Wired for 480 By Description Note: Use when ordering classes with CPT installed (i.e., ECN 18) and when using Modification Codes CI – CII. Chart 3: Cover Control — Non-Reversing ® $\mathbf{A} = None$ B = Start/Stop Pushbuttons = Start/Stop Pushbuttons, Run (R) Pilot Light = Start/Stop Pushbuttons, Run (R), Off (G) Pilot Lights = On/Off Pushbuttons = On/Off Pushbuttons, Run (R) Pilot Lial - On/Off Pushbuttons Run (R) Off (G) Pilot Lights = Hand/Off/Auto Selector Switch = Hand/Off/Auto Selector Switch, Run (R) Pilot Light = Hand/Off/Auto Selector Switch, Run (R), Off (G) Pilot Lights = Start Pushbutton I – On Pushbutton - Off Pushbutton = Run-Red Pilot Light - Off-Green Pilot Light = Run (R) - Off (G) Pilot Lights = Start/Stop Selector Switch Start/Stop Selector Switch, Run (R) Pilot Light art/Stop Selector Switch, Run (R), Off (G) Pilot Lights V = On/Off Selector Switch, Run (R) Pilot Light On/Off Selector Switch, Run (R), Off (G) Pilot Lights Starters only — contactor cover control: use Modification Codes. Chart 4: Cover Control — Reversing ® Use for Class 06, 10, 17, 20, 23, 26 = Forward/Reverse/Stop Pushbuttons Forward/Reverse/Stop Pushbuttons, 2 Red Pilot Lights = Forward/Reverse/Stop Pushbuttons, 2 Red, 1 Green Pilot Lights Un/Ston/Down Pushbuttons Up/Stop/Down Pushbuttons, 2 Red Pilot Lights I = Forward/Off/Reverse Selector Switch

Chart 1: Magnet Coil Codes (System Voltage) • Chart 5: Overload Size (IT. NEMA) For IT. NEMA Starters, Add an 11th Digit to Choose Overload Size 2.8 - 9.0Chart 6: Overload Size (IT. IEC) For IT. IEC Starters, Add an 11th Digit to Choose Overload Size 27 mm | 45 mm | 54 mm | 76 mm 1.4 – 4.4 C C 2.8 - 9.0 | **D** | **D** | — | **D** 6.3 - 2031 - 10042 – 135 84 - 270Chart 7: XTOB Overload Relays Frame Size

0.1 - 0.16

0.16 - 0.24

0.24 - 0.4

0.4 - 0.6

1.6 - 2.4

35 – 50

3-Phase Manual Reset Overload Manual Reset Ground Current Reset Overload Manual Reset Size 1 2 3 4 5 Range (A) 20 20 10 R50 R53 R51 R54 Catalog Number Suffix R52 G142 G143 G122 G123 G124 1.6 – 5.0 G104 G144 3.7 – 12 G105 G125 G225 G85 G145 G121 G122 G123 G101 G141 G142 G143 Example: ECT2238CAG-M = Size 3 IT. combination NEMA 12, 28 - 90 ampere overload. G144 G124 3.7 - 12G105 G85 G145 G125 G225 G106 G86 G146 G126 G226 12 - 37G147 G127 G107 G87 A-Frame B-Frame C-Frame D-Frame E-Frame 14 – 45 G108 G88 G148 G128 G227 105 mm G149 G129 G132 57 – 180 G112 G92 G152 96 – 300 | G104 | G84 | G144 G124 192 – 600 | G104 | G84 | G144 G124 Example: R50/G87 = Class 20, 12 - 37 ampere overload for A Size 2 starters. Chart 9: Typical Examples of Common Modification Codes **A1** = Ammeter, panel type wired to current transformer in line. A2 = Ammeter, panel type, selector switch, and 3 current transformers wired A7 = Ammeters, (single-phase) total of 3. A13 = Auxiliary Contact, 1NO top mounted. **A15** = Auxiliary Contact, 1NO - 1NC top mounted. A16 = Auxiliary Contact, 2NO top mounted A44 = Auxiliary Contact, omitted. A23 = Auxiliary Contact, 2NO - 2NC top mounted. ontact, 1NO - 1NC side mounted odifications, 1NO - 1NC Auxiliary Contact on HMCP. odifications. Shunt Trip on circuit breaker

Chart 8: Modification Codes —

NEMA Full Load

Solid-State Overload for Freedom Starters

G222 G223 G224

G221 G222 G223

G224

G228

	720	- Adminity Contact, 2110 2110 top mounted.
	A29	= Auxiliary Contact, 1NO – 1NC side mounted.
-	B1	= Breaker Modifications, 1NO – 1NC Auxiliary Contact on HMCP.
	B3	= Breaker Modifications, Shunt Trip on circuit breaker,
		48 – 127 Vac or Vdc.
_	C1	= Control Power Transformer, standard size, 120 V/60 Hz secondary.
	C3	= Control Power Transformer, 100 VA extra capacity,
_		120 V/60 Hz secondary.
	C4	= Control Power Transformer, 100 VA extra capacity,
		24 V/60 Hz secondary.
	C14	= Control Relay, 4-pole, unwired, A600 rating, 120 V coil.
	C35	= Control, wired for separate.
	C36	= Customer supplied material.
П	C37	= Customer supplied drawings.
	D15	= HOA for each motor (duplex pumps).
	E3	= Enclosure Modifications, oversize enclosure.
-	E11	= Safety Door Interlock enclosure assembly.
	G3	= Ground Fault Relay, unwired, installed.
	L3	= Lightning Arrester installed on panel.
-		= Carton Label — order by description.
		= 1NC Power Pole.
	L22	= 2NC Power Pole.
_		= 3NC Power Pole.
		= 4NC Power Pole.
		= 5NC Power Pole.
		= 6NC Power Pole.
		= 7NC Power Pole.
		= 8NC Power Pole.
		= Nameplate — order by description.
-	P1	3 1, 11 1 3
	P2	= Push-to-Test Pilot Light (green OFF) wired to magnet coil.

\$40 = Selector Switch — order by description T15 = Customer designated terminal points

\$18 = Selector Switch, HIGH-LOW-OFF-AUTO.

P18 = Pushbutton with Legend Plate — order by description

= Start/Stop Pushbutton.

P32 = Phase Unbalance Relay.

P34 = Phase Monitoring Relay.

S3 = Selector Switch HOA

Starters only — contactor cover control: use Modification Codes

= Forward/Off/Reverse Selector Switch, 2 Red Pilot Lights

= Forward/Off/Reverse Selector Switch, 2 Red, 1 Green Pilot Lights

X = Open/Off/Close Selector Switch, 2 Red, 1 Green Pilot Lights

W= Open/Off/Close Selector Switch, 2 Red Pilot Lights

= 2 Red Pilot Lights

R = 2 Red, 1 Green Pilot Lights

V = Open/Off/Close Selector Switch

Q = 1 Green Pilot Light

2 = By Description